



Westinghouse Electric Corporation
Low Voltage Breaker Division
Beaver, Pennsylvania 15009

Technical Data
29-120

Page 19

LVA 3/13/84
DP - None
EP - ONE
CT - TWO

"MCS" denotes Molded Case Switch (non-automatic)

April, 1980
Supersedes Technical Data 29-120 T WE A
pages 19-20, dated October, 1975
Mailed to: E, D, C/1901, 1903, 1928/PL

*2/19/80 - the 10/2 EHB
has a 250V. DC at
250V. DC (not 480V) - for 10/2*

AB DE-ION® Circuit Breakers

Type EB 1, 2, 3 Poles; 240 Volts Ac Max.; Thermal Magnetic and Saf-T-Vue® (Includes Load Terminals Only; see Terminals page 20)

Continuous Ampere Rating @ 40°C	Catalog Numbers		Saf-T-Vue®	
	1-Pole, 120 Volts Ac, 125 Volts Dc②	2-Pole, 240 Volts Ac, 125/250 Volts Dc②	3-Pole, 240 Volts Ac, 125/250 Volts Dc②	
	Standard	Standard	Standard	Saf-T-Vue®
5①	EB1005	EB2005	EB3005	.....
10①	EB1010	EB2010	EB3010	EB3010S
15	EB1015⑦	EB2015	EB3015	EB3015S
20	EB1020⑦	EB2020	EB3020	EB3020S
25	EB1025	EB2025	EB3025	EB3025S
30	EB1030	EB2030	EB3030	EB3030S
35	EB1035	EB2035	EB3035	EB3035S
40	EB1040	EB2040	EB3040	EB3040S
45⑥	EB1045	EB2045	EB3045	EB3045S
50	EB1050	EB2050	EB3050	EB3050S
60	EB1060	EB2060	EB3060	EB3060S
70	EB1070	EB2070	EB3070	EB3070S
80⑥	EB1080	EB2080	EB3080	EB3080S
90	EB1090	EB2090	EB3090	EB3090S
100	EB1100	EB2100	EB3100	EB3100S
100 MCS⑧	EB1100N	EB2100N	EB3100N	EB3100SN

Approx. Ship. Wt.: 2 lbs. Approx. Ship. Wt.: 3 lbs. Approx. Ship. Wt.: 4½ lbs.

EB: 120, 240 Volts Ac; 125/250 Volts Dc
EHB: 277, 480 Volts Ac; 250 Volts Dc
FB, HFB: 600 Volts Ac, 250 Volts Dc



Type EHB 1, 2, 3 Poles; 480 Volts Ac Max.; Thermal Magnetic and Saf-T-Vue (Includes Load Terminals Only; see Terminals page 20)

Continuous Ampere Rating @ 40°C	Catalog Numbers		Saf-T-Vue®	
	1-Pole, 277 Volts Ac, 125 Volts Dc②	2-Pole, 480 Volts Ac, 250 Volts Dc②	3-Pole 480 Volts Ac	
	Standard	Standard	Standard	Saf-T-Vue®
10①	EHB1010	EHB2010	EHB3010	EHB3010S
15	EHB1015⑦	EHB2015	EHB3015	EHB3015S
20	EHB1020⑦	EHB2020	EHB3020	EHB3020S
25	EHB1025	EHB2025	EHB3025	EHB3025S
30	EHB1030	EHB2030	EHB3030	EHB3030S
35	EHB1035	EHB2035	EHB3035	EHB3035S
40	EHB1040	EHB2040	EHB3040	EHB3040S
45⑥	EHB1045	EHB2045	EHB3045	EHB3045S
50	EHB1050	EHB2050	EHB3050	EHB3050S
60	EHB1060	EHB2060	EHB3060	EHB3060S
70	EHB1070	EHB2070	EHB3070	EHB3070S
80⑥	EHB1080	EHB2080	EHB3080	EHB3080S
90	EHB1090	EHB2090	EHB3090	EHB3090S
100	EHB1100	EHB2100	EHB3100	EHB3100S
100 MCS⑧	EHB1100N	EHB2100N	EHB3100N	EHB3100SN

Approx. Ship. Wt.: 2 lbs. Approx. Ship. Wt.: 3 lbs. Approx. Ship. Wt.: 4½ lbs.

Listed with Underwriters' Laboratories, Inc.
except as noted. (For C.S.A., see page 48)

Underwriters' Laboratories, Inc. Listed Interrupting Ratings®

Max Volts	Amperes
EB Breakers	
120 and 240 Ac	10,000 Asym., Sym.
125/250 Dc	5,000②
EHB, FB Breakers	
240 Ac	20,000 Asym., 18,000 Sym.
277 Ac (EHB)	15,000 Asym., 14,000 Sym.
480 Ac	15,000 Asym., 14,000 Sym.
600 Ac (FB)	15,000 Asym., 14,000 Sym.
250 Dc	10,000②

Type FB, HFB 1, 2, 3, 4 Poles; 600 Volts Ac Max.; Thermal Magnetic, MARK 75® Saf-T-Vue (Includes Load Terminals Only; see Terminals, page 20)

Continuous Ampere Rating @ 40°C	Catalog Numbers			
	1-Pole 277 Volts Ac 125 Volts Dc② MARK 75®	2-Pole 600 Volts Ac 250 Volts Dc② Standard MARK 75®	3-Pole 600 Volts Ac Standard	4-Pole①⑥ 600 Volts Ac Standard
10①	HFB1010	FB2010	HFB2010	FB3010
15	HFB1015⑦	FB2015	HFB2015	FB3015
20	HFB1020⑦	FB2020	HFB2020	FB3020
25	HFB1025	FB2025	HFB2025	FB3025
30	HFB1030	FB2030	HFB2030	FB3030
35	HFB1035	FB2035	HFB2035	FB3035
40	HFB1040	FB2040	HFB2040	FB3040
45⑥	HFB1045	FB2045	HFB2045	FB3045
50	HFB1050	FB2050	HFB2050	FB3050
60	HFB1060	FB2060	HFB2060	FB3060
70	HFB1070	FB2070	HFB2070	FB3070
80⑥	HFB1080	FB2080	HFB2080	FB3080
90	HFB1090	FB2090	HFB2090	FB3090
100	HFB1100	FB2100	HFB2100	FB3100
100 MCS⑧	.....	FB2100N	.....	FB3100N
110⑥	.....	FB2110	.....	FB3110
125	.....	FB2125	.....	FB3125
150	.....	FB2150	.....	FB3150
150 MCS⑧	.....	FB2150N	.....	FB3150N

① 15 thru 30 amp ratings only have 75,000 amp I.C.
② 40 thru 100 amp ratings have 30,000 amp Asym., 25,000 Sym. I.C.

MARK 75 Type HFB

240 Ac	75,000 Asym., 65,000 Sym.
277 Ac③-?	75,000 Asym., 65,000 Sym.
480 Ac	30,000 Asym., 25,000 Sym.
600 Ac	20,000 Asym., 18,000 Sym.
250 Dc (2 Pole)	20,000②④

See page 20 for Federal Specification
W-C-375b) Classifications.

List Prices: See Price List 29-020, Dis. CB-2

Accessories and Modifications

Description: Pages 49-58

- ④ Ratings above 10,000 amps not UL Listed.
- ⑤ All 4 poles have thermal magnetic trip elements. Can be supplied with 3 poles protected plus 1 pole non-automatic if required. Order by description. No price or dimensional differences.

⑥ Switching duty rated for 120 volts Ac fluorescent light applications only.
⑦ Switching duty rated for 277 volts Ac fluorescent light applications only.

⑧ Two pole breakers are supplied in three pole frames with current carrying parts omitted from center pole.

⑨ Interrupting capacities shown do not apply to molded case switches.

① Changed or added since previous issue.
② Not listed with Underwriters' Laboratories, Inc.
③ Dc ratings apply to substantially non-inductive circuits.

④ 15 thru 30 amp ratings only have 75,000 amp I.C.
⑤ 40 thru 100 amp ratings have 30,000 amp Asym., 25,000 Sym. I.C.



Special Breakers ①

Type FB, Magnetic Only, Front Adjustable (Includes Line and Load Terminals)

Continuous Amperes Rating	Magnetic Trip Range Amperes	Catalog/Style Numbers				
		2-Pole ②③, 600 Volts Ac		3-Pole, 600 Volts Ac		
		Standard	MARK 75	Standard	Saf-T-Vue	MARK 75
3	7- 22	FB2022MRL	HFB2022ML	FB3022MRL	FB3022SMRL	HFB3022ML
5	15- 45	FB2045MRL	HFB2045ML	FB3045MRL	FB3045SMRL	HFB3045ML
10	35- 110	FB2110MRL	HFB2110ML	FB3110MRL	FB3110SMRL	HFB3110ML
25	32- 80	2606D95G12	.....	2606D95G30	.....	.....
25	66- 190	FB2190MRL	HFB2190ML	FB3190MRL	FB3190SMRL	HFB3190ML
30	50- 150	1268C14G05 ④	.....	1268C14G06 ④	.....	.....
30	90- 270	FB2270MRL	HFB2270ML	FB3270MRL	FB3270SMRL	HFB3270ML
50	66- 190	1268C14G01 ④	.....	1268C14G02 ④	.....	.....
50	160- 480	FB2480MRL	HFB2480ML	FB3480MRL	FB3480SMRL	HFB3480ML
70	100- 270	2606D95G13	.....	2606D95G31	.....	.....
100	150- 480	1268C14G03 ④	.....	1268C14G04 ④	.....	.....
100	450-1550	FB21550MRL	HFB21550ML	FB31550MRL	FB31550SMRL	HFB31550ML
150	575-1800	FB21800MRL	HFB21800ML	FB31800MRL	FB31800SMRL	HFB31800ML

Terminals

Breakers include load terminals only ⑤⑥. Terminals are Underwriters' Laboratories, Inc. listed as suitable for wire type and size as listed below. When used with aluminum conductors, use joint compound. When line terminals are required, order by style number from table at no charge with the breaker. To order optional aluminum terminals, add suffix "Z" to complete breaker catalog number, and specify line terminals separately from table when required.

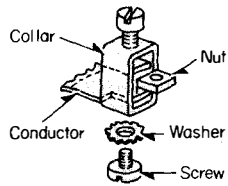
Max. Breaker Amps	Wire Type	Wire Range	Package of 3 Line Terminals ④	Style Number
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Standard Pressure Type Terminals

20 (EB, EHB)	Al/Cu	# 14-# 10	624B100G14
100	Al/Cu	# 14-1/0	624B100G02
150	Al/Cu	# 4-4/0	624B100G17

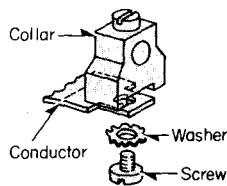
Optional Al/Cu Pressure Terminals

50	Al/Cu	# 14-#4	624B100G10
100	Al/Cu	# 4-4/0	624B100G17



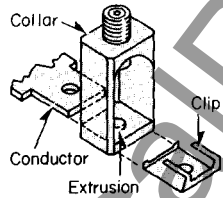
Style 624B100G02

Insert collar enclosing conductor as shown. Locate nut on top of conductor and tighten securely with screw and washer. **Caution:** Collar must surround conductor.



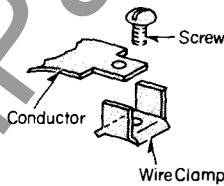
Style 624B100G10

Assemble collar on top of conductor as shown. Tighten securely with screw and washer.



Style 624B100G17

Insert collar enclosing conductor and center on extrusion on collar. Install clip with legs on top of conductor and snap end around bottom of collar.



Style 624B100G14

Assemble wire clamp to bottom of conductor as shown.

LFB Current Limiter Attachment ⑦

The LFB Current Limiter is an attachment that bolts to the load end of a standard FB thermal magnetic or magnetic only breaker, providing 200,000 amps interrupting capacity at up to 600 volts Ac. Limiters for thermal magnetic breakers are listed with Underwriters' Laboratories, Inc. for the above. Current limiters must be applied as indicated in the table.

Breaker Rating, Amperes	Limiter Catalog Number
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For Thermal Magnetic Breakers ⑦

15-70	LFB3070R
90-150	LFB3150R

For Magnetic Only Breakers ⑦

3	LFB3003MR
5	LFB3005MR
10	LFB3010MR
25	LFB3025MR
30	LFB3030MR
50	LFB3050MR
70	LFB3070MR
100	LFB3100MR
150	LFB3150MR

Standard LFB terminals are suitable for Cu/Al cable. Ratings thru 70 amps accept (1) #14-#2, and 100 and 150 amp accept (1) #1-4/0. ⑦

Federal Specification Classifications

EB, EHB, FB and HFB breakers meet requirements of Federal Specification W-C-375b as follows:

EB: 1 Pole, Class 11a; 2, 3 poles, Classes 10b, 11b, 12b

EHB: 1 Pole, Class 13a; 2, 3 poles, Class 13b;

FB: 2, 3 poles, Class 18a;

HFB: 1 Pole, Class 13a; 2, 3 poles, Class 22a

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Special Calibrations ①

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hertz Ac circuits. See Application Data 29-160 for information regarding special conditions. Maximum calibration for 400 Hz. is 135 amps.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal Magnetic Frequency	Add 10% to List Price of Complete Breaker	None

50°C Calibration ①

Add suffix "V" to catalog number for complete breaker, listed above, when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

Ambient Compensating Breakers ①

To order, add suffix letter "A" to standard thermal magnetic breaker catalog number.

Available in all standard ratings of EB, EHB, FB and HFB breakers up to ratings of 125 amps. Add 10% to price of standard breaker.

Further Information

List Prices: See Price List 29-020, Dis. CB-2 Application, Operating Characteristics: AD 29-160
Dimensions: DS 29-170

- ④ Changed or added since previous issue.
- ① Not listed with Underwriters' Laboratories, Inc.
- ② 2-Pole magnetic only breakers supplied in 3-Pole frame with current carrying parts omitted from center pole.
- ③ Magnetic only breakers for Dc applications require special calibration. Order by description.
- ④ Style listed is for package of 3 terminals. Order quantity equal to ½ total terminals required.
- ⑤ Magnetic-only breakers include both line and load terminals.
- ⑥ Suffix "L" on catalog number indicates line and load terminals included. If factory installation is required, specify on order.
- ⑦ Ratings thru 70 amps can be supplied with terminals for Cu cable only (#14-#2). Order by description.



October, 1981
Supersedes Technical Data 29-120 T WE A,
pages 21-22, dated April, 1980.
Mailed to: E, D, C/1901, 1903, 1928/PL

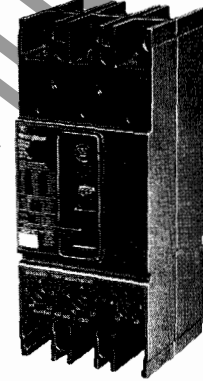
Type JB 250 Amperes
Type KB 250 Amperes
MARK 75® Type HKB 250 Amperes

AB DE-ION® Circuit Breakers

Type JB Breakers

70-250 Amperes, 600 Volts Ac, 250 Volts Dc, 2 and 3 Poles, Fixed Trip Thermal Magnetic, Saf-T-Vue Breakers

Continuous Ampere Rating @ 40°C	Magnetic Trip Setting, Amperes (Set on High Side, Adjustable to Lower Limits)		Complete Breaker Includes Pressure Type Copper Terminals ^③		Breaker Without Terminals	
	Low	High	Catalog Number Standard	Saf-T-Vue ^①	Catalog Number Standard	Saf-T-Vue ^①
2-Poles, 600 Volts Ac, 250 Volts Dc^②						
70	350	700	JB2070	JB2070S	JB2070W	JB2070SW
90	450	900	JB2090	JB2090S	JB2090W	JB2090SW
100	500	1000	JB2100	JB2100S	JB2100W	JB2100SW
125	625	1250	JB2125	JB2125S	JB2125W	JB2125SW
150	750	1500	JB2150	JB2150S	JB2150W	JB2150SW
175	875	1750	JB2175	JB2175S	JB2175W	JB2175SW
200	1000	2000	JB2200	JB2200S	JB2200W	JB2200SW
225	1125	2250	JB2225	JB2225S	JB2225W	JB2225SW
250	1250	2500	JB2250	JB2250S	JB2250W	JB2250SW
250	MCS ^⑤		JB2250N	JB2250SN	JB2250NW	JB2250SNW
			Approx. Ship. Wt. 12 Lbs.		Approx. Ship. Wt. 12 Lbs.	
3-Poles, 600 Volts Ac Only						
70	350	700	JB3070	JB3070S	JB3070W	JB3070SW
90	450	900	JB3090	JB3090S	JB3090W	JB3090SW
100	500	1000	JB3100	JB3100S	JB3100W	JB3100SW
125	625	1250	JB3125	JB3125S	JB3125W	JB3125SW
150	750	1500	JB3150	JB3150S	JB3150W	JB3150SW
175	875	1750	JB3175	JB3175S	JB3175W	JB3175SW
200	1000	2000	JB3200	JB3200S	JB3200W	JB3200SW
225	1125	2250	JB3225	JB3225S	JB3225W	JB3225SW
250	1250	2500	JB3250	JB3250S	JB3250W	JB3250SW
250	MCS ^⑤		JB3250N	JB3250SN	JB3250NW	JB3250SNW
			Approx. Ship. Wt. 14 Lbs.		Approx. Ship. Wt. 12 Lbs.	



Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

Type JB breakers meet requirements of Class 19a circuit breakers as defined by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings^⑥

Max. Volts	Amperes
240 Ac	30,000 Asym., 25,000 Sym.
480 Ac	25,000 Asym., 22,000 Sym.
600 Ac	15,000 Asym., 14,000 Sym. [Ⓞ]
250 Dc	10,000

On all 3 phase Delta, Ground B phase applications, refer to Westinghouse.

Terminals^③

Two terminals are required per pole. Terminals are Underwriters' Laboratories, Inc. listed for wire type and range listed below. When used with aluminum conductors, use joint compound. To order optional aluminum copper terminals, add suffix "Z" to complete breaker catalog number.

Max. Breaker, Amps	Terminal Catalog Number	Wire Range, Type No. of Cables
250	T250KB	1 #4-350 MCM Cu, or 1 #2-350 MCM Al

Standard Pressure Terminals

250	T250KB	1 #4-350 MCM Cu, or 1 #2-350 MCM Al
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Optional Al/Cu Pressure Terminals

250	TA250KB	1 #4-350 MCM Al/Cu
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* THIS IS PROBABLY A BETTER MAGNETIC ONLY BREAKER LUG

For description, refer to DB 29-150 and AD 29-160. To order these breakers, select catalog number from table at left, plus terminals above.

List Prices: See Price List 29-020, Dis. CB-2

Accessories and Modifications

Description: Pages 49-58

For Panelboard and Switchboard applications where only line side or load side terminals are required, add suffix "X" to complete breaker catalog number.

Magnetic Only Breakers, Front Adjustable^①

Continuous Ampere Rating @ 40°C	Magnetic Trip Setting, Amperes (Set on High Side, Adjustable to Lower Limits)		Breaker Only, No Terminals ^④		3-Poles	
	Low	High	Catalog Number Standard	Saf-T-Vue	Catalog Number Standard	Saf-T-Vue
250	350	700	JB2700MW	JB2700SMW	JB3700MW	JB3700SMW
250	625	1250	JB21250MW	JB21250SMW	JB31250MW	JB31250SMW
250	750	1500	JB21500MW	JB21500SMW	JB31500MW	JB31500SMW
250	875	1750	JB21750MW	JB21750SMW	JB31750MW	JB31750SMW
250	1125	2250	JB22250MW	JB22250SMW	JB32250MW	JB32250SMW
250	1250	2500	JB22500MW	JB22500SMW	JB32500MW	JB32500SMW

Special Calibrations^①

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°. For frequencies other than 0-60 Hertz Ac, refer to Westinghouse.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal Magnetic	Add 10% to List Price of Complete Breaker	None None None

50°C Calibration^①

Add suffix "V" to catalog number for complete breaker when ordering listed ampere ratings to be used in 50°C ambients. Same price as standard 40°C breakers.

- Ⓞ Changed or added since previous issue.
- ① Not listed with Underwriters' Laboratories, Inc.
- ② 2-pole breakers are supplied in 3-pole frames with current carrying parts omitted from center pole.
- ③ Terminals are shipped separately from breaker frame.
- ④ Select desired terminal from table and order as separate item.
- ⑤ Interrupting capacities shown do not apply to molded case switches.



Type KB and MARK 75® Type HKB

70-250 Amperes, 600 Volts Ac, 250 Volts Dc, 2 and 3 Poles, Interchangeable Trip Thermal Magnetic, Saf-T-Vue® Breakers

Contin- uous Setting Amperes Rating @ 40°C	Magnetic Trip Setting Amperes ^④		Complete Breaker			Shipped as Frame, Trip Unit and Terminals ^③			
	Low	High	Includes Pressure Type Copper Terminals ^③			Frame Only		Trip Unit Only	
			Catalog Number			Catalog Number		Cat. No.	
			Standard	Saf-T-Vue ①	MARK 75	Standard	Saf-T-Vue ①	MARK 75	Standard Saf-T-Vue, MARK 75

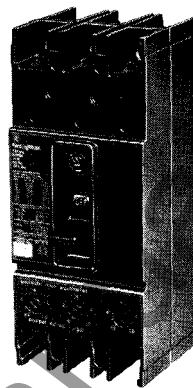
2-Poles, 600 Volts Ac, 250 Volts Dc^②

70	350	700	KB2070	KB2070S	HKB2070	KB2250F	KB2250FS	HKB2250F	HKB2070T
90	450	900	KB2090	KB2090S	HKB2090	KB2250F	KB2250FS	HKB2250F	HKB2090T
100	500	1000	KB2100	KB2100S	HKB2100	KB2250F	KB2250FS	HKB2250F	HKB2100T
125	625	1250	KB2125	KB2125S	HKB2125	KB2250F	KB2250FS	HKB2250F	HKB2125T
150	750	1500	KB2150	KB2150S	HKB2150	KB2250F	KB2250FS	HKB2250F	HKB2150T
175	875	1750	KB2175	KB2175S	HKB2175	KB2250F	KB2250FS	HKB2250F	HKB2175T
200	1000	2000	KB2200	KB2200S	HKB2200	KB2250F	KB2250FS	HKB2250F	HKB2200T
225	1125	2250	KB2225	KB2225S	HKB2225	KB2250F	KB2250FS	HKB2250F	HKB2225T
250	1250	2500	KB2250	KB2250S	HKB2250	KB2250F	KB2250FS	HKB2250F	HKB2250T
250	MCS ^⑥		KB2250N	KB2250SN	.....	KB2250NW	KB2250SNW	.....	Incl. in Frame

Approx. Ship. Wt. 12 Lbs.

Approx. Ship. Wt. 9 Lbs.

Approx. Ship. Wt. 2 Lbs.



Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

3-Poles, 600 Volts Ac Only

70	350	700	KB3070	KB3070S	HKB3070	KB3250F	KB3250FS	HKB3250F	HKB3070T
90	450	900	KB3090	KB3090S	HKB3090	KB3250F	KB3250FS	HKB3250F	HKB3090T
100	500	1000	KB3100	KB3100S	HKB3100	KB3250F	KB3250FS	HKB3250F	HKB3100T
125	625	1250	KB3125	KB3125S	HKB3125	KB3250F	KB3250FS	HKB3250F	HKB3125T
150	750	1500	KB3150	KB3150S	HKB3150	KB3250F	KB3250FS	HKB3250F	HKB3150T
175	875	1750	KB3175	KB3175S	HKB3175	KB3250F	KB3250FS	HKB3250F	HKB3175T
200	1000	2000	KB3200	KB3200S	HKB3200	KB3250F	KB3250FS	HKB3250F	HKB3200T
225	1125	2250	KB3225	KB3225S	HKB3225	KB3250F	KB3250FS	HKB3250F	HKB3225T
250	1250	2500	KB3250	KB3250S	HKB3250	KB3250F	KB3250FS	HKB3250F	HKB3250T
250	MCS ^⑥		KB3250N	KB3250SN	.....	KB3250NW	KB3250SNW	.....	Incl. in Frame

Approx. Ship. Wt. 14 Lbs.

Approx. Ship. Wt. 11 Lbs.

Approx. Ship. Wt. 2 Lbs.

Type KB breakers meet requirements for class 19a, as defined by Federal Specification W-C-375b. Type HKB breakers not defined in W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings^⑤

Max. Volts	Amperes
240 Ac	30,000 Asym., 25,000 Sym.
480 Ac	25,000 Asym., 22,000 Sym.
600 Ac	15,000 Asym., 14,000 Sym. ^⑥
250 Dc	10,000

For Panelboard and Switchboard applications where only line side or load side terminals are required, add suffix "X" to complete breaker catalog number.

Magnetic Only, Front Adjustable Breakers^①

Contin- uous Ampere Rating	Magnetic Trip Setting Amperes ^④		Trip Units Only	
	Low	High	Catalog Numbers	
			2 Poles ^②	3 Poles
250	350	700	HKB2700TM	HKB3700TM
250	625	1250	HKB21250TM	HKB31250TM
250	750	1500	HKB21500TM	HKB31500TM
250	875	1750	HKB21750TM	HKB31750TM
250	1125	2250	HKB22250TM	HKB32250TM
250	1250	2500	HKB22500TM	HKB32500TM

Special Calibrations^①

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. For frequencies other than 0-60 Hertz Ac, refer to Westinghouse.

Type Calibration	1-24 Identical Units	25 or More Identical Units
Thermal	Add 30% to List Price of Trip Unit	None
Magnetic		None None None

50°C Calibration^①

Add suffix "V" to catalog number for complete breaker, listed above, when ordering listed ampere ratings to be used in 50°C ambients. Same price as standard 40°C breakers.

Mark 75 Breakers

240 Ac	75,000 Asym., 65,000 Sym.
480 Ac	30,000 Asym., 25,000 Sym.
600 Ac	20,000 Asym., 18,000 Sym.
250 Dc	20,000 ^⑤

On all 3 phase Delta, Ground B phase applications, refer to Westinghouse.

Terminals^③

Two required per pole. Select from table on page 21.

Magnetic Only Breakers

For description, refer to DB 29-150 and AD 29-160. To order these breakers, select frame, trip unit and terminals.

List Prices: See Price List 29-020, Dis. CB-2

Accessories and Modifications

Description: Pages 49-58

③ Changed or added since previous issue.
① Not listed with Underwriters' Laboratories, Inc.
② 2-pole breakers are supplied in 3-pole frames with current carrying parts omitted from center pole.
③ Terminals shipped separately from breaker frame.
④ Set on high side, adjustable to lower limit.
⑤ Ratings above 10,000 amps not UL Listed.
⑥ Interrupting capacities shown do not apply to molded case switches.



April, 1980
 Supersedes Technical Data 29-120 T WE A
 pages 23-24, dated October, 1975
 Mailed to: E, D, C/1901, 1903, 1928/PL

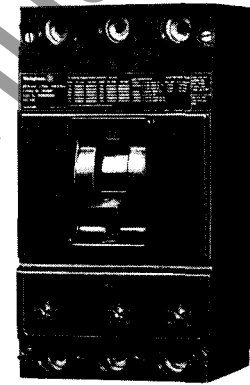
Type LBB 400 Amperes
 Type LB400 Amperes
 MARK 75 Type HLB 400 Amperes

AB DE-ION® Circuit Breakers

Type LBB Breakers

125-400 Amperes, 600 Volts Ac, 250 Volts Dc, 2, 3 Poles, Fixed Trip Thermal Magnetic, Saf-T-Vue® Breakers

Continuous Ampere Rating @ 40°C	Magnetic Trip Setting Amperes ^⑤		Complete Breaker Includes Pressure Type Copper Terminals ^④		Breaker Without Terminals	
	Low	High	Catalog Number		Catalog Number	
			Standard	Saf-T-Vue	Standard	Saf-T-Vue
2-Poles, 600 Volts Ac, 250 Volts Dc^③						
125	625	1250	LBB2125	LBB2125S	LBB2125W	LBB2125SW
150	750	1500	LBB2150	LBB2150S	LBB2150W	LBB2150SW
175	875	1750	LBB2175	LBB2175S	LBB2175W	LBB2175SW
200	1000	2000	LBB2200	LBB2200S	LBB2200W	LBB2200SW
225	1125	2250	LBB2225	LBB2225S	LBB2225W	LBB2225SW
250	1250	2500	LBB2250	LBB2250S	LBB2250W	LBB2250SW
300	1500	3000	LBB2300	LBB2300S	LBB2300W	LBB2300SW
350	1750	3500	LBB2350	LBB2350S	LBB2350W	LBB2350SW
400	2000	4000	LBB2400	LBB2400S	LBB2400W	LBB2400SW
400	MCS ^⑥		LBB2400N	LBB2400SN	LBB2400NW	LBB2400SNW
			Approx. Ship. Wt. 13 Lbs.		Approx. Ship. Wt. 13 Lbs.	
3-Poles, 600 Volts Ac Only						
125	625	1250	LBB3125	LBB3125S	LBB3125W	LBB3125SW
150	750	1500	LBB3150	LBB3150S	LBB3150W	LBB3150SW
175	875	1750	LBB3175	LBB3175S	LBB3175W	LBB3175SW
200	1000	2000	LBB3200	LBB3200S	LBB3200W	LBB3200SW
225	1125	2250	LBB3225	LBB3225S	LBB3225W	LBB3225SW
250	1250	2500	LBB3250	LBB3250S	LBB3250W	LBB3250SW
300	1500	3000	LBB3300	LBB3300S	LBB3300W	LBB3300SW
350	1750	3500	LBB3350	LBB3350S	LBB3350W	LBB3350SW
400	2000	4000	LBB3400	LBB3400S	LBB3400W	LBB3400SW
400	MCS ^⑥		LBB3400N	LBB3400SN	LBB3400NW	LBB3400SNW
			Approx. Ship. Wt. 15 Lbs.		Approx. Ship. Wt. 15 Lbs.	



Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

Type LBB breakers meet requirements for class 21a circuit breakers, as defined by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings^②

Max. Volts	Amperes
240 Ac	50,000 Asym., 42,000 Sym.
480 Ac	35,000 Asym., 30,000 Sym.
600 Ac	25,000 Asym., 22,000 Sym.
250 Dc	20,000 ^⑦

For panelboard or switchboard applications where only line side or load side terminals are required, add suffix "X" to complete breaker catalog number.

Magnetic Only, Ambient Compensating Breakers^②

Continuous Ampere Rating	Magnetic Trip Setting, Amperes ^⑤		2-Pole Breakers ^③		3-Pole Breakers	
	Low	High	Catalog Number Standard	Catalog Number Saf-T-Vue	Catalog Number Standard	Catalog Number Saf-T-Vue
Magnetic Only Breakers, Front Adjustable - Without Terminals^④						
400	350	700	LBB2700MW	LBB2700SMW	LBB3700MW	LBB3700SMW
400	625	1250	LBB21250MW	LBB21250SMW	LBB31250MW	LBB31250SMW
400	750	1500	LBB21500MW	LBB21500SMW	LBB31500MW	LBB31500SMW
400	875	1750	LBB21750MW	LBB21750SMW	LBB31750MW	LBB31750SMW
400	1125	2250	LBB22250MW	LBB22250SMW	LBB32250MW	LBB32250SMW
400	1500	3000	LBB23000MW	LBB23000SMW	LBB33000MW	LBB33000SMW
400	2000	4000	LBB24000MW	LBB24000SMW	LBB34000MW	LBB34000SMW
Ambient Compensating Breakers - Includes Terminals						
125	625	1250	LBB2125A	LBB2125SA	LBB3125A	LBB3125SA
150	750	1500	LBB2150A	LBB2150SA	LBB3150A	LBB3150SA
175	875	1750	LBB2175A	LBB2175SA	LBB3175A	LBB3175SA
200	1000	2000	LBB2200A	LBB2200SA	LBB3200A	LBB3200SA
225	1125	2250	LBB2225A	LBB2225SA	LBB3225A	LBB3225SA
250	1250	2500	LBB2250A	LBB2250SA	LBB3250A	LBB3250SA
300	1500	3000	LBB2300A	LBB2300SA	LBB3300A	LBB3300SA
350	1750	3500	LBB2350A	LBB2350SA	LBB3350A	LBB3350SA
400	2000	4000	LBB2400A	LBB2400SA	LBB3400A	LBB3400SA

Terminals^④

Two required per pole. Select from page 24.

Magnetic Only and Ambient Compensating Breakers

For description, refer to DB 29-150 and AD 29-160. To order, select catalog number from table above.

- ③ Not listed with Underwriters' Laboratories, Inc.
- ② 2-pole breakers or trips are supplied in 3-pole frames with current carrying parts omitted from center pole.
- ④ Terminals shipped separately from breaker.
- ⑤ Set on high side, adjustable to lower limits.
- ⑥ Optional terminal.
- ⑦ Ratings above 10,000 amps not U.L. Listed.
- ⑧ Select desired terminals from page 22, and order as separate item.
- ⑨ Interrupting capacities shown do not apply to molded case switches (MCS).

On all 3 phase Delta, Ground B phase applications, refer to Westinghouse.

Special Calibrations^②

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hertz Ac circuits. See AD 29-160 for information regarding special conditions. Maximum calibration for 400 Hz is 300 amps.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal	Add 10% to List Price of Complete Breaker	None
Magnetic Frequency		None

50° Calibration^②:

Add suffix "V" to catalog number for complete breaker when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

Accessories and Modifications

Description: Pages 49-58

List Prices: See Price List 29-020, Dis. CB-2

*4/18/80 - per Luca
Type LB and MARK 75 are all
available in "HLB" Mark 75
and with same TC as
all other HLB's.
BZL*



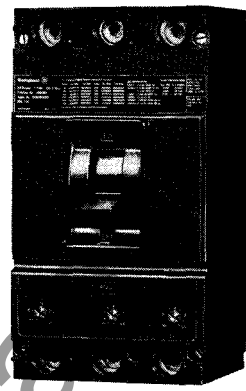
Type LB and MARK 75® Type HLB

70-400 Amperes, 600 Volts Ac, 250 Volts Dc, 2, 3 Poles, Interchangeable Trip
Thermal Magnetic, Saf-T-Vue and MARK 75 Breakers

Con- tin- uous Am- pere Rat- ing @ 40°C	Magnetic Trip Setting Amperes [ⓐ]		Complete Breaker		Shipped as Frame, Trip Unit and Terminals [ⓑ]			
	Low	High	Includes Pressure Type Copper Terminals [ⓐ]		Frame Only			Trip Unit Only
			Catalog Number		Catalog Number			Catalog Number
			Standard	Saf-T-Vue MARK 75	Standard	Saf-T-Vue	MARK 75	Standard, Saf-T-Vue, MARK 75

2-Poles, 600 Volts Ac, 250 Volts Dc[ⓐ]

70	350	700	LB2070	LB2070S	.....	LB2400F	LB2400FS	.....	HLB2070T
90	450	900	LB2090	LB2090S	.....	LB2400F	LB2400FS	.....	HLB2090T
100	500	1000	LB2100	LB2100S	.....	LB2400F	LB2400FS	.....	HLB2100T
125	625	1250	LB2125	LB2125S	HLB2125	LB2400F	LB2400FS	HLB2400F	HLB2125T
150	750	1500	LB2150	LB2150S	HLB2150	LB2400F	LB2400FS	HLB2400F	HLB2150T
175	875	1750	LB2175	LB2175S	HLB2175	LB2400F	LB2400FS	HLB2400F	HLB2175T
200	1000	2000	LB2200	LB2200S	HLB2200	LB2400F	LB2400FS	HLB2400F	HLB2200T
225	1125	2250	LB2225	LB2225S	HLB2225	LB2400F	LB2400FS	HLB2400F	HLB2225T
250	1250	2500	LB2250	LB2250S	HLB2250	LB2400F	LB2400FS	HLB2400F	HLB2250T
300	1500	3000	LB2300	LB2300S	HLB2300	LB2400F	LB2400FS	HLB2400F	HLB2300T
350	1750	3500	LB2350	LB2350S	HLB2350	LB2400F	LB2400FS	HLB2400F	HLB2350T
400	2000	4000	LB2400	LB2400S	HLB2400	LB2400F	LB2400FS	HLB2400F	HLB2400T
400	MCS [ⓐ]		LB2400N	LB2400SN	.....	LB2400NW	LB2400SNW	.....	Incl. in Frame Approx. Ship. Wt. 2 1/2 Lbs.



Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

Type LB breakers meet requirements for class 21a circuit breakers, and Type HLB meet requirements for class 23a, as defined by Federal Specification W-C-375b.

3-Poles, 600 Volts Ac Only

70	350	700	LB3070	LB3070S	.....	LB3400F	LB3400FS	.....	HLB3070T
90	450	900	LB3090	LB3090S	.....	LB3400F	LB3400FS	.....	HLB3090T
100	500	1000	LB3100	LB3100S	.....	LB3400F	LB3400FS	.....	HLB3100T
125	625	1250	LB3125	LB3125S	HLB3125	LB3400F	LB3400FS	HLB3400F	HLB3125T
150	750	1500	LB3150	LB3150S	HLB3150	LB3400F	LB3400FS	HLB3400F	HLB3150T
175	875	1750	LB3175	LB3175S	HLB3175	LB3400F	LB3400FS	HLB3400F	HLB3175T
200	1000	2000	LB3200	LB3200S	HLB3200	LB3400F	LB3400FS	HLB3400F	HLB3200T
225	1125	2250	LB3225	LB3225S	HLB3225	LB3400F	LB3400FS	HLB3400F	HLB3225T
250	1250	2500	LB3250	LB3250S	HLB3250	LB3400F	LB3400FS	HLB3400F	HLB3250T
300	1500	3000	LB3300	LB3300S	HLB3300	LB3400F	LB3400FS	HLB3400F	HLB3300T
350	1750	3500	LB3350	LB3350S	HLB3350	LB3400F	LB3400FS	HLB3400F	HLB3350T
400	2000	4000	LB3400	LB3400S	HLB3400	LB3400F	LB3400FS	HLB3400F	HLB3400T
400	MCS [ⓐ]		LB3400N	LB3400SN	.....	LB3400NW	LB3400SNW	.....	Incl. in Frame Approx. Ship. Wt. 2 1/2 Lbs.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings[ⓑ]

Volts Max.	Amperes
Standard Breakers	
240 Ac	50,000 Asym., 42,000 Sym.
480 Ac	35,000 Asym., 30,000 Sym.
600 Ac	25,000 Asym., 22,000 Sym.
250 Dc	20,000 [ⓑ]

MARK 75 Breakers

240 Ac	75,000 Asym., 65,000 Sym.
480 Ac	40,000 Asym., 35,000 Sym.
600 Ac	30,000 Asym., 25,000 Sym.
250 Dc	20,000 [ⓑ]

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

List Prices: See Price List 29-020, Dis. CB-2

Accessories and Modifications
Description: Pages 49-58

For Panelboard and switchboard applications where only line side or load side terminals are required, add suffix "X" to complete breaker catalog number.

- ⓐ Not listed with underwriters' Laboratories, Inc.
- ⓑ 2-pole breakers or trips are supplied in 3-pole frames with current carrying parts omitted from center pole.
- Ⓒ Set on high side, adjustable to lower limits.
- Ⓓ Terminals shipped separately from breaker.
- Ⓔ Optional terminal.
- Ⓕ Ratings above 10,000 amps not UL Listed.
- Ⓖ Interrupting capacities shown do not apply to molded case switches (MCS).

Terminals[ⓐ]
Two terminals are required per pole. Terminals are Underwriters' Laboratories, Inc. listed for wire type and range listed below. When used with aluminum cable, use joint compound. To order optional aluminum-copper terminals, add suffix "Z" to complete breaker catalog number.

Max. Amps.	Terminal Cat. No.	Wire Range, Type, No. of Cables
Standard Copper Pressure Terminals		
225	T225LA	1 #6-350 MCM Cu
225 [ⓐ]	T225LBF	1 #6-250 MCM Cu
350	T350DA	1 250-500 MCM Cu
400	T400DA2	2 3/0-250 MCM Cu
Optional Al/Cu Pressure Terminals		
225	TA225LA1	1 #6-350 MCM Cu, or 1 #4-350 MCM Al
350	TA350DA	1 250-500 MCM Al/Cu
400	TA400DA1	2 3/0-250 MCM Al/Cu





April, 1980
 Supersedes Technical Data 29-120 T WE A
 pages 24.1-24.2, dated August, 1977
 Mailed to: E, D, C/1901, 1903, 1928/PL

Type LB 400 Amperes
 Mark 75® Type HLB 400 Amperes
 Type LA 600 Amperes
 Mark 75® Type HLA 600 Amperes

AB DE-ION® Circuit Breakers

Type LB and Mark 75® Type HLB Breakers, Continued 70-400 Amperes, 600 Volts Ac, 250 Volts Dc, 2, 3 Poles, Interchangeable Trip

Special Breakers® Trip Units Only

Continuous Ampere Rating	Magnetic Trip Setting, Amperes®		Trip Unit Only	
	Low	High	2-Poles® Catalog Number	3-Poles Catalog Number

Magnetic Only Breakers, Front Adjustable

400	350	700	HLB2700TM	HLB3700TM
400	625	1250	HLB21250TM	HLB31250TM
400	750	1500	HLB21500TM	HLB31500TM
400	875	1750	HLB21750TM	HLB31750TM
400	1125	2250	HLB22250TM	HLB32250TM
400	1500	3000	HLB23000TM	HLB33000TM
400	2000	4000	HLB24000TM	HLB34000TM

Ambient Compensating Breakers

70	350	700	HLB2070TA	HLB3070TA
90	450	900	HLB2090TA	HLB3090TA
100	500	1000	HLB2100TA	HLB3100TA
125	625	1250	HLB2125TA	HLB3125TA
150	750	1500	HLB2150TA	HLB3150TA
175	875	1750	HLB2175TA	HLB3175TA
200	1000	2000	HLB2200TA	HLB3200TA
225	1125	2250	HLB2225TA	HLB3225TA
250	1250	2500	HLB2250TA	HLB3250TA
300	1500	3000	HLB2300TA	HLB3300TA
350	1750	3500	HLB2350TA	HLB3350TA
400	2000	4000	HLB2400TA	HLB3400TA

List Prices: See Price List 29-020, Dis. CB-2

Magnetic Only and Ambient Compensating Breakers®

For description, refer to DB 29-150 and AD 29-160. To order, select trip unit from table at left, frame and terminals from page 24.

Special Calibrations®

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hertz ac circuits. See application data 29-160 for information regarding special conditions. Maximum calibration for 400 HZ is 300 amps.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal	Add 30% to List Price of Trip Unit	None
Ambient		None
Frequency		None

50°C Calibration®

Add suffix "V" to catalog number for complete breaker or trip unit only, when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

® Two-pole breakers or trips are supplied in 3-pole frames with current carrying parts omitted from center pole.

® Not listed with Underwriters' Laboratories, Inc.

® Set on high side, adjustable to lower limits.



Type LA and Mark 75® Type HLA 600 Amp Frame Breakers
250-600 Amperes, 600 Volts Ac, 250 Volts Dc, 2, 3 Poles, Interchangeable Trip Thermal Magnetic, Saf-T-Vue and Mark 75 Breakers

Contin- uous Am- pere Rat- ing @ 40°C	Magnetic Trip Setting Amperes ® Low High	Complete Breaker			Shipped as Frame, Trip Unit and Terminals®			
		Includes Pressure Type Copper Terminals®			Frame Only			Trip Unit Only
		Catalog Number			Catalog Number			Catalog Number
		Standard	Saf-T-Vue	MARK 75	Standard	Saf-T-Vue	MARK 75	Standard, Saf-T-Vue, MARK 75

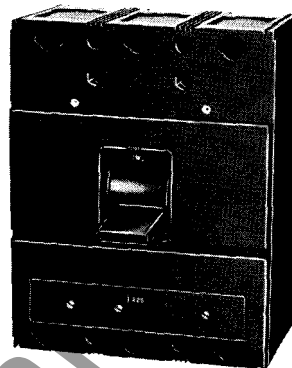
600 Ampere Frame Breakers®

2 Poles, 600 Volts Ac, 250 Volts Dc®

250	1250	2500	2603D50G01	2603D50G13	1256C10G02	LA2600F	LA2600FS	HLA2600F	2603D46G07
300	1500	3000	2603D50G02	2603D50G14	1256C10G03	LA2600F	LA2600FS	HLA2600F	2603D46G08
350	1750	3500	2603D50G03	2603D50G15	1256C10G04	LA2600F	LA2600FS	HLA2600F	2603D46G09
400	2000	4000	2603D50G04	2603D50G16	1256C10G05	LA2600F	LA2600FS	HLA2600F	2603D46G10
500	2500	5000	LA2500	LA2500S	HLA2500	LA2600F	LA2600FS	HLA2600F	HLA2500T
600	3000	6000	LA2600	LA2600S	HLA2600	LA2600F	LA2600FS	HLA2600F	HLA2600T
600	MCS®		LA2600N	LA2600SN	.....	LA2600NW	LA2600SNW	.....	Incl. in Frame

3 Poles, 600 Volts Ac Only

250	1250	2500	2603D50G07	2603D50G19	1256C10G12	LA3600F	LA3600FS	HLA3600F	2603D46G26
300	1500	3000	2603D50G08	2603D50G20	1256C10G13	LA3600F	LA3600FS	HLA3600F	2603D46G27
350	1750	3500	2603D50G09	2603D50G21	1256C10G14	LA3600F	LA3600FS	HLA3600F	2603D46G28
400	2000	4000	2603D50G10	2603D50G22	1256C10G15	LA3600F	LA3600FS	HLA3600F	2603D46G29
500	2500	5000	LA3500	LA3500S	HLA3500	LA3600F	LA3600FS	HLA3600F	HLA3500T
600	3000	6000	LA3600	LA3600S	HLA3600	LA3600F	LA3600FS	HLA3600F	HLA3600T
600	MCS®		LA3600N	LA3600SN	.....	LA3600NW	LA3600SNW	.....	Incl. in Frame



Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

Type LA breakers meet requirements for class 21a circuit breakers, and Type HLA meet requirements for class 23a as defined by Federal Specification W-C-375b.

For Panelboard and Switchboards applications where only line side or load side terminals are required, add suffix "X" to complete breaker catalog number.

Special Breakers® Trip Units Only

Contin- uous Amper Rating	Magnetic Trip Setting Amperes® Low High	Cat/Style Number	
		2-Poles®	3-Poles

Magnetic Only Breakers, Front Adjustable

600 Ampere Frame Breakers®

600	1125	2250	2603D47G07	2603D47G26
600	1500	3000	2603D47G08	2603D47G27
600	2000	4000	2603D47G10	2603D47G29
600	2500	5000	HLA25000TM	HLA35000TM
600	3000	6000	HLA26000TM	HLA36000TM

Ambient Compensating Breakers

600 Ampere Frame Breakers®

250	1250	2500	5683D88G07	5683D88G26
300	1500	3000	5683D88G08	5683D88G27
350	1750	3500	5683D88G09	5683D88G28
400	2000	4000	5683D88G10	5683D88G29
500	2500	5000	HLA2500TA	HLA3500TA
600	3000	6000	HLA2600TA	HLA3600TA

Special Calibrations®

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hz Ac circuits. See application data 29-160 for information regarding special conditions. Maximum 400 Hz calibration: 600 amp frame, 450 amps.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal Ambient Frequency	Add 20% to List Price of Trip Unit	None None None

50°C Calibration®

Add suffix "V" to catalog number for complete breaker or trip unit only, when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings®

Volts Max. Amperes

Standard Breakers	Mark 75 Breakers
240 Ac	50,000 Asym., 42,000 Sym.
480 Ac	35,000 Asym., 30,000 Sym.
600 Ac	25,000 Asym., 22,000 Sym.
250 Dc	20,000®
240 Ac	75,000 Asym., 65,000 Sym.
480 Ac	40,000 Asym., 35,000 Sym.
600 Ac	30,000 Asym., 25,000 Sym.
250 Dc	20,000®

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Terminals® ④

Two terminals are required per pole. Terminals are Underwriters' Laboratories, Inc. listed for wire type and range listed below. When used aluminum cable, use joint compound. To order optional aluminum-copper terminals, add suffix "Z" to complete breaker catalog number.

Max. Amps	Terminal Cat. Number	Wire Range, Type No. of Cables
Standard Copper Pressure Terminals		
600®	T600LA	2 250-500 MCM Cu
Optional Al/Cu Pressure Terminals		
600®	TA600LA	2 250-500 MCM Al/Cu

Magnetic Only and Ambient Compensating Breakers®

For description, refer to DB 29-150 and AD 29-160. To order, select frame, trip unit and terminals from tables this page.

Accessories and Modifications
Description: Pages 49-58

List Prices: See Price List 29-020, Dis. CB-2

- Changed or added since previous issue.
- ® Two-pole breakers or trips are supplied in 3-pole frames with current carrying parts omitted from center pole.
- ® Terminals, trip units and accessories are not interchangeable between 400 and 600 ampere frames.
- ® Terminals shipped separately from breakers.
- ® Not listed with Underwriters' Laboratories, Inc.
- ® Set on high side, adjustable to lower limits.
- ® For 600 amp frame breakers only.
- ® Ratings above 10,000 amps not UL listed.
- ® Interrupting capacities shown do not apply to molded case switches.



September, 1984
Supersedes Technical Data 29-120,
pages 27-28, dated June, 1980
Mailed to: E, D, C/29-100A, 31-400A

Type LC, LCA; MARK 75 Type HLC, HLCA;
Type LCG, LCGA; and MARK 75 Type HLCG,
HLCGA 75-600 Amperes SELTRONIC™
Breakers

AB DE-ION® Circuit Breakers

Type LC, LCA, MARK 75® Type HLC, HLCA SELTRONIC™ Circuit Breakers With Solid State Trip Unitsⓐ

Standard Breakers, 600 Volts Ac, 50/60 Hz Complete Breaker Requires Frame, Rating Plug and Terminals

Frame Only

Poles ⓐ	Catalog Numbers		
	Standard (Long Delay and Magnetic Trip)	Magnetic Only●	Long Delay, Magnetic Trip and Adjustable Short Delay Time (.06-.22 seconds)

Types LC 150 and LCA 150 (75-150 Amps.)

2	LC2150F	LC2150FM	LCA2150F
3	LC3150F	LC3150FM	LCA3150F

MARK 75 Types HLC 150 and HLCA 150 (75-150 Amps.)

2	HLC2150F	HLC2150FM	HLCA2150F
3	HLC3150F	HLC3150FM	HLCA3150F

Types LC 300 and LCA 300 (150-300 Amps.)

2	LC2300F	LC2300FM	LCA2300F
3	LC3300F	LC3300FM	LCA3300F

MARK 75 Types HLC 300 and HLCA 300 (150-300 Amps.)

2	HLC2300F	HLC2300FM	HLCA2300F
3	HLC3300F	HLC3300FM	HLCA3300F

Types LC 400 and LCA 400 (200-400 Amps.)

2	LC2400F	LC2400FM	LCA2400F
3	LC3400F	LC3400FM	LCA3400F

MARK 75 Types HLC 400 and HLCA 400 (200-400 Amps.)

2	HLC2400F	HLC2400FM	HLCA2400F
3	HLC3400F	HLC3400FM	HLCA3400F

Types LC 600 and LCA 600 (300-600 Amps.)

2	LC2600F	LC2600FM	LCA2600F
3	LC3600F	LC3600FM	LCA3600F

MARK 75 Types HLC 600 and HLCA 600 (300-600 Amps.)

2	HLC2600F	HLC2600FM	HLCA2600F
3	HLC3600F	HLC3600FM	HLCA3600F

Type LC 600 Molded Case Switch: Refer to Pages 46.1, 46.2

Field Mountable Attachmentsⓑⓒⓓⓔⓕ

Description	Style Number
Provision to trip flux transfer shunt trip from external source:	
32 to 120 volts (DC to 60 Hz)ⓓ	1371D11G22
240 to 600 volts Ac, 50/60 Hzⓔ	1371D11G32
Provision to trip flux transfer shunt trip from external source, plus a 1A-1B auxiliary switch:	
32 to 120 volts (DC to 60 Hz)ⓓ	1371D11G15
240 to 600 volts Ac, 50/60 Hzⓔ	1371D11G25
Provision to trip flux transfer shunt trip from 24 volt Dc source	1371D93G01
1A-1B Auxiliary Switch	1371D11G03

- ⓐ Changed or added since previous issue.
- ⓑ Not UL Inc. listed.
- ⓒ Only one attachment may be mounted per breaker.
- ⓓ For other possible combinations, refer to Westinghouse.

- ⓔ Non-automatic breakers do not use standard SELTRONIC attachments, and should be ordered by description for factory mounting.
- ⓕ Does not void listing of UL listed breakers.
- ⓖ Not for use on ground fault applications.
- ⓗ Rated 48 volts minimum for ground fault applications requiring tripping at 55% of voltage.



Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

Type LC breakers meet requirements for class 21a circuit breakers, and Type HLC meet requirements for class 23a as defined by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratingsⓖ

Volts Max.	Amperes
Standard Breakers	
240 Ac	50,000 Asym., 42,000 Sym.
480 Ac	35,000 Asym., 30,000 Sym.
600 Ac	25,000 Asym., 22,000 Sym.

MARK 75 Breakers

240 Ac	75,000 Asym., 65,000 Sym.
480 Ac	40,000 Asym., 35,000 Sym.
600 Ac	30,000 Asym., 25,000 Sym.

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Further Information

List Prices: See Price List 29-020, Dis. CB-2
Factory Mounted and Other Accessories and Modifications: Pages 49-58
Field Mountable Attachments: This Page
Rating Plugs: Page 32.1
Portable Test Kit: Page 32.2
Terminals: Page 28

- ⓖ Two pole breakers are supplied in three pole frames with current carrying parts omitted from center pole.
- ⓗ Interrupting capacities shown do not apply to molded case switches (MCS).
- ⓓ UL Inc. recognized component.



AB DE-ION Circuit Breakers

Type LCG, LCGA, MARK 75® HLCG, HLCGA SELTRONIC Breakers With Built-in Ground Fault Protectionⓐ

Complete Breaker Requires Frame, Rating Plug, and Terminals, Extra Current Transformer Included for Neutral^① ^② See Accessories Page 32.2 for Indicator Kit

Frame Only		Ground Fault Characteristics	
Poles ③	Catalog Numbers	Pick-up Setting Amps	Time Setting
	Standard (Long Delay, Magnetic Trip) and Ground Fault Trip	Long Delay, Magnetic Trip, Adjustable Short Delay Time and Ground Fault Trip	
Types LCG 150 and LCGA 150 (75-150 Amps.)^④			
3	LCG3150F	LCGA3150F	50-150 3.5-30 Cy
MARK 75 Types HLCG 150 and HLCGA 150 (75-150 Amps.)^④			
3	HLCG3150F	HLCGA3150F	50-150 3.5-30 Cy
Types LCG 300 and LCGA 300 (150-300 Amps.)^④			
3	LCG3300F	LCGA3300F	60-300 3.5-30 Cy
MARK 75 Types HLCG 300 and HLCGA 300 (150-300 Amps.)^④			
3	HLCG3300F	HLCGA3300F	60-300 3.5-30 Cy
Types LCG 400 and LCGA 400 (200-400 Amps.)^④			
3	LCG3400F	LCGA3400F	80-400 3.5-30 Cy
MARK 75 Types HLCG 400 and HLCGA 400 (200-400 Amps.)^④			
3	HLCG3400F	HLCGA3400F	80-400 3.5-30 Cy
Types LCG 600 and LCGA 600 (300-600 Amps.)^④			
3	LCG3600F	LCGA3600F	120-600 3.5-30 Cy
MARK 75 Types HLCG 600 and HLCGA 600 (300-600 Amps.)^④			
3	HLCG3600F	HLCGA3600F	120-600 3.5-30 Cy

Terminals (Order Separately)

Two terminals are required per pole. Terminals are UL Inc. listed for wire type and range listed below. When used with aluminum cable, use joint compound.

Max. Amps.	Terminal Cat. No.	Wire Range, type No. of Cables
150,300, and 400 Amp Frames Only		
Standard Copper Pressure Terminals		
225	T225LA	(1) #6-350 MCM Cu
225	T225LBF	(1) #6-250 MCM Cu
400	T401LA	(1) #4-250 MCM Cu, plus (1) 3/0-600 MCM Cu
Optional Al/Cu Pressure Terminals		
225	TA225LA1	(1) #6-350 MCM Cu, or (1) #4-350 MCM Al
400	TA400LA1	(1) #4-250 MCM Al/Cu, plus (1) 3/0-600 MCM Al/Cu
400	TA401LA	(1) 600-750 MCM Al
600 Amp Frame Only		
Standard Copper Pressure Terminals		
600	T600LA	(2) 250-500 MCM Cu
Optional Al/Cu Pressure Terminals		
600	TA600LA	(2) 250-500 MCM Al/Cu

Further Information

List Prices: See Price List 29-020, Dis. CB-2
Factory Mounted and Other Accessories and Modifications: Pages 49-58
Field Mountable Attachments: Page 27
Rating Plugs: Page 32.1
Portable Test Kit: Page 32.2
Remote Ground Fault Trip Indicator: Page 32.2

ⓐ Changed or added since previous issue.
^① Available without extra C.T. for neutral. Order by description as similar to above except without neutral C.T. or external C.T. terminal connections. (Same price). Note the standard ground fault unit above can also be used without the neutral C.T.

^② These breakers use LC terminals. The fourth C.T. uses MC breaker terminals, page 29.
^③ Two pole breakers supplied in three pole frames with current carrying parts omitted from center pole.
^④ For applications other than standard residual scheme, see AD 29-160.

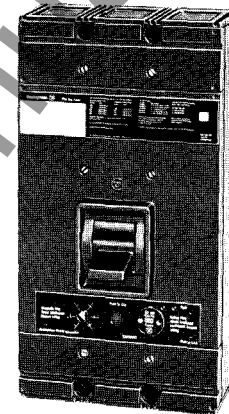


September, 1984
Supersedes Technical Data 29-120,
pages 29-30, dated April, 1980
Mailed to: E, D, C/29-100A, 31-400A

Type MC, MCA, MCG, MCGA, and MARK 75
Type HMC, HMCA, HMCG, HMCGA
800 Ampere SELTRONIC™ Breakers

Type NC, NCA, NCG, NCGA and MARK 75
Type HNC, HNCA, HNCG, HNCGA
1200 Ampere SELTRONIC Breakers

AB DE-ION® Circuit Breakers



Type MC, MCA, MARK 75® Type HMC, HMCA SELTRONIC™ Circuit Breakers with Solid State Trip Unitsⓐ

**Standard Breakers, 600 Volts Ac, 50/60 Hz Complete Breaker Requires Frame, Rating Plug,
and Terminals**

Frame Only

Poles ⑤	Catalog Numbers		
	Standard (Long Delay and Magnetic Trip)	Magnetic Onlyⓐ	Long Delay, Magnetic Trip and Adjustable Short Delay Time (.08-.28 seconds)

Types MC and MCA 400 to 800 Amps.

2	MC2800F	MC2800FM	MCA2800F
3	MC3800F	MC3800FM	MCA3800F

MARK 75 Types HMC and HMCA 400 to 800 Amps.

2	HMC2800F	HMC2800FM	HMCA2800F
3	HMC3800F	HMC3800FM	HMCA3800F

Type MC800 Molded Case Switch: Refer to Pages 46.1, 46.2

Type MCG, MCGA and MARK 75 Type HMCG, HMCGA SELTRONIC Circuit Breakers With Built-in Ground Fault Protection

Complete Breaker Requires Frame, Rating Plug and Terminals – Extra Current Transformer
Included for Neutralⓑ ⑩ See Page 32.2 For Optional Indicator Kit

Frame Only

Poles	Catalog Numbers		Ground Fault Characteristics	
	Standard (Long Delay, Magnetic and Ground Fault Trip)	Long Delay, Magnetic Trip, Adjustable Short Delay Time and Ground Fault Trip	Pick-up Setting × Frame Rtg.	Time Setting

Types MCG and MCGA 400 to 800 Amps.⑫

3	MCG3800F	MCGA3800F	.1-1.0	3.5-30 Cy
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MARK 75 Types HMCG and HMCGA 400 to 800 Amps.⑫

3	HMCG3800F	HMCGA3800F	.1-1.0	3.5-30 Cy
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Field Mountable Attachments ① ③ ⑤ ⑦

Description	Style Number
Provision to trip flux transfer shunt trip from external source: 32 to 120 Volts (Dc to 60 Hz)ⓐ	1371D72G22
240 to 600 Volts Ac (50/60 Hz)ⓑ	1371D72G32
Provision to trip flux transfer shunt trip from external source, plus 1A-1B Auxiliary switch: 32 to 120 Volts (Dc to 60 Hz)ⓐ	1371D72G15
240 to 600 Volts Ac (50/60 Hz)ⓑ	1371D72G25
Provision to trip flux transfer shunt trip from external 24 volt Dc source	1370D85G01
1A-1B Auxiliary Switch	1371D72G03

Terminals (Two Required per Pole)ⓐ

Max. Amps	Terminal Cat. No.	No., Size of Cable
Copper Only Pressure Terminals		
600	T600MA1	(2) 2/0-500MCM
800	T800MA1	(3) 3/0-300MCM
Al/Cu Pressure Terminals		
600	TA700MA1	(2) #1-500MCM
800	TA800MA2	(3) 3/0-400MCM
800	TA801MA	(2) 500-750MCM

- ⓐ Changed or added since previous issue.
- ① Does not void listing of UL listed breakers.
- ② Not U/L listed.
- ③ Only one of the attachments may be mounted per breaker.
- ④ Rated 48 volts minimum for ground fault applications requiring tripping (α 55% of voltage).
- ⑤ Two pole breakers are supplied in three pole frames with current-carrying parts omitted from center pole.
- ⑥ For other possible combinations, refer to factory.
- ⑦ Non-automatic breakers do not use standard seltronic attachments and should be ordered by description.

Listed with Underwriters' Laboratories, Inc. except as noted (For C.S.A., see page 48.)

Type MC SELTRONIC breakers meet requirements for class 21a, and MARK 75. Type HMC meet class 23a as defined by Federal Spec W-C-375b.

**UL Listed Interrupting Capacity, RMS
Symmetrical Amperes⑬**

Breaker	Ac Volts		
	240	480	600
MC, MCG	42000	30000	22000
HMC, HMCG	65000	50000	25000

Further Information

- List Prices:** See Price List 29-020, Dis. CB-2
- Factory Mounted and Other Accessories and Modifications:** Pages 49-58
- Field Mountable Attachments:** This Page
- Rating Plugs:** Page 32.1
- Portable Test Kit:** Page 32.2
- Remote Ground Fault Trip Indicator:** Page 32.2

- ⓑ Also used on breakers with ground fault and on separately mounted neutral current transformers.
- ⑨ Available without extra C.T. for neutral. Order by description as similar to above except without neutral C.T. or external C.T. Terminal connections. (Same Price)
Note: the standard ground fault unit above can also be used without the neutral C.T.
- ⑩ Order two of the desired terminals for each pole of the breaker and two for the neutral C.T.
- ⑪ Not for Ground Fault Applications.
- ⑫ For applications other than standard residual scheme, see AD 29-160.
- ⑬ Interrupting capacities shown do not apply to molded case switches (MCS).
- ⑭ UL Inc. recognized component.



AB DE-ION Circuit Breakers

Type NC, NCA, MARK 75® Type HNC, HNCA SELTRONIC™ Circuit Breakers with Solid State Trip UnitsⒸ

Standard Breakers, 600 Volts Ac, 50/60 Hz Complete Breaker Requires Frame, Rating Plug, and Terminals

Frame Only

Poles ⑤	Catalog Numbers		
	Standard (Long Delay and Magnetic Trip)	Magnetic OnlyⒸ	Long Delay, Magnetic Trip and Adjustable Short Delay Time (.08-.28 Seconds)

Types NC and NCA 800 to 1200 Amps

2	NC21200F	NC21200FM	NCA21200F
3	NC31200F	NC31200FM	NCA31200F

Mark 75 Types HNC and HNCA 800 to 1200 Amps

2	HNC21200F	HNC21200FM	HNCA21200F
3	HNC31200F	HNC31200FM	HNCA31200F

Type NC 1200 Molded Case Switch: Refer to Pages 46.1, 46.2

Type NCG, NCGA, and MARK 75 Type HNCG, HNCGA SELTRONIC Circuit Breakers With Built-in Ground Fault ProtectionⒸ

Complete Breaker Requires Frame, Rating Plug and Terminals - Extra Current Transformer Included for NeutralⒹ Ⓔ See Page 32.2 for Optional Indicator Kit

Frame Only

Poles	Catalog Numbers		Ground Fault Characteristics	
	Standard (Long Delay, Magnetic and Ground Fault Trip)	Long Delay, Magnetic Trip, Adjustable Short Delay Time, and Ground Fault Trip	Pick-up Setting X Frame Rtg.	Time Setting
3	NCG31200F	NCGA31200F	.1 x 1.0	3.5-30 Cy
3	HNCG31200F	HNCGA31200F	.1 x 1.0	3.5-30 Cy

Types NCG and NCGA 800 to 1200 Amperes^⑫

3	NCG31200F	NCGA31200F	.1 x 1.0	3.5-30 Cy
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Mark 75 Types HNCG and HNCGA 800 to 1200 Amperes^⑫

3	HNCG31200F	HNCGA31200F	.1 x 1.0	3.5-30 Cy
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Field Mountable Attachments^{① ③ ⑥ ⑦}

Description	Style Number
Provision to trip flux transfer shunt trip from external source: 32 to 120 Volts (Dc to 60 Hz)Ⓓ	1372D39G13
240 to 600 Volts Ac (50/60 Hz)Ⓓ	1372D39G23
Provision to trip flux transfer shunt trip from external source, plus a 1A-1B auxiliary switch: 32 to 120 Volts (Dc to 60 Hz)Ⓓ	1372D39G16
240 to 600 Volts Ac (50/60 Hz)Ⓓ	1372D39G26
Provision to trip flux transfer shunt trip from external 24 volt Dc source	1371D94G05
1A-1B Auxiliary Switch	1372D39G03

Terminals (Two Required per Pole)Ⓓ

Max. Amps	Terminal Cat. No.	No., Size of Cable
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Copper Only Pressure Terminals

1000	T1000NB1	(3) 3/0-500MCM
1200	T1200NB1	(4) 3/0-400MCM

Al/Cu Pressure Terminals

1000	TA1000NB1	(3) 3/0-400MCM
1200	TA1200NB1	(4) 4/0-500MCM
1200	TA1201NB1	(3) 500-750MCM

① Does not void listing of UL listed breakers.

● Not U/L listed.

③ Only one of the attachments may be mounted per breaker.

④ Rated 48 volts minimum for ground fault applications requiring tripping (a 55% of voltage).

● Two pole breakers are supplied in three pole frames with current-carrying parts omitted from center pole.

⑥ For other possible combinations, refer to factory.

⑦ Non-automatic breakers do not use standard seltronic attachments and should be ordered by description.

⑧ Also used on breakers with ground fault and on separately mounted neutral current transformers.

● Available without extra C.T. for neutral. Order by description as similar to above except without neutral C.T. or external C.T. Terminal connections. (Same Price) Note: the standard ground fault unit above can also be used without the neutral C.T.

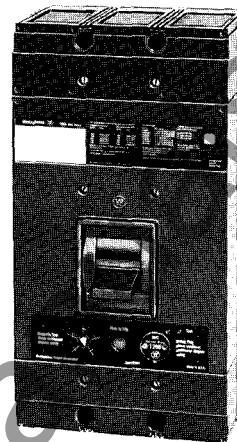
⑨ Order two of the desired terminals for each pole of the breaker and two for the neutral C.T.

⑩ Not for Ground Fault Applications.

⑫ For applications other than standard residual scheme, see AD 29-160.

⑬ Interrupting capacities shown do not apply to molded case switches (MCS).

⑭ UL Inc. recognized component.



Listed with Underwriter's Laboratories, Inc. except as noted. (For C.S.A. see page 48.)

Type NC SELTRONIC breakers meet requirements for class 21a, and MARK 75. Type HNC meet class 23a as defined by Federal Spec W-C-375b.

UL Listed Interrupting Capacity, RMS Symmetrical Amperes^⑬

Breaker	Ac Volts		
	240	480	600
NC, NCG	42000	30000	22000
HNC, HNCG	65000	50000	25000

Further Information

List Prices: See Price List 29-020, Dis. CB-2

Factory Mounted and Other Accessories and Modifications: Pages 49-58

Field Mountable Attachments: This Page

Rating Plugs: Page 32.1

Portable Test Kit: Page 32.2

Remote Ground Fault Trip Indicator:

Page 32.2



August, 1989
Supersedes Technical Data 29-120
pages 31-32, dated September, 1984
Mailed to: E, D, C/29-100A, 31-400A

Type PC, PCA, PCC, PCCA 2000, 2500 and
3000 Amperes SELTRONIC Circuit Breakers

AB DE-ION® Circuit Breakers

Type PCG, PCGA, PCCG, PCCGA 2000, 2500,
and 3000 Ampere SELTRONIC Circuit Break-
ers with Built-in Ground Fault Protection

Type PC, PCA, PCC, PCCA 2000, 2500 and 3000 Ampere SELTRONIC™ Circuit Breakers With Solid State Trip Units, 600 Volts Ac, 50/60 Hz

Complete Breaker Requires Frame, Rating Plug and Rear Connectors (except front connected and 3000 amp; connectors are included.)

Breakers for Standard Applications				Breakers for Applications at 100% Rating							
Frame Only				Frame Only							
Poles ③	Catalog Numbers		Catalog Numbers	Poles ③	Catalog Numbers		Catalog Numbers				
	Standard (Long Delay and Magnetic Trip)	Magnetic Only④			Long Delay, Magnetic Trip, and Adjustable Short Delay Time (.08-.28 seconds)	Standard (Long Delay and Magnetic Trip)		Magnetic Only④	Long Delay, Magnetic Trip, and Adjustable Short Delay Time (.08-.28 seconds)		
Type PC 2000, 1000 to 2000 Amps②				Type PCA 2000②				Type PCC 2000, 1000 to 2000 Amps④			
Rear Connected Breakers				Rear Connected Breakers				Rear Connected Breakers			
2	PC2200F	PC2200FM	PCA2200F	2	PCC2200F	PCC2200FM	2	PCC2200F	PCC2200FM	PCCA2200F	PCCA2200FM
3	PC3200F	PC3200FM	PCA3200F	3	PCC3200F	PCC3200FM	3	PCC3200F	PCC3200FM	PCCA3200F	PCCA3200FM
Front Connected Breakers				Front Connected Breakers				Front Connected Breakers			
2	PCF2200F	PCF2200FM	PCFA2200F	2	PCCF2200F	PCCF2200FM	2	PCCF2200F	PCCF2200FM	PCCFA2200F	PCCFA2200FM
3	PCF3200F	PCF3200FM	PCFA3200F	3	PCCF3200F	PCCF3200FM	3	PCCF3200F	PCCF3200FM	PCCFA3200F	PCCFA3200FM
Type PC 2500, 1400 to 2500 Amps②				Type PCA 2500②				Type PCC 2500, 1400 to 2500 Amps④			
Rear Connected Breakers				Rear Connected Breakers				Rear Connected Breakers			
2	PC2250F	PC2250FM	PCA2250F	2	PCC2250F	PCC2250FM	2	PCC2250F	PCC2250FM	PCCA2250F	PCCA2250FM
3	PC3250F	PC3250FM	PCA3250F	3	PCC3250F	PCC3250FM	3	PCC3250F	PCC3250FM	PCCA3250F	PCCA3250FM
Front Connected Breakers				Front Connected Breakers				Front Connected Breakers			
2	PCF2250F	PCF2250FM	PCFA2250F	2	PCCF2250F	PCCF2250FM	2	PCCF2250F	PCCF2250FM	PCCFA2250F	PCCFA2250FM
3	PCF3250F	PCF3250FM	PCFA3250F	3	PCCF3250F	PCCF3250FM	3	PCCF3250F	PCCF3250FM	PCCFA3250F	PCCFA3250FM
Type PC 3000, 1600 to 3000 Amps②				Type PCA 3000②				Type PCC 3000, 1600 to 3000 Amps④			
Rear Connected Breakers				Rear Connected Breakers				Rear Connected Breakers			
2	PC2300F	PC2300FM	PCA2300F	2	PCC2300F	PCC2300FM	2	PCC2300F	PCC2300FM	PCCA2300F	PCCA2300FM
3	PC3300F	PC3300FM	PCA3300F	3	PCC3300F	PCC3300FM	3	PCC3300F	PCC3300FM	PCCA3300F	PCCA3300FM

Type PC, PCC Molded Case Switches: Refer to Pages 46.1, 46.2

Drawout Mounting Breakers, 3 Pole Only
List Price includes: Breaker frame and complete drawout frame with safety tripping interlock. Order by description. Secondary contacts supplied as required at no extra charge. Order required rating plug separately.⑦

Standard Breakers	Molded Case Switch See Page 46.1
PCC2000④	PCC2000
PCC2500④	PCC2500
PCC3000④	PCC3000

Stationary Portion of Drawout Frame Only for Future Breaker Installations, 3 Pole Only. (Order by Description.)

Availability: PCC 2000, PCC 2500,
PCC 3000④⑤⑥

- ① Not UL listed.
- ② UL listed for standard applications.
- ③ Two pole breakers are supplied in three pole frames with current carrying parts omitted from center pole.
- ④ These breakers are UL Listed for application at 100% of rating per NEC exceptions when used in a properly ventilated and listed enclosure.
- ⑤ Secondary contacts, when required for motor operator or other attachment, must be specified and factory mounted on stationary frame when it is ordered separately.

Special Type PCC Breakers for SCR Power Supplies

These drawout mounting breakers are designed with a 2 to 4 times magnetic trip adjustment and special time delay trip characteristics to provide maximum protection and coordination with SCR power supplies on offshore drilling rigs. Suitable for application at 100% of rating.

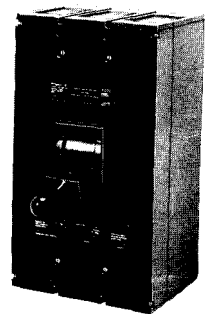
List Price includes breaker frame and drawout frame complete with safety tripping interlock. Order by description. Secondary contacts supplied as required. Order standard rating plugs separately. Order other modifications from pages 49-58.

Availability: PCC2000, PCC2500 Drawout-Mounting breakers

- ⑥ When ordering breaker with movable portion only for use with previously installed stationary portion, deduct the list price of stationary portion from list price of complete breaker with drawout frame.
- ⑦ Includes breakers without adjustable short delay time.
- ⑧ Interrupting capacities shown do not apply to molded case switches (MCS).
- ⑨ UL Inc. recognized component.

Type PC and PCC meet requirements of Class 25a as defined in Federal Spec. W-C-375b.

Listed with Underwriters' Laboratories, Inc. except as noted (For C.S.A. see page 48)



UL Listed Interrupting Capacity RMS Symmetrical Amperes (Std. and Grd. Fit. Breakers)⑧

Breaker	Ac Volts		
	240	480	600
PC, PCC	125,000	100,000	100,000

Further Information

List Prices: See Price List 29-020, Dis. CB-2
Factory Mounted and Other Accessories and Modifications: Pages 49-58
Field Mountable Attachments: Page 32
Rating Plugs: Page 32.1
Portable Test Kit: Page 32.2
Approx. Ship. Wt: Page 32



AB DE-ION Circuit Breakers

Type PCG, PCGA, PCCG, PCCGA SELTRONIC™ Breakers With Built-in Ground Fault Protection

Includes Extra Current Transformer for Neutral® (Optional Indicator Kit Page 32.2)

Breakers for Standard Application

Complete Breaker Requires Frame, Rating Plug and Rear Connectors (except Front Connected Frames and 3000 Amp Frames Include Connectors)

Frames Only		Ground Fault Characteristics		
Poles	Standard (Long Delay Magnetic and Ground Fault Trip)	Long Delay, Magnetic, Ground Fault Trip, and Adjustable Short Delay Time (.08-.28 Seconds)	Pick-up Setting	Time Setting
	Catalog Number	Catalog Number		
Type PCG 2000 ① ④		Type PCGA 2000 ① ④ 1000 to 2000 Amps ③		
Rear Connected Breakers 3 PCG32000F		PCGA32000F	200-1200	3.5-30 Cy
Front Connected Breakers 3 PCFG32000F		PCFGA32000F		
Type PCG 2500 ① ④		Type PCGA 2500 ① ④ 1400 to 2500 Amps ③		
Rear Connected Breakers 3 PCG32500F		PCGA32500F	240-1200	3.5-30 Cy
Front Connected Breakers 3 PCFG32500F		PCFGA32500F		
Type PCG 3000 ① ④		Type PCGA 3000 ① ④ 1600 to 3000 Amps ③		
3 PCG33000F		PCGA33000F	300-1200	3.5-30 Cy

Breakers for Application at 100% Rating

Frames Only		Ground Fault Characteristics		
Poles	Standard (Long Delay Magnetic and Ground Fault Trip)	Long Delay, Magnetic, Ground Fault Trip, and Adjustable Short Delay Time (.08-.28 Seconds)	Pick-up Setting	Time Setting
	Catalog Number	Catalog Number		
Type PCCG 2000 ②		Type PCCGA 2000 ② 1000 to 2000 Amps ④		
Rear Connected Breakers 3 PCCG32000F		PCCGA32000F	200-1200	3.5-30 Cy
Front Connected Breakers 3 PCCFG32000F		PCCFGA32000F		
Type PCCG 2500 ②		Type PCCGA 2500 ② 1400 to 2500 Amps ④		
Rear Connected Breakers 3 PCCG32500F		PCCGA32500F	240-1200	3.5-30 Cy
Front Connected Breakers 3 PCCFG32500F		PCCFGA32500F		
Type PCCG 3000 ②		Type PCCGA 3000 ② 1600 to 3000 Amps ④		
3 PCCG33000F		PCCGA33000F	300-1200	3.5-30 Cy

Field Mountable Attachments ⑤ ⑥ ⑩

Description	Style Number
Provision to trip flux transfer shunt trip from external source: 32 to 120 Volts (Dc to 60 Hz) ⑤	1372D35G22
240 to 600 Volts Ac, 50/60 Hz ⑥	1372D35G32
Provision to trip flux transfer shunt trip from external source plus 1A-1B Auxiliary Switch: 32 to 120 Volts (Dc to 60 Hz) ⑤	1372D35G15
240 to 600 Volts Ac, 50/60 Hz ⑥	1372D35G25
Provision to trip flux transfer shunt trip from external 24 volt Dc source	1371D95G01
1A-1B Auxiliary Switch	1372D35G03

- ① UL listed for standard applications.
- ② These breakers are UL listed for application at 100% of rating per NEC exceptions when used in a properly ventilated and listed enclosure.
- ③ Available without external C.T. for neutral. Order by description and specify similar to above except no neutral C.T. or terminal connections for neutral C.T. Same price. Note: the standard ground fault unit listed above can also be used without the neutral C.T.
- ④ For application other than standard residual schemes, refer to AD 29-160.

- ⑤ For other possible combinations, refer to Westinghouse.
- ⑥ Does not void listing of UL Listed Breakers.
- ⑦ Rated 48 volts minimum for Ground Fault applications.
- ⑧ Not required for front connected frames.
- ⑨ Not for ground fault applications.
- ⑩ Only one of these attachments may be mounted per breaker.
- ⑪ Also apply to equivalent ratings of PCG and PCCG ground fault breakers.

Modifications and Accessories

Rear Bus Connectors

Two required per pole. Fixed mounting breakers.

Breaker Frame ⑩	Connector Style Cat. No.
PC2000®, PCC2000®	BA2000PB
PC2500®, PCC2500®	315C910G03
PC3000, PCC3000	Included in Frame

Racking Crank for Drawout Frames

To engage or withdraw the moving portion of the drawout. A standard ½ inch hex socket with extension can be used for this purpose.

Style No. 765A767G01.

Cell Switches Mounted on Drawout Frames, All Ratings

A maximum of four switches can be provided. Order by description. Each switch provides a NO and NC contact that transfers before reaching the test position when being withdrawn, and after the test position when being racked in.

Approximate Shipping Wts., PC and PCC Breakers (3 Poles)

Rating	Breaker			
	PC, PCC	PCF, PCCF	PCG, PCCG	PCFG, PCCFG
2000	136 Lbs.	163 Lbs.	160 Lbs.	185 Lbs.
2500	145 Lbs.	175 Lbs.	170 Lbs.	200 Lbs.
3000	220 Lbs.	.....	245 Lbs.	.....

Further Information

List Prices: See Price List 29-020, Dis. CB-2
Factory Mounted and Other Accessories and Modifications: Pages 49-58
Field Mountable Attachments: This Page
Rating Plugs: Page 32.1
Portable Test Kit: Page 32.2
Remote Ground Fault Trip Indicator: Page 32.2



September, 1984
Supersedes Technical Data 29-120
pages 31-32, dated April, 1980
Mailed to: E, D, C/29-100A, 31-400A

Type PC, PCA, PCC, PCCA 2000, 2500 and
3000 Amperes SELTRONIC Circuit Breakers

Type PCG, PCGA, PCCG, PCCGA 2000, 2500,
and 3000 Ampere SELTRONIC Circuit Break-
ers with Built-in Ground Fault Protection

AB DE-ION® Circuit Breakers

Type PC, PCA, PCC, PCCA 2000, 2500 and 3000 Ampere SELTRONIC™ Circuit Breakers With Solid State Trip Units, 600 Volts Ac, 50/60 Hz

Complete Breaker Requires Frame, Rating Plug and Rear Connectors (except front connected and 3000 amp; connectors are included.)

Breakers for Standard Applications				Breakers for Applications at 100% Rating							
Frame Only				Frame Only							
Poles ③	Catalog Numbers		Catalog Numbers	Poles ③	Catalog Numbers		Catalog Numbers				
	Standard (Long Delay and Magnetic Trip)	Magnetic Only④	Long Delay, Magnetic Trip, and Adjustable Short Delay Time (.08-.28 seconds)		Standard (Long Delay and Magnetic Trip)	Magnetic Only④	Long Delay, Magnetic Trip, and Adjustable Short Delay Time (.08-.28 seconds)				
Type PC 2000, 1000 to 2000 Amps②				Type PCA 2000②				Type PCC 2000, 1000 to 2000 Amps④			
Rear Connected Breakers				Rear Connected Breakers				Rear Connected Breakers			
2	PC22000F	PC22000FM	PCA22000F	2	PCC22000F	PCC22000FM	PCCA22000F	2	PCC22000F	PCC22000FM	PCCA22000F
3	PC32000F	PC32000FM	PCA32000F	3	PCC32000F	PCC32000FM	PCCA32000F	3	PCC32000F	PCC32000FM	PCCA32000F
Front Connected Breakers				Front Connected Breakers				Front Connected Breakers			
2	PCF22000F	PCF22000FM	PCFA22000F	2	PCCF22000F	PCCF22000FM	PCCFA22000F	2	PCCF22000F	PCCF22000FM	PCCFA22000F
3	PCF32000F	PCF32000FM	PCFA32000F	3	PCCF32000F	PCCF32000FM	PCCFA32000F	3	PCCF32000F	PCCF32000FM	PCCFA32000F
Type PC 2500, 1400 to 2500 Amps②				Type PCA 2500②				Type PCC 2500, 1400 to 2500 Amps④			
Rear Connected Breakers				Rear Connected Breakers				Rear Connected Breakers			
2	PC22500F	PC22500FM	PCA22500F	2	PCC22500F	PCC22500FM	PCCA22500F	2	PCC22500F	PCC22500FM	PCCA22500F
3	PC32500F	PC32500FM	PCA32500F	3	PCC32500F	PCC32500FM	PCCA32500F	3	PCC32500F	PCC32500FM	PCCA32500F
Front Connected Breakers				Front Connected Breakers				Front Connected Breakers			
2	PCF22500F	PCF22500FM	PCFA22500F	2	PCCF22500F	PCCF22500FM	PCCFA22500F	2	PCCF22500F	PCCF22500FM	PCCFA22500F
3	PCF32500F	PCF32500FM	PCFA32500F	3	PCCF32500F	PCCF32500FM	PCCFA32500F	3	PCCF32500F	PCCF32500FM	PCCFA32500F
Type PC 3000, 1600 to 3000 Amps②				Type PCA 3000②				Type PCC 3000, 1600 to 3000 Amps④			
Rear Connected Breakers				Rear Connected Breakers				Rear Connected Breakers			
2	PC23000F	PC23000FM	PCA23000F	2	PCC23000F	PCC23000FM	PCCA23000F	2	PCC23000F	PCC23000FM	PCCA23000F
3	PC33000F	PC33000FM	PCA33000F	3	PCC33000F	PCC33000FM	PCCA33000F	3	PCC33000F	PCC33000FM	PCCA33000F

Type PC, PCC Molded Case Switches: Refer to Pages 46.1, 46.2

Drawout Mounting Breakers, 3 Pole Only
List Price includes: Breaker frame and complete drawout frame with safety tripping interlock. Order by description. Secondary contacts supplied as required at no extra charge. Order required rating plug separately.⑦

Standard Breakers	Molded Case Switch See Page 46.1
PCC2000⑥	PCC2000
PCC2500⑥	PCC2500
PCC3000⑥	PCC3000

Stationary Portion of Drawout Frame Only for Future Breaker Installations, 3 Pole Only. (Order by Description.)

Availability: PCC 2000, PCC 2500,
PCC 3000●⑤⑥

- ① Not UL listed.
- ② UL listed for standard applications.
- ③ Two pole breakers are supplied in three pole frames with current carrying parts omitted from center pole.
- ④ These breakers are UL Listed for application at 100% of rating per NEC exceptions when used in a properly ventilated and listed enclosure.
- ⑤ Secondary contacts, when required for motor operator or other attachment, must be specified and factory mounted on stationary frame when it is ordered separately.

Special Type PCC Breakers for SCR Power Supplies

These drawout mounting breakers are designed with a 2 to 4 times magnetic trip adjustment and special time delay trip characteristics to provide maximum protection and coordination with SCR power supplies on offshore drilling rigs. Suitable for application at 100% of rating.

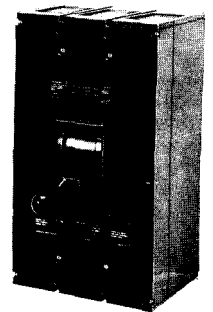
List Price includes breaker frame and drawout frame complete with safety tripping interlock. Order by description. Secondary contacts supplied as required. Order standard rating plugs separately. Order other modifications from pages 49-58.

Availability: PCC2000, PCC2500 Drawout-Mounting breakers

- ⑥ When ordering breaker with movable portion only for use with previously installed stationary portion, deduct the list price of stationary portion from list price of complete breaker with drawout frame.
- Includes breakers without adjustable short delay time.
- ⑦ Interrupting capacities shown do not apply to molded case switches (MCS).
- ⑧ UL Inc. recognized component.

Type PC and PCC meet requirements of Class 25a as defined in Federal Spec. W-C-375b.

Listed with Underwriters' Laboratories, Inc. except as noted (For C.S.A. see page 48)



UL Listed Interrupting Capacity RMS Symmetrical Amperes (Std. and Grd. Fit. Breakers)⑧

Breaker	Ac Volts		
	240	480	800
PC, PCC	125,000	100,000	100,000

Further Information
List Prices: See Price List 29-020, Dis. CB-2
Factory Mounted and Other Accessories and Modifications: Pages 49-58
Field Mountable Attachments: Page 32
Rating Plugs: Page 32.1
Portable Test Kit: Page 32.2
Approx. Ship. Wt: Page 32



AB DE-ION Circuit Breakers

Type PCG, PCGA, PCCG, PCCGA SELTRONIC™ Breakers With Built-in Ground Fault Protection

Includes Extra Current Transformer for Neutral® (Optional Indicator Kit Page 32.2)

Breakers for Standard Application

Complete Breaker Requires Frame, Rating Plug and Rear Connectors (except Front Connected Frames and 3000 Amp Frames Include Connectors)

Frames Only		Ground Fault Characteristics		
Poles	Standard (Long Delay Magnetic and Ground Fault Trip)	Long Delay, Magnetic, Ground Fault Trip, and Adjustable Short Delay Time (.08-.28 Seconds)	Pick-up Setting	Time Setting
	Catalog Number	Catalog Number		
Type PCG 2000①④		Type PCGA 2000①④ 1000 to 2000 Amps④		
Rear Connected Breakers 3 PCG32000F		PCGA32000F	200-1200	3.5-30 Cy
Front Connected Breakers 3 PCFG32000F		PCFGA32000F		
Type PCG 2500①④		Type PCGA 2500①④ 1400 to 2500 Amps④		
Rear Connected Breakers 3 PCG32500F		PCGA32500F	240-1200	3.5-30 Cy
Front Connected Breakers 3 PCFG32500F		PCFGA32500F		
Type PCG 3000①④		Type PCGA 3000①④ 1600 to 3000 Amps④		
3	PCG33000F	PCGA33000F	300-1200	3.5-30 Cy

Breakers for Application at 100% Rating

Frames Only		Ground Fault Characteristics		
Poles	Standard (Long Delay Magnetic and Ground Fault Trip)	Long Delay, Magnetic, Ground Fault Trip, and Adjustable Short Delay Time (.08-.28 Seconds)	Pick-up Setting	Time Setting
	Catalog Number	Catalog Number		
Type PCCG 2000②		Type PCCGA 2000② 1000 to 2000 Amps④		
Rear Connected Breakers 3 PCCG32000F		PCCGA32000F	200-1200	3.5-30 Cy
Front Connected Breakers 3 PCCFG32000F		PCCFGA32000F		
Type PCCG 2500②		Type PCCGA 2500② 1400 to 2500 Amps④		
Rear Connected Breakers 3 PCCG32500F		PCCGA32500F	240-1200	3.5-30 Cy
Front Connected Breakers 3 PCCFG32500F		PCCFGA32500F		
Type PCCG 3000②		Type PCCGA 3000② 1600 to 3000 Amps④		
3	PCCG33000F	PCCGA33000F	300-1200	3.5-30 Cy

Field Mountable Attachments⑤⑥⑩

Description	Style Number
Provision to trip flux transfer shunt trip from external source:	
32 to 120 Volts (Dc to 60 Hz)⑦	1372D35G22
240 to 600 Volts Ac, 50/60 Hz⑧	1372D35G32
Provision to trip flux transfer shunt trip from external source plus 1A-1B Auxiliary Switch:	
32 to 120 Volts (Dc to 60 Hz)⑦	1372D35G15
240 to 600 Volts Ac, 50/60 Hz⑧	1372D35G25
Provision to trip flux transfer shunt trip from external 24 volt Dc source	1371D95G01
1A-1B Auxiliary Switch	1372D35G03

- ① UL listed for standard applications.
- ② These breakers are UL listed for application at 100% of rating per NEC exceptions when used in a properly ventilated and listed enclosure.
- ③ Available without external C.T. for neutral. Order by description and specify similar to above except no neutral C.T. or terminal connections for neutral C.T. Same price. Note: the standard ground fault unit listed above can also be used without the neutral C.T.
- ④ For application other than standard residual schemes, refer to AD 29-160.

- ⑤ For other possible combinations, refer to Westinghouse.
- ⑥ Does not void listing of UL Listed Breakers.
- ⑦ Rated 48 volts minimum for Ground Fault applications.
- ⑧ Not required for front connected frames.
- ⑨ Not for ground fault applications.
- ⑩ Only one of these attachments may be mounted per breaker.
- ⑪ Also apply to equivalent ratings of PCG and PCCG ground fault breakers.

Modifications and Accessories

Rear Bus Connectors

Two required per pole. Fixed mounting breakers.

Breaker Frame⑪	Connector Style Cat. No.
PC2000®, PCC2000®	BA2000PB
PC2500®, PCC2500®	315C910G03
PC3000, PCC3000	Included in Frame

Racking Crank for Drawout Frames

To engage or withdraw the moving portion of the drawout. A standard ½ inch hex socket with extension can be used for this purpose.

Style No. 765A767G01.

Cell Switches Mounted on Drawout Frames, All Ratings

A maximum of four switches can be provided. Order by description. Each switch provides a NO and NC contact that transfers before reaching the test position when being withdrawn, and after the test position when being racked in.

Approximate Shipping Wts., PC and PCC Breakers (3 Poles)

Rating	Breaker			
	PC, PCC	PCF, PCCF	PCG, PCCG	PCFG, PCCFG
2000	136 Lbs.	163 Lbs.	160 Lbs.	185 Lbs.
2500	145 Lbs.	175 Lbs.	170 Lbs.	200 Lbs.
3000	220 Lbs.	.....	245 Lbs.	.....

Further Information

List Prices: See Price List 29-020, Dis. CB-2
 Factory Mounted and Other Accessories and Modifications: Pages 49-58
 Field Mountable Attachments: This Page
 Rating Plugs: Page 32.1
 Portable Test Kit: Page 32.2
 Remote Ground Fault Trip Indicator: Page 32.2



October 1991
Supersedes Technical Data 29-120,
pages 32.1-32.2, dated September 1986
Mailed to: E, D, C/29-100A, 31-400A,
31-500A

Rating Plugs for SELTRONIC™ and
Type LCL Current Limit-R Circuit Breakers

Portable Test Kit and Remote Ground Fault
Trip Indicator

AB DE-ION® Circuit Breakers

Rating Plug Selection Data

Rating Plugs Listed Below Are For Both Standard Breakers and Breakers with Built-in Ground Fault Protection

Rating Plugs Only (For 2 or 3 Pole Frames)

Continuous Ampere Rating ^①	Magnetic Trip Setting, Amperes		Fixed Rating Plugs	Adjustable Rating Plugs ^{②,③}
	Low	High			Catalog Number	Catalog Number

For 150 Amp. Frames: LC, LCA, LCG, LCGA, HLC, HLCA, HLCG, HLCGA

75	225	750	1LC75	.....
90	270	900	1LC90	.....
100	300	1000	1LC100	A1LC100 ^⑤
125	375	1250	1LC125	A1LC125
150	450	1500	1LC150	A1LC150 ^④

For 300 Amp. Frames: LC, LCA, LCG, LCGA, HLC, HLCA, HLCG, HLCGA

150	450	1500	3LC150	.....
175	525	1750	3LC175	.....
200	600	2000	3LC200	.....
225	675	2250	3LC225	A3LC225
250	750	2500	3LC250	A3LC250
275	825	2750	3LC275	A3LC275
300	900	3000	3LC300	A3LC300 ^④

For 400 Amp. Frames: LC, LCA, LCG, LCGA, HLC, HLCA, HLCG, HLCGA

200	600	2000	4LC200	.....
225	675	2250	4LC225	.....
250	750	2500	4LC250	.....
300	900	3000	4LC300	A4LC300
350	1050	3500	4LC350	A4LC350
400	1200	4000	4LC400	A4LC400 ^④

For 600 Amp. Frames: LC, LCA, LCG, LCGA, HLC, HLCA, HLCG, HLCGA, LCC, LCCA, HLCC, HLCCA, LCCG, LCCGA, HLCCG, HLCCGA[Ⓞ]

300	900	3000	6LC300	.....
350	1050	3500	6LC350	.....
400	1200	4000	6LC400	A6LC400 ^⑤
450	1350	4500	6LC450	A6LC450
500	1500	5000	6LC500	A6LC500
600	1800	6000	6LC600	A6LC600 ^④

For 800 Amp. Frames: MC, MCA, MCG, MCGA, HMC, HMCA, HMCG, HMC GA, MCC, MCCA, HMCC, HMCCA, MCCG, MCCGA, HMCCG, HMCCGA[Ⓞ]

400	1200	4000	8MC400	.....
500	1500	5000	8MC500	A8MC500 ^⑥
600	1800	6000	8MC600	A8MC600
700	2100	7000	8MC700	A8MC700
800	2400	8000	8MC800	A8MC800 ^④

For 1200 Amp. Frames: NC, NCA, NCG, NCGA, HNC, HNCA, HNCG, HNCGA

600 [Ⓞ]	1200	4800	12NC600	.....
800	1600	6400	12NC800	A12NC800 ^③
900	1800	7200	12NC900	A12NC900
1000	2000	8000	12NC1000	A12NC1000
1200	2400	9600	12NC1200	A12NC1200 ^④

Rating Plugs Only (For 2 or 3 Pole Frames)

Continuous Ampere Rating ^①	Magnetic Trip Setting, Amperes		Fixed Rating Plugs	Adjustable Rating Plugs ^{②,③}
	Low	High			Catalog Number	Catalog Number

For 2000 Amp. Frames: PC, PCA, PCC, PCCA, PCG, PCGA, PCCG, PCCGA

1000	2000	8000	20PC1000	.....
1200	2400	9600	20PC1200	.....
1400	2800	11200	20PC1400	.....
1600	3200	12800	20PC1600	A20PC1600
1800	3600	14400	20PC1800	A20PC1800
2000	4000	16000	20PC2000	A20PC2000 ^④

For 2500 Amp. Frames: PC, PCA, PCC, PCCA, PCG, PCGA, PCCG, PCCGA

1400	2800	11200	25PC1400	.....
1600	3200	12800	25PC1600	.....
1800	3600	14400	25PC1800	A25PC1800
2000	4000	16000	25PC2000	A25PC2000
2500	5000	20000	25PC2500	A25PC2500 ^④

For 3000 Amp. Frames: PC, PCA, PCC, PCCA, PCG, PCGA, PCCG, PCCGA

1600	3200	12800	30PC1600	.....
1800	3600	14400	30PC1800	.....
2000	4000	16000	30PC2000	.....
2500	5000	20000	30PC2500	A30PC2500
3000	6000	24000	30PC3000	A30PC3000 ^④

For 250 Amp. Frames: LCL, LCLA Current Limit-R

125	375	1125	2LCL125	.....
150	450	1350	2LCL150	.....
175	525	1575	2LCL175	A2LCL175 ^⑤
200	600	1800	2LCL200	A2LCL200
225	675	2025	2LCL225	A2LCL225
250	750	2250	2LCL250	A2LCL250 ^④

For 400 Amp. Frames: LCL, LCLA Current Limit-R

200	400	1600	4LCL200	.....
225	450	1800	4LCL225	.....
250	500	2000	4LCL250	.....
275	550	2200	4LCL275	.....
300	600	2400	4LCL300	A4LCL300 ^③
350	700	2800	4LCL350	A4LCL350
400	800	3200	4LCL400	A4LCL400 ^④

Note: Refer to Westinghouse for old style (three prong) Ground Fault Rating Plugs

Further Information

List Prices: See Price List 29-020, Dis. CB-2

Ⓞ Changed or added since previous issue.

① Ampere rating when used in magnetic only frames:

LC-150: 150 Amps MC-800: 800 Amps
LC-300: 300 Amps NC-1200: 1200 Amps
LC-400: 400 Amps PC-2000: 2000 Amps
LC-600: 600 Amps PC-2500: 2500 Amps

PC-3000: 3000 Amps
LCL-250: 250 Amps
LCL-400: 400 Amps

② Magnetic Trip range of adjustable rating plugs:

LC, HLC, MC, HMC: 3 to 10 times ampere setting
NC, HNC, PC, PCC, LCL-400: 2 to 8 times ampere setting
LCL-250: 3 to 9 times ampere setting

③ Adjustable 70 to 100% except as noted.

④ Adjustable 50 to 100%.

⑤ Adjustable 75 to 100%.

⑥ Adjustable 80 to 100%.

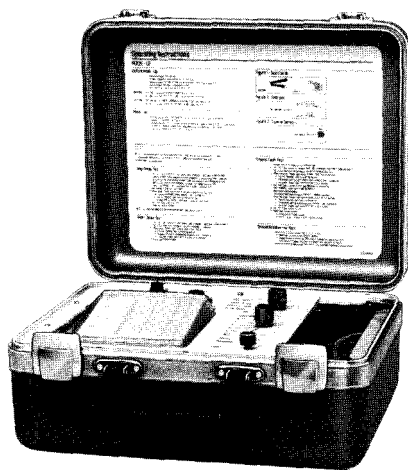


AB DE-ION Circuit Breakers

Accessories for SELTRONIC and Current Limit-R Circuit Breakers

Portable Test Kit

Provides verification of performance of all frame sizes of SELTRONIC breakers while devices are still in service under varying load and/or phase unbalance. The tester operates on 120 volt 50/60 Hz and includes complete instructions and test times for testing the long time, instantaneous operation and optional ground fault operation of the breaker.



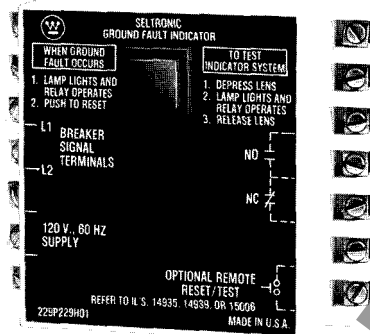
Style Number: STK2

Further Information

List Prices: See Price List 29-020, Dis. CB-2

Remote Ground Fault Trip Indicator^①

For use only with SELTRONIC Circuit Breakers (LCG, HLCG, MCG, HMCG, NCG, HNCG, PCG and PCCG) with built-in ground fault protection.

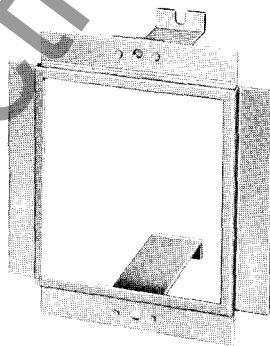


The Seltronic Ground Fault indicator is a remotely mounted device with a combination indicating light/reset/test button that will light when the breaker trips on a Ground Fault. Tripping from overloads or short circuits will not activate the device. A separate 120-50/60 power source is required to power the light and internal relay which has 1 N.O. and 1 N.C. contacts for customer connected alarm etc. Designed for panel mounting, it can be face-mounted by ordering the optional mounting bracket below.

Indicator Style Number: 1259C14G01

Face Mounting Bracket for Ground Fault Indicator

Style Number: 1264C67G01



^① UL Inc. listed as a recognized component.

Westinghouse Electric Corporation
Distribution and Control Business Unit
Electrical Components Division
Pittsburgh, Pennsylvania, U.S.A. 15220

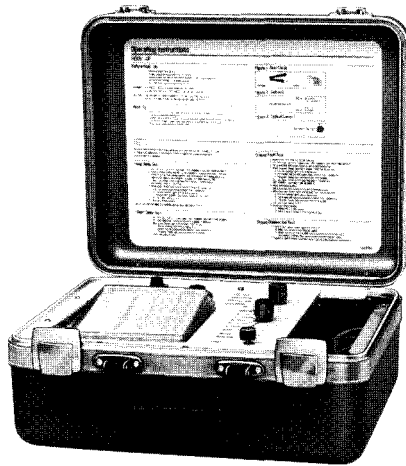


AB DE-ION Circuit Breakers

Accessories for SELTRONIC and Current Limit-R Circuit Breakers

Portable Test Kit

Provides verification of performance of all frame sizes of SELTRONIC breakers while devices are still in service under varying load and/or phase unbalance. The tester operates on 120 volt 50/60 Hz and includes complete instructions and test times for testing the long time, instantaneous operation and optional ground fault operation of the breaker.



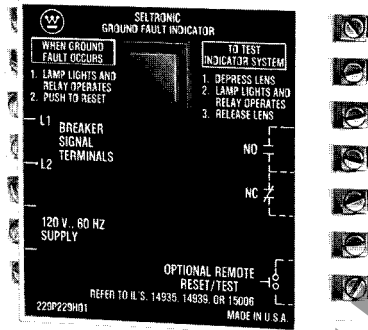
Style Number: STK2

Further Information

List Prices: See Price List 29-020, Dis. CB-2

Remote Ground Fault Trip Indicator^①

For use only with SELTRONIC Circuit Breakers (LCG, HLCG, MCG, HMCg, NCG, HNCg, PCG and PCCG) with built-in ground fault protection.

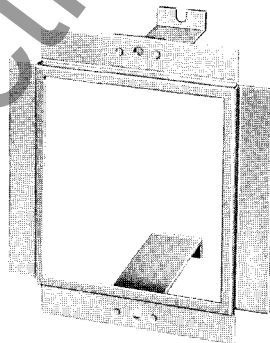


The Seltronic Ground Fault indicator is a remotely mounted device with a combination indicating light/reset/test button that will light when the breaker trips on a Ground Fault. Tripping from overloads or short circuits will not activate the device. A separate 120-50/60 power source is required to power the light and internal relay which has 1 N.O. and 1 N.C. contacts for customer connected alarm etc. Designed for panel mounting, it can be face-mounted by ordering the optional mounting bracket below.

Indicator Style Number: 1259C14G01

Face Mounting Bracket for Ground Fault Indicator

Style Number: 1264C67G01



^① UL Inc. listed as a recognized component.

Westinghouse Electric Corporation
Distribution and Control Business Unit
Electrical Components Division
Pittsburgh, Pennsylvania, U.S.A. 15220



February 1991
Supersedes Technical Data 29-120,
pages 45-46, dated April 1980
Mailed to: E, D, C/29-100A, 31-400A,
31-500A

Replacement Breakers
Type NB 1200 Amperes

AB DE-ION® Circuit Breakers

Type NB Breakers®

700-1200 Amperes, 600 Volts, 60 Hertz Ac^②, 250 Volts Dc^④, 2, 3 Poles, Interchangeable Trip

Con- tin- uous Am- pere Rat- ing @ 40°C	Magnetic Trip Setting, Amperes		Complete Breaker			Shipped as Frame, Trip Unit and Terminals®			
	Low	High	Includes Pressure Type Copper Terminals®			Frame Only			Trip Unit Only
			Catalog Number			Catalog Number			Catalog Number
			Standard	Saf-T-Vue	MARK 75	Standard	Saf-T-Vue	MARK 75	Standard Saf-T-Vue, MARK 75

2 Poles, 600 Volts Ac, 250 Volts Dc^④

700	3000	6000	NB2700	NB2700S	HNB2700	NB21200F	NB21200FS	HNB21200F	HNB2700T
800	3000	6000	NB2800	NB2800S	HNB2800	NB21200F	NB21200FS	HNB21200F	HNB2800T
900	4000	8000	NB2900	NB2900S	HNB2900	NB21200F	NB21200FS	HNB21200F	HNB2900T
1000	4000	8000	NB21000	NB21000S	HNB21000	NB21200F	NB21200FS	HNB21200F	HNB21000T
1200	4000	8000	NB21200	NB21200S	HNB21200	NB21200F	NB21200FS	HNB21200F	HNB21200T
			Approx. Ship. Wt. 43 Lbs.			Approx. Ship. Wt. 29 Lbs.			Approx. Ship. Wt. 3½ Lbs.

3-Poles, 600 Volts Ac Only

700	3000	6000	NB3700	NB3700S	HNB3700	NB31200F	NB31200FS	HNB31200F	HNB3700T
800	3000	6000	NB3800	NB3800S	HNB3800	NB31200F	NB31200FS	HNB31200F	HNB3800T
900	4000	8000	NB3900	NB3900S	HNB3900	NB31200F	NB31200FS	HNB31200F	HNB3900T
1000	4000	8000	NB31000	NB31000S	HNB31000	NB31200F	NB31200FS	HNB31200F	HNB31000T
1200	4000	8000	NB31200	NB31200S	HNB31200	NB31200F	NB31200FS	HNB31200F	HNB31200T
			Approx. Ship. Wt. 51 Lbs.			Approx. Ship. Wt. 32 Lbs.			Approx. Ship. Wt. 4 Lbs.

Magnetic Only Breakers, Front Adjustable®

Con- tin- uous Am- pere Rating	Magnetic Trip Range ^⑦		Trip Unit Only	
	Low	High	2-Poles ^③	3-Poles
			Catalog Number	Catalog Number
1200	3000	6000	HNB26000TM	HNB36000TM
1200	4000	8000	HNB28000TM	HNB38000TM
1200	5000	10000	HNB210000TM	HNB310000TM
1200	6000	12000	HNB212000TM	HNB312000TM

Magnetic Only Breakers®

For description, refer to D8 29-150 or AD 29-160. To order a complete breaker, select trip unit, plus frame and terminals.

- Changed or added since previous issue.
- ② Higher frequency calibration not available. Minimum of 50 cycle calibration available on special order.
- ③ 2-pole breakers supplied in 3-pole frames with current carrying parts omitted from center pole.
- ④ 250 volt Dc rating applied only to magnetic only type breakers.
- ⑤ Frames, terminals, studs, mounting hardware, dimensions and shipping weights are same as standard thermal magnetic breakers.
- ⑥ Terminals shipped separately from breaker.
- ⑦ Set on high side, adjustable to lower limits.
- ⑧ Not listed with Underwriters' Laboratories, Inc.
- ⑨ Ratings above 10,000 amps not UL Listed.

Special Calibrations®

Special calibration price additions apply to ampere ratings not listed as standard, ambients other than 40°C or 50°C, or frequencies other than 60 Hertz Ac (50 Hertz Ac minimum - 60 Hertz Ac maximum for ratings of 700 amps and above). See AD 29-160 for additional information regarding special conditions. Maximum 400 Hz calibration for type MA is 475 amps.

Type of Calibration	1-24 Identical Units		25 or More Ident. Units
	Type MA, HMA	Type NB, HNB	
Thermal Ambient Frequency	Add 20% of Trip Unit List Price	Add 15% of Trip Unit List Price	None None None

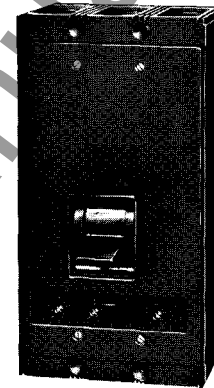
50°C Calibration®

Add suffix "V" to catalog number for complete breaker or trip unit only, when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

Accessories and Modifications

Description: Pages 49-58

List Prices: See Price List 29-020 Dis. CB-2



Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

Type NB breakers meet requirements for class 21a circuit breakers, and Type HNB meet requirements for class 23a, as defined by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. listed Interrupting Ratings:

Max. Volts	Amperes
Standard Breakers	
240 Ac	50,000 Asym., 42,000 Sym.
480 Ac	35,000 Asym., 30,000 Sym.
600 Ac	25,000 Asym., 22,000 Sym.
250 Dc ^④	20,000 ^⑨
Mark 75 Breakers	
240 Ac	75,000 Asym., 65,000 Sym.
480 Ac	40,000 Asym., 35,000 Sym.
600 Ac	30,000 Asym., 25,000 Sym.
250 Dc ^④	20,000 ^⑨

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Terminals®

Two terminals are required per pole. Terminals are Underwriters' Laboratories, Inc. listed for wire type and range listed below. When used with aluminum conductors, use joint compound. To order optional copper terminals, add suffix "C" to complete breaker catalog number.

Max. Ampere Ratings	Terminal Catalog Number	Wire Range, Type, No. of Cables
Standard Al/Cu Pressure Terminals		
1000	TA1000NB1	3 3/0-400 MCM Al/Cu
1200	TA1200NB1	4 4/0-500 MCM Al/Cu
Optional Copper or Al/Cu Pressure Terminals		
1000	T1000NB1	3 3/0-500 MCM Cu
1200	T1200NB1	4 3/0-400 MCM Cu
1200	TA1201NB1	3 500-750 MCM Al/Cu



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Westinghouse Electric Corporation
Distribution and Control Business Unit
Electrical Components Division
Pittsburgh, Pennsylvania, U.S.A. 15220



February 1991
Supersedes Technical Data 29-120,
pages 47-48, dated October 1981
Mailed to: E, D, C/29-100A, 31-400A,
31-500A

Replacement Breakers
Type PB 2500 Amperes

AB DE-ION® Circuit Breakers

Type PB Breakersⓐ

600-2500 Amperes, 600 Volts, 60 Cycle Acⓐ, 250 Volts Dcⓑ, 2, 3 Poles, Interchangeable Trip

Continuous Ampere Rating (@ 40°C)	Magnetic Trip Setting, Amperes ⓐ ⓑ		Complete Breaker Includes Bus Bar Connectorsⓐ	Shipped as Frame, Trip Unit and Terminals	
	Low	High	Catalog Number	Frame Only Catalog Number	Trip Unit Only Catalog Number

2-Poles, 600 Volts Ac Onlyⓐ

600	1500	5000	PB2600	PB22500F	PB2600T
700	1500	5000	PB2700	PB22500F	PB2700T
800	1500	5000	PB2800	PB22500F	PB2800T
900	1500	5000	PB2900	PB22500F	PB2900T
1000	1500	5000	PB21000	PB22500F	PB21000T
1200	2000	6000	PB21200	PB22500F	PB21200T
1400	2500	7000	PB21400	PB22500F	PB21400T
1600	3000	8000	PB21600	PB22500F	PB21600T
1800	3000	8000	PB21800	PB22500F	PB21800T
2000	3000	8000	PB22000	PB22500F	PB22000T
2500	Approx. Ship. Wt. 3000	8000	PB22500	98 Lbs.	18 Lbs.
	Approx. Ship. Wt.		144 Lbs.	98 Lbs.	18 Lbs.

3-Poles, 600 Volts Ac Only

600	1500	5000	PB3600	PB32500F	PB3600T
700	1500	5000	PB3700	PB32500F	PB3700T
800	1500	5000	PB3800	PB32500F	PB3800T
900	1500	5000	PB3900	PB32500F	PB3900T
1000	1500	5000	PB31000	PB32500F	PB31000T
1200	2000	6000	PB31200	PB32500F	PB31200T
1400	2500	7000	PB31400	PB32500F	PB31400T
1600	3000	8000	PB31600	PB32500F	PB31600T
1800	3000	8000	PB31800	PB32500F	PB31800T
2000	3000	8000	PB32000	PB32500F	PB32000T
2500	Approx. Ship. Wt. 3000	8000	PB32500	108 Lbs.	23 Lbs.
	Approx. Ship. Wt.		173 Lbs.	108 Lbs.	23 Lbs.

Special Breakersⓐ (See page 48 also)

Magnetic Only, Front Adjustableⓑ

Trip Unit Only

Contin- uous Ampere Rating	Magnetic Trip Range, Amperesⓐ	2-Polesⓐ		3-Poles
		Low	High	Catalog Number

For Rear Connected Type PB Breakers

2000	1500	5000	PB25000TM	PB35000TM
2000	2000	6000	PB26000TM	PB36000TM
2000	2500	7000	PB27000TM	PB37000TM
2000	3000	8000	PB28000TM	PB38000TM
2000	3500	10000	PB210000TM	PB310000TM
2000	4000	12000	PB212000TM	PB312000TM
2500	4000	12000	373D488G08	373D488G09

For Front Connected Type PBF Breakers

2000	1500	5000	PBF25000TM	PBF35000TM
2000	2000	6000	PBF26000TM	PBF36000TM
2000	2500	7000	PBF27000TM	PBF37000TM
2000	3000	8000	PBF28000TM	PBF38000TM
2000	3500	10000	PBF210000TM	PBF310000TM
2000	4000	12000	PBF212000TM	PBF312000TM

Special Calibrationⓐ

See Page 48.

Magnetic Only Breakersⓐ

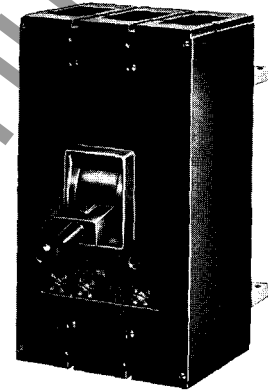
For description, refer to DB 29-150 and AD 29-160. To order a complete breaker, select trip unit, plus frame and connectors.

Accessories and Modifications

Description: Pages 49-58

List Prices: See Price List 29-020, Dis. CB-2

- ⓐ Changed since previous issue.
- ⓑ Not listed with Underwriters' Laboratories, Inc.
- ⓒ Frames, connectors, dimensions and shipping weights are same as thermal magnetic breakers.
- ⓓ 2-pole breakers are supplied in 3-pole frames with current carrying parts omitted from center pole.
- ⓔ Higher frequency calibration not available. Minimum of 50 Hertz calibration available on special order.
- ⓕ Higher magnetic trip settings are available as special calibration. Refer to magnetic only breakers for specific trip ranges.
- ⓖ Available only on magnetic only breakers.
- ⓗ Based on NEMA test procedure.
- ⓓ Set on high side, adjustable to lower limits.
- ⓙ Shipped separately from breaker.



Rear Connected
PB Breaker

Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

Type PB breakers meet the requirements for class 25a circuit breaker as defined by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings

Max. Volts	Amperes
240 Ac	150,000 Asym., 125,000 Sym.
480 Ac	115,000 Asym., 100,000 Sym.
600 Ac	115,000 Asym., 100,000 Sym.
250 Dcⓑ	75,000 Amperesⓐ

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Bus Bar Connectionsⓐ "T" Connector (For Cu/Al Bus)

Two required per pole. For rear bus connection of breakers thru 2000 amps. Accepts up to four bus bolts. May be rotated 90°.

Catalog Number BA2000PB

"C" Connector (For Cu/Al Bus)

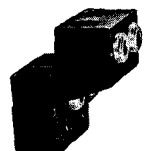
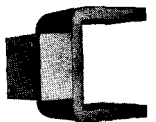
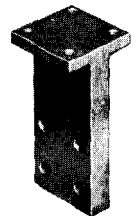
Two required per pole. For rear bus connection of 2500 amp breakers.

Breaker Amps.	Cat. No.
2500	BA2500PB

Cable Connector

Fits "T" Connector and 2000 amp front connected breakers. Accepts four 600 MCM copper cables.

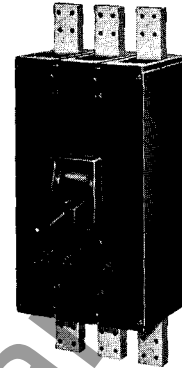
Style Number 505C706G04
Discount Symbol CB-2





Type PB Breakers, Continued
Type PBF Front Connected Breakers[ⓐ]

Continuous Ampere Rating (@ 40°C)	Magnetic Trip Setting, Amperes (Set on High Side, Adjustable to Lower Limits)		Shipped As:		
	Low	High	Complete Breaker Includes Bus Bar Connectors [ⓑ]	Frame Only Includes Bus Bar Connectors [ⓑ]	Trip Unit Only
			Catalog Number	Catalog Number	Catalog Number
2-Pole, 600 Volts Ac[ⓐ]					
600	1500	5000	PBF2600	PBF22000F	PBF2600T
700	1500	5000	PBF2700	PBF22000F	PBF2700T
800	1500	5000	PBF2800	PBF22000F	PBF2800T
900	1500	5000	PBF2900	PBF22000F	PBF2900T
1000	1500	5000	PBF21000	PBF22000F	PBF21000T
1200	2000	6000	PBF21200	PBF22000F	PBF21200T
1400	2500	7000	PBF21400	PBF22000F	PBF21400T
1600	3000	8000	PBF21600	PBF22000F	PBF21600T
1800	3000	8000	PBF21800	PBF22000F	PBF21800T
2000	3000	8000	PBF22000	PBF22000F	PBF22000T
3-Pole, 600 Volts Ac					
600	1500	5000	PBF3600	PBF32000F	PBF3600T
700	1500	5000	PBF3700	PBF32000F	PBF3700T
800	1500	5000	PBF3800	PBF32000F	PBF3800T
900	1500	5000	PBF3900	PBF32000F	PBF3900T
1000	1500	5000	PBF31000	PBF32000F	PBF31000T
1200	2000	6000	PBF31200	PBF32000F	PBF31200T
1400	2500	7000	PBF31400	PBF32000F	PBF31400T
1600	3000	8000	PBF31600	PBF32000F	PBF31600T
1800	3000	8000	PBF31800	PBF32000F	PBF31800T
2000	3000	8000	PBF32000	PBF32000F	PBF32000T



PBF Front Connected

**Canadian Standards Association (CSA)
Listing[ⓐ]**

Most standard thermal magnetic molded case circuit breakers listed with Underwriters' Laboratories, Inc., and having a UL label are also listed with CSA and may be marked with the CSA monogram, except FCL and LCL Current Limit-R breakers.

Special Calibrations[ⓐ]

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. See AD 29-160 for information regarding special conditions.

List Prices: See Price List 29-020, Dis. CB-2

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal [ⓐ]	Add 15% to List Price of Trip Unit	None
Magnetic		None

50°C Calibration^{ⓐ ④}

Add suffix "V" to catalog number for complete breaker when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

- ⓐ Changed or added since previous issue.
- ⓑ Not listed with Underwriters' Laboratories, Inc.
- ③ 2-pole breakers supplied in 3-pole frames with current carrying parts omitted from center pole.
- ④ 50°C or higher calibration not available for 2500 ampere trip units.
- ⓐ Inclusive with frame.

Westinghouse Electric Corporation
Distribution and Control Business Unit
Electrical Components Division
Pittsburgh, Pennsylvania, U.S.A. 15220



Cutler-Hammer
Westinghouse &
Cutler-Hammer Products
Five Parkway Center
Pittsburgh, Pennsylvania, U.S.A. 15220

Selection Data
29-120F
Page 7

May 1995
Supersedes Selection Data 29-120F, pages 7-8,
dated June 1994
Mailed to: E, D, C/29-100A, 31-400A,
31-500A

Westinghouse Series C® F-Frame Termination Accessories

LINE AND LOAD TERMINALS

Line and load terminals provide wire connecting capabilities for specific ranges of continuous current ratings and wire types. Except as noted, terminals comply with Underwriters Laboratories, Inc., Standard UL486A or UL486B. Unless otherwise specified, F-frame circuit breakers are factory equipped with load terminals only.

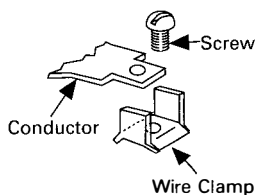
Ordering Information

F-frame circuit breakers and molded case switches have load terminals only as standard equipment. When standard line-end terminals (same as standard load-end terminals) are required, add suffix L to the circuit breaker catalog number. When non-standard or optional line and/or load termi-

nals are required, order by style number (no charge when ordered with circuit breaker). Specify if factory installation required.

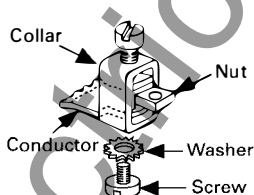
Line and Load Terminals

Maximum Breaker Amps	Terminal Body Material	Wire Type	AWG Wire Range	Metric Wire Range mm ²	CATALOG NUMBERS
					Package of 3 Terminals
Standard Pressure Type Terminals					
20(EHD)	Steel	Cu/Al	#14-#10	2.5-4	3T20FB●
100	Steel	Cu/Al	#14-1/0	2.5-50	3T100FB
150	Aluminum	Cu/Al	#4-4/0	25-95	3TA150FB
225	Aluminum	Cu/Al	#4-4/0	25-95	3TA225FD
Optional Pressure Terminals					
50	Aluminum	Cu/Al	#14-#4	2.5-16	3TA50FB●
100	Aluminum	Cu/Al	#14-1/0	2.5-50	3TA100FD
150	Stainless Steel	Cu	#4-4/0	25-95	3T150FB



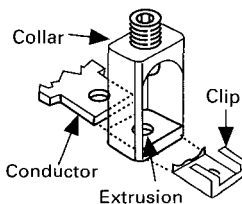
3T20FB

Assemble wire clamp to bottom of conductor as shown.



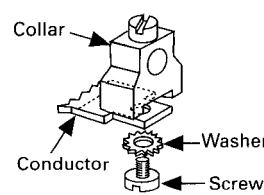
**3T100FB
3T150FB**

Insert collar enclosing conductor as shown. Locate nut on top of conductor and tighten securely with screw and washer. **Caution:** Collar must surround conductor.



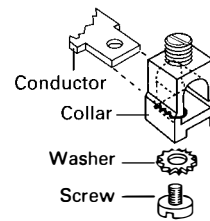
**3TA150FB
3TA225FD**

Insert collar enclosing conductor and center on extrusion on collar. Install clip with legs on top of conductor and snap end around bottom of collar.



3TA50FB

Assemble collar on top of conductor as shown. Tighten securely with screw and washer.



3TA100FD

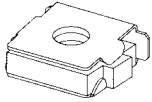
Collar slides onto conductor and is held in position by a screw and lockwasher.

① Not for use with ED, EDH, EDC breakers.



Westinghouse Series C F-Frame Termination Accessories

KEEPER NUT

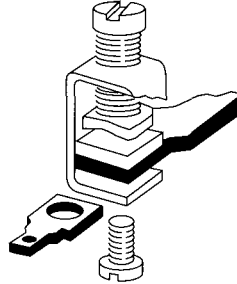


The keeper nut slides onto the line or load conductor of the circuit breaker and acts as a threaded adapter for the conductor to accept a ring terminal or other bolt-on connector. The keeper nut is available with English and metric thread sizes. Screws and washers are supplied by customer. (Field installation only.) Listed per UL File E7819.

Ordering Information

Thread Type	Thread Size	CATALOG NUMBERS
		Package of 12 (Priced Individually)
Imperial	10-32	KPR1A
Metric	M-5	KPR1AM

CONTROL WIRE TERMINAL KIT



For use with steel or stainless steel[Ⓛ] terminals only.

Ordering Information

Package of 12. Priced individually.

CATALOG NUMBER
FCWTK

BASE MOUNTING HARDWARE

Hardware for surface mounting of circuit breakers is supplied only on request. Hardware consists of mounting screws and lockwashers. Order hardware for circuit breaker pole configurations as required.

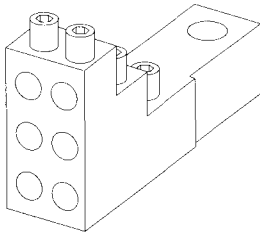
Ordering Information

Base-mounting hardware is supplied at no charge when ordered with a circuit breaker or molded case switch. When ordering separately, refer to price list.

Imperial Thread

No. of Poles	Description	Type of Mounting	STYLE NUMBERS
1	.164-32 x 3.188 inch Pan-Head Steel Screws, Lockwashers, and Clamps	Individual	624B375G01
		Group (one set of hardware for two circuit breakers)	624B375G02
2	.164-32 x 1.5 inch Pan-Head Steel Screws and Lockwashers	Individual	4218B80G01
3,4	.164-32 x 1.5 inch Pan-Head Steel Screws and Lockwashers	Individual	4218B80G02

MULTI WIRE CONNECTORS



Multi Wire Lug Kits include mounting hardware, insulators and tin-plated aluminum connectors to replace three mechanical load lugs. UL listed for copper only as used on the load side (OFF) end.

Ordering Information

Package of 3.

Maximum Amperes	KIT CATALOG NUMBERS	Wires Per Terminal	Wire Size Range AWG Cu	Pressure Screw Torque (lb/in)
150	3TA150F3K	3	#14-2	70
150	3TA150F6K	6	#14-6	25

Field-installed multi wire connectors for the load side (OFF) end terminals. They are used to distribute the load from the circuit breaker to multiple devices without the use of separate distribution terminal blocks.

Metric Thread

No. of Poles	Description	Type of Mounting	STYLE NUMBERS
1	M4 - 0.7 x 80 mm Pan-Head Steel Screws, Lockwashers, and Clamps	Individual	4218B80G09
		Group (one set of hardware for two circuit breakers)	4218B80G10
2	M4 - 0.7 x 38 mm Pan-Head Steel Screws and Lockwashers	Individual	4218B80G11
3,4	M4 - 0.7 x 38 mm Pan-Head Steel Screws and Lockwashers	Individual	4218B80G12

Ⓛ Not for use with 3T20FB terminal.

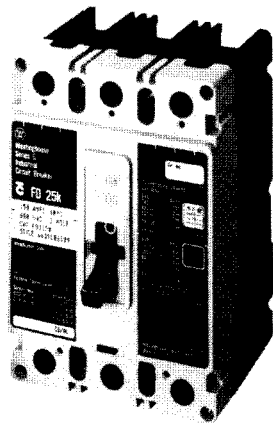
Cutler-Hammer

Westinghouse & Cutler-Hammer Products
Five Parkway Center
Pittsburgh, Pennsylvania, U.S.A. 15220



August 1996
 Supersedes Selection Data 29-120F,
 pages 1-2, dated June 1994
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

Series C[®] Molded Case Circuit Breakers F-Frame 10-225 Amperes



Dimensions, Inches (mm)

No. of Poles	Width	Height	Depth
1	1.375 (35)	6 (152)	3.375 (86)
2	2.75 (70)	6 (152)	3.375 (86)
3	4.125 (105)	6 (152)	3.375 (86)
4	5.5 (140)	6 (152)	3.375 (86)

Approximate Shipping Weight, Lbs. (kg)

Breaker Type	Number of Poles			
	1	2	3	4
ED, EDH, EDC	—	3 (1.361)	4.5 (2.041)	—
EHD, FDB, FD, HFD	2 (.907)	3 (1.361)	4.5 (2.041)	6 (2.721)
FDC	—	3.25 (1.474)	4.75 (2.155)	6.35 (2.880)
HFDDC	—	—	4.5 (2.041)	—

INTERRUPTING CAPACITY RATINGS

UL489 Interrupting Capacity Ratings

Circuit Breaker Type	Number of Poles	Interrupting Capacity (Symmetrical Amperes)					
		Volts Ac (50/60 Hz)				Volts Dc ^⑤	
		240	277	480	600	125	250 ^{① ②}
ED	2, 3	65,000	.....	.....	.....	10,000	.....
EDH	2, 3	100,000	.....	.....	.....	10,000	.....
EDC	2, 3	200,000	.....	.....	.....	10,000	.....
EHD	1	.....	14,000	.....	.....	10,000	.....
	2, 3	18,000	14,000	.....	.....	10,000	.....
FDB	2, 3, 4	18,000	.....	14,000	14,000	.....	10,000
FD	1	.....	25,000	.....	.....	10,000	.....
	2, 3, 4	65,000	.....	25,000	18,000	.....	10,000
HFD	1	.....	65,000	.....	.....	10,000	.....
	2, 3, 4	100,000	.....	65,000	25,000	.....	22,000
FDC	2, 3, 4	200,000	.....	100,000	35,000	.....	22,000
HFDDC ^③	3	.....	.....	.....	.....	.....	42,000 ^④

IEC 157-1 Interrupting Capacity Ratings (P1)

Circuit Breaker Type	Number of Poles	Interrupting Capacity (Symmetrical Amperes)					
		Volts Ac (50/60 Hz)				Volts Dc ^⑤	
		220, 240	380, 415	440	500	125	250 ^①
ED	2, 3	65,000	.....	.....	.....	10,000	.....
EDH	2, 3	100,000	.....	.....	.....	10,000	.....
EDC	2, 3	200,000	.....	.....	.....	10,000	.....
FDB	2, 3, 4	18,000	14,000	14,000	14,000	.....	10,000
FD	1	25,000	.....	.....	.....	10,000	.....
	2, 3, 4	65,000	35,000	35,000	18,000	.....	10,000
HFD	1	65,000	.....	.....	.....	10,000	.....
	2, 3, 4	100,000	65,000	65,000	25,000	.....	22,000
FDC	2, 3, 4	200,000	100,000	100,000	35,000	.....	22,000

^① 2-pole circuit breaker, or two poles of 3-pole circuit breaker.

^② Time constant is 3 milliseconds minimum at 10 kA and 8 milliseconds minimum at 22 kA.

^③ HFDDC is UL only and is not tested to other standards.

[●] Interrupting rating is 35,000 amps at 600-volt Dc with 3 poles in series, for ungrounded systems only.

^⑤ Dc ratings apply to substantially non-inductive circuits.

STANDARDS

Series C molded case circuit breakers are designed to conform with the following standards:

- Australian Standard AS 2184, Molded Case Circuit Breakers
- British Standards Institution Standard BS 4752: Part 1, Switchgear and Control Gear Part 1: Circuit Breakers
- Canadian Standards Association Standard C22.2 No. 5, Service Entrance and Branch Circuit Breakers
- International Electrotechnical Commission Recommendations IEC 157-1, Circuit Breakers
- Japanese T-Mark Standard Molded Case Circuit Breakers
- National Electrical Manufacturers Association Standards Publication No. AB1-1975, Molded Case Circuit Breakers
- South African Bureau of Standards, Standard SABS 156, Standard Specification for Molded Case Circuit Breakers
- Swiss Electro-Technical Association Standard SEV 157-1, Safety Regulations for Circuit Breakers
- Underwriters Laboratories, Inc., Standard UL 489, Molded Case Circuit Breakers and Circuit Breaker Enclosures, including Marine Circuit Breakers File E7819
- Union Technique de l'Electricite Standard NF C 63-120, Low Voltage Switchgear and Control Gear Circuit Breaker Requirements
- Verband Deutscher Elektrotechniker (Association of German Electrical Engineers) Standard VDE 0660, Low Voltage Switchgear and Control Gear, Circuit Breakers

Conformance with these standards satisfies most local and international codes, assuming user acceptability and simplified application.

Series C molded case circuit breakers equal or exceed Federal Specification Classification W-C-375b requirements for the particular class associated with the circuit breaker frame being considered.



Series C Molded Case Circuit Breakers, F-Frame, 10-225 Amperes

CATALOG NUMBERING SYSTEM

This information is presented only as an aid to understanding catalog numbers. It is not to be used to build catalog numbers for circuit breakers.

Circuit Breaker Catalog Numbers

FDC	3	100	L	EDC	3	200	L
Circuit Breaker Type	Number of Poles	Trip Amps	Suffix	Circuit Breaker Type	Number of Poles	Trip Amps	Suffix
EHD	1: 1-Pole	10	E: 100% Protected (4 P only) Neutral Pole	ED	2: 2-Pole	100	L: Line and Load Terminals
FDB	2: 2-Pole	15		EDH	3: 3-Pole	125	W: Without Terminals
FD	3: 3-Pole	20	EH: 50% Protected (4 P only)	EDC		150	Y: Line Terminals Only
HFD	4: 4-Pole	25	K: High Mag Molded Case Sw.			175	Z: Alum. Terminals
FDC		30	L: Line and Load Terminals			200	
HFDDC		35	S: Stainless Steel Terminals			225	
		40	V: 50°C Calibration				
		45	W: Without Terminals				
		50	Y: Line Terminals Only				
		60	Z: Alum. Terminals				
		70					
		80					
		90					
		100					
		110					
		125					
		150					
		175					
		200					
		225					

Further Information	
Technical Data	TD 29-160
Dimensions	DS 29-170F
Time/Current Curves	AD 29-167F
Instantaneous Only Circuit Breakers (Motor Circuit Protector)	SD 29-120H

Cutler-Hammer

Westinghouse & Cutler-Hammer Products
 Five Parkway Center
 Pittsburgh, Pennsylvania, U.S.A. 15220



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 31-500A

Series C® Molded Case Circuit Breakers F-Frame 10-225 Amperes

THERMAL-MAGNETIC CIRCUIT BREAKERS

Sealed Breakers with Non-interchangeable Trip Units

Suitable for reverse feed use.

Maximum Continuous Ampere Rating @ 40°C	240 Vac Maximum, 125 Vdc					
	65 kAIC @ 240 Vac		100 kAIC @ 240 Vac		200 kAIC @ 240 Vac	
	Type ED		Type EDH		Type EDC Current Limiting	
	2-Pole	3-Pole	2-Pole	3-Pole	2-Pole	3-Pole
	CATALOG NUMBERS (Includes Terminals on Load End Only)					
100	ED2100	ED3100	EDH2100	EDH3100	EDC2100	EDC3100
125	ED2125	ED3125	EDH2125	EDH3125	EDC2125	EDC3125
150	ED2150	ED3150	EDH2150	EDH3150	EDC2150	EDC3150
175	ED2175	ED3175	EDH2175	EDH3175	EDC2175	EDC3175
200	ED2200	ED3200	EDH2200	EDH3200	EDC2200	EDC3200
225	ED2225	ED3225	EDH2225	EDH3225	EDC2225	EDC3225

Maximum Continuous Ampere Rating @ 40°C	277 Vac Maximum, 125 Vdc		480 Vac Maximum, 250 Vdc	
	14 kAIC @ 277 Vac		14 kAIC @ 480 Vac	
	Type EHD			
	1-Pole		2-Pole	3-Pole
	CATALOG NUMBERS (Includes Terminals on Load End Only)			
10 ①	EHD1010		EHD2010	EHD3010
15	EHD1015 ②		EHD2015	EHD3015
20	EHD1020 ②		EHD2020	EHD3020
25	EHD1025		EHD2025	EHD3025
30	EHD1030		EHD2030	EHD3030
35	EHD1035		EHD2035	EHD3035
40	EHD1040		EHD2040	EHD3040
45	EHD1045		EHD2045	EHD3045
50	EHD1050		EHD2050	EHD3050
60	EHD1060		EHD2060	EHD3060
70	EHD1070		EHD2070	EHD3070
80	EHD1080		EHD2080	EHD3080
90	EHD1090		EHD2090	EHD3090
100	EHD1100		EHD2100	EHD3100

HACR RATED CIRCUIT BREAKERS

All Series C F-frame circuit breakers (except HFDDC) are HACR rated.

① Not UL Listed. 5 kAIC interrupting rating.
 ② UL Listed for SWD applications, see NEC
 Article 240-83 (d).



Series C Molded Case Circuit Breakers, F-Frame, 10-225 Amperes

THERMAL-MAGNETIC CIRCUIT BREAKERS

Sealed Breakers with Non-interchangeable Trip Units

Suitable for reverse feed use.

Maximum Continuous Ampere Rating @ 40°C	600 Vac Maximum, 250 Vdc			277 Vac Maximum, 125 Vdc		600 Vac Maximum, 250 Vdc		
	14 kAIC @ 600 Vac			25 kAIC @ 277 Vac		25 kAIC @ 480 Vac		
	Type FDB			Type FD				
	2-Pole	3-Pole	4-Pole	1-Pole	2-Pole	3-Pole	4-Pole	
CATALOG NUMBERS (Includes Terminals on Load End Only)								
10 ①	FDB2010	FDB3010	FDB4010	FD1010	—	—	—	
15	FDB2015	FDB3015	FDB4015	FD1015 ②	FD2015	FD3015	FD4015	
20	FDB2020	FDB3020	FDB4020	FD1020 ②	FD2020	FD3020	FD4020	
25	FDB2025	FDB3025	FDB4025	FD1025	FD2025	FD3025	FD4025	
30	FDB2030	FDB3030	FDB4030	FD1030	FD2030	FD3030	FD4030	
35	FDB2035	FDB3035	FDB4035	FD1035	FD2035	FD3035	FD4035	
40	FDB2040	FDB3040	FDB4040	FD1040	FD2040	FD3040	FD4040	
45	FDB2045	FDB3045	FDB4045	FD1045	FD2045	FD3045	FD4045	
50	FDB2050	FDB3050	FDB4050	FD1050	FD2050	FD3050	FD4050	
60	FDB2060	FDB3060	FDB4060	FD1060	FD2060	FD3060	FD4060	
70	FDB2070	FDB3070	FDB4070	FD1070	FD2070	FD3070	FD4070	
80	FDB2080	FDB3080	FDB4080	FD1080	FD2080	FD3080	FD4080	
90	FDB2090	FDB3090	FDB4090	FD1090	FD2090	FD3090	FD4090	
100	FDB2100	FDB3100	FDB4100	FD1100	FD2100	FD3100	FD4100	
110	FDB2110	FDB3110	FDB4110	FD1110	FD2110	FD3110	FD4110	
125	FDB2125	FDB3125	FDB4125	FD1125	FD2125	FD3125	FD4125	
150	FDB2150	FDB3150	FDB4150	FD1150	FD2150	FD3150	FD4150	
175	—	—	—	—	FD2175	FD3175	FD4175	
200	—	—	—	—	FD2200	FD3200	FD4200	
225	—	—	—	—	FD2225	FD3225	FD4225	

Maximum Continuous Ampere Rating @ 40°C	600 Vac Maximum, 250 Vdc		277 Vac Maximum, 125 Vdc		600 Vac Maximum, 250 Vdc		
	65 kAIC @ 277 Vac		65 kAIC @ 480 Vac		100 kAIC @ 480 Vac		
	Type HFD				Type FDC Current Limiting		
	1-Pole	2-Pole	3-Pole	4-Pole	2-Pole	3-Pole	4-Pole
CATALOG NUMBERS (Includes Terminals on Load End Only)							
15	HFD1015	HFD2015	HFD3015	HFD4015	FDC2015	FDC3015	FDC4015
20	HFD1020	HFD2020	HFD3020	HFD4020	FDC2020	FDC3020	FDC4020
25	HFD1025	HFD2025	HFD3025	HFD4025	FDC2025	FDC3025	FDC4025
30	HFD1030	HFD2030	HFD3030	HFD4030	FDC2030	FDC3030	FDC4030
35	HFD1035	HFD2035	HFD3035	HFD4035	FDC2035	FDC3035	FDC4035
40	HFD1040	HFD2040	HFD3040	HFD4040	FDC2040	FDC3040	FDC4040
45	HFD1045	HFD2045	HFD3045	HFD4045	FDC2045	FDC3045	FDC4045
50	HFD1050	HFD2050	HFD3050	HFD4050	FDC2050	FDC3050	FDC4050
60	HFD1060	HFD2060	HFD3060	HFD4060	FDC2060	FDC3060	FDC4060
70	HFD1070	HFD2070	HFD3070	HFD4070	FDC2070	FDC3070	FDC4070
80	HFD1080	HFD2080	HFD3080	HFD4080	FDC2080	FDC3080	FDC4080
90	HFD1090	HFD2090	HFD3090	HFD4090	FDC2090	FDC3090	FDC4090
100	HFD1100	HFD2100	HFD3100	HFD4100	FDC2100	FDC3100	FDC4100
110	HFD1110	HFD2110	HFD3110	HFD4110	FDC2110	FDC3110	FDC4110
125	HFD1125	HFD2125	HFD3125	HFD4125	FDC2125	FDC3125	FDC4125
150	HFD1150	HFD2150	HFD3150	HFD4150	FDC2150	FDC3150	FDC4150
175	—	HFD2175	HFD3175	HFD4175	FDC2175	FDC3175	FDC4175
200	—	HFD2200	HFD3200	HFD4200	FDC2200	FDC3200	FDC4200
225	—	HFD2225	HFD3225	HFD4225	FDC2225	FDC3225	FDC4225

① Not UL Listed. 5 kAIC interrupting rating.

② UL Listed for SWD applications, see NEC Article 240-83 (d).

Cutler-Hammer

Westinghouse & Cutler-Hammer Products
 Five Parkway Center
 Pittsburgh, Pennsylvania, U.S.A. 15220



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 31-500A

Series C® Molded Case Circuit Breakers F-Frame 10-225 Amperes

MOLDED CASE SWITCHES

Molded case switches are used as compact switches in applications requiring high current switching capabilities. Molded case switches are constructed of circuit breaker components and are of the high instantaneous automatic type. Molded case switches are listed in accordance with Underwriters Laboratories, Inc., Standard UL1087.

Molded Case Switch High Magnetic Trip Setting

Frame	Rating	Trip Setting (Amps)	Tolerance (Percent)
EHD, FD	100	2400	±20
EHD, FD	150	2400	±20
FD	225	2400	±20

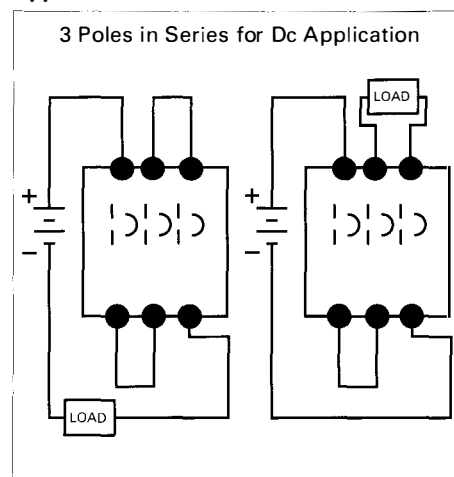
Maximum Continuous Ampere Rating @ 40°C	480 Vac Maximum, 250 Vdc	600 Vac Maximum, 250 Vdc
	Complete Circuit Breaker with Load Side Terminals Only	Complete Circuit Breaker with Load Side Terminals Only
	CATALOG NUMBERS	
2-Pole		
100	EHD2100K	FD2100K
150	—	FD2150K
225	—	FD2225K
3-Pole		
100	EHD3100K	FD3100K
150	—	FD3150K
225	—	FD3225K
4-Pole		
100	—	FD4100K
150	—	FD4150K
225	—	FD4225K

CIRCUIT BREAKERS FOR DC APPLICATIONS

These UL listed Dc Molded Case Circuit Breakers are for use in the ungrounded battery supply circuits of UPS systems providing continuous, reliable Ac power to computer controlled applications such as financial transactions and telecommunications.

Maximum Continuous Ampere Rating @ 40°C	High Interrupting Capacity
	35 kAIC @ 600 Vdc
	Complete Circuit Breaker with Line and Load Side Terminals
	CATALOG NUMBERS
15	HFDDC3015L
20	HFDDC3020L
25	HFDDC3025L
30	HFDDC3030L
35	HFDDC3035L
40	HFDDC3040L
45	HFDDC3045L
50	HFDDC3050L
60	HFDDC3060L
70	HFDDC3070L
80	HFDDC3080L
90	HFDDC3090L
100	HFDDC3100L
110	HFDDC3110L
125	HFDDC3125L
150	HFDDC3150L

Series Connection Diagrams for DC Application



Selection Data
29-120F



Page 6

Series C Molded Case Circuit Breakers, F-Frame, 10-225 Amperes

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Five Parkway Center
Pittsburgh, Pennsylvania, U.S.A. 15220



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Westinghouse Series C® F-Frame Termination Accessories

LINE AND LOAD TERMINALS

Line and load terminals provide wire connecting capabilities for specific ranges of continuous current ratings and wire types. Except as noted, terminals comply with Underwriters Laboratories, Inc., Standard UL486A or UL486B. Unless otherwise specified, F-frame circuit breakers are factory equipped with load terminals only.

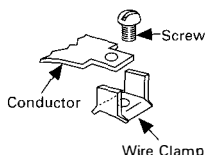
Ordering Information

F-frame circuit breakers and molded case switches have load terminals only as standard equipment. When standard line-end terminals (same as standard load-end terminals) are required, add suffix L to the circuit breaker catalog number. When non-standard or optional line and/or load termi-

nals are required, order by style number (no charge when ordered with circuit breaker). Specify if factory installation required.

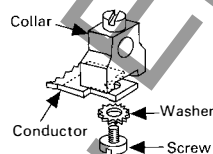
Line and Load Terminals

Maximum Breaker Amps	Terminal Body Material	Wire Type	AWG Wire Range	Metric Wire Range mm ²	CATALOG NUMBERS
					Package of 3 Terminals
Standard Pressure Type Terminals					
20(EHD)	Steel	Cu/Al	#14-#10	2.5-4	3T20FB ^①
100	Steel	Cu/Al	#14-1/0	2.5-50	3T100FB
150	Aluminum	Cu/Al	#4-4/0	25-95	3TA150FB
225	Aluminum	Cu/Al	#4-4/0	25-95	3TA225FD
Optional Pressure Terminals					
50	Aluminum	Cu/Al	#14-#4	2.5-16	3TA50FB ^①
100	Aluminum	Cu/Al	#14-1/0	2.5-50	3TA100FD
150	Stainless Steel	Cu	#4-4/0	25-95	3T150FB
225	Aluminum	Cu/Al	#6-300 MCM	16-150	3TA225FDK ^②



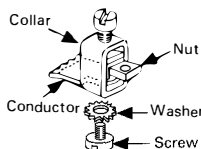
3T20FB

Assemble wire clamp to bottom of conductor as shown.



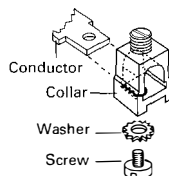
3TA50FB

Assemble collar on top of conductor as shown. Tighten securely with screw and washer.



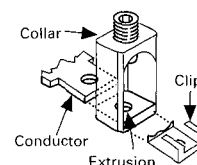
3T100FB 3T150FB

Insert collar enclosing conductor as shown. Locate nut on top of conductor and tighten securely with screw and washer. **Caution:** Collar must surround conductor.



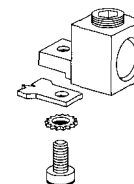
3TA100FD

Collar slides onto conductor and is held in position by a screw and lockwasher.



3TA150FB 3TA225FD

Insert collar enclosing conductor and center on extrusion on collar. Install clip with legs on top of conductor and snap end around bottom of collar.



3TA225FDK

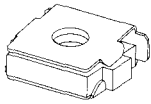
Assemble collar on top of conductor as shown. Tighten securely with screw and washer. Terminal shield must be used with this collar.

^① Not for use with ED, EDH, EDC breakers.
^② Includes terminal shield kit. Adds approximately 3 inches to breaker height. Available for use on 3-pole breaker only.



Westinghouse Series C F-Frame Termination Accessories

KEEPER NUT

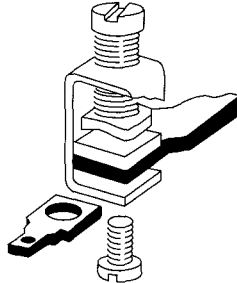


The keeper nut slides onto the line or load conductor of the circuit breaker and acts as a threaded adapter for the conductor to accept a ring terminal or other bolt-on connector. The keeper nut is available with English and metric thread sizes. Screws and washers are supplied by customer. (Field installation only.) Listed per UL File E7819.

Ordering Information

Thread Type	Thread Size	CATALOG NUMBERS
		Package of 12 (Priced Individually)
Imperial	10-32	KPR1A
Metric	M-5	KPR1AM

CONTROL WIRE TERMINAL KIT



For use with steel or stainless steel terminals only.

Ordering Information

Package of 12. Priced individually.

CATALOG NUMBER
FCWTK

BASE MOUNTING HARDWARE

Hardware for surface mounting of circuit breakers is supplied only on request. Hardware consists of mounting screws and lockwashers. Order hardware for circuit breaker pole configurations as required.

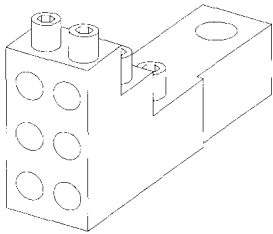
Ordering Information

Base-mounting hardware is supplied at no charge when ordered with a circuit breaker or molded case switch. When ordering separately, refer to price list.

Imperial Thread

No. of Poles	Description	Type of Mounting	STYLE NUMBERS
1	.164-32 x 3.188 inch Pan-Head Steel Screws, Lockwashers, and Clamps	Individual	624B375G01
		Group (one set of hardware for two circuit breakers)	624B375G02
2	.164-32 x 1.5 inch Pan-Head Steel Screws and Lockwashers	Individual	4218B80G01
3,4	.164-32 x 1.5 inch Pan-Head Steel Screws and Lockwashers	Individual	BMH1

MULTI WIRE CONNECTORS



Multi Wire Lug Kits include mounting hardware, insulators and tin-plated aluminum connectors to replace three mechanical load lugs. UL listed for copper only as used on the load side (OFF) end.

Ordering Information

Package of 3.

Maximum Amperes	KIT CATALOG NUMBERS	Wires Per Terminal	Wire Size Range AWG Cu	Pressure Screw Torque (lb/in)
225	3TA150F3K	3	#14-2	70
225	3TA150F6K	6	#14-6	25

Field-installed multi wire connectors for the load side (OFF) end terminals. They are used to distribute the load from the circuit breaker to multiple devices without the use of separate distribution terminal blocks.

Metric Thread

No. of Poles	Description	Type of Mounting	STYLE NUMBERS
1	M4 - 0.7 x 80 mm Pan-Head Steel Screws, Lockwashers, and Clamps	Individual	4218B80G09
		Group (one set of hardware for two circuit breakers)	4218B80G10
2	M4 - 0.7 x 38 mm Pan-Head Steel Screws and Lockwashers	Individual	4218B80G11
3,4	M4 - 0.7 x 38 mm Pan-Head Steel Screws and Lockwashers	Individual	BMH1M

Ⓢ Not for use with 3T20FB terminal.

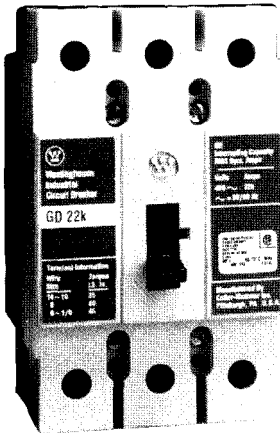
Cutler-Hammer

Westinghouse & Cutler-Hammer Products
 Five Parkway Center
 Pittsburgh, Pennsylvania, U.S.A. 15220



June 1995
 New Information
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

Westinghouse Series C[®] Molded Case Circuit Breakers G-Frame 15-100 Amperes



Dimensions, Inches (mm)

No. of Poles	Width	Height	Depth
1	1.0 (25.33)	4.88 (123.95)	2.81 (71.41)
2	2.0 (50.78)	4.88 (123.95)	2.81 (71.41)
3	3.0 (76)	4.88 (123.95)	2.81 (71.41)

Approximate Shipping Weight, Lbs. (kg)

Breaker Type	Number of Poles		
	1	2	3
GD	1.0 (.454)	1.5 (.680)	2.25 (1.021)

STANDARDS

Series C molded case circuit breakers are designed to conform with the following standards:

- Australian Standard AS 2184, Molded Case Circuit Breakers
- British Standards Institution Standard BS 4752: Part 1, Switchgear and Control Gear Part 1: Circuit Breakers
- Canadian Standards Association Standard C22.2 No. 5, Service Entrance and Branch Circuit Breakers
- International Electrotechnical Commission Recommendations IEC 157-1, Circuit Breakers
- Japanese T-Mark Standard Molded Case Circuit Breakers
- National Electrical Manufacturers Association Standards Publication No. AB1-1975, Molded Case Circuit Breakers
- South African Bureau of Standards, Standard SABS 156, Standard Specification for Molded Case Circuit Breakers
- Swiss Electro-Technical Association Standard SEV 157-1, Safety Regulations for Circuit Breakers
- Underwriters Laboratories, Inc., Standard UL 489, Molded Case Circuit Breakers and Circuit Breaker Enclosures.
- Union Technique de l'Electricite Standard NF C 63-120, Low Voltage Switchgear and Control Gear Circuit Breaker Requirements
- Verband Deutscher Elektrotechniker (Association of German Electrical Engineers) Standard VDE 0660, Low Voltage Switchgear and Control Gear, Circuit Breakers

INTERRUPTING CAPACITY RATINGS

UL489 Interrupting Capacity Ratings

Circuit Breaker Type	Number of Poles	Interrupting Capacity (Symmetrical Amperes)					
		Volts Ac (50/60 Hz)				Volts Dc	
		120	240	277	480	125	250 ① ②
GD	1	65,000	.....	22,000	.....	10,000②	.....
GD	2, 3	.....	65,000	.....	22,000	.....	10,000

Conformance with these standards satisfies most local and international codes, assuming user acceptability and simplified application.

Series C molded case circuit breakers equal or exceed Federal Specification Classification W-C-375b requirements for the particular class associated with the circuit breaker frame being considered.

① Two poles of 3-pole circuit breaker.
 ② Time constant is 8 milliseconds minimum.



Westinghouse Series C Molded Case Circuit Breakers, G-Frame, 15-100 Amperes

CATALOG NUMBERING SYSTEM

This information is presented only as an aid to understanding catalog numbers. It is not to be used to build catalog numbers for circuit breakers.

Circuit Breaker Catalog Numbers

GD	3	100
Circuit Breaker Type	Number of Poles	Trip Amps
	1: 1-Pole	15
	2: 2-Pole	20
	3: 3-Pole	25
		30
		35
		40
		45
		50
		60
		70
		80
		90
		100

THERMAL-MAGNETIC CIRCUIT BREAKERS

Maximum Continuous Ampere Rating @ 40°C	480 Vac Maximum, 250 Vdc ^①		
	22 kAIC @ 480 Vac		
	CATALOG NUMBERS (Includes Line and Load Terminals)		
	1-Pole	2-Pole	3-Pole
15	GD1015	GD2015	GD3015
20	GD1020	GD2020	GD3020
25	GD1025	GD2025	GD3025
30	GD1030	GD2030	GD3030
35	GD1035	GD2035	GD3035
40	GD1040	GD2040	GD3040
45	GD1045	GD2045	GD3045
50	GD1050	GD2050	GD3050
60	GD1060	GD2060	GD3060
70	GD1070	GD2070	GD3070
80	GD1080	GD2080	GD3080
90	GD1090	GD2090	GD3090
100	GD1100	GD2100	GD3100

Note: All GD breakers are HACR rated. All GD breakers are suitable for reverse feed application.

TERMINAL TYPES

For line and load-side. Terminals are UL listed as suitable for wire type and size given below.

Circuit Breaker Amperes	Terminal Type Material	Screw Head Type	Wire Type	AWG Wire Range	Metric Wire ^② Range (mm ²)
15-20	Clamp (Plated Steel)	Slotted	Cu/Al	#14-10	2.5-4
25-100	Pressure (Aluminum Body)	Slotted	Cu/Al	#10-1/0	4-50

Terminal Torque Values

AWG Wire Range	Torque Value lb-in	Torque Value N.m.
#14-#10	20	2.26
#8	40	4.52
#6-#4	45	5.09
#3-1/0	45	5.09

Further Information	
Technical Data	TD 29-160
Dimensions	DS 29-170G
Time/Current Curves	AD 29-167G
Instantaneous Only Circuit Breakers (Motor Circuit Protector)	SD 29-120H

^① 1-pole rating is 277 Vac maximum, 125 Vdc.
^② Not UL listed sizes.

Cutler-Hammer

Westinghouse & Cutler-Hammer Products
 Five Parkway Center
 Pittsburgh, Pennsylvania, U.S.A. 15220



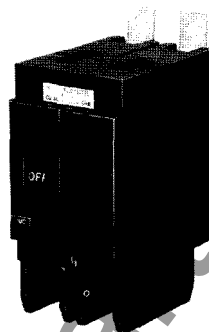
June 1995
 Supersedes Technical Data 29-120,
 pages 16.1-16.2 dated March 1988
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

Westinghouse Series C[®] Molded Case Circuit Breakers G-Frame 15-100 Amperes

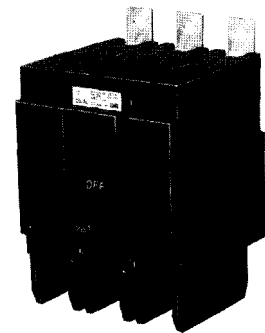
TYPE GB AND TYPE GHB BOLT-ON PANELBOARD CIRCUIT BREAKERS



1-Pole



2-Pole



3-Pole

These breakers meet the requirements of Federal Specification W-C-375b as follows:

Types GB, GHB, 120 and 240 Volts:
 1 Pole: Class 11a
 2, 3 Poles: Classes 10b, 11b, 12b, 14b, 15b

Type GHB, 277 and 480Y/277 Volts:
 1 Pole: Classes 12c, 13a
 2, 3 Poles: Class 13b

TERMINALS

For load side only. Line side connection is extended tang which bolts directly to bus. Load terminals are UL listed as suitable for wire type and size listed below. When used with aluminum conductors, use joint compound.

Breaker Amperes	Type Terminal	Wire Type	Wire Range
15-20	Clamp	Cu/Al	#14-#10
25-100	Pressure	Cu/Al	#10-1/0

APPLICATION NOTES

- On all 3-phase Delta (240V) Grounded B phase applications, refer to Cutler-Hammer.
- 480Y/277V, circuit breakers (Type GHB) not suitable for 3-phase Delta (480V) Grounded B phase applications.
- All two- and three-pole circuit breakers are of the common trip type.
- Single-pole circuit breakers, 15 and 20A. Switching duty rated (SWD) for fluorescent lighting applications.
- Suitable for reverse feed applications.
- HACR rated.

INTERRUPTING CAPACITY RATINGS

Circuit Breaker Type	Number of Poles	Interrupting Capacity (Symmetrical Amperes)					
		Volts Ac (50/60 Hz)				Volts Dc	
		120	240	277	480Y/277	125	125/250
GB	1	65,000	.....	.....	.....	14,000 [Ⓢ]
GB	2, 3	.....	65,000	.....	.....	.....	14,000
GHB	1	65,000	.....	14,000	.....	14,000 [Ⓢ]
GHB	2, 3	.....	65,000	.....	14,000	.....	14,000

On all 3-phase Delta, Grounded B phase applications, refer to Cutler-Hammer.

Note: All two- and three-pole breakers are of the common trip type.

Further Information

Technical Data	TD 29-160
Dimensions	DS 29-170G
Time/Current Curves	AD 29-167G
Instantaneous Only Circuit Breakers (Motor Circuit Protector)	SD 29-120H

[Ⓢ] 15 through 70A breakers only.



Westinghouse Series C Molded Case Circuit Breakers, G-Frame, 15-100 Amperes
TYPE GB AND TYPE GHB BOLT-ON PANELBOARD CIRCUIT BREAKERS

Type GB Breakers

Continuous Ampere Rating @ 40°C	CATALOG NUMBERS		
	1-Pole ^① 120 Volts Ac Max. 125 Volts Dc Max. ^④	2-Pole [●] 240 Volts Ac Max. 125/250 Volts Dc Max.	3-Pole ^③ 240 Volts Ac Max. 125/250 Volts Dc Max. ^⑤
15	GB1015 ^⑥	GB2015	GB3015
20	GB1020 ^⑥	GB2020	GB3020
25	GB1025	GB2025	GB3025
30	GB1030	GB2030	GB3030
35	GB1035	GB2035	GB3035
40	GB1040	GB2040	GB3040
45	GB1045	GB2045	GB3045
50	GB1050	GB2050	GB3050
60	GB1060	GB2060	GB3060
70	GB1070	GB2070	GB3070
80	GB1080	GB2080	GB3080
90	GB1090	GB2090	GB3090
100	GB1100	GB2100	GB3100

Type GHB Breakers

Continuous Ampere Rating @ 40°C	CATALOG NUMBERS		
	1-Pole ^① 277/480 Volts Ac Max. 125 Volts Dc Max. ^④	2-Pole ^② 277/480 Volts Ac Max. 125/250 Volts Dc Max.	3-Pole ^③ 277/480 Volts Ac Max. 125/250 Volts Dc Max. ^⑤
15	GHB1015 ^⑥	GHB2015	GHB3015
20	GHB1020 ^⑥	GHB2020	GHB3020
25	GHB1025	GHB2025	GHB3025
30	GHB1030	GHB2030	GHB3030
35	GHB1035	GHB2035	GHB3035
40	GHB1040	GHB2040	GHB3040
45	GHB1045	GHB2045	GHB3045
50	GHB1050	GHB2050	GHB3050
60	GHB1060	GHB2060	GHB3060
70	GHB1070	GHB2070	GHB3070
80	GHB1080	GHB2080	GHB3080
90	GHB1090	GHB2090	GHB3090
100	GHB1100	GHB2100	GHB3100

- ① 24 breakers in single carton; Approx. ship wt.: 16 lbs.
- ② 12 breakers in single carton; Approx. ship wt.: 16 lbs.
- ③ 8 breakers in single carton; Approx. ship wt.: 16 lbs.
- ④ 15-70 Amp only.
- ⑤ Use (2) outer poles.
- ⑥ Switching duty rated for fluorescent light applications only: GB, 120-volt Ac; GHB, 277-volt Ac.

Cutler-Hammer

Westinghouse & Cutler-Hammer Products
 Five Parkway Center
 Pittsburgh, Pennsylvania, U.S.A. 15220



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 31-500A

Westinghouse Series C[®] Molded Case Circuit Breakers G-Frame 15-100 Amperes

TYPE GC AND TYPE GHC CIRCUIT BREAKERS

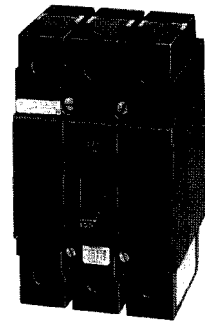
15-100 Amperes, 120, 240, 277, 480Y/277V, 50/60 Hz, 125, 125/250V, Dc 1, 2, and 3 Poles



1-Pole



2-Pole



3-Pole

These circuit breakers meet the requirements of Federal Specification W-C-375b as follows:

Type GC, 120 and 240 Volts:

- 1 Pole: Class 11a
- 2, 3 Poles: Classes 10b, 11b, 12b, 14b, 15b

Type GHC, 277 and 480Y/277 Volts:

- 1 Pole: Classes 12c, 13a
- 2, 3 Poles: Class 13b

TERMINALS

Line and load side terminals are UL listed as suitable for wire type and size listed below. When used with aluminum conductors, use joint compound.

Breaker Amperes	Type Terminal	Wire Type	Wire Range
15-20	Clamp	Cu/Al	#14-#10 AWG
25-100	Pressure	Cu/Al	#10-1/0 AWG

APPLICATION NOTES

- On all 3-phase Delta (240V) Grounded B phase applications, refer to Cutler-Hammer.
- 480Y/277V, circuit breakers (Type GHC) not suitable for 3-phase Delta (480V)
- All two- and three-pole circuit breakers are of the common trip type.
- Single-pole circuit breakers, 15 and 20A. Switching duty rated (SWD) for fluorescent lighting applications.
- Suitable for reverse feed applications.
- HACR rated.

INTERRUPTING CAPACITY RATINGS

Circuit Breaker Type	Number of Poles	Interrupting Capacity (Symmetrical Amperes)					
		Volts Ac (50/60 Hz)				Volts Dc	
		120	240	277	480/277	125	125/250
GC	1	65,000	.....	.....	.....	14,000 [Ⓢ]
GC	2, 3	.....	65,000	.....	.....	.....	14,000
GHC	1	65,000	.....	14,000	.....	14,000 [Ⓢ]
GHC	2, 3	.....	65,000	.....	14,000	.....	14,000

Special Purpose Breakers (see page 6)

[Ⓢ] 15 through 70A breakers only.

Further Information

Technical Data TD 29-160
 Dimensions DS 29-170G
 Time/Current Curves AD 29-167G
 Instantaneous Only Circuit Breakers
 (Motor Circuit Protector) SD 29-120H



Westinghouse Series C Molded Case Circuit Breakers, G-Frame, 15-100 Amperes

TYPE GC AND TYPE GHC CIRCUIT BREAKERS

Type GC Circuit Breakers

Continuous Ampere Rating @ 40°C	CATALOG NUMBERS		
	1-Pole ^② 120V Ac Max. 125V Dc Max. ^⑥	2-Pole ^③ 240V Ac Max. 125/250V Dc Max.	3-Pole ^④ 240V Ac Max. 125/250V Dc Max. ^⑦
15	GC1015 ^{⑤⑥}	GC2015 ^⑥	GC3015 ^⑥
20	GC1020 ^{⑤⑥}	GC2020 ^⑥	GC3020 ^⑥
25	GC1025	GC2025	GC3025
30	GC1030	GC2030	GC3030
35	GC1035	GC2035	GC3035
40	GC1040	GC2040	GC3040
45	GC1045	GC2045	GC3045
50	GC1050	GC2050	GC3050
60	GC1060	GC2060	GC3060
70	GC1070	GC2070	GC3070
80	GC1080	GC2080	GC3080
90	GC1090	GC2090	GC3090
100	GC1100	GC2100	GC3100

Special Purpose Breakers

These are Types GC and GHC circuit breakers with binding head screw-type terminals on line and load side. These circuit breakers with screw-type terminals (.190-32) will be marked "Special purpose breaker not for general use". To order this special breaker, use the catalog number below.

Type GC Circuit Breakers

Continuous Ampere Rating @ 40°C	CATALOG NUMBERS		
	1-Pole ^② 120V Ac Max. 125V Dc Max. ^⑥	2-Pole ^③ 240V Ac Max. 125/250V Dc Max.	3-Pole ^④ 240V Ac Max. 125/250V Dc Max. ^⑦
25	GC1025D	GC2025D	GC3025D
30	GC1030D	GC2030D	GC3030D
35	GC1035D	GC2035D	GC3035D
40	GC1040D	GC2040D	GC3040D
45	GC1045D	GC2045D	GC3045D
50	GC1050D	GC2050D	GC3050D
55	GC1055D	GC2055D	GC3055D
60	GC1060D	GC2060D	GC3060D

Type GHC Circuit Breakers

Continuous Ampere Rating @ 40°C	CATALOG NUMBERS		
	1-Pole ^② 277V Ac Max. 125V Dc Max. ^⑥	2-Pole ^③ 480Y/277V Ac Max. 125/250V Dc Max.	3-Pole ^④ 480Y/277V Ac Max. 125/250V Dc Max. ^⑦
15	GHC1015 ^{⑤⑥}	GHC2015 ^⑥	GHC3015 ^⑥
20	GHC1020 ^{⑤⑥}	GHC2020 ^⑥	GHC3020 ^⑥
25	GHC1025	GHC2025	GHC3025
30	GHC1030	GHC2030	GHC3030
35	GHC1035	GHC2035	GHC3035
40	GHC1040	GHC2040	GHC3040
45	GHC1045	GHC2045	GHC3045
50	GHC1050	GHC2050	GHC3050
60	GHC1060	GHC2060	GHC3060
70	GHC1070	GHC2070	GHC3070
80	GHC1080	GHC2080	GHC3080
90	GHC1090	GHC2090	GHC3090
100	GHC1100	GHC2100	GHC3100

Type GHC Circuit Breakers

Continuous Ampere Rating @ 40°C	CATALOG NUMBERS		
	1-Pole ^② 277V Ac Max. 125V Dc Max. ^⑥	2-Pole ^③ 480Y/277V Ac Max. 125/250V Dc Max.	3-Pole ^④ 480Y/277V Ac Max. 125/250V Dc Max. ^⑦
25	GHC1025D	GHC2025D	GHC3025D
30	GHC1030D	GHC2030D	GHC3030D
35	GHC1035D	GHC2035D	GHC3035D
40	GHC1040D	GHC2040D	GHC3040D
45	GHC1045D	GHC2045D	GHC3045D
50	GHC1050D	GHC2050D	GHC3050D
55	GHC1055D	GHC2055D	GHC3055D
60	GHC1060D	GHC2060D	GHC3060D

- ① For IEC-157-1 (P1) Ratings, refer to Cutler-Hammer.
- ② 24 circuit breakers in single carton; approx. ship wt.: 18 lbs.
- ③ 12 circuit breakers in single carton; approx. ship wt.: 18 lbs.
- ④ 8 circuit breakers in single carton; approx. ship wt.: 18 lbs.
- ⑤ SWD rated.
- ⑥ 15-70A only.
- ⑦ Use (2) outside poles.
- ⑧ Use .190-32 screw type clamp terminals.

Cutler-Hammer

Westinghouse & Cutler-Hammer Products
Five Parkway Center
Pittsburgh, Pennsylvania, U.S.A. 15220

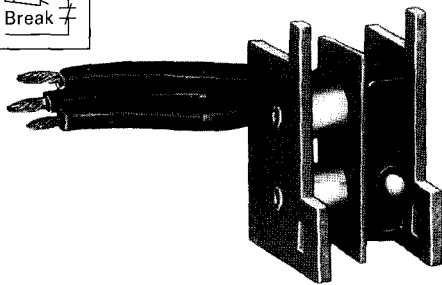
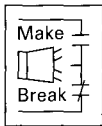


June 1995

 Supersedes Technical Data 29-120,
 page 16.6, dated September 1987
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

Westinghouse Series C® G-Frame Internal Accessories

ALARM/LOCKOUT SWITCH



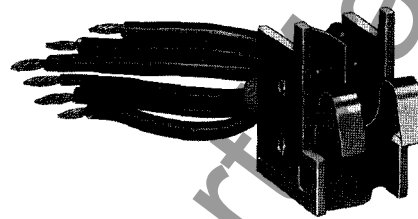
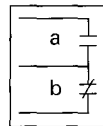
For remote indication of automatic trip operation. Does not function with manual switching; however, it will operate when either a shunt trip or undervoltage release is operated. A "make" contact closes and a "break" contact opens when the alarm/lockout switch operates. The switch automatically resets when the circuit breaker is reset.

Either an auxiliary switch or an alarm/lockout switch may be mounted in a two-pole circuit breaker. The two-pole circuit breaker will not accept either the shunt trip or UVR.

Ordering Information

Electrical Ratings			Contact Arrangement	STYLE NUMBERS ①●④
Volts	Frequency	Amps		
Alarm Switch				
240	50/60 Hz	6	1 make/ 1 break	1288C75G03
Alarm Switch Auxiliary Switches Combination				
240	50/60 Hz	6	1 make/ 1 break and 1a/1b	1288C76G09

AUXILIARY SWITCH

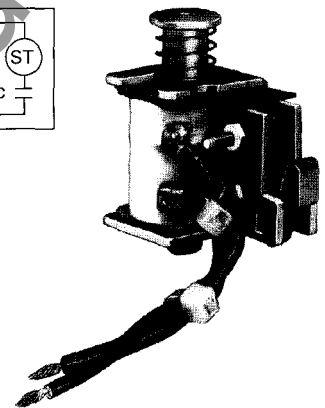
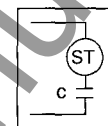


For auxiliary control circuits. Miniature switches mount within circuit breaker cover. Commonly used for remote indication of open/closed circuit breaker status as well as electrically interlocking circuitry. "a" contacts are open with the circuit breaker open. "b" contacts are closed with the circuit breaker open.

Ordering Information

Electrical Ratings			Contact Arrangement	STYLE NUMBERS ①●④
Volts	Frequency	Amps		
240	50/60 Hz	6	1a/1b	1288C74G03
240	50/60 Hz	6	2a/2b	1288C73G03

SHUNT TRIP



For tripping the circuit breaker from remote point. Solenoid device mounts within circuit breaker cover. Circuit breaker trips when coil is energized.

Since coil is intermittent rated only, a cut-off switch is included to interrupt the coil circuit when the circuit breaker opens.

Ordering Information

Electrical Ratings			STYLE NUMBERS ①②●
Volts	Frequency	Amps	
120	50/60 Hz	6	1373D62G01
240	50/60 Hz	2.1	1373D62G02
12	Dc	2.8	1373D62G15
24	Dc	5.7	1373D62G16

Note

GB/GBH/GC/GHC circuit breakers are factory sealed. Underwriters Laboratories, Inc., requires that internal accessories be installed at the factory.

Internal accessories are UL listed for factory installation under E7819.

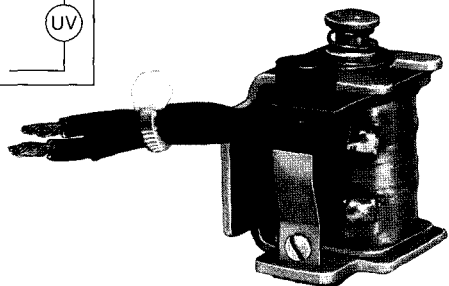
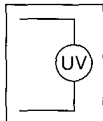
Where local codes and standards permit and UL listing is not required, internal accessories can be field installed. Accessory installation should be done before the circuit breaker is mounted and connected.

- ① Includes 24-inch external pigtail leads, #18 AWG (16-.010).
- ② A maximum of two internal accessories may be mounted in a three-pole circuit breaker.
- Suitable for mounting in left pole only of 3-pole breaker.
- ④ Suitable for mounting in right pole only of 2- or 3-pole breaker.



Westinghouse Series C G-Frame, Internal Accessories

UNDERVOLTAGE RELEASE



For undervoltage protection. Solenoid device mounts within circuit breaker cover. Trips circuit breaker within range of 35 to 70% of rated coil voltage. The UVR is reset by the circuit breaker cross bar during an opening operation. The UVR is not designed for and should not be used as a circuit interlock.

Ordering Information

Electrical Ratings			STYLE NUMBERS ①②③
Volts	Frequency	Amps	
120	50/60 Hz	0.05	1373D62G03
24	50/60 Hz	0.22	1373D62G04
48	50/60 Hz	0.11	1373D62G05
60	50/60 Hz	0.10	1373D62G06
110	50 Hz	0.049	1373D62G07
208	60 Hz	0.026	1373D62G08
220	50 Hz	0.025	1373D62G09
240	50/60 Hz	0.024	1373D62G10
380	50 Hz	0.015	1373D62G11
415	50 Hz	0.013	1373D62G12
440	50 Hz	0.012	1373D62G13
480	60 Hz	0.01	1373D62G14

Note

G-frame circuit breakers are factory sealed. Underwriters Laboratories, Inc., requires that internal accessories be installed at the factory.

Internal accessories are UL listed for factory installation under E7819.

Where local codes and standards permit and UL listing is not required, internal accessories can be field installed. Accessory installation should be done before the circuit breaker is mounted and connected.

- ① Includes 24 inch external pigtail leads, #18 AWG (16-.010).
- ② A maximum of two internal accessories may be mounted in a three-pole circuit breaker.
- ③ Suitable for mounting in left pole only of 3-pole breaker.

Cutler-Hammer

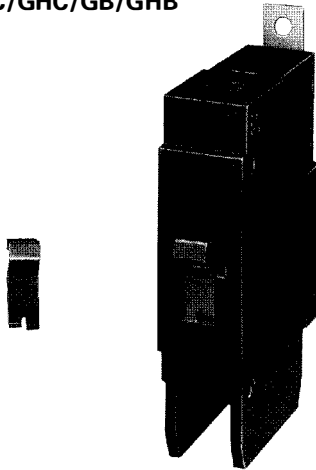
Westinghouse & Cutler-Hammer Products
Five Parkway Center
Pittsburgh, Pennsylvania, U.S.A. 15220



June 1995
 Supersedes Technical Data 29-120,
 page 16.5, dated September 1987
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

Westinghouse Series C® G-Frame External Accessories

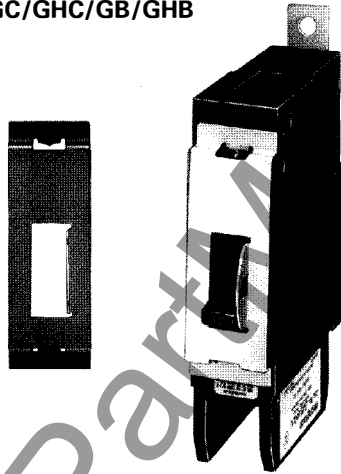
LOCK DOG (NON-PADLOCKABLE) GD/GC/GHC/GB/GHB



Ordering Information

STYLE NUMBER	No. Units in Package
1294C01H01	1

PADLOCKABLE HANDLE GD/GC/GHC/GB/GHB



Ordering Information

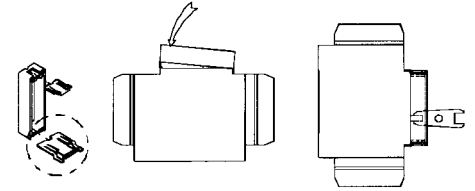
STYLE NUMBER	No. Units in Package
1223C77G03	10

(Accepts .285 Lock Shank)

MOUNTING HARDWARE GD/GC/GHC

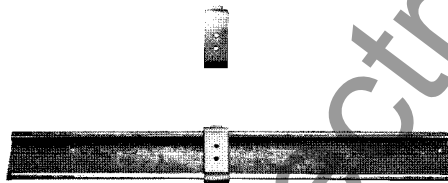
STYLE NUMBER	No. Units in Package
624B375G23	1③

KEY OPERATED ATTACHMENT GD/GC/GHC



STYLE NUMBER	No. Units in Package
GK0A	10

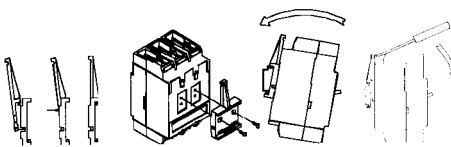
DIN RAIL ADAPTOR①② GD/GC/GHC



1225C79G01

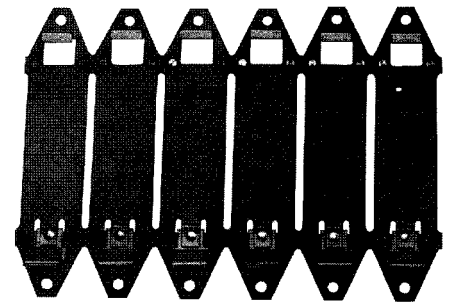
Ordering Information

STYLE NUMBERS	No. Units in Package
1225C79G01	10
1225C79G02⑤	10



1225C79G02

BASE MOUNTING PLATE④ GD/GC/GHC



Ordering Information

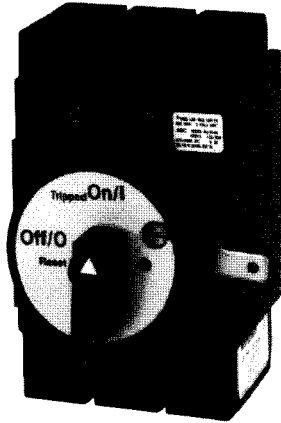
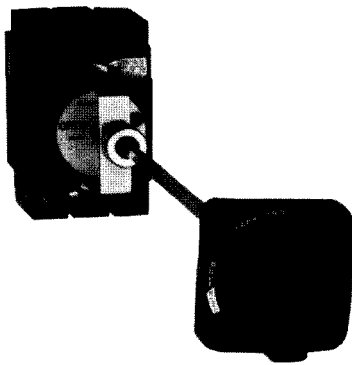
STYLE NUMBER	No. Units in Package
207B513G01	1

- ① For use with standard 35mm Din Rail such as, 35 x 7.5 or 35 x 15mm per Din EN50022.
- Adaptor mounting screws included are for use with (2) and (3) pole circuit breakers. Adaptors for (1) pole circuit breakers clip into the base molding.
- ② Suitable for mounting (1) two or three pole circuit breaker.
- ④ Suitable for mounting (6) single pole circuit breakers.
- ⑤ For use on 3-pole breakers only.



Westinghouse Series C G-Frame, External Accessories

HANDLE MECHANISM



These compact Westinghouse rotary handle mechanisms are especially designed for use with the GD/GC/GHC circuit protection devices. The Close-Coupled version is designed for mounting in a shallow enclosure, while the Vari-Depth is suitable for deep enclosures.

Both G-frame handle mechanisms are suitable for use on NEMA 1 enclosures. In addition, the Vari-Depth handle mechanism is offered for use with NEMA 3R, 12, and 4 enclosures.

The new handles are a compact, plastic, general purpose design which is easy to install. These mechanism are commonly used where high volume, standardized enclosures are being fabricated.

The Close-Coupled design is available with or without a shroud. The handle is offered in two colors; black or yellow. An escutcheon ring and interlock clip are provided as standard. This standard design includes a lock-off feature.

The Vari-Depth design includes an operating mechanism, shaft, and external handle. The handle is available in two colors; black or yellow. An external lock-off is included in the handle design. The shaft may be cut to size to fit the enclosure.

UL and CSA listed.

Ordering Information

G-Frame Vari-Depth Design (Catalog Number includes complete assembly consisting of handle, shaft, and operating mechanism.)					
CATALOG NUMBERS	Breaker Frame	Enclosure Type	Handle Color	Shaft Length	Shroud Included
HRGCV11L	GD/GC/GHC	NEMA 1	Black	14"	.....
HRGCV31L	GD/GC/GHC	NEMA 1	Yellow	14"	.....
HRGCV14L	GD/GC/GHC	NEMA 3R/12/4	Black	14"	.....
HRGCV34L	GD/GC/GHC	NEMA 3R/12/4	Yellow	14"	.....

G-Frame Close-Coupled Design (Catalog Number includes complete assembly consisting of operating handle and door interlock.)					
CATALOG NUMBERS	Breaker Frame	Enclosure Type	Handle Color	Shaft Length	Shroud Included
HRGCC10	GD/GC/GHC	NEMA 1	Black	.....	No
HRGCC1S	GD/GC/GHC	NEMA 1	Black	.....	Yes
HRGCC30	GD/GC/GHC	NEMA 1	Yellow	.....	No
HRGCC3S	GD/GC/GHC	NEMA 1	Yellow	.....	Yes

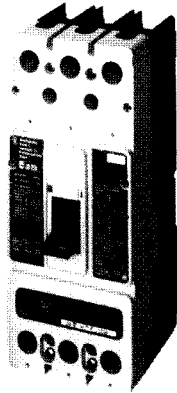
Cutler-Hammer

Westinghouse & Cutler-Hammer Products
 Five Parkway Center
 Pittsburgh, Pennsylvania, U.S.A. 15220



August 1996
 Supersedes Selection Data 29-120J,
 pages 1-2, dated June 1994
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

Series C® Molded Case Circuit Breakers J-Frame 70-250 Amperes



Dimensions, Inches (mm)

No. of Poles	Width	Height	Depth
2, 3	4.125 (105)	10 (255)	4.063 (103)
4	5.5 (140)	10 (254)	4.063 (103)

STANDARDS

Series C molded case circuit breakers are designed to conform with the following standards:

- Australian Standard AS 2184, Molded Case Circuit Breakers
- British Standards Institution Standard BS 4752: Part 1, Switchgear and Control Gear Part 1: Circuit Breakers
- Canadian Standards Association Standard C22.2 No. 5, Service Entrance and Branch Circuit Breakers
- International Electrotechnical Commission Recommendations IEC 157-1, Circuit Breakers
- Japanese T-Mark Standard, Molded Case Circuit Breakers
- National Electrical Manufacturers Association Standards Publication No. AB1-1975, Molded Case Circuit Breakers
- South African Bureau of Standards, Standard SABS 156, Standard Specification for Molded Case Circuit Breakers
- Swiss Electro-Technical Association Standard SEV 157-1, Safety Regulations for Circuit Breakers
- Underwriters Laboratories, Inc., Standard UL 489, Molded Case Circuit Breakers and Circuit Breaker Enclosures, Including Marine Circuit Breakers File E7819
- Union Technique de l'Electricite Standard NF C 63-120, Low Voltage Switchgear and Control Gear Circuit Breaker Requirements
- Verband Deutscher Elektrotechniker (Association of German Electrical Engineers) Standard VDE 0660, Low Voltage Switchgear and Control Gear, Circuit Breakers

Approximate Shipping Weight, Lbs. (kg)

Breaker Type	Complete Breaker			Frame Only			Trip Unit		
	Number of Poles								
	2	3	4	2	3	4	2	3	4
JDB	11.25 (5.103)	12.5 (5.670)	—	—	—	—	—	—	—
JD	11.25 (5.103)	12.5 (5.670)	13.25 (6.010)	9 (4.082)	10 (4.536)	10.5 (4.763)	2 (.907)	2 (.907)	2 (.907)
HJD	11.25 (5.103)	12.5 (5.670)	13.25 (6.010)	9 (4.082)	10 (4.536)	10.5 (4.763)	2 (.907)	2 (.907)	2 (.907)
JDC	12.25 (5.557)	13.5 (6.124)	14.25 (6.470)	10 (4.536)	11 (4.990)	11.5 (5.217)	2 (.907)	2 (.907)	2 (.907)

INTERRUPTING CAPACITY RATINGS

UL489 Interrupting Capacity Ratings

Circuit Breaker Type	Number of Poles	Interrupting Capacity (Symmetrical Amperes)					
		Volts Ac (50/60Hz)				Volts Dc	
		240	480	600	125	250 ^{①②}	500 ^③
JDB	2,3	65,000	35,000	18,000	.....	10,000	.....
JD	2,3,4	65,000	35,000	18,000	.....	10,000	.....
HJD	2,3,4	100,000	65,000	25,000	.....	22,000	.....
JDC	2,3,4	200,000	100,000	35,000	.....	22,000	.....
HJDDC	3 ^④	.....	.....	.....	.....	42,000 ^⑤	35,000 ^④

IEC 157-1 (P1) Interrupting Capacity Ratings

Circuit Breaker Type	Number of Poles	Interrupting Capacity (Symmetrical Amperes)							
		Volts Ac (50/60Hz)							Volts Dc
		240	380	415	440	500	600	125	
JD	2,3,4	65,000	35,000	35,000	25,000	20,000	.....	.....	10,000
HJD	2,3,4	100,000	65,000	65,000	65,000	42,000	.....	.....	22,000
JDC	2,3,4	200,000	100,000	100,000	100,000	65,000	.....	.....	22,000

Conformance with these standards satisfies most local and international codes, assuming user acceptability and simplified application.

Series C molded case circuit breakers equal or exceed Federal Specification Classification W-C-375b requirements for the particular class associated with the circuit breaker frame being considered.

- ① 2-pole circuit breaker or two outside poles of 3-pole circuit breaker.
 ② Time constant is 3 milliseconds minimum at 10kA and 8 milliseconds minimum at 22kA.
 ③ 8 milliseconds time constant.
 ④ 3 poles in series.
 ⑤ 2 poles in series.



Series C Molded Case Circuit Breakers, J-Frame, 70-250 Amperes

CATALOG NUMBERING SYSTEMS

This information is presented only as an aid to understanding catalog numbers. It is not to be used to build catalog numbers for circuit breakers or trip units.

Circuit Breaker/Frame Catalog Numbers

JD	3	250	F
Circuit Breaker/Frame Type	Number of Poles	Circuit Breaker/Frame Ampere Rating	Suffix
JDB	2: 2 Poles	70	C: Non-Aluminum Terminals
JD	3: 3 Poles	90	F: Frame Only
HJD	4: 4 Poles	100	K: High Magnetic Molded Case Switch
JDC		125	V: 50°C Calibration
HJDDC		150	W: Without Terminals
		175	X: Load Side Terminals Only
		200	Y: Line Side Terminals Only
		225	
		250	

Trip Unit Catalog Numbers

JT	3	250	T
Trip Unit Type	Number of Poles	Trip Unit/Plug Ampere Rating	Suffix
JT: Thermal-Magnetic	2	70	T: Trip Unit
	3	90	Thermal-Magnetic
		100	Fixed Thermal
		125	Adj. Magnetic
		150	V: 50°C Calibration
		175	
		200	
		225	
		250	

J-frame circuit breakers are available as individual components (Frame, Trip Unit, Terminals), or factory assembled complete breakers.

Further Information	
Technical Data	TD 29-160
Dimensions	DS 29-170J
Time/Current Curves	AD 29-167J
Instantaneous Only Circuit Breakers (Motor Circuit Protector)	SD 29-120H

Cutler-Hammer

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Westinghouse Series C[®] J-Frame Termination Accessories

LINE AND LOAD TERMINALS

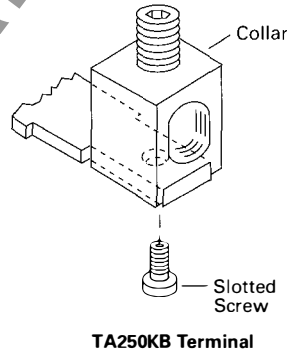
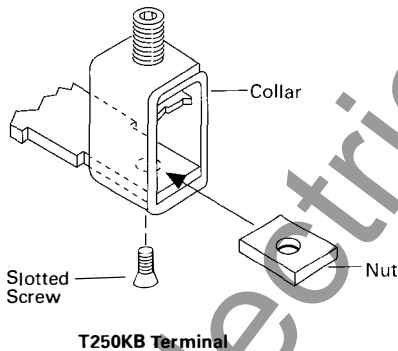
Line and load terminals provide wire connecting capabilities for specific ranges of continuous current ranges and wire types. All terminals comply with Underwriters Laboratories Inc. Standard UL486A and UL486B and CSA Standard C22.2 No. 65, or Electrical Bulletin 1165. Unless otherwise specified, J-frame circuit breaker line and load terminals are shipped separately for field installation.

The bottom of the standard TA250KB terminal contains a recess which is positioned over the J-frame circuit breaker terminal conductor.

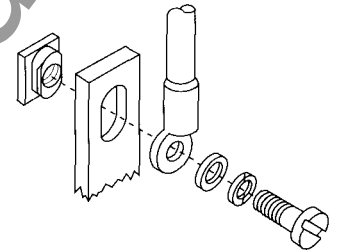
Ordering Information
J-frame circuit breakers use Cu/Al terminals as standard. When optional copper-only terminals are required, order by catalog number. Specify if factory installation is required.

Line and Load Terminal

Maximum Breaker Amps	Terminal Body Material	Wire Type	AWG Wire Range/No. Conductors	Metric Wire Range mm ²	CATALOG NUMBERS
Standard Cu/Al Pressure Terminals					
250	Aluminum	Cu/Al	#4-350 MCM	25-185	TA250KB
250	Stainless Steel	Cu	#4-350 MCM	25-185	T250KB



PLUG NUT

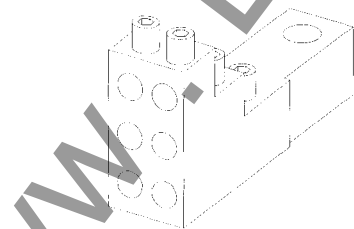


The plug nut is used in applications where screw-connected ring-type terminals are preferred to connect cables to circuit breaker conductors. The plug nut is press-fit into the opening in the circuit breaker terminal conductor. Screws and washers are supplied by customer.

Ordering Information
Plug nuts are available for line/load conductors of J-frame Series C circuit breakers. Plug nuts are supplied in packages of 6.

Thread Type	Thread Size	CATALOG NUMBERS Package of 6
Imperial	.250-20	PLN2
Metric	M-6	PLN2M

MULTI WIRE CONNECTORS



Field-installed multi wire connectors for the load side (OFF) end terminals. They are used to distribute the load from the circuit breaker to multiple devices without the use of separate distribution terminal blocks.

Multi Wire Lug Kits include mounting hardware, insulators and tin-plated aluminum connectors to replace three mechanical load lugs. UL listed for copper only as used on the load side (OFF) end.

Ordering Information
Package of 3.

Maximum Amperes	KIT CATALOG NUMBERS	Wires Per Terminal	Wire Size Range AWG Cu	Pressure Screw Torque (lb/in)
225	3TA250J3K	3	#14-2	70
225	3TA250J6K	6	#14-6	25

CONTROL WIRE TERMINAL KIT



For use with TA250KB terminals only.

Ordering Information
Package of 12. Priced individually.

CATALOG NUMBER
KCWTK



Westinghouse Series C J-Frame Termination Accessories

BASE MOUNTING HARDWARE

Hardware for surface mounting of circuit breakers is supplied only on request. Hardware consists of mounting screws and lockwashers. Order hardware for circuit breaker pole configurations as required.

Ordering Information

Base mounting hardware is supplied at no charge when ordered with a circuit breaker. When ordering separately, refer to price list.

Imperial Thread

Number of Poles	Description	Type of Mounting	STYLE NUMBER
2, 3, 4	0.250-20 x 2.75 inch Pan-Head Steel Screws and Lockwashers	Individual	4218B80G03

Metric Thread

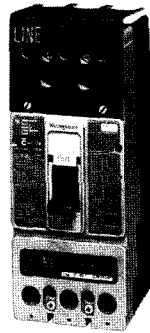
Number of Poles	Description	Type of Mounting	STYLE NUMBER
2, 3, 4	M6 - 0.7 x 70mm Pan-Head Steel Screws and Lockwashers	Individual	4218B80G13

HANDLE EXTENSION

Not included with breaker. Must be purchased separately.

CATALOG NUMBER
HEX3

TERMINAL SHIELDS



Terminal shields provide protection against accidental contact with live line side terminations. Terminal shields are fabricated from high dielectric insulating material and fasten over the front terminal access openings. Small openings in the shields provide limited access to the terminals for tightening connectors. (Field installation only.)

Ordering Information

The terminal shield is available for line and load terminal areas in 2-, 3-, and 4-pole circuit breakers. Terminal shields must be ordered in multiples of 10 (for each style number).

Location	No. of Poles	STYLE NUMBERS
Line End	2, 3	1266C07G01
	4	6631C01G01
Load End	2, 3	6641C16G01
	4	6641C16G02

INTERPHASE BARRIERS



The interphase barriers provide additional electrical clearance between circuit breaker poles for special termination applications. The barriers are high dielectric insulating plates that are installed in the molded slots between the terminals. (Field installation only.)

Ordering Information

CATALOG NUMBER
IPB3 (package of 3)

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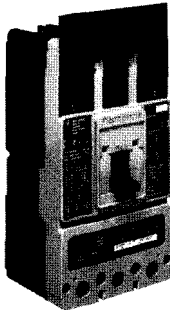
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Westinghouse Series C® K-Frame Termination Accessories

TERMINAL SHIELDS

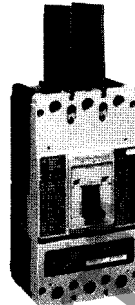


Terminal shields provide protection against accidental contact with live line side terminations. Terminal shields are fabricated from high dielectric insulating material and fasten over the front terminal access openings. Small openings in the shields provide limited access to the terminals for tightening connectors. (Field installation only.) Package of 10.

Ordering Information

CATALOG NUMBERS
TS33LN for use on 2- and 3-pole line side
TS34LN for use on 4-pole line side
TS33LD for use on 3-pole load side

INTERPHASE BARRIERS



The interphase barriers provide additional electrical clearance between circuit breaker poles for special termination applications. The barriers are high dielectric insulating plates that are installed in the molded slots between the terminals. (Field installation only.) Package of 2.

Ordering Information

CATALOG NUMBER
IPB3

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Westinghouse Series C K-Frame Termination Accessories

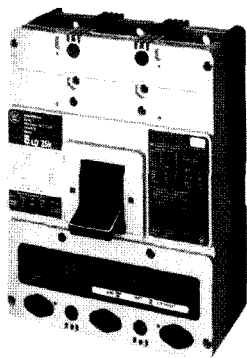
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Cutler-Hammer
Westinghouse &
Cutler-Hammer Products
Five Parkway Center
Pittsburgh, Pennsylvania, U.S.A. 15220



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 31-500A

Westinghouse Series C[®] Molded Case Circuit Breakers L-Frame 70-600 Amperes



Dimensions, Inches (mm)

No. of Poles	Width	Height	Depth
2, 3	8.25 (210)	10.75 (274)	4.062 (103)
4	11 (279)	10.75 (274)	4.062 (103)

STANDARDS

Series C molded case circuit breakers are designed to conform with the following standards:

- Australian Standard AS 2184, Molded Case Circuit Breakers
- British Standards Institution Standard BS 4752: Part 1, Switchgear and Control Gear Part 1: Circuit Breakers
- Canadian Standards Association Standard C22.2 No. 5, Service Entrance and Branch Circuit Breakers
- International Electrotechnical Commission Recommendations IEC 947-2, Circuit Breakers
- Japanese T-Mark Standard, Molded Case Circuit Breakers
- National Electrical Manufacturers Association Standards Publication No. AB1-1975, Molded Case Circuit Breakers
- South African Bureau of Standards, Standard SABS 156, Standard Specification for Molded Case Circuit Breakers
- Swiss Electro-Technical Association Standard SEV 947-2, Safety Regulations for Circuit Breakers
- Underwriters Laboratories, Inc., Standard UL489, Molded Case Circuit Breakers and Circuit Breaker Enclosures, including Marine Circuit Breakers File E7819
- Union Technique de l'Electricite Standard NF C 63-120, Low Voltage Switchgear and Control Gear Circuit Breaker Requirements
- Verband Deutscher Elektrotechniker (Association of German Electrical Engineers) Standard VDE 0660, Low Voltage Switchgear and Control Gear, Circuit Breakers

Approximate Shipping Weight, Lbs. (kg)

Breaker Type	Complete Breaker			Frame Only			Trip Unit		
	Number of Poles								
	2	3	4	2	3	4	2	3	4
LD, HLD, LDC	15 (6.804)	16 (7.258)	25 (11.340)	12 (5.443)	12 (5.443)	20 (9.072)	3 (1.361)	4 (1.814)	5 (2.268)
LDB	15 (6.804)	16 (7.258)	25 (11.340)	...	...	...	...	...	...

INTERRUPTING CAPACITY RATINGS

UL489 Interrupting Capacity Ratings^①

Circuit Breaker Type	Number of Poles	Interrupting Capacity — RMS Symmetrical Amperes (kA)						
		Volts Ac (50/60Hz)					Volts Dc	
		240	277	480	600	125	250 ^{②③}	500
LDB	2, 3	65	...	35	25	...	22	...
LD, CLD	2, 3, 4	65	...	35	25	...	22	...
HLD, CHLD ^④	2, 3, 4	100	...	65	35	...	25	...
LDC, CLDC ^④	2, 3, 4	200	...	100	50	...	30	...
HLDDC ^④	3	...	...	...	...	...	...	35

IEC 947-2 Interrupting Capacity Ratings^①

Circuit Breaker Type	Number of Poles		Interrupting Capacity (Symmetrical Amperes) (kA)			
			Volts Ac (50/60 Hz)			Volts Dc
			240	415	690	250 ^{②③}
LDB	2, 3	I _{cu}	85	40	20	20
		I _{cs}	85	20	10	10
LD, CLD ^④	2, 3, 4	I _{cu}	85	40	20	20
		I _{cs}	85	20	10	10
HLD, CHLD ^④	2, 3, 4	I _{cu}	100	65	25	20
		I _{cs}	100	33	13	10
LDC, CLDC ^④	2, 3, 4	I _{cu}	200	100	35	20
		I _{cs}	100	50	18	10

① Utilization category A circuit breakers.

② L/R=8 milliseconds minimum.

③ 2-pole circuit breaker or two poles of 3-pole circuit breaker. Incorporating Thermal-Magnetic trip unit only.

④ 100% rated breakers.

Conformance with these standards satisfies most local and international codes, assuming user acceptability and simplified application.

Series C molded case circuit breakers equal or exceed Federal Specification Classification W-C-375b requirements for the particular class associated with the circuit breaker frame being considered.



Westinghouse Series C Molded Case Circuit Breakers, L-Frame, 70-600 Amperes

CATALOG NUMBERING SYSTEMS

This information is presented only as an aid to understanding catalog numbers. It is not to be used to build catalog numbers for circuit breakers or trip units.

Circuit Breaker/Frame Catalog Numbers

LD	3	600	F
Circuit Breaker/Frame Type	Number of Poles	Circuit Breaker/Frame Ampere Rating	Suffix
LDB	2: 2 Poles	300	C: Copper Terminals
LD	3: 3 Poles	350	F: Frame Only
HLD	4: 4 Poles	400	K: High Magnetic Molded Case Switch
LDC		450	V: 50°C (Thermal-Magnetic Trip Units Only)
CLD		500	W: Without Terminals
CHLD		600	X: Load Side Terminals Only
CLDC			Y: Line Side Terminals Only
HLDDC			

OPTIM Circuit Breaker Catalog Numbers

LD	3	125	T77	LS	W
Circuit Breaker Type	Number of Poles	Circuit Breaker Ampere Rating	Trip Type	Suffix	Suffix
LD	3: 3 Poles	125	T77	LSIA	W: Without Terminals
HLD		250	T76	LSIG	
LDC		400	T107	LSIA	
CLD		600	T106	LSIG	
CHLD					
CLDC					

Thermal-Magnetic Trip Unit Catalog Numbers

LT	3	400	T
Trip Unit Type	Number of Poles	Trip Unit/Plug Ampere Rating	Suffix
LT: Thermal-Magnetic	2: 2 Poles	300	T: Trip Unit
	3: 3 Poles	350	Thermal-Magnetic
	4: 4 Poles	400	Fixed Thermal
		450	Adjustable Magnetic
		500	V: 50°C Calibration
		600	(Thermal-Magnetic Trip Units Only)

Digitrip RMS 310 Trip Unit Catalog Numbers

LES	3	600	LS	P
Trip Unit Type	Number of Poles	Trip Unit Ampere Rating	Suffix	Suffix
LES: Electronic	3: 3 Poles	600	LS	P: 100% Protected
	4: 4 Poles		LSI	Neutral on
			LSG	4-Pole Trip Unit
			LSIG	

L-frame circuit breakers are available as individual components (Frame, Trip Unit, Terminals), or factory assembled complete breakers. OPTIM circuit breakers are available as factory assembled only.

Further Information

Instantaneous Only Circuit Breakers (Motor Circuit Protector)	SD 29-120H
Application Data	AD 29-160
Time/Current Curves	AD 29-167L
Dimensions	DS 29-170L

Cutler-Hammer

Westinghouse & Cutler-Hammer Products
 Five Parkway Center
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Westinghouse Series C[®] Molded Case Circuit Breakers L-Frame 70-600 Amperes

L-FRAME DIGITRIP SELECTION GUIDE

Trip Unit Type	Digitrip RMS 310		Digitrip OPTIM 750	Digitrip OPTIM 1050
RMS Sensing	Yes		Yes	Yes
Breaker Type				
Frame	L		L	L
Ampere Range	300A-600A		70A-600A	70A-600A
Interrupting Rating @ 480V	35, 65, 100 (kA)		35, 65, 100 (kA)	35, 65, 100 (kA)
Protection				
Ordering Options	LS, LSG	LSI, LSIG	LSI(A), LSIG	LSI(A), LISG
Fixed Rated Plug (I_n)	Yes	Yes	Yes	Yes
Over Temperature Trip	Yes	Yes	Yes	Yes
Long Delay Protection (L)				
Adjustable Rating Plug (I_n)	Yes	Yes	No	No
Long Delay Pickup	0.5-1.0(I_n) ^①	0.5-1.0(I_n) ^①	0.4-1.0 x (I_n)	0.4-1.0 x (I_n)
Long Delay Time I^2T	12 Secs.	12 Secs.	2-24 Secs.	2-24 Secs.
Long Delay Time I^4T	No	No	1-5 Secs.	1-5 Secs.
Long Delay Thermal Memory	Yes	Yes	Yes	Yes
High Load Alarm	No	No	0.5-1.0 x I_r	0.5-1.0 x I_r
Short Delay Protection (S)				
Short Delay Pickup	0-800% x (I_n)	200-800% x (I_n)	150-800% x (I_r)	150-800% x (I_r)
Short Delay Time I^2T	100ms	No	100-500ms	100-500ms
Short Delay Time Flat	No	Inst-300ms	100-500ms	100-500ms
Short Delay Time Zone Selective Interlocking	No	No	Yes	Yes
Instantaneous Protection (I)				
Instantaneous Pickup	No	200-800% x (I_n)	200-800% x (I_n)	200-800% x (I_n)
Discriminator	No	No	Yes	Yes
Instantaneous Override	Yes	Yes	Yes	Yes
Ground Fault Protection (G)				
Ground Fault Alarm	No	No	20-100% x (I_g)	20-100% x (I_g)
Ground Fault Pickup	Varies by Frame	Varies by Frame	20-100% x (I_g)	20-100% x (I_g)
Ground Fault Delay I^2T	No	No	100-500ms	100-500ms
Ground Fault Delay Flat	Inst-500ms	Inst-500ms	100-500ms	100-500ms
Ground Fault Zone Selective Interlocking	No	No	Yes	Yes
Ground Fault Thermal Memory	Yes	Yes	Yes	Yes
System Diagnostics				
Cause of Trip LEDs	No	No	Yes	Yes
Magnitude of Trip Information	No	No	Yes	Yes
Remote Signal Contacts	No	No	Yes	Yes
System Monitoring				
Digital Display	No	No	Yes ^②	Yes ^②
Current	No	No	Yes	Yes
Power and Energy	No	No	No	Yes
Power Quality-Harmonics	No	No	No	Yes
Power Factor	No	No	No	Yes
Communications				
IMPACC	No	No	Yes	Yes
Testing				
Testing Method	Test Set		Optimizer, BIM, IMPACC	Optimizer, BIM, IMPACC

① Adjust by Rating Plug.
 ② By Optimizer/BIM.

BIM = Breaker Interface Module
 (A) = GF Alarm

I_g = Sensor Rating
 I_n = Rating Plug
 I_r = Long Delay Pickup Setting

Selection Data

29-120L

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Westinghouse Series C Molded Case Circuit Breakers, L-Frame, 70-600 Amperes

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Series C[®] Molded Case Circuit Breakers L-Frame 70-600 Amperes

THERMAL-MAGNETIC CIRCUIT BREAKERS WITH INTERCHANGEABLE TRIP UNITS

Maximum Continuous Ampere Rating @ 40°C	Standard Interrupting Capacity		High Interrupting Capacity		Ultra High Interrupting Capacity		Thermal-Magnetic Trip Unit Only	Standard Terminals Only
	600 Vac Rated 35 kAIC @ 480 Vac	Frame Only	600 Vac Rated 65 kAIC @ 480 Vac	Frame Only	600 Vac Rated 100 kAIC @ 480 Vac	Frame Only		
	Factory Assembled Circuit Breaker Consisting of Frame, Trip Unit, and Terminals		Factory Assembled Circuit Breaker Consisting of Frame, Trip Unit, and Terminals		Factory Assembled Circuit Breaker Consisting of Frame, Trip Unit, and Terminals		For Use With: Standard or High or Ultra High Interrupting Frames Magnetic Trip Range is 5-10 x Continuous Ampere Rating	See Page 9 for Optional Terminals
CATALOG NUMBER								
2-Pole								
300	LD2300	LD2600F	HLD2300	HLD2600F	LDC2300	LDC2600F	LT2300T	TA602LD ^①
350	LD2350		HLD2350		LDC2350		LT2350T	TA602LD ^①
400	LD2400		HLD2400		LDC2400		LT2400T	TA602LD ^①
450	LD2450		HLD2450		LDC2450		LT2450T	TA602LD ^①
500	LD2500		HLD2500		LDC2500		LT2500T	TA602LD ^①
600	LD2600		HLD2600		LDC2600		LT2600T	2TA603LDK ^②
3-Pole								
300	LD3300	LD3600F	HLD3300	HLD3600F	LDC3300	LDC3600F	LT3300T	TA602LD ^①
350	LD3350		HLD3350		LDC3350		LT3350T	TA602LD ^①
400	LD3400		HLD3400		LDC3400		LT3400T	TA602LD ^①
450	LD3450		HLD3450		LDC3450		LT3450T	TA602LD ^①
500	LD3500		HLD3500		LDC3500		LT3500T	TA602LD ^①
600	LD3600		HLD3600		LDC3600		LT3600T	3TA603LDK ^②
4-Pole^③								
300	LD4300	LD4600F	HLD4300	HLD4600F	LDC4300	LDC4600F	LT4300T	TA602LD ^①
350	LD4350		HLD4350		LDC4350		LT4350T	TA602LD ^①
400	LD4400		HLD4400		LDC4400		LT4400T	TA602LD ^①
450	LD4450		HLD4450		LDC4450		LT4450T	TA602LD ^①
500	LD4500		HLD4500		LDC4500		LT4500T	TA602LD ^①
600	LD4600		HLD4600		LDC4600		LT4600T	4TA603LDK ^②

^① Individually packed.

^② 2TA603LDK, 3TA603LDK, and 4TA603LDK terminal kits contain one terminal for each pole and one terminal cover.

^③ Neutral is in right pole.



Series C Molded Case Circuit Breakers, L-Frame, 70-600 Amperes

ELECTRONIC CIRCUIT BREAKERS WITH INTERCHANGEABLE TYPE LES DIGITRIP UNITS

Order as individual components: Breaker Frame, Trip Unit, Rating Plug, Terminals

Max. Continuous Ampere Rating @ 40°C ^①	Circuit Breaker Frame Only			Digitrip RMS 310 Trip Unit Only ^②				Digitrip RMS 310 Rating Plug Only			Standard Terminals Only
	Standard Interrupting Capacity	High Interrupting Capacity	Ultra High Interrupting Capacity	L - Adjustable Long Delay Pickup (By Adjustable Rating Plug)	S - Adjustable Short Delay Pickup With Fixed Short Delay Time (I ² t Response) or Adjustable Short Delay Time (Flat Response)			Ampere Rating	Fixed Rating Plugs	Adjustable Rating Plugs	See Page 9 for Optional Terminals
	600 Vac Rated 35 kAIC @ 480 Vac	600 Vac Rated 65 kAIC @ 480 Vac	600 Vac Rated 100 kAIC @ 480 Vac	I - Adjustable Instantaneous Pickup by Setting Short Delay Time to Instantaneous	G - Adjustable Ground Fault Pickup With Adjustable Ground Fault Delay (Flat Response)					Ampere Rating Catalog Number	
CATALOG NUMBER											
3-Pole^③											
600	LD3600F	HLD3600F	LDC3600F	LES3600LS	LES3600LSI	LES3600LSG	LES3600LSIG	300 350 400 500 600	6LES300T 6LES350T 6LES400T 6LES500T 6LES600T	300/400/500/600 A6LES600T1	TA602LD ^④ TA602LD ^④ TA602LD ^④ TA602LD ^④ 3TA603LDK ^⑤
4-Pole^⑥											
600	LD4600F	HLD4600F	LDC4600F	LES4600LS	LES4600LSI	.....	.....	300 350 400 500 600	6LES300T 6LES350T 6LES400T 6LES500T 6LES600T	300/400/500/600 A6LES600T1	TA602LD ^④ TA602LD ^④ TA602LD ^④ TA602LD ^④ 4TA603LDK ^⑤

100% RATED 600 VOLT AC ELECTRONIC CIRCUIT BREAKERS

The NEC allows the breaker to be rated at 100% of its frame size in an assembly, provided that 90°C wire is applied at the 75°C ampacity.

All 100% rated circuit breakers have electronic trip units. Order as individual components: breaker frame, trip unit, rating plug and terminals

Max. Continuous Ampere Rating @ 40°C	Circuit Breaker Frame Only			Digitrip RMS 310 Trip Unit Only				Digitrip RMS 310 Rating Plug Only			Standard Terminals Only
	Standard Interrupting Capacity	High Interrupting Capacity	Ultra High Interrupting Capacity	Standard	Options			Ampere Rating	Fixed Rating Plugs	Adjustable Rating Plugs	See Page 9 for Optional Terminals
	35 kAIC @ 480 Vac	65 kAIC @ 480 Vac	100 kAIC @ 480 Vac	Adjustable Short Time Delay with I ² t Short Delay Ramp	Independently Adjustable Short Time Pickup and Delay	Adjustable Short Time Pickup with I ² t Short Delay and Ground Fault Protection	Independently Adjustable Short Time Pickup and Delay and Ground Fault Protection			Ampere Rating Catalog Number	
CATALOG NUMBER											
3-Pole											
600	CLD3600F	CHLD3600F	CLDC3600F	LES3600LS	LES3600LSI	LES3600LSG	LES3600LSIG	300 350 400 500 600	6LES300T 6LES350T 6LES400T 6LES500T 6LES600T	300/400/500/600 A6LES600T1	TA602LD ^④ TA602LD ^④ TA602LD ^④ TA602LD ^④ 3TA603LDK ^⑤

① Ampere rating is established by rating plug.

② For ac use only.

③ 3-pole LES Trip Units are for use in 3-pole frames only.

④ Individually packed.

⑤ 3TA603LDK and 4TA603LDK terminal kits contain one terminal for each pole and one terminal cover.

⑥ Trip unit includes unprotected right neutral pole. For 100% protected right pole neutral add "P" to catalog number, i.e., LES4600LSP.

Cutler-Hammer

Westinghouse & Cutler-Hammer Products
Five Parkway Center
Pittsburgh, Pennsylvania, U.S.A. 15220



March 1996
 Supersedes Selection Data 29-120L,
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 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

Series C[®] Molded Case Circuit Breakers L-Frame 70-600 Amperes

FACTORY SEALED CIRCUIT BREAKERS WITH NON-INTERCHANGEABLE THERMAL-MAGNETIC TRIP UNITS SUITABLE FOR REVERSE FEED USE

Maximum Continuous Ampere Rating	600 Vac Rated, 250 Vdc	
	Complete Circuit Breaker	
	Without Line and Load Terminals	With Standard Line and Load Terminals
	CATALOG NUMBER	
2-Pole		
300	LDB2300W	LDB2300
350	LDB2350W	LDB2350
400	LDB2400W	LDB2400
450	LDB2450W	LDB2450
500	LDB2500W	LDB2500
600	LDB2600W	LDB2600
3-Pole		
300	LDB3300W	LDB3300
350	LDB3350W	LDB3350
400	LDB3400W	LDB3400
450	LDB3450W	LDB3450
500	LDB3500W	LDB3500
600	LDB3600W	LDB3600

SOLID-STATE (ELECTRONIC) PORTABLE TEST KIT

The solid-state (electronic) portable test kit provides verification of performance of all ratings of Digitrip 310 electronic trip units installed in Series C circuit breakers while in service under varying load and/or phase imbalance. The test kit operates on 120-volt, 50/60 Hz power; it includes complete instructions and test times for testing long time, short time/instantaneous operation and optional ground fault operation of the circuit breaker.

Ordering Information

CATALOG NUMBER
STK2



Series C Molded Case Circuit Breakers, L-Frame, 70-600 Amperes

MOLDED CASE SWITCHES

Molded case switches are used as compact switches in applications requiring high current switching capabilities. Molded case switches are constructed of circuit breaker components and are of the high instantaneous automatic type.^① Molded case switches are listed in accordance with Underwriters Laboratories, Inc., Standard UL1087.

Maximum Continuous Ampere Rating @ 40°C	600 Vac Maximum, 250 Vdc Circuit Breaker Only Without Line and Load Terminals CATALOG NUMBER	Standard Terminals Only See Page 9 for Optional Terminals
2-Pole		
600	LD2600WK	2TA603LDK ^②
3-Pole		
600	LD3600WK	3TA603LDK ^②
4-Pole		
600	LD4600WK	4TA603LDK ^②

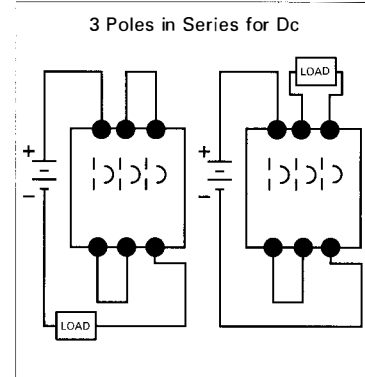
CIRCUIT BREAKERS FOR DC APPLICATIONS

These UL listed Dc Molded Case Circuit Breakers are for use in the ungrounded battery supply circuits of UPS systems providing continuous, reliable ac power to computer controlled applications such as financial transactions and telecommunications.

Order as individual components: Breaker Frame, Trip Unit, Rating Plug, Terminals

Maximum Continuous Ampere Rating @ 40°C	Circuit Breaker Frame Only ^③ High Interrupting Capacity 35 kAIC @ 500 Vdc CATALOG NUMBER	Thermal-Magnetic Trip Unit Only	Standard Terminals Only See Page 9 for Optional Terminals
3-Pole			
300	HLDDC3600F	LT3300T	TA602LD ^④
350		LT3350T	TA602LD ^④
400		LT3400T	TA602LD ^④
450		LT3450T	TA602LD ^④
500		LT3500T	TA602LD ^④
600		LT3600T	3TA603LDK ^②

Series Connection Diagrams



① Set and sealed at 6000 Amperes.
 ② 2TA603LDK, 3TA603LDK, and 4TA603LDK terminal kits contain one terminal for each pole and one terminal cover.
 ③ For use with thermal-magnetic trip units only.
 ④ Individually packed.

Cutler-Hammer

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 Pittsburgh, Pennsylvania, U.S.A. 15220



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Series C[®] Molded Case Circuit Breakers L-Frame 70-600 Amperes

600 VOLT AC DIGITRIP OPTIM^① ELECTRONIC CIRCUIT BREAKER WITH INTERCHANGEABLE RATING PLUG

Order as individual components: Breaker Frame (which includes Trip Unit), Rating Plug and Terminals.

Maximum Continuous Ampere Rating @ 40°C	Circuit Breaker Frame Only				Digitrip OPTIM Rating Plug Only	
	Standard Interrupting Capacity 600-Volt Ac Rated 35 kAIC @ 480 Vac				Ampere Rating	Fixed Rating Plugs
	L-Adjustable Long Delay Pickup (I _L) With Adjustable Long Delay Time (I ² t or I ⁴ t Response) ^②					
	S-Adjustable Short Delay Pickup With Adjustable Short Delay Time (I ² t or Flat Response)					
I-Adjustable Instantaneous Pickup						
G-Adjustable Ground Fault Pickup With Adjustable Ground Fault Time Delay (I ² t or Flat Response)						
A-Adjustable Ground Fault Alarm With Adjustable Ground Fault Time Delay (I ² t or Flat Response)						
LSIA 750	LSIG 750	LSIA 1050	LSIG 1050			
CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER		CATALOG NUMBER	
3-Pole						
125A	LD3125T77W	LD3125T76W	LD3125T107W	LD3125T106W	70 90 100 110 125	ORPL125A070 ORPL125A090 ORPL125A100 ORPL125A110 ORPL125A125
250A	LD3250T77W	LD3250T76W	LD3250T107W	LD3250T106W	125 150 175 200 225 250	ORPL025A125 ORPL025A150 ORPL025A175 ORPL025A200 ORPL025A225 ORPL025A250
400A	LD3400T77W	LD3400T76W	LD3400T107W	LD3400T106W	200 225 250 300 350 400	ORPL40A200 ORPL40A225 ORPL40A250 ORPL40A300 ORPL40A350 ORPL40A400
600A	LD3600T77W	LD3600T76W	LD3600T107W	LD3600T106W	300 350 400 500 600	ORPL60A300 ORPL60A350 ORPL60A400 ORPL60A500 ORPL60A600

^① 1A/1B auxiliary switch and 1 Make/1 Break alarm switch supplied with breaker as standard.

^② Long delay I⁴t response selection limits short delay time to flat response.



Series C Molded Case Circuit Breakers, L-Frame, 70-600 Amperes

600 VOLT AC DIGITRIP OPTIM^① ELECTRONIC CIRCUIT BREAKER WITH INTERCHANGEABLE RATING PLUG

Order as individual components: Breaker Frame (which includes Trip Unit), Rating Plug and Terminals

Maximum Continuous Ampere Rating @ 40°C	Circuit Breaker Frame Only				Digitrip OPTIM Rating Plug Only	
	High Interrupting Capacity 600-Volt Ac Rated 65 kAIC @ 480 Vac				Ampere Rating	Fixed Rating Plugs
	L-Adjustable Long Delay Pickup (I _L) With Adjustable Long Delay Time (I ² t or I ⁴ t Response) ^② S-Adjustable Short Delay Pickup With Adjustable Short Delay Time (I ² t or Flat Response) I-Adjustable Instantaneous Pickup G-Adjustable Ground Fault Pickup With Adjustable Ground Fault Time Delay (I ² t or Flat Response) A-Adjustable Ground Fault Alarm With Adjustable Ground Fault Time Delay (I ² t or Flat Response)					
LSIA 750	LSIG 750	LSIA 1050	LSIG 1050	CATALOG NUMBER	CATALOG NUMBER	
3-Pole						
125A	HLD3125T77W	HLD3125T76W	HLD3125T107W	HLD3125T106W	70 90 100 110 125	ORPL125A070 ORPL125A090 ORPL125A100 ORPL125A110 ORPL125A125
250A	HLD3250T77W	HLD3250T76W	HLD3250T107W	HLD3250T106W	125 150 175 200 225 250	ORPL025A125 ORPL025A150 ORPL025A175 ORPL025A200 ORPL025A225 ORPL025A250
400A	HLD3400T77W	HLD3400T76W	HLD3400T107W	HLD3400T106W	200 225 250 300 350 400	ORPL40A200 ORPL40A225 ORPL40A250 ORPL40A300 ORPL40A350 ORPL40A400
600A	HLD3600T77W	HLD3600T76W	HLD3600T107W	HLD3600T106W	300 350 400 500 600	ORPL60A300 ORPL60A350 ORPL60A400 ORPL60A500 ORPL60A600

① 1A/1B auxiliary switch and 1 Make/1 Break alarm switch supplied with breaker as standard.
 ② Long delay I⁴t response selection limits short delay time to flat response.

Cutler-Hammer

Westinghouse & Cutler-Hammer Products
 Five Parkway Center
 Pittsburgh, Pennsylvania, U.S.A. 15220



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 New Information
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 31-500A

Series C[®] Molded Case Circuit Breakers L-Frame 70-600 Amperes

600 VOLT AC DIGITRIP OPTIM^① ELECTRONIC CIRCUIT BREAKER WITH INTERCHANGEABLE RATING PLUG

Order as individual components: Breaker Frame (which includes Trip Unit), Rating Plug and Terminals

Maximum Continuous Ampere Rating @ 40°C	Circuit Breaker Frame Only				Digitrip OPTIM Rating Plug Only	
	Ultra High Interrupting Capacity 600-Volt Ac Rated 100 kAIC @ 480 Vac				Ampere Rating	Fixed Rating Plugs
	L-Adjustable Long Delay Pickup (I _L) With Adjustable Long Delay Time (I ² t or I ⁴ t Response) ^② S-Adjustable Short Delay Pickup With Adjustable Short Delay Time (I ² t or Flat Response) I-Adjustable Instantaneous Pickup G-Adjustable Ground Fault Pickup With Adjustable Ground Fault Time Delay (I ² t or Flat Response) A-Adjustable Ground Fault Alarm With Adjustable Ground Fault Time Delay (I ² t or Flat Response)					
LSIA 750	LSIG 750	LSIA 1050	LSIG 1050			
CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER		CATALOG NUMBER	
3-Pole						
125A	LDC3125T77W	LDC3125T76W	LDC3125T107W	LDC3125T106W	70 90 100 110 125	ORPL125A070 ORPL125A090 ORPL125A100 ORPL125A110 ORPL125A125
250A	LDC3250T77W	LDC3250T76W	LDC3250T107W	LDC3250T106W	125 150 175 200 225 250	ORPL025A125 ORPL025A150 ORPL025A175 ORPL025A200 ORPL025A225 ORPL025A250
400A	LDC3400T77W	LDC3400T76W	LDC3400T107W	LDC3400T106W	200 225 250 300 350 400	ORPL40A200 ORPL40A225 ORPL40A250 ORPL40A300 ORPL40A350 ORPL40A400
600A	LDC3600T77W	LDC3600T76W	LDC3600T107W	LDC3600T106W	300 350 400 500 600	ORPL60A300 ORPL60A350 ORPL60A400 ORPL60A500 ORPL60A600

^① 1A/1B auxiliary switch and 1 Make/1 Break alarm switch supplied with breaker as standard.

^② Long delay I⁴t response selection limits short delay time to flat response.



Series C Molded Case Circuit Breakers, L-Frame, 70-600 Amperes

100% RATED 600 VOLT AC DIGITRIP OPTIM[®] CIRCUIT BREAKERS WITH INTERCHANGEABLE RATING PLUG

Order as individual components: Breaker Frame (which includes Trip Unit), Rating Plug and Terminals

Maximum Continuous Ampere Rating @ 40°C	Circuit Breaker Frame Only				Digitrip OPTIM Rating Plug Only	
	Standard Interrupting Capacity 600-Volt Ac Rated 35 kAIC @ 480 Vac				Ampere Rating	Fixed Rating Plugs
	L-Adjustable Long Delay Pickup (I _L) With Adjustable Long Delay Time (I ² t or I ⁴ t Response) ^② S-Adjustable Short Delay Pickup With Adjustable Short Delay Time (I ² t or Flat Response) I-Adjustable Instantaneous Pickup G-Adjustable Ground Fault Pickup With Adjustable Ground Fault Time Delay (I ² t or Flat Response) A-Adjustable Ground Fault Alarm With Adjustable Ground Fault Time Delay (I ² t or Flat Response)					
LSIA 750	LSIG 750	LSIA 1050	LSIG 1050	CATALOG NUMBER		
CATALOG NUMBER						
3-Pole						
125A	CLD3125T77W	CLD3125T76W	CLD3125T107W	CLD3125T106W	70 90 100 110 125	ORPL125A070 ORPL125A090 ORPL125A100 ORPL125A110 ORPL125A125
250A	CLD3250T77W	CLD3250T76W	CLD3250T107W	CLD3250T106W	125 150 175 200 225 250	ORPL025A125 ORPL025A150 ORPL025A175 ORPL025A200 ORPL025A225 ORPL025A250
400A	CLD3400T77W	CLD3400T76W	CLD3400T107W	CLD3400T106W	200 225 250 300 350 400	ORPL40A200 ORPL40A225 ORPL40A250 ORPL40A300 ORPL40A350 ORPL40A400
600A	CLD3600T77W	CLD3600T76W	CLD3600T107W	CLD3600T106W	300 350 400 500 600	ORPL60A300 ORPL60A350 ORPL60A400 ORPL60A500 ORPL60A600

● 1A/1B auxiliary switch and 1 Make/1 Break alarm switch supplied with breaker as standard.

② Long delay I⁴t response selection limits short delay time to flat response.

Cutler-Hammer

Westinghouse & Cutler-Hammer Products
Five Parkway Center
Pittsburgh, Pennsylvania, U.S.A. 15220



March 1996
 New Information
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

Series C[®] Molded Case Circuit Breakers L-Frame 70-600 Amperes

100% RATED 600 VOLT AC DIGITRIP OPTIM[®] CIRCUIT BREAKERS WITH INTERCHANGEABLE RATING PLUG

Order as individual components: Breaker Frame (which includes Trip Unit), Rating Plug and Terminals

Maximum Continuous Ampere Rating @ 40°C	Circuit Breaker Frame Only				Digitrip OPTIM Rating Plug Only	
	High Interrupting Capacity 600-Volt Ac Rated 65 kAIC @ 480 Vac				Ampere Rating	Fixed Rating Plugs
	L-Adjustable Long Delay Pickup (I _l) With Adjustable Long Delay Time (I _l ^{2t} or I _l ^{1t} Response) ^② S-Adjustable Short Delay Pickup With Adjustable Short Delay Time (I _s ^{2t} or Flat Response) I-Adjustable Instantaneous Pickup G-Adjustable Ground Fault Pickup With Adjustable Ground Fault Time Delay (I _g ^{2t} or Flat Response) A-Adjustable Ground Fault Alarm With Adjustable Ground Fault Time Delay (I _a ^{2t} or Flat Response)					
LSIA 750	LSIG 750	LSIA 1050	LSIG 1050	CATALOG NUMBER		
	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	
3-Pole						
125A	CHLD3125T77W	CHLD3125T76W	CHLD3125T107W	CHLD3125T106W	70 90 100 110 125	ORPL125A070 ORPL125A090 ORPL125A100 ORPL125A110 ORPL125A125
250A	CHLD3250T77W	CHLD3250T76W	CHLD3250T107W	CHLD3250T106W	125 150 175 200 225 250	ORPL025A125 ORPL025A150 ORPL025A175 ORPL025A200 ORPL025A225 ORPL025A250
400A	CHLD3400T77W	CHLD3400T76W	CHLD3400T107W	CHLD3400T106W	200 225 250 300 350 400	ORPL40A200 ORPL40A225 ORPL40A250 ORPL40A300 ORPL40A350 ORPL40A400
600A	CHLD3600T77W	CHLD3600T76W	CHLD3600T107W	CHLD3600T106W	300 350 400 500 600	ORPL60A300 ORPL60A350 ORPL60A400 ORPL60A500 ORPL60A600

① 1A/1B auxiliary switch and 1 Make/1 Break alarm switch supplied with breaker as standard.

② Long delay I_l^{1t} response selection limits short delay time to flat response.



Series C Molded Case Circuit Breakers, L-Frame, 70-600 Amperes

100% RATED 600 VOLT AC DIGITRIP OPTIM^① CIRCUIT BREAKERS WITH INTERCHANGEABLE RATING PLUG

Order as individual components: Breaker Frame (which includes Trip Unit), Rating Plug and Terminals

Maximum Continuous Ampere Rating @ 40°C	Circuit Breaker Frame Only				Digitrip OPTIM Rating Plug Only	
	Ultra High Interrupting Capacity 600-Volt Ac Rated 100 kAIC @ 480 Vac				Ampere Rating	Fixed Rating Plugs
	L-Adjustable Long Delay Pickup (I _r) With Adjustable Long Delay Time (I ² t or I ⁴ t Response) ^② S-Adjustable Short Delay Pickup With Adjustable Short Delay Time (I ² t or Flat Response) I-Adjustable Instantaneous Pickup G-Adjustable Ground Fault Pickup With Adjustable Ground Fault Time Delay (I ² t or Flat Response) A-Adjustable Ground Fault Alarm With Adjustable Ground Fault Time Delay (I ² t or Flat Response)					
LSIA 750	LSIG 750	LSIA 1050	LSIG 1050	CATALOG NUMBER		
	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	
3-Pole						
125A	CLDC3125T77W	CLDC3125T76W	CLDC3125T107W	CLDC3125T106W	70 90 100 110 125	ORPL125A070 ORPL125A090 ORPL125A100 ORPL125A110 ORPL125A125
250A	CLDC3250T77W	CLDC3250T76W	CLDC3250T107W	CLDC3250T106W	125 150 175 200 225 250	ORPL025A125 ORPL025A150 ORPL025A175 ORPL025A200 ORPL025A225 ORPL025A250
400A	CLDC3400T77W	CLDC3400T76W	CLDC3400T107W	CLDC3400T106W	200 225 250 300 350 400	ORPL40A200 ORPL40A225 ORPL40A250 ORPL40A300 ORPL40A350 ORPL40A400
600A	CLDC3600T77W	CLDC3600T76W	CLDC3600T107W	CLDC3600T106W	300 350 400 500 600	ORPL60A300 ORPL60A350 ORPL60A400 ORPL60A500 ORPL60A600

① 1A/1B auxiliary switch and 1 Make/1 Break alarm switch supplied with breaker as standard.
② Long delay I⁴t response selection limits short delay time to flat response.

Cutler-Hammer

Westinghouse & Cutler-Hammer Products
Five Parkway Center
Pittsburgh, Pennsylvania, U.S.A. 15220



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31-500A

Series C[®] L-Frame Termination Accessories

LINE AND LOAD TERMINALS

Line and load terminals provide wire connecting capabilities for specific ranges of continuous current ratings and wire types. All terminals comply with Underwriters Laboratories, Inc. Standards UL486A and UL486B and CSA C22.2 No. 65M. Unless otherwise specified, L-frame circuit breaker line and load terminals are shipped separately for field installation.

The wire connecting terminal is secured with two pan-head, slotted screws and lock washers which can be checked for the correct torque loading or retightened from the front of the circuit breaker before installation of

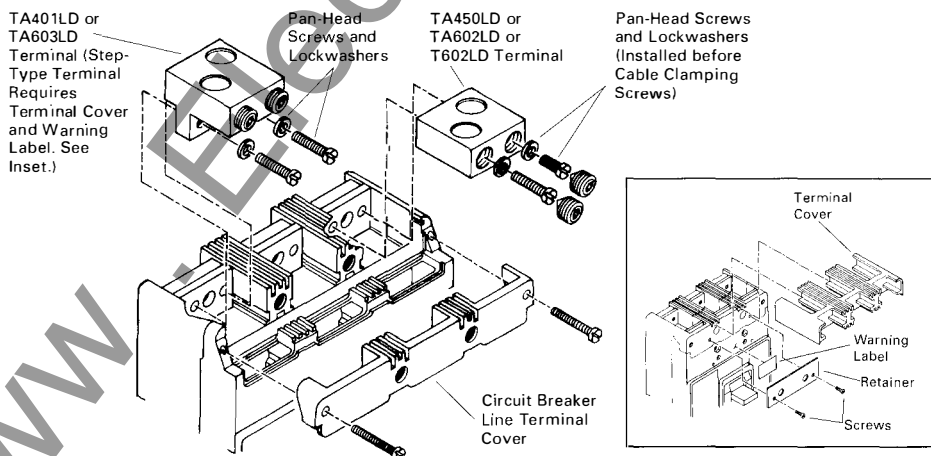
the conductors. (Applies to all styles.) The circuit breaker line/load terminal conductors are positioned in the conductor holes in the wire connecting terminal and are secured with recessed socket screws which are tightened to the correct torque loading from the front of the circuit breaker.

Ordering Information

L-frame circuit breakers have Cu/Al terminals as standard equipment. When optional copper terminals are required, order by catalog number. Specify if factory installation is required.

Line and Load Terminal

Maximum Breaker Amps	Terminal Body Material	Wire Type	AWG Wire Range/No. Conductors	Metric Wire Range mm ²	CATALOG NUMBERS
Standard Cu/Al Pressure Terminals					
250 OPTIM	Aluminum	Cu/Al	4-4/0 (2)	25-95	TA450LD ^②
400	Aluminum	Cu/Al	4/0-600 (1)	120-300	2TA401LDK-2 Pole Kit ^① 3TA401LDK-3 Pole Kit ^① 4TA401LDK-4 Pole Kit ^①
450	Aluminum	Cu/Al	4-4/0 (2)	25-95	TA450LD ^②
500	Aluminum	Cu/Al	250-350 (2)	120-150	TA602LD ^②
600	Aluminum	Cu/Al	400-500 (2)	185-240	2TA603LDK-2 Pole Kit ^① 3TA603LDK-3 Pole Kit ^① 4TA603LDK-4 Pole Kit ^①
Optional Copper Press Type Terminals					
600	Copper	Cu	250-350 (2)	120-150	T602LD ^②



① Terminal kits contain one terminal for each pole and one terminal cover.
② Individually packed.

KEEPER NUT

Not required on L-Frame. Terminal is threaded.

CONTROL WIRE TERMINAL KIT

CATALOG NUMBER	AWG Wire Range/No. Conductors	Metric Wire Range mm ²
TA602LDCW ^②	Al/Cu (2) 250 - 350 MCM	120-150
T602LDCW ^②	Cu (2) 250 - 350 MCM	120-150
2TA603LDCW ^① 2 Pole Kit	Al/Cu (2) 400 - 500 MCM	185-240
3TA603LDCW ^① 3 Pole Kit	Al/Cu (2) 400 - 500 MCM	185-240
4TA603LDCW ^① 4 Pole Kit	Al/Cu (2) 400 - 500 MCM	185-240



Series C L-Frame Termination Accessories

BASE MOUNTING HARDWARE

Hardware for surface mounting of circuit breakers is supplied only on request. Hardware consists of mounting screws and lockwashers. Order hardware for circuit breaker pole configurations as required.

Ordering Information

Base mounting hardware is supplied at no charge when ordered with a circuit breaker. When ordering separately, refer to price list.

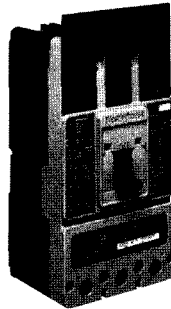
Imperial Thread

Number of Poles	Description	Type of Mounting	CATALOG NUMBER
2, 3, 4	0.250-20 x 1.5 inch Filister-Head Steel Screws and Lockwashers and Flat Washers	Individual	BMH4

Metric Thread

Number of Poles	Description	Type of Mounting	CATALOG NUMBER
2, 3		Individual	BMH4M

TERMINAL SHIELDS

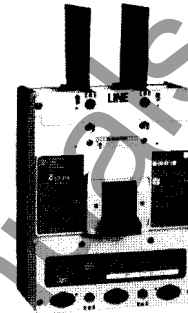


Terminal shields provide protection against accidental contact with live line side terminations. Terminal shields are fabricated from high dielectric insulating material and fasten over the front terminal access openings. Small openings in the shields provide limited access to the terminals for tightening connectors. (Field installation only.)

Ordering Information

STYLE NUMBER
314C420G01

INTERPHASE BARRIERS



The interphase barriers provide additional electrical clearance between circuit breaker poles for special termination applications. The barriers are high dielectric insulating plates that are installed in the molded slots between the terminals. (Field installation only.) Two per package.

Ordering Information

CATALOG NUMBER
IPB4

HANDLE EXTENSION



Not included with breaker. Must be purchased separately.

CATALOG NUMBER
HEX4

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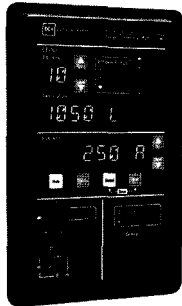
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March 1996
 New Information
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

Series C® L-Frame OPTIM System Components

BREAKER INTERFACE MODULE (BIM)

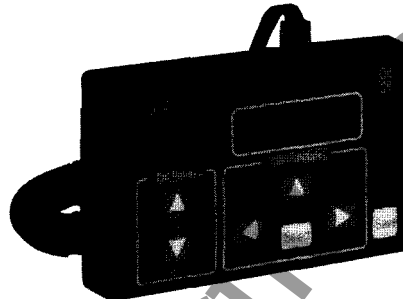


The Breaker Interface Module (BIM) is a panel mounted user interface device that is mounted on the front of an electrical assembly or at a remote location. The BIM is used to access, configure, test and display information for OPTIM trip units and other devices. The BIM consists of four display windows, eight function buttons, eighteen LED's and a graphical time/current curve to provide breaker status, operational information, protection status and energy monitoring. A 30 Vdc power supply is required to provide power to the BIM. This is supplied by the switchboard builder to Cutler-Hammer specifications. The BIM is a member of the IMPACC family of communicating devices that connects OPTIM trip units, Digitrip RMS 810/910 trip units and energy sentinels as a subnetwork system. The BIM can also be connected to a main network via a PONI module to IMPACC Series III software. For detailed information on the BIM refer to SA-12137.

Ordering Information

CATALOG NUMBER
BIM

DIGITRIP OPTIMIZER

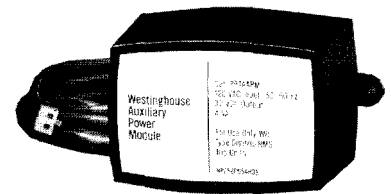


The Digitrip OPTIMizer is a hand held programmer that is used to access, configure, test and display information from OPTIM trip units. The OPTIMizer plugs into the front of an OPTIM trip unit via an eight-pin telephone jack and is powered by a nine-volt battery. In addition, a 3-pin Incom network connection is also provided to program other OPTIM devices on the system. An Auxiliary Power Module connection is provided to provide control power to perform a trip test when control power is not present at the breaker. The OPTIMizer is supplied as a standard package to include the programmer, the eight-pin connection cord, battery and carrying case. The network connection cord and Auxiliary Power Module are optional.

Ordering Information

CATALOG NUMBER
OPTIMIZER – Standard Package
ICC – Incom Connection Cord

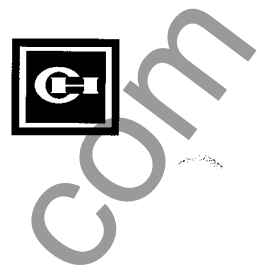
AUXILIARY POWER MODULE



The Auxiliary Power Module is a power supply requiring 120 Vac input at 50 or 60 Hz that provides a 32 Vdc output. The Auxiliary Power Module provides control power for testing an OPTIM trip unit when other means of control power is not available. The Auxiliary Power Module connects into the top of the Digitrip OPTIMizer via a keyed receptacle. The main application for the Auxiliary Power Module would be for the testing of a stand alone non-communicating OPTIM breaker that ordinarily would not have control power.

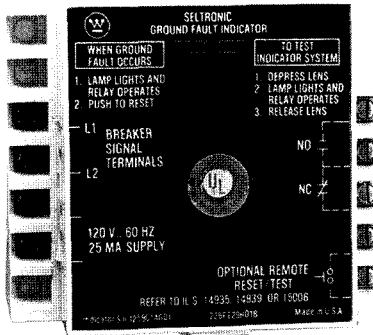
Ordering Information

CATALOG NUMBER
PRTAAPM



Series C L-Frame OPTIM System Components

GROUND FAULT ALARM UNIT



The Ground Fault Alarm Unit is a remotely mounted device with a combination indicating light/test button that will light when the breaker trips or alarms on ground fault. The Ground Fault Alarm Unit requires a separate 120 Vac power source to power the light and the internal relay which has 1 N.O. and 1 N.C. contacts for remote indication. The Ground Fault Alarm Unit can be panel mounted for ordering with an optional face mounting bracket.

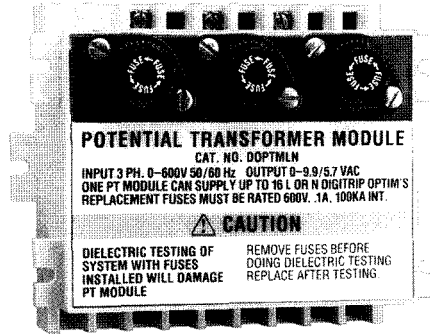
Ordering Information

CATALOG NUMBER	GFAU – Ground Fault Alarm Unit
STYLE NUMBER	Face Mounting Bracket 1264C67G01

Note: 30 Vdc Power Supply

A 30 Vdc power supply is required for all Digitrip OPTIM trip units that are required to communicate either on the main IMPACC network or as a subnetwork to a BIM. Typically one 30 Vdc power supply is required per switchboard and can provide control power to a BIM and up to 16 OPTIM trip units. The 30 Vdc power supply can be an "off the shelf" power supply and is normally provided by the switchboard manufacturer to Cutler-Hammer recommendations.

POTENTIAL TRANSFORMER MODULE

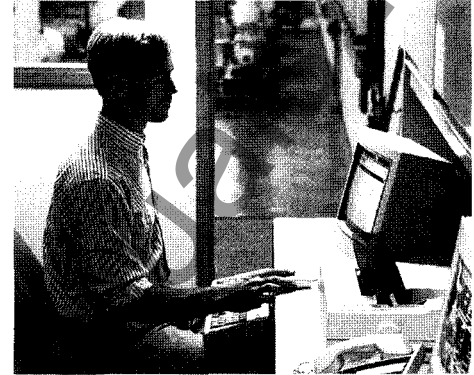


The Potential Transformer Module is required for Series C, Digitrip OPTIM 1050, to provide a voltage input to allow the trip unit to monitor power and energy as well as power factor. The Potential Transformer Module is a 6 VA transformer with a primary voltage input of up to 600V line to line. Three 0.1 ampere fuses are provided on the primary of the transformer and can be used for isolation purposes during dielectric testing. The device is normally panel mounted and can feed up to 16 OPTIM trip units.

Ordering Information

CATALOG NUMBER	DOPTMLN
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IMPACC SOFTWARE



Series C Digitrip OPTIM trip units can communicate back to a central Personal Computer by installing Cutler-Hammer Series III software. In addition other software packages are available to allow the user to configure the trip units as well as perform online coordination. For more information on this please refer to IMPACC sales aid SA-11998.

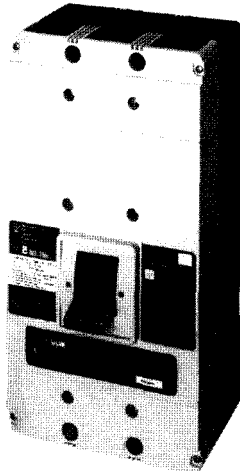
Cutler-Hammer

Westinghouse & Cutler-Hammer Products
 Five Parkway Center
 Pittsburgh, Pennsylvania, U.S.A. 15220



March 1996
 Supersedes Selection Data 29-120N,
 pages 1-2, dated March 1995
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 31-500A

Westinghouse Series C® Molded Case Circuit Breakers N-Frame 400-1200 Amperes



Dimensions, Inches (mm)

No. of Poles	Width	Height	Depth
2, 3	8.25 (210)	16 (407)	5.5 (140)
4	11.125 (283)	16 (407)	5.5 (140)

Approximate Shipping Weight, Lbs. (kg)

Breaker Type	Complete Breaker		
	Number of Poles		
	2	3	4
ND, HND, NDC	37 (16.783)	45 (20.412)	58 (26.308)

STANDARDS

Series C molded case circuit breakers are designed to conform with the following standards:

- Australian Standard AS 2184, Molded Case Circuit Breakers
- British Standards Institution Standard BS 4752: Part 1, Switchgear and Control Gear Part 1: Circuit Breakers
- Canadian Standards Association Standard C22.2 No. 5, Service Entrance and Branch Circuit Breakers
- International Electrotechnical Commission Recommendations IEC 947-2, Circuit Breakers
- Japanese T-Mark Standard, Molded Case Circuit Breakers
- National Electrical Manufacturers Association Standards Publication No. AB1-1975, Molded Case Circuit Breakers
- South African Bureau of Standards, Standard SABS 156, Standard Specification for Molded Case Circuit Breakers
- Swiss Electro-Technical Association Standard SEV 947-2, Safety Regulations for Circuit Breakers
- Underwriters Laboratories, Inc., Standard UL 489, Molded Case Circuit Breakers and Circuit Breaker Enclosures, Including Marine Circuit Breakers File E7819
- Union Technique de l'Electricite Standard NF C 63-120, Low Voltage Switchgear and Control Gear Circuit Breaker Requirements
- Verband Deutscher Elektrotechniker (Association of German Electrical Engineers) Standard VDE 0660, Low Voltage Switchgear and Control Gear, Circuit Breakers

INTERRUPTING CAPACITY RATINGS

UL489 Interrupting Capacity Ratings^①

Circuit Breaker Type	Number of Poles	Interrupting Capacity (Symmetrical Amperes) (kA)				
		Volts Ac (50/60Hz)				
		240	277	480	600	125
ND, CND ^②	2, 3, 4	65	50	25	.....	.....
HND, CHND ^②	2, 3, 4	100	65	35	.....	.....
NDC, CNDC ^②	2, 3, 4	200	100	50	.....	.....

IEC 947-2 Interrupting Capacity Ratings^①

Circuit Breaker Type	Number of Poles	Interrupting Capacity (Symmetrical Amperes)			
		Volts Ac (50/60Hz)			
		240	415	690	
ND, CND ^②	2, 3, 4	I _{CU}	85	50	20
		I _{CS}	85	50	10
HND, CHND ^②	2, 3, 4	I _{CU}	100	70	25
		I _{CS}	100	50	13
NDC, CNDC ^③	2, 3, 4	I _{CU}	200	100	35
		I _{CS}	100	50	18

Conformance with these standards satisfies most local and international codes, assuming user acceptability and simplified application.

Series C molded case circuit breakers equal or exceed Federal Specification Classification W-C-375b requirements for the particular class associated with the circuit breaker frame being considered.

^① Utilization Category A circuit breakers.

^② 100% rated breakers.



Westinghouse Series C Molded Case Circuit Breakers, N-Frame, 400-1200 Amperes

CATALOG NUMBERING SYSTEMS

This information is presented only as an aid to understanding catalog numbers. It is not to be used to build catalog numbers for circuit breakers or trip units.

Circuit Breaker/Frame Catalog Numbers

ND	3	12	T33	W
Circuit Breaker/Frame Type	Number of Poles	Circuit Breaker/Frame Rating	Trip Type	Suffix
ND	2: 2 Poles	8: 800 Amp	T32: LSI	E: 100% R.P. protected (4-Pole)
HND	3: 3 Poles	12: 1200 Amp	T33: LS	EH: 50% R.P. protected (4-Pole)
NDC	4: 4 Poles		T35: LSG	K: High Magnetic Molded Case Switch
CND			T36: LSIG	W: Without Terminals
CHND			T76: LSIG	X: Load Only Terminals
CNDC			T77: LSIA	Y: Line Only Terminals
			T106: LSIG	
			T107: LSIA	

Note: All Series C N frame circuit breakers are suitable for reverse feed.

Further Information	
Application Data	AD 29-160
Time/Current Curves	AD 29-167N
Dimensions	DS 29-170N

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Westinghouse Series C[®] Molded Case Circuit Breakers N-Frame 400-1200 Amperes

N-FRAME DIGITRIP SELECTION GUIDE

Trip Unit Type	Digitrip RMS 310		Digitrip OPTIM 750	Digitrip OPTIM 1050
RMS Sensing	Yes		Yes	Yes
Breaker Type				
Frame	N		N	N
Ampere Range	400A-1200A		400A-1200A	400A-1200A
Interrupting Rating @ 480V	50, 65, 100 (kA)		50, 65, 100 (kA)	50, 65, 100 (kA)
Protection				
Ordering Options	LS, LSG	LSI, LSIG	LSI(A), LSIG	LSI(A), LISG
Fixed Rated Plug (I _n)	Yes	Yes	Yes	Yes
Over Temperature Trip	Yes	Yes	Yes	Yes
Long Delay Protection (L)				
Adjustable Rating Plug (I _n)	Yes	Yes	No	No
Long Delay Pick Up	0.5-1.0(I _n) ^①	0.5-1.0(I _n) ^①	0.4-1.0 x (I _n)	0.4-1.0 x (I _n)
Long Delay Time I ² T	12 Secs.	12 Secs.	2-24 Secs.	2-24 Secs.
Long Delay Time I ⁴ T	No	No	1-5 Secs.	1-5 Secs.
Long Delay Thermal Memory	Yes	Yes	Yes	Yes
High Load Alarm	No	No	0.5-1.0 x I _r	0.5-1.0 x I _r
Short Delay Protection (S)				
Short Delay Pick Up	200-800% x (I _n)	200-800% x (I _n)	150-800% x (I _r)	150-800% x (I _r)
Short Delay Time I ² T	100ms	No	100-500ms	100-500ms
Short Delay Time Flat	No	Inst-300ms	100-500ms	100-500ms
Short Delay Time Zone Selective Interlocking	No	No	Yes	Yes
Instantaneous Protection (I)				
Instantaneous Pick Up	No	200-800% x (I _n)	200-800% x (I _n)	200-800% x (I _n)
Discriminator	No	No	Yes	Yes
Instantaneous Override	Yes	Yes	Yes	Yes
Ground Fault Protection (G)				
Ground Fault Alarm	No	No	20-100% (I _g)	20-100% (I _g)
Ground Fault Pick Up	Varies by Frame ^②	Varies by Frame ^②	20-100% (I _g)	20-100% (I _g)
Ground Fault Delay I ² T	No	No	100-500ms	100-500ms
Ground Fault Delay Flat	Inst-500ms	Inst-500ms	100-500ms	100-500ms
Ground Fault Zone Selective Interlocking	No	No	Yes	Yes
Ground Fault Thermal Memory	Yes	Yes	Yes	Yes
System Diagnostics				
Cause of Trip LEDs	No	No	Yes	Yes
Magnitude of Trip Information	No	No	Yes	Yes
Remote Signal Contacts	No	No	Yes	Yes
System Monitoring				
Digital Display	No	No	Yes ^②	Yes ^②
Current	No	No	Yes	Yes
Power and Energy	No	No	No	Yes
Power Quality-Harmonics	No	No	No	Yes
Power Factor	No	No	No	Yes
Communications				
IMPACC	No	No	Yes	Yes
Testing				
Testing Method	Test Set		Optimizer, BIM, IMPACC	Optimizer, BIM, IMPACC

① Adjust by Rating Plug
 ● By Optimizer/BIM

BIM = Breaker Interface Module
 (A) = GF Alarm

I_g = Sensor Rating
 I_n = Rating Plug
 I_r = LDPU Setting x In

Selection Data

29-120N

Page 2.2



Westinghouse Series C Molded Case Circuit Breakers, N-Frame, 400-1200 Amperes

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Westinghouse & Cutler-Hammer Products
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Series C® Molded Case Circuit Breakers N-Frame 400-1200 Amperes

600-VOLT AC DIGITRIP OPTIM^① ELECTRONIC CIRCUIT BREAKER WITH INTERCHANGEABLE RATING PLUG

Order as individual components: Breaker Frame (which includes Trip Unit) and Rating Plug

Maximum Continuous Ampere Rating @ 40°C	Circuit Breaker Frame Only				Digitrip OPTIM Rating Plug Only	
	Standard Interrupting Capacity 600-Volt Ac Rated 50 kAIC @ 480 Vac				Ampere Rating	Fixed Rating Plugs
	L-Adjustable Long Delay Pickup (I _l) With Adjustable Long Delay Time (I ² t or I ⁴ t Response) ^② S-Adjustable Short Delay Pickup With Adjustable Short Delay Time (I ² t or Flat Response) I-Adjustable Instantaneous Pickup G-Adjustable Ground Fault Pickup With Adjustable Ground Fault Time Delay (I ² t or Flat Response) A-Adjustable Ground Fault Alarm With Adjustable Ground Fault Time Delay (I ² t or Flat Response)					
	LSIA 750	LSIG 750	LSIA 1050	LSIG 1050	CATALOG NUMBER	
	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	
3-Pole						
800A	ND3800T77W	ND3800T76W	ND3800T107W	ND3800T106W	400 450 500 550 600 700 800	ORPN80A400 ORPN80A450 ORPN80A500 ORPN80A550 ORPN80A600 ORPN80A700 ORPN80A800
1200A	ND312T77W	ND312T76W	ND312T107W	ND312T106W	600 700 800 1000 1200	ORPN12A600 ORPN12A700 ORPN12A800 ORPN12A100 ORPN12A120

600-VOLT AC DIGITRIP OPTIM^① ELECTRONIC CIRCUIT BREAKER WITH INTERCHANGEABLE RATING PLUG

Order as individual components: Breaker Frame (which includes Trip Unit) and Rating Plug

Maximum Continuous Ampere Rating @ 40°C	Circuit Breaker Frame Only				Digitrip OPTIM Rating Plug Only	
	High Interrupting Capacity 600-Volt Ac Rated 65 kAIC @ 480 Vac				Ampere Rating	Fixed Rating Plugs
	L-Adjustable Long Delay Pickup (I _l) With Adjustable Long Delay Time (I ² t or I ⁴ t Response) ^② S-Adjustable Short Delay Pickup With Adjustable Short Delay Time (I ² t or Flat Response) I-Adjustable Instantaneous Pickup G-Adjustable Ground Fault Pickup With Adjustable Ground Fault Time Delay (I ² t or Flat Response) A-Adjustable Ground Fault Alarm With Adjustable Ground Fault Time Delay (I ² t or Flat Response)					
	LSIA 750	LSIG 750	LSIA 1050	LSIG 1050	CATALOG NUMBER	
	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	
3-Pole						
800A	HND3800T77W	HND3800T76W	HND3800T107W	HND3800T106W	400 450 500 550 600 700 800	ORPN80A400 ORPN80A450 ORPN80A500 ORPN80A550 ORPN80A600 ORPN80A700 ORPN80A800
1200A	HND312T77W	HND312T76W	HND312T107W	HND312T106W	600 700 800 1000 1200	ORPN12A600 ORPN12A700 ORPN12A800 ORPN12A100 ORPN12A120

^① 1A/1B auxiliary switch and 1 Make/1 Break alarm switch supplied with breaker as standard.

^② Long delay I⁴t response selection limits short delay time to flat response.



Series C Molded Case Circuit Breakers, N-Frame, 400-1200 Amperes

600-VOLT AC DIGITRIP OPTIM[®] ELECTRONIC CIRCUIT BREAKER WITH INTERCHANGEABLE RATING PLUG

Order as individual components: Breaker Frame (which includes Trip Unit) and Rating Plug

Maximum Continuous Ampere Rating @ 40°C	Circuit Breaker Frame Only				Digitrip OPTIM Rating Plug Only	
	Ultra High Interrupting Capacity 600-Volt Ac Rated 100 kAIC @ 480 Vac				Ampere Rating	Fixed Rating Plugs
	L-Adjustable Long Delay Pickup (I _l) With Adjustable Long Delay Time (I ² t or I ⁴ t Response) ^② S-Adjustable Short Delay Pickup With Adjustable Short Delay Time (I ² t or Flat Response) I-Adjustable Instantaneous Pickup G-Adjustable Ground Fault Pickup With Adjustable Ground Fault Time Delay (I ² t or Flat Response) A-Adjustable Ground Fault Alarm With Adjustable Ground Fault Time Delay (I ² t or Flat Response)					
	LSIA 750	LSIG 750	LSIA 1050	LSIG 1050		
	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER		CATALOG NUMBER
3-Pole						
800A	NDC3800T77W	NDC3800T76W	NDC3800T107W	NDC3800T106W	400 450 500 550 600 700 800	ORPN80A400 ORPN80A450 ORPN80A500 ORPN80A550 ORPN80A600 ORPN80A700 ORPN80A800
1200A	NDC312T77W	NDC312T76W	NDC312T107W	NDC312T106W	600 700 800 1000 1200	ORPN12A600 ORPN12A700 ORPN12A800 ORPN12A100 ORPN12A120

① 1A/1B auxiliary switch and 1 Make/1 Break alarm switch supplied with breaker as standard.

② Long delay I⁴t response selection limits short delay time to flat response.

Cutler-Hammer

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Series C[®] Molded Case Circuit Breakers N-Frame 400-1200 Amperes

100% RATED 600-VOLT AC DIGITRIP OPTIM[®] CIRCUIT BREAKERS WITH INTERCHANGEABLE RATING PLUG

Order as individual components: Breaker Frame (which includes Trip Unit) and Rating Plug

Maximum Continuous Ampere Rating @ 40°C	Circuit Breaker Frame Only				Digitrip OPTIM Rating Plug Only	
	Standard Interrupting Capacity 600-Volt Ac Rated 50 kAIC @ 480 Vac				Ampere Rating	Fixed Rating Plugs
	L-Adjustable Long Delay Pickup (I _r) With Adjustable Long Delay Time (I ² t or I ⁴ t Response) ^②					
	S-Adjustable Short Delay Pickup With Adjustable Short Delay Time (I ² t or Flat Response)					
I-Adjustable Instantaneous Pickup						
G-Adjustable Ground Fault Pickup With Adjustable Ground Fault Time Delay (I ² t or Flat Response)						
A-Adjustable Ground Fault Alarm With Adjustable Ground Fault Time Delay (I ² t or Flat Response)						
	LSIA 750	LSIG 750	LSIA 1050	LSIG 1050		
	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	
3-Pole						
800A	CND3800T77W	CND3800T76W	CND3800T107W	CND3800T106W	400 450 500 550 600 700 800	ORPN80A400 ORPN80A450 ORPN80A500 ORPN80A550 ORPN80A600 ORPN80A700 ORPN80A800
1200A	CND312T77W	CND312T76W	CND312T107W	CND312T106W	600 700 800 1000 1200	ORPN12A600 ORPN12A700 ORPN12A800 ORPN12A100 ORPN12A120

100% RATED 600-VOLT AC DIGITRIP OPTIM[®] CIRCUIT BREAKERS WITH INTERCHANGEABLE RATING PLUG

Order as individual components: Breaker Frame (which includes Trip Unit) and Rating Plug

Maximum Continuous Ampere Rating @ 40°C	Circuit Breaker Frame Only				Digitrip OPTIM Rating Plug Only	
	High Interrupting Capacity 600-Volt Ac Rated 65 kAIC @ 480 Vac				Ampere Rating	Fixed Rating Plugs
	L-Adjustable Long Delay Pickup (I _r) With Adjustable Long Delay Time (I ² t or I ⁴ t Response) ^②					
	S-Adjustable Short Delay Pickup With Adjustable Short Delay Time (I ² t or Flat Response)					
I-Adjustable Instantaneous Pickup						
G-Adjustable Ground Fault Pickup With Adjustable Ground Fault Time Delay (I ² t or Flat Response)						
A-Adjustable Ground Fault Alarm With Adjustable Ground Fault Time Delay (I ² t or Flat Response)						
	LSIA 750	LSIG 750	LSIA 1050	LSIG 1050		
	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	
3-Pole						
800A	CHND3800T77W	CHND3800T76W	CHND3800T107W	CHND3800T106W	400 450 500 550 600 700 800	ORPN80A400 ORPN80A450 ORPN80A500 ORPN80A550 ORPN80A600 ORPN80A700 ORPN80A800
1200A	CHND312T77W	CHND312T76W	CHND312T107W	CHND312T106W	600 700 800 1000 1200	ORPN12A600 ORPN12A700 ORPN12A800 ORPN12A100 ORPN12A120

^① 1A/1B auxiliary switch and 1 Make/1 Break alarm switch supplied with breaker as standard.

^② Long delay I⁴t response selection limits short delay time to flat response.



Series C Molded Case Circuit Breakers, N-Frame, 400-1200 Amperes

100% RATED 600-VOLT AC DIGITRIP OPTIM^① CIRCUIT BREAKERS WITH INTERCHANGEABLE RATING PLUG

Order as individual components: Breaker Frame (which includes Trip Unit) and Rating Plug

Maximum Continuous Ampere Rating @ 40°C	Circuit Breaker Frame Only				Digitrip OPTIM Rating Plug Only	
	Ultra High Interrupting Capacity 600-Volt Ac Rated 100 kAIC @ 480 Vac				Ampere Rating	Fixed Rating Plugs
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I-Adjustable Instantaneous Pickup						
G-Adjustable Ground Fault Pickup With Adjustable Ground Fault Time Delay (I ² t or Flat Response)						
A-Adjustable Ground Fault Alarm With Adjustable Ground Fault Time Delay (I ² t or Flat Response)						
LSIA 750		LSIG 750		LSIA 1050		LSIG 1050
CATALOG NUMBER		CATALOG NUMBER		CATALOG NUMBER		CATALOG NUMBER
3-Pole						
800A	CNDC3800T77W	CNDC3800T76W	CNDC3800T107W	CNDC3800T106W	400 450 500 550 600 700 800	ORPN80A400 ORPN80A450 ORPN80A500 ORPN80A550 ORPN80A600 ORPN80A700 ORPN80A800
1200A	CNDC312T77W	CNDC312T76W	CNDC312T107W	CNDC312T106W	600 700 800 1000 1200	ORPN12A600 ORPN12A700 ORPN12A800 ORPN12A100 ORPN12A120

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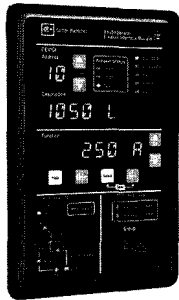
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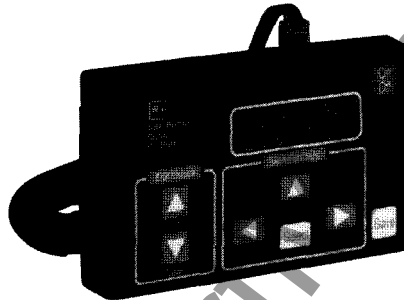


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Ordering Information

CATALOG NUMBER
BIM

DIGITRIP OPTIMIZER

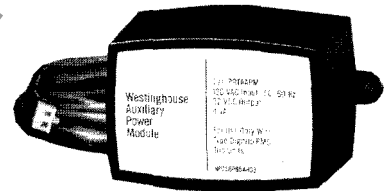


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Ordering Information

CATALOG NUMBER
OPTIMIZER – Standard Package
ICC – Incom Connection Cord

AUXILIARY POWER MODULE

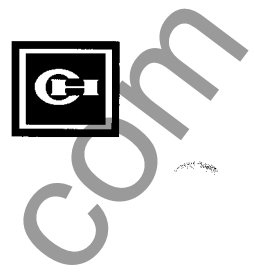


The Auxiliary Power Module is a power supply requiring 120 Vac input at 50 or 60 Hz that provides a 32 Vdc output. The Auxiliary Power Module provides control power for testing an OPTIM trip unit when other means of control power is not available. The Auxiliary Power Module connects into the top of the Digitrip OPTIMizer via a keyed receptacle. The main application for the Auxiliary Power Module would be for the testing of a stand alone non-communicating OPTIM breaker that ordinarily would not have control power.

Ordering Information

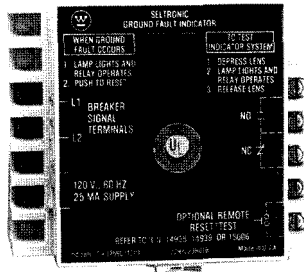
CATALOG NUMBER
PRTAAPM

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Series C N-Frame External Accessories

GROUND FAULT ALARM UNIT

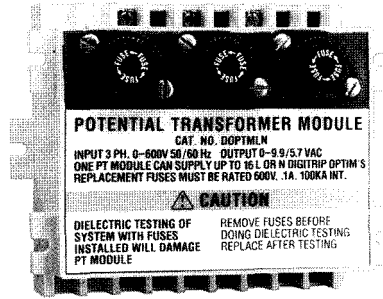


The Ground Fault Alarm Unit is a remotely mounted device with a combination indicating light/test button that will light when the breaker trips or alarms on ground fault. The Ground Fault Alarm Unit requires a separate 120 Vac power source to power the light and the internal relay which has 1 N.O. and 1 N.C. contacts for remote indication. The Ground Fault Alarm Unit can be panel mounted for ordering with an optional face mounting bracket.

Ordering Information

CATALOG NUMBER
GFAU – Ground Fault Alarm Unit
STYLE NUMBER
Face Mounting Bracket 1264C67G01

POTENTIAL TRANSFORMER MODULE



The Potential Transformer Module is required for Series C, Digitrip OPTIM 1050, to provide a voltage input to allow the trip unit to monitor power and energy as well as power factor. The Potential Transformer Module is a 6VA transformer with a primary voltage input of up to 600V line to line. Three 0.1 ampere fuses are provided on the primary of the transformer and can be used for isolation purposes during dielectric testing. The device is normally panel mounted and can feed up to 16 OPTIM trip units.

Ordering Information

CATALOG NUMBER
DOPTMLN

IMPACC SOFTWARE



Series C Digitrip OPTIM trip units can communicate back to a central Personal Computer by installing Cutler-Hammer Series III software. In addition other software packages are available to allow the user to configure the trip units as well as perform online coordination. For more information on this please refer to IMPACC sales aid SA-11998.

30 Vdc Power Supply

Note: A 30 Vdc power supply is required for all Digitrip OPTIM trip units that are required to communicate either on the main IMPACC network or as a subnetwork to a BIM. Typically one 30 Vdc power supply is required per switchboard and can provide control power to a BIM and up to 16 OPTIM trip units. The 30 Vdc power supply can be an "off the shelf" power supply and is normally provided by the switchboard manufacturer to Cutler-Hammer recommendations.

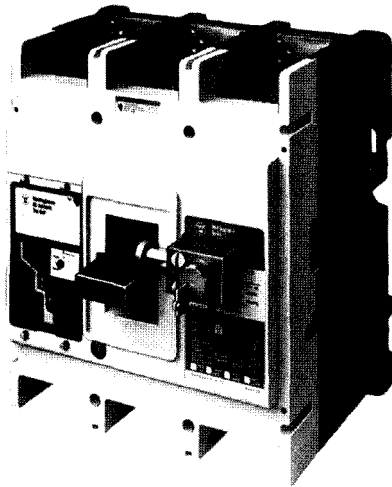
Cutler-Hammer

Westinghouse & Cutler-Hammer Products
 Five Parkway Center
 Pittsburgh, Pennsylvania, U.S.A. 15220



March 1996
 Supersedes Selection Data 29-120R,
 pages 1-2, dated March 1995
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

Westinghouse Series C[®] Molded Case Circuit Breakers R-Frame 800-2500 Amperes



Dimensions, Inches (mm)

No. of Poles	Width	Height	Depth
3	15.5 (394)	16 (406)	9.75 (248)
4	20 (508)	16 (406)	9.75 (248)

Approximate Shipping Weight, Lbs. (kg)

Breaker Type	Number of Poles	
	3	4
1600A		
RD, CRD	102	135
RDC, CRDC	(46.266)	(61.235)
2000A		
RD, RDC	102	135
	(46.266)	(61.235)
2000A		
CRD, CRDC	130	175
	(58.967)	(79.378)
2500A		
RD, RDC	135	182
	(61.235)	(82.553)

STANDARDS

Series C molded case circuit breakers are designed to conform with the following standards:

- Australian Standard AS 2184, Molded Case Circuit Breakers
- British Standards Institution Standard BS 4752: Part 1, Switchgear and Control Gear Part 1: Circuit Breakers
- Canadian Standards Association Standard C22.2 No. 5, Service Entrance and Branch Circuit Breakers
- International Electrotechnical Commission Recommendations IEC 947-2, Circuit Breakers
- Japanese T-Mark Standard, Molded Case Circuit Breakers
- National Electrical Manufacturers Association Standards Publication No. AB1-1975, Molded Case Circuit Breakers
- South African Bureau of Standards, Standard SABS 156, Standard Specification for Molded Case Circuit Breakers
- Swiss Electro-Technical Association Standard SEV 947-2, Safety Regulations for Circuit Breakers
- Underwriters Laboratories, Inc., Standard UL 489, Molded Case Circuit Breakers and Circuit Breaker Enclosures, Including Marine Circuit Breakers File E7819
- Union Technique de l'Electricite Standard NF C 63-120, Low Voltage Switchgear and Control Gear Circuit Breaker Requirements
- Verband Deutscher Elektrotechniker (Association of German Electrical Engineers) Standard VDE 0660, Low Voltage Switchgear and Control Gear, Circuit Breakers

INTERRUPTING CAPACITY RATINGS

UL489 Interrupting Capacity Ratings ①

Circuit Breaker Frame	Number of Poles	Interrupting Capacity (Symmetrical Amperes) (kA)			
		Volts Ac (50/60 Hz)			
		240	277	480	600
RD	3, 4	125	.....	65	50
CRD ②	3, 4	125	.....	65	50
RDC	3, 4	200	.....	100	65
CRDC ②	3, 4	200	.....	100	65

IEC 947-2 Interrupting Capacity Ratings ①

Circuit Breaker Type	Number of Pole	Interrupting Capacity (Symmetrical Amperes) (kA)		
		Volts Ac (50/60Hz)		
		240	415	690
RD	3, 4	135	70	25
		100	50	13
RDC	3, 4	200	100	35
		100	50	18

Conformance with these standards satisfies most local and international codes, assuming user acceptability and simplified application.

Series C molded case circuit breakers equal or exceed Federal Specification Classification W-C-375b requirements for the particular class associated with the circuit breaker frame being considered.

① Utilization Category A circuit breakers.
 ② 100% Rated breakers.



Westinghouse Series C Molded Case Circuit Breakers, R-Frame, 800-2500 Amperes

CATALOG NUMBERING SYSTEM

This information is presented only as an aid to understanding catalog numbers. It is not to be used to build catalog numbers for circuit breakers or trip units.

Frame Type Catalog Numbers

RD	3	16	T32	W
Frame Type	Number of Poles	Circuit Breakers/ Frame Amperage	Trip Type ^①	Suffix
RD	3: 3 Poles	16: 1600A	T32: Digitrip RMS 310 LSI	W: Without terminals
RDC	4: 4 Poles	20: 2000A	T53: Digitrip RMS 510 LS	P: 100% Protected Neutral Pole
CRD		25: 2500A	T65: Digitrip RMS 610 LSG	R: Gound Fault Remote
CRDC			T86: Digitrip RMS 810 LSIG	K: Molded Case Switch
			T96: Digitrip RMS 910 LSIG	
			T77: Digitrip OPTIM 750 LSIA	
			T106: Digitrip OPTIM 1050 LSIG	

Note: All Series C R-Frame circuit breakers are suitable for reverse feed.

^① For complete list of available trip types refer to pages 3 through 6.10.

R-frame circuit breakers are available as frame (which includes trip unit), rating plug and terminals.

Further Information
 Application Data AD 29-160
 Time/Current Curves AD 29-167R
 Dimensions DS 29-170R

Cutler-Hammer

Westinghouse & Cutler-Hammer Products
 Five Parkway Center
 Pittsburgh, Pennsylvania, U.S.A. 15220



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Westinghouse Series C[®] Molded Case Circuit Breakers R-Frame 800-2500 Amperes

R-FRAME DIGITRIP SELECTION GUIDE

Trip Unit Type	Digitrip RMS 310	Digitrip RMS 510	Digitrip RMS 610	Digitrip OPTIM 750	Digitrip RMS 810	Digitrip RMS 910	Digitrip OPTIM 1050
RMS Sensing	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Breaker Type							
Frame	R	R	R	R	R	R	R
Ampere Range	800A-2500A	800A-2500A	800A-2500A	800A-2500A	800A-2500A	800A-2500A	800A-2500A
Interrupting Rating @ 480V	65, 100 (kA)	65, 100 (kA)	65, 100 (kA)	65, 100 (kA)	65, 100 (kA)	65, 100 (kA)	65, 100 (kA)
Protection							
Ordering Options	LS, LSG	LSI, LSIG	LI, LS, LSI, LIG, LSG, LSIG	LI, LS, LSI, LSG, LSIG	LSI(A), LSIG	LI, LS, LSI, LIG, LSG, LSIG	LI, LS, LSI, LIG, LSG, LSIG
Fixed Rated Plug (I _n)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Over Temperature Trip	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Long Delay Protection (L)							
Adjustable Rating Plug (I _n)	Yes	Yes	No	No	No	No	No
Long Delay Pick Up	0.5-1.0(I _n) ^①	0.5-1.0(I _n) ^①	0.5-1.0 x (I _n)	0.5-1.0 x (I _n)	0.4-1.0 x (I _n)	0.5-1.0 x (I _n)	0.4-1.0 x (I _n)
Long Delay Time I ² T	12 Secs.	12 Secs.	2-24 Secs.	2-24 Secs.	2-24 Secs.	2-24 Secs.	2-24 Secs.
Long Delay Time I ¹ T	No	No	No	No	1-5 Secs.	No	15 Secs.
Long Delay Thermal Memory	Yes	Yes	Yes	Yes	Yes	Yes	Yes
High Load Alarm	No	No	No	0.85 x I _r	0.5-1.0 x I _r	0.85 x I _r	0.85 x I _r
Short Delay Protection (S)							
Short Delay Pick Up	200-800% x (I _n)	200-800% x (I _n)	200-600% S1&S2 x (I _r)	200-600% S1&S2 x (I _r)	150-800% x (I _r) ^②	200-600% S1&S2 x (I _r)	200-600% S1&S2 x (I _r) ^②
Short Delay Time I ² T	100ms	No	100-500ms	100-500ms	100-500ms	100-500ms	100-500ms
Short Delay Time Flat	No	Inst-300ms	100-500ms	100-500ms	100-500ms	100-500ms	100-500ms
Short Delay Time Zone Selective Interlocking	No	No	Yes	Yes	Yes	Yes	Yes
Instantaneous Protection (I)							
Instantaneous Pick Up	No	200-800% x (I _n)	200-600% M1&M2 x (I _n)	200-600% M1&M2 x (I _n)	200-800% x (I _n) ^②	200-600% M1&M2 x (I _n)	200-600% M1&M2 x (I _n)
Discriminator	No	No	Yes ^③	Yes ^③	Yes	Yes ^③	Yes ^③
Instantaneous Override	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ground Fault Protection (G)							
Ground Fault Alarm ^④	No	No	No	No	25-100% x (I _s)	No	25-100% x (I _s)
Ground Fault Pick Up ^④	Varies by Frame	Varies by Frame	25-100% x (I _s)	25-100% x (I _s)	25-100% x (I _s)	25-100% x (I _s)	25-100% x (I _s)
Ground Fault Delay I ² T	No	No	100-500ms	100-500ms	100-500ms	100-500ms	100-500ms
Ground Fault Delay Flat	Inst-500ms	Inst-500ms	100-500ms	100-500ms	100-500ms	100-500ms	100-500ms
Ground Fault Zone Selective Interlocking	No	No	Yes	Yes	Yes	Yes	Yes
Ground Fault Thermal Memory	Yes	Yes	Yes	Yes	Yes	Yes	Yes
System Diagnostics							
Cause of Trip LEDs	No	No	Yes	Yes	Yes	Yes	Yes
Magnitude of Trip Information	No	No	No	Yes	Yes	Yes	Yes
Remote Signal Contacts	No	No	No	Yes	Yes	Yes	Yes
System Monitoring							
Digital Display	No	No	No	Yes	Yes ^⑤	Yes	Yes ^⑤
Current	No	No	No	Yes	Yes	Yes	Yes
Voltage	No	No	No	No	No	No	No
Power and Energy	No	No	No	No	No	Yes	Yes
Power Quality - Harmonics	No	No	No	No	No	No	Yes
Power Factor	No	No	No	No	No	Yes (Over IMPACC Only)	Yes
Communications							
IMPACC	No	No	No	No	Yes	Yes	Yes
Testing							
Testing Method	Test Set	Integral	Integral	Optimizer, BIM, IMPACC	Integral	Integral	Optimizer, BIM, IMPACC

- ① Adjust by Rating Plug
 ② Varies by Frame
 ③ LS/LSG Only
 ④ Not to exceed 1200 Amps
 ⑤ By Optimizer/BIM

BIM = Breaker Interface Module
 (A) = GF Alarm

I_s = Sensor Rating
 I_n = Rating Plug
 I_r = LDPU Setting x I_n

Selection Data

29-120R

Page 2.2



Westinghouse Series C Molded Case Circuit Breakers, R-Frame, 800-2500 Amperes

ElectricalPartManuals.com

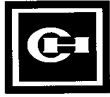
Cutler-Hammer

Westinghouse & Cutler-Hammer Products
Five Parkway Center
Pittsburgh, Pennsylvania, U.S.A. 15220



Printed in U.S.A.

March 1996



March 1996
New Information
Mailed to: E, D, C/29-100A, 31-400A,
31-500A

Westinghouse Series C® Molded Case Circuit Breakers R-Frame 800-2500 Amperes

600-VOLT AC DIGITRIP OPTIM ELECTRONIC CIRCUIT BREAKER WITH INTERCHANGEABLE RATING PLUG

Order as individual components: Breaker Frame (which includes Trip Unit) and Rating Plug

Maximum Continuous Ampere Rating @ 40°C	Circuit Breaker Frame Only				Digitrip OPTIM Rating Plug Only	
	Standard Interrupting Capacity 600-Volt Ac Rated 65 kAIC @ 480 Vac				Ampere Rating	Fixed Rating Plugs
	L-Adjustable Long Delay Pickup (I _r) With Adjustable Long Delay Time (I ² t or I ⁴ t Response)① S-Adjustable Short Delay Pickup With Adjustable Short Delay Time (I ² t or Flat Response) I-Adjustable Instantaneous Pickup G-Adjustable Ground Fault Pickup With Adjustable Ground Fault Time Delay (I ² t or Flat Response) A-Adjustable Ground Fault Alarm With Adjustable Ground Fault Time Delay (I ² t or Flat Response)					
	LSIA 750	LSIG 750	LSIA 1050	LSIG 1050		
	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER		CATALOG NUMBER
3-Pole						
1600A	RD316T77W	RD316T76W	RD316T107W	RD316T106W	800 1000 1200 1600	ORPR16A080 ORPR16A100 ORPR16A120 ORPR16A160
2000A	RD320T77W	RD320T76W	RD320T107W	RD320T106W	1000 1200 1600 2000	ORPR20A100 ORPR20A120 ORPR20A160 ORPR20A200
2500A	RD325T77W	RD325T76W	RD325T107W	RD325T106W	1600 2000 2500	ORPR25A160 ORPR25A200 ORPR25A250

600-VOLT AC DIGITRIP OPTIM ELECTRONIC CIRCUIT BREAKER WITH INTERCHANGEABLE RATING PLUG

Order as individual components: Breaker Frame (which includes Trip Unit) and Rating Plug

Maximum Continuous Ampere Rating @ 40°C	Circuit Breaker Frame Only				Digitrip OPTIM Rating Plug Only	
	High Interrupting Capacity 600-Volt Ac Rated 100 kAIC @ 480 Vac				Ampere Rating	Fixed Rating Plugs
	L-Adjustable Long Delay Pickup (I _r) With Adjustable Long Delay Time (I ² t or I ⁴ t Response)① S-Adjustable Short Delay Pickup With Adjustable Short Delay Time (I ² t or Flat Response) I-Adjustable Instantaneous Pickup G-Adjustable Ground Fault Pickup With Adjustable Ground Fault Time Delay (I ² t or Flat Response) A-Adjustable Ground Fault Alarm With Adjustable Ground Fault Time Delay (I ² t or Flat Response)					
	LSIA 750	LSIG 750	LSIA 1050	LSIG 1050		
	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER		CATALOG NUMBER
3-Pole						
1600A	RDC316T77W	RDC316T76W	RDC316T107W	RDC316T106W	800 1000 1200 1600	ORPR16A080 ORPR16A100 ORPR16A120 ORPR16A160
2000A	RDC320T77W	RDC320T76W	RDC320T107W	RDC320T106W	1000 1200 1600 2000	ORPR20A100 ORPR20A120 ORPR20A160 ORPR20A200
2500A	RDC325T77W	RDC325T76W	RDC325T107W	RDC325T106W	1600 2000 2500	ORPR25A160 ORPR25A200 ORPR25A250

① Long delay I⁴t response selection limits short delay time to flat response.



Westinghouse Series C Molded Case Circuit Breakers, R-Frame, 800-2500 Amperes

100% RATED 600 VOLT AC DIGITRIP OPTIM CIRCUIT BREAKERS WITH INTERCHANGEABLE RATING PLUG

Order as individual components: Breaker Frame (which includes Trip Unit) and Rating Plug

Maximum Continuous Ampere Rating @ 40°C	Circuit Breaker Frame Only				Digitrip OPTIM Rating Plug Only	
	Standard Interrupting Capacity 600-Volt Ac Rated 65 kAIC @ 480 Vac				Ampere Rating	Fixed Rating Plugs
	L-Adjustable Long Delay Pickup (I _r) With Adjustable Long Delay Time (I ² t or I ⁴ t Response)① S-Adjustable Short Delay Pickup With Adjustable Short Delay Time (I ² t or Flat Response) I-Adjustable Instantaneous Pickup G-Adjustable Ground Fault Pickup With Adjustable Ground Fault Time Delay (I ² t or Flat Response) A-Adjustable Ground Fault Alarm With Adjustable Ground Fault Time Delay (I ² t or Flat Response)					
LSIA 750	LSIG 750	LSIA 1050	LSIG 1050	CATALOG NUMBER	CATALOG NUMBER	
3-Pole						
1600A	CRD316T77W	CRD316T76W	CRD316T107W	CRD316T106W	800 1000 1200 1600	ORPR16A080 ORPR16A100 ORPR16A120 ORPR16A160
2000A	CRD320T77W	CRD320T76W	CRD320T107W	CRD320T106W	1000 1200 1600 2000	ORPR20A100 ORPR20A120 ORPR20A160 ORPR20A200

100% RATED 600 VOLT AC DIGITRIP OPTIM CIRCUIT BREAKERS WITH INTERCHANGEABLE RATING PLUG

Order as individual components: Breaker Frame (which includes Trip Unit) and Rating Plug

Maximum Continuous Ampere Rating @ 40°C	Circuit Breaker Frame Only				Digitrip OPTIM Rating Plug Only	
	High Interrupting Capacity 600-Volt Ac Rated 100 kAIC @ 480 Vac				Ampere Rating	Fixed Rating Plugs
	L-Adjustable Long Delay Pickup (I _r) With Adjustable Long Delay Time (I ² t or I ⁴ t Response)① S-Adjustable Short Delay Pickup With Adjustable Short Delay Time (I ² t or Flat Response) I-Adjustable Instantaneous Pickup G-Adjustable Ground Fault Pickup With Adjustable Ground Fault Time Delay (I ² t or Flat Response) A-Adjustable Ground Fault Alarm With Adjustable Ground Fault Time Delay (I ² t or Flat Response)					
LSIA 750	LSIG 750	LSIA 1050	LSIG 1050	CATALOG NUMBER	CATALOG NUMBER	
3-Pole						
1600A	CRDC316T77W	CRDC316T76W	CRDC316T107W	CRDC316T106W	800 1000 1200 1600	ORPR16A080 ORPR16A100 ORPR16A120 ORPR16A160
2000A	CRDC320T77W	CRDC320T76W	CRDC320T107W	CRDC320T106W	1000 1200 1600 2000	ORPR20A100 ORPR20A120 ORPR20A160 ORPR20A200

① Long delay I⁴t response selection limits short delay time to flat response.

Cutler-Hammer

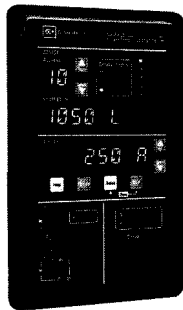
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 New Information
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 31-500A

Series C® R-Frame External Accessories

BREAKER INTERFACE MODULE (BIM)

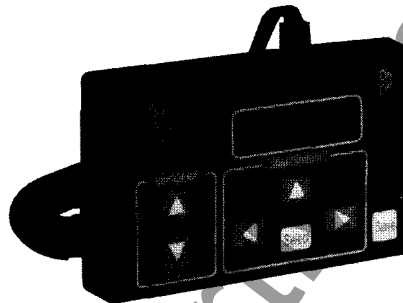


The Breaker Interface Module (BIM) is a panel mounted user interface device that is mounted on the front of an electrical assembly or at a remote location. The BIM is used to access, configure, test and display information for OPTIM trip units and other devices. The BIM consists of four display windows, eight function buttons, eighteen LED's and a graphical time/current curve to provide breaker status, operational information, protection status and energy monitoring. A 30 Vdc power supply is required to provide power to the BIM. This is supplied by the switchboard builder to Cutler-Hammer specifications. The BIM is a member of the IMPACC family of communicating devices that connects OPTIM trip units, Digitrip RMS 810/910 trip units and energy sentinels as a subnetwork system. The BIM can also be connected to a main network via a PONI module to IMPACC Series III software. For detailed information on the BIM refer to SA-12137.

Ordering Information

CATALOG NUMBER
BIM

DIGITRIP OPTIMIZER

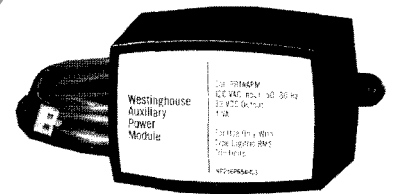


The Digitrip OPTIMizer is a hand held programmer that is used to access, configure, test and display information from OPTIM trip units. The OPTIMizer plugs into the front of an OPTIM trip unit via an eight-pin telephone jack and is powered by a nine-volt battery. In addition, a 3-pin Incom network connection is also provided to program other OPTIM devices on the system. An Auxiliary Power Module connection is provided to provide control power to perform a trip test when control power is not present at the breaker. The OPTIMizer is supplied as a standard package to include the programmer, the eight-pin connection cord, battery and carrying case. The network connection cord and Auxiliary Power Module are optional.

Ordering Information

CATALOG NUMBER
OPTIMIZER – Standard Package
ICC – Incom Connection Cord

AUXILIARY POWER MODULE



The Auxiliary Power Module is a power supply requiring 120 Vac input at 50 or 60 Hz that provides a 32 Vdc output. The Auxiliary Power Module provides control power for testing an OPTIM trip unit when other means of control power is not available. The Auxiliary Power Module connects into the top of the Digitrip OPTIMizer via a keyed receptacle. The main application for the Auxiliary Power Module would be for the testing of a stand alone non-communicating OPTIM breaker that ordinarily would not have control power.

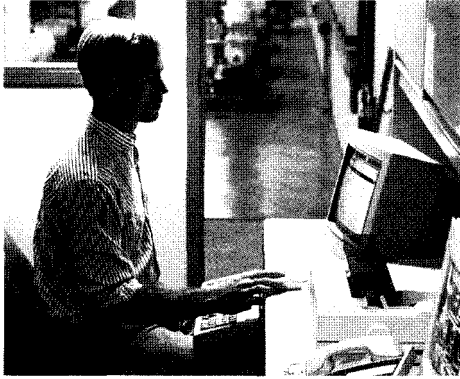
Ordering Information

CATALOG NUMBER
PRTAAPM



Series C R-Frame External Accessories

IMPACC SOFTWARE



Series C Digitrip OPTIM trip units can communicate back to a central Personal Computer by installing Cutler-Hammer Series III software. In addition other software packages are available to allow the user to configure the trip units as well as perform online coordination. For more information on this please refer to IMPACC sales aid SA-11998.

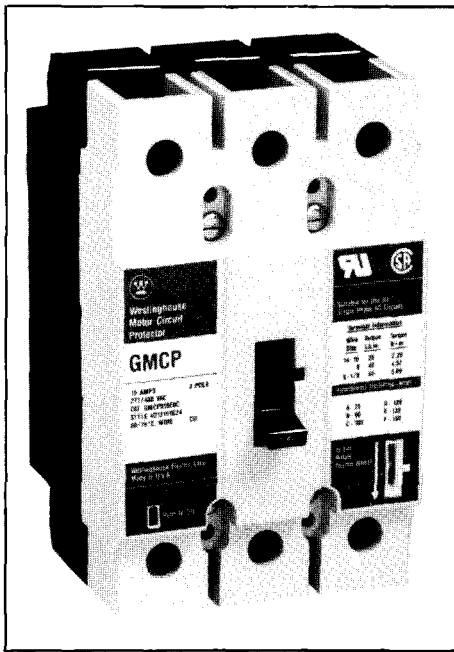
Cutler-Hammer

Westinghouse & Cutler-Hammer Products
Five Parkway Center
Pittsburgh, Pennsylvania, U.S.A. 15220



March 1993
 New Information
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

GMCP Motor Circuit Protector



Type GMCP Motor Circuit Protector
3-63 Amperes, 480V/277V. 3 Poles

Motor Circuit Protector

The GMCP is designed specifically for the protection of motor circuits. It operates on the magnetic principle with a current sensing coil in each of the three poles, with the trip-point adjustable from the front. GMCP's are the fastest devices available for clearing low level faults and offer circuit breaker features and convenience, resettable, quick make-quick break, dead front, and protection against single phasing.

The compact design of the GMCP, its simplified installation and the tamperproof construction optimize its application to provide maximum protection in smaller, more efficient, easy-to-build and less costly circuitry. Interrupting capacity ratings for the GMCP are established in combination with contactors in motor starters. Consult motor starter manufacturer for combination ratings.

GMCP's are rated to correspond to NEMA starter sizes.

Motor Circuit Protectors – For Prices, see Price List 29-020 Dis. Sym. CB-12

Cam Setting	Motor Full Load Current Amperes	NEMA Starter Size	Continuous Amps	GMCP Catalog Number	GMCP Trip Setting
A	1.1 - 1.2				15
B	1.3 - 1.5				18
C	1.6 - 1.7	0	3	GMCP003A0C	21
D	1.8 - 1.9				24
E	2.0 - 2.2				27
F	2.3 - 2.5				30
A	2.6 - 3.1				35
B	3.2 - 3.6				42
C	3.7 - 3.9	0	7	GMCP007C0C	49
D	4.3 - 4.7				56
E	4.8 - 5.2				63
F	5.3 - 5.7				70
A	5.7 - 6.8				75
B	6.9 - 7.9				90
C	8.0 - 9.1	0	15	GMCP015E0C	105
D	9.2 - 10.3				120
E	10.4 - 11.4				135
F	11.5 - 12.6				150
A	11.5 - 13.7				150
B	13.8 - 16.0				180
C	16.1 - 18.3	1	30	GMCP030H1C	210
D	18.4 - 20.6				240
E	20.7 - 22.9				270
F	23.0 - 25.2				300
A	19.3 - 22.9				250
B	23.0 - 26.8				300
C	26.9 - 30.6	2	50	GMCO050K2C	350
D	30.7 - 34.5				400
E	34.6 - 38.3				450
F	38.4 - 42.1				500
A	23.1 - 27.5				300
B	27.7 - 32.2				360
C	32.3 - 36.7	3	60	GMCP060J2C	420
D	36.9 - 41.4				480
E	41.5 - 46.0				540
F	46.2 - 50.5				600
A	24.2 - 32.1				320
B	29.1 - 34.8				380
C	33.9 - 39.4	3	63	GMCP063M2C	440
D	38.8 - 46.4				500
E	43.6 - 48.9				570
F	48.5 - 53.7				630

Terminals

Terminals are included with the GMCP. Standard terminals will accommodate copper conductors only. Wire ranges are listed below.

Line and load side terminals are UL Listed as suitable for wire type and size as indicated below.

Breaker Continuous Amperes	Type Terminal	Wire Type	Wire Range
3-63	Clamp	Cu	#14-1/0 AWG



Underwriters' Laboratories Inc. Listed

The GMCP is listed with Underwriters' Laboratories as a recognized component and requires additional listing by the control manufacturer in combination with a contactor and overload relay.

Modifications for GMCP

These modifications must be factory installed^①.

Type Accessory	Electrical Ratings			Contact Arrangement	Style Number
	Volts	Freq.	Amps		
Shunt Trip	120	50/60 Hz	1.1		1373D62G18
Shunt Trip	240	50/60 Hz	2.1		1373D62G19
Auxiliary Switch	240	50/60 Hz	6	1a/1b	1288C74G03
Auxiliary Switch	240	50/60 Hz	6	2a/2b	1288C73G03
Alarm Switch	240	50/60 Hz	6	Make/Break	1288C75G03

① Only one accessory may be installed in breaker.

② For use with standard 35mm DIN rail such as, 35 x 7.5 or 35 x 15mm per DIN EN50022.

Accessories for GMCP

External Mounted Accessories

Description	Style Number	No. Units in Package
Lock Dog (Non-Padlockable)	1294C01H01	1
Mounting Hardware	624B375G23	1
DIN Rail Adaptor ^②	1225C79G01	10

Interrupting Ratings

Maximum application current shall be determined by testing the GMCP in combination with a contactor and overload relay.

Further Information

List Prices: Price List 29-020
 Application: Application Data 29-360
 Characteristic Curves: Appl. Data 29-360-A
 Dimensions: Dimension Sheet 29-170



March, 1988
Supersedes Technical Data 29-120,
pages 1-2, dated October, 1981 and
Supplement, page .01, dated April 18, 1983
Mailed to: E, D, C/29-100A, 31-400A,
31-500A

For Lighting, Distribution and Power Circuits

AB DE-ION® Circuit Breakers

All Westinghouse molded case circuit breakers are built to meet requirements of NEMA Standard AB-1-1986

Ordering Information

AB De-ion® circuit breakers are to be ordered as follows:

Fixed Trip Breakers

Order complete breaker or complete breaker less terminals plus required terminals.

Interchangeable Trip Breakers

Order frame, trip unit and terminals.

When Ordering, Specify:

Catalog Number or Style Number, Quantity

List Prices

To obtain list prices of breakers, modifications and accessories, locate style or catalog number from appropriate page of Technical Data and refer to Price List 29-020.

Where mounting hardware is desired, specify quantity and style number. No charge when ordered with complete breaker.

If breakers are to be modified, order "similar to" a standard catalog number, and describe the special features desired.

Available accessories are listed beginning on page 49. In some cases, accessories are listed for sale in quantity lots. In these instances, order item in quantity lots indicated.

Minimum Quantities: For a basic part or common part as shown on individual breaker pages, minimum ordering quantities are listed.

Molded Case Switches

Molded Case Switches are Underwriters' Laboratories, Inc. listed devices and are available as standard type with no overcurrent protection, and high magnetic trip type with fixed trip setting.

For application information and UL Inc. listed withstand ratings, refer to Application Data 29-160.

Panelboard Connecting Straps

Conditions: The purchaser does not automatically secure Underwriters' approval simply by incorporating these parts into his panelboards. Underwriters' Laboratories, Inc. list certain requirements that the manufacturers' product must meet; therefore sep-

arate approval must be obtained. However, these panelboard parts are adequate to meet Underwriters' specifications as component parts, and if properly used with Westinghouse AB De-ion circuit breakers, will enable the user to maintain Underwriters' Laboratories standards. These panelboard parts are available to original equipment manufacturers only. They are not for use as replacement parts.

Replacement parts for Westinghouse panelboards should be selected and ordered from Renewal Parts Price List 120 or negotiated with Construction Equipment Division, St. Louis, Missouri.

Further Information

AB De-ion® Circuit Breakers

Price List 29-020
Application Data 29-160
Dimension Sheet 29-170

Obsolete Breaker Guide

Listed below is a tabulation of AB De-ion® circuit breakers made obsolete by the development of a full range of modern, electrically equivalent breakers. These obsolete breakers are not available and are listed only as a guide to the interim replacement, or equivalent modern breaker.

Obsolete Breakers	Interim Replacement Breakers	Equivalent Series C and other Current Breakers
Frame		
QCC	EB	CA
EA	EB	GC
E	EB	GC
EH	EHB	EHD
F	FB	FBD
FA	FB	FDB
G	FB	FDB
J	JB	JDB
JK	KB	JD
K	KB	JD
KL	LB/LA	KD
LM	...	MA/NB
HF	HFB	FD
HFA	HFB	FD
HK	HKB	JD
HKL	HLB	KD
HLM	...	HMA/HNB
TRI-PAC*F	...	TRI-PAC FB
TRI-PAC FA	...	TRI-PAC FB
TRI-PAC K	...	TRI-PAC LA
TRI-PAC KL	...	TRI-PAC LA
TRI-PAC L	...	TRI-PAC NB
P1	...	Quicklag®C
PT	...	ALB-1
	...	(Ref. TD 29-220)

Index

Breaker	Page Numbers	
	Selection Guide	Ordering Data
Standard Breakers		
100 and 150 Amperes		
Quicklag HQP, QC	2	12
Quicklag QPHW, QBHW, QCHW	2	14
Quicklag QHPX, HBAX, QHCX	2	15
Quicklag Grd. Fault	2	16
Type BAB	2	18
Type LC	4	27
225 Amperes		
Type CA, CAH, HCA	2	17
300 Amperes		
Type LC	4	27
400 Amperes		
Type LAB, LA	8	41,42
600 Amperes		
Type LA	4	20
Type LC	4	27
800 Amperes		
Type MA	8	44
Type MC	4	29
1200 Amperes		
Type NB	8	45
Type NC	4	30
2500 Amperes		
Type PB	8	47
3000 Amperes		
Type PC, PCC	4	31
MARK 75® Breakers		
30 Amperes		
Quicklag QHPW, QHCW	5	12
Type HBA	5	18
150 Amperes		
Type HLC	6	27
300 Amperes		
Type HLC	6	27
400 and 600 Amperes		
Type HLA400	9	42
Type HLA600	6	20
Type HLC	6	27
800 Amperes		
Type HMA	9	44
Type HMC	6	29
1200 Amperes		
Type HNB	9	45
Type HNC	6	30
Current Limit-R-Breakers		
FCL	7	33
LCL	7	34
TRI-PAC® Breakers		
100 Amp. Type FB	7	35
400 Amp. Type LA	7	36
800 Amp. Type NB	7	37
1600 Amp. Type PB	7	38
Modifications Accessories, Motor Operators	49-58	49-58
Replacement Breakers	...	19



Standard Breaker Selection Guide

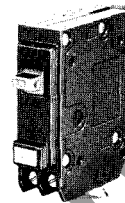
HQP, QPHW, QHPX

QBHW, HBAX

QC, QCHW, QHCX

Quicklag® Ground Fault

BAB



1, 2, 3 Poles
10-125 Amps
@40°C

1, 2, 3 Poles
10-100 Amps
@40°C

1, 2, 3 Poles
10-100 Amps
@40°C

1, 2 Poles
15-30 Amps
@40°C

1, 2, 3 Poles
15-100 Amps
@40°C

Dimensions, Inches, 3 Pole Breakers

H	W	D	H	W	D	H	W	D	H	W	D	H	W	D
2 ¹⁵ / ₁₆	3	2 ³ / ₈	2 ⁵ / ₁₆	3	2 ³ / ₈	3 ³ / ₄	3	2 ⁷ / ₁₆	3 ³ / ₁₆	1 (One Pole)	2 ³ / ₈	2 ⁹ / ₁₆	3	2 ³ / ₈

Ac Ratings I.C. Ratings Shown **10,000** are **Symmetrical** ①; Ratings Shown 10,000 are Asymmetrical

120/240, 240 Volts Max. Amps I. C. 120/240 Volts: 10,000, 25,000 and 50,000 120/240 Volts: 10,000, 22,000 and 42,000 240 Volts: 10,000 and 10,000 , 25,000 and 22,000 or 50,000 and 42,000	120/240, 240 Volts Max. Amps I. C. 120/240 Volts: 25,000 and 50,000 120/240 Volts: 22,000 and 42,000 240 Volts: 25,000 and 50,000 22,000 and 42,000	120/240, 240 Volts Max. Amps I. C. 120/240 Volts: 10,000, 25,000 and 50,000 120/240 Volts: 10,000, 22,000 and 42,000 240 Volts: 10,000 and 10,000 , 25,000 and 22,000 or 50,000 and 42,000	120/240 Volts Max. Amps I. C. 120 Volts 10,000 and 25,000 120 Volts 10,000 and 22,000 120/240 Volts: 10,000 and 10,000	120/240, 240, Volts Max. Amps I. C. 120/240 Volts: 10,000 and 10,000 240 Volts: 10,000 and 10,000
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Dc Rating ①

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Accessories and Modifications See Pages 49-58 for Description and Underwriters' Laboratories, Inc. Status

Moisture-Fungus Treatment Handle Lock Device	Moisture-Fungus Treatment Handle Lock Devices	Moisture-Fungus Treatment Handle Lock Devices	Moisture-Fungus Treatment	Moisture-Fungus Treatment Handle Lock Devices
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⊕ Changed or added since previous issue.

① Underwriters' Laboratories, Inc. listed.

Westinghouse Electric Corporation
Distribution and Control Business Unit
Electrical Components Division
Pittsburgh, Pennsylvania, U.S.A. 15220

Printed in U.S.A.



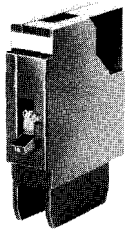
December, 1989
 Supersedes Technical Data 29-120,
 pages 3-4, dated March, 1988
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

For Lighting, Distribution and Power Circuits

AB DE-ION® Circuit Breakers

Standard Breaker Selection Guide

GB, GHB



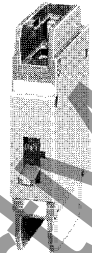
1, 2, 3 Poles
 15-100 Amps
 @ 40°C

GHBS



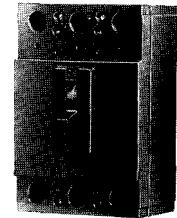
1 Pole
 15 and 20 Amps
 @ 40°C

GC, GHC



1, 2, 3 Poles
 15-100 Amps
 @ 40°C

CA, CAH, HCA[Ⓞ]



2, 3 Poles
 100-225 Amps
 @ 40°C

Dimensions, Inches, 3-Pole Breakers

H	W	D	H	W	D	H	W	D	H	W	D
4	3	2 ¹³ / ₁₆	4	1	2 ¹³ / ₁₆	4 ⁷ / ₈	3	2 ¹³ / ₁₆	6 ¹ / ₂	4 ¹ / ₈	2 ¹³ / ₁₆
			(One Pole)								

Ac Ratings I.C. Ratings Shown 14,000 Are Symmetrical^①

120, 240, 277, 277/480 Volts Max. Amps I.C. Type GB, GHB 120 ^② and 240 ^③ Volts: 65,000 Type GHB 277 ^② and 277/480 ^③ Volts: 14,000	120, 277 Volts Max. Amps I.C. 120 Volts: 65,000 277 Volts: 14,000	120, 240, 277, 277/480 Volts Max. Amps I.C. Type GC, GHC 120 ^② and 240 ^③ Volts: 65,000 Type GHC 277 ^② and 277/480 ^③ Volts: 14,000	240 Volts Max. Amps I.C. CA: 10,000 and 10,000 CAH: 25,000 and 22,000 HCA: 50,000 and 42,000
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Dc Ratings^①

125 Volts ^④ 14,000	125 Volts ^④ 14,000
125/250 Volts ^④ 14,000	125/250 Volts ^④ 14,000

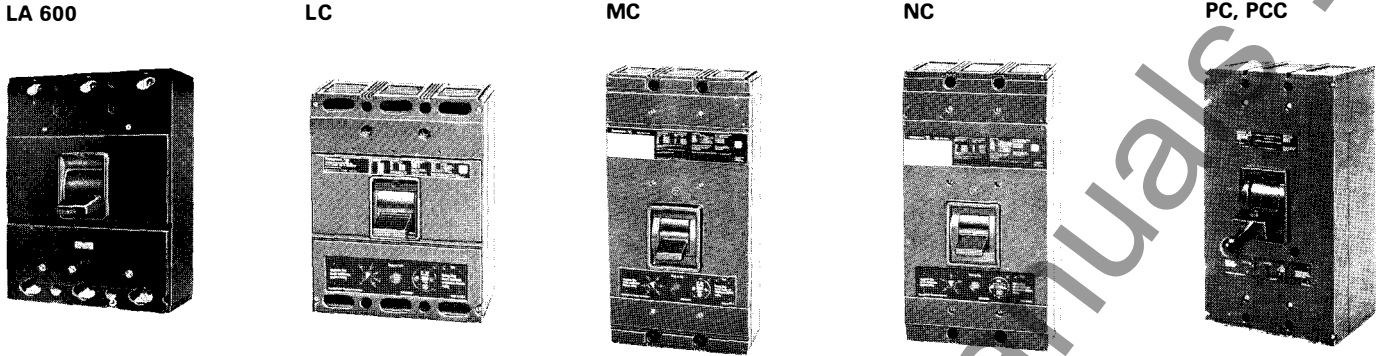
Accessories and Modifications See pages 49-58 for Description and Underwriters' Laboratories, Inc. Status

Shunt Trip	.....	Shunt Trip	.....	Moisture-Fungus Treatment
Undervoltage Trip	.....	Undervoltage Trip	.....	Handle Lock Devices
Auxiliary Switch	.....	Auxiliary Switch	.....	Shunt Trip
Alarm Switch	.....	Alarm Switch	.....	Auxiliary Switch
Handle Lock Devices	.....	Handle Lock Devices:	.....	Shock Tested
				Freeze Tested
				Special Calibration

Ⓞ Changed or added since previous issue.
 ① Underwriters' Laboratories, Inc. Listed.
 ② One Pole.
 ③ Two and three pole.
 ④ 1 Pole 15-70 Amp.



Standard Breaker Selection Guide



LA 600 **LC** **MC** **NC** **PC, PCC**

2, 3 Poles^②
250-600 Amps
 (†40°C)

2, 3 Poles^②
75-600 Amps

2, 3 Poles^②
400-800 Amps

2, 3 Poles^②
800-1200 Amps

2, 3 Poles^②
1000-3000 Amps

Dimensions, Inches, 3-Pole Breakers

H	W	D	H	W	D	H	W	D	H	W	D	H	W	D
10¾	8¼	4⅛	10¾	8¼	4⅛	16	8¼	4⅞	16	8¼	5½	22⅞	12⅞	9⅞

Ac Ratings I. C. Ratings Shown 42,000 are Symmetrical^①; Ratings Shown 50,000 are Asymmetrical

600 Volts Max. Amps I.C. 240 Volts: 50,000 and 42,000 480 Volts: 35,000 and 30,000 600 Volts: 25,000 and 22,000	600 Volts Max. Amps I.C. 240 Volts: 50,000 and 42,000 480 Volts: 35,000 and 30,000 600 Volts: 25,000 and 22,000	600 Volts Max. Amps I.C. 240 Volts: 50,000 and 42,000 480 Volts: 35,000 and 30,000 600 Volts: 25,000 and 22,000	600 Volts Max. Amps I.C. 240 Volts: 50,000 and 42,000 480 Volts: 35,000 and 30,000 600 Volts: 25,000 and 22,000	600 Volts Max. Amps I.C. 240 Volts: 50,000 and 125,000 480 Volts: 115,000 and 100,000 600 Volts: 115,000 and 100,000
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Dc Ratings^①

250 Volts
20,000 Amps I. C. ^③

Accessories and Modifications See Pages 49-58 for Description and Underwriters' Laboratories, Inc. Status

Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Center Studs Rear Connecting Studs Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech. Handle Lock Devices	Shunt Trip Auxiliary Switch Alarm Switch Mechanical Interlock Rear Connecting Studs Moisture-Fungus Treatment Enclosure Handle Mech.	Shunt Trip Auxiliary Switch Alarm Switch Mechanical Interlock Rear Connecting Studs Moisture-Fungus Treatment Enclosure Handle Mech.	Shunt Trip Auxiliary Switch Alarm Switch Mechanical Interlock Rear Connecting Studs Moisture-Fungus Treatment Enclosure Handle Mech.	Drawout Frame Shunt Trip Auxiliary Switch Alarm Switch Mechanical Interlock Moisture-Fungus Treatment Enclosure Handle Mech.
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● Underwriters' Laboratories, Inc. listed.
 ② 2-Pole Unit supplied in 3-pole frame.
 ③ Ratings above 10,000 amps not UL listed.

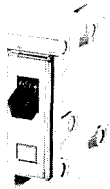


March, 1988
 Supersedes Technical Data 29-120,
 pages 5-6, dated April, 1980.
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

AB DE-ION[®] Circuit Breakers

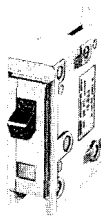
High Interrupting Capacity Breaker Selection Guide[Ⓞ]

**MARK 75[®]
 Type QHPW**



**1, 2 Poles
 15-30 Amps;
 3 Poles,
 15-20 Amps
 @40°C**

**MARK[®]
 Type HBAW**



**1, 2 Poles
 15-30 Amps;
 3 Poles,
 15-20 Amps
 @40°C**

**MARK 75[®]
 Type QHCW**



**1, 2 Poles
 15-30 Amps;
 3 Poles,
 15-20 Amps
 @40°C**

Dimensions, Inches, 3 Pole Breakers

H	W	D	H	W	D	H	W	D
2 ¹⁵ / ₁₆	1 (1 pole)	2 ³ / ₈	2 ¹⁵ / ₁₆	1 (1 pole)	2 ³ / ₈	3 ³ / ₄	1 (1 pole)	2 ⁷ / ₁₆

Ac Ratings I. C. Ratings Shown **65,000** are **Symmetrical[Ⓞ]**; Ratings Shown 75,000 are Asymmetrical

120/240 Volts Max. Amps I. C. 75,000 and 65,000	120/240 Volts Max. Amps I. C. 75,000 and 65,000	120/240 Volts Max. Amps I. C. 75,000 and 65,000
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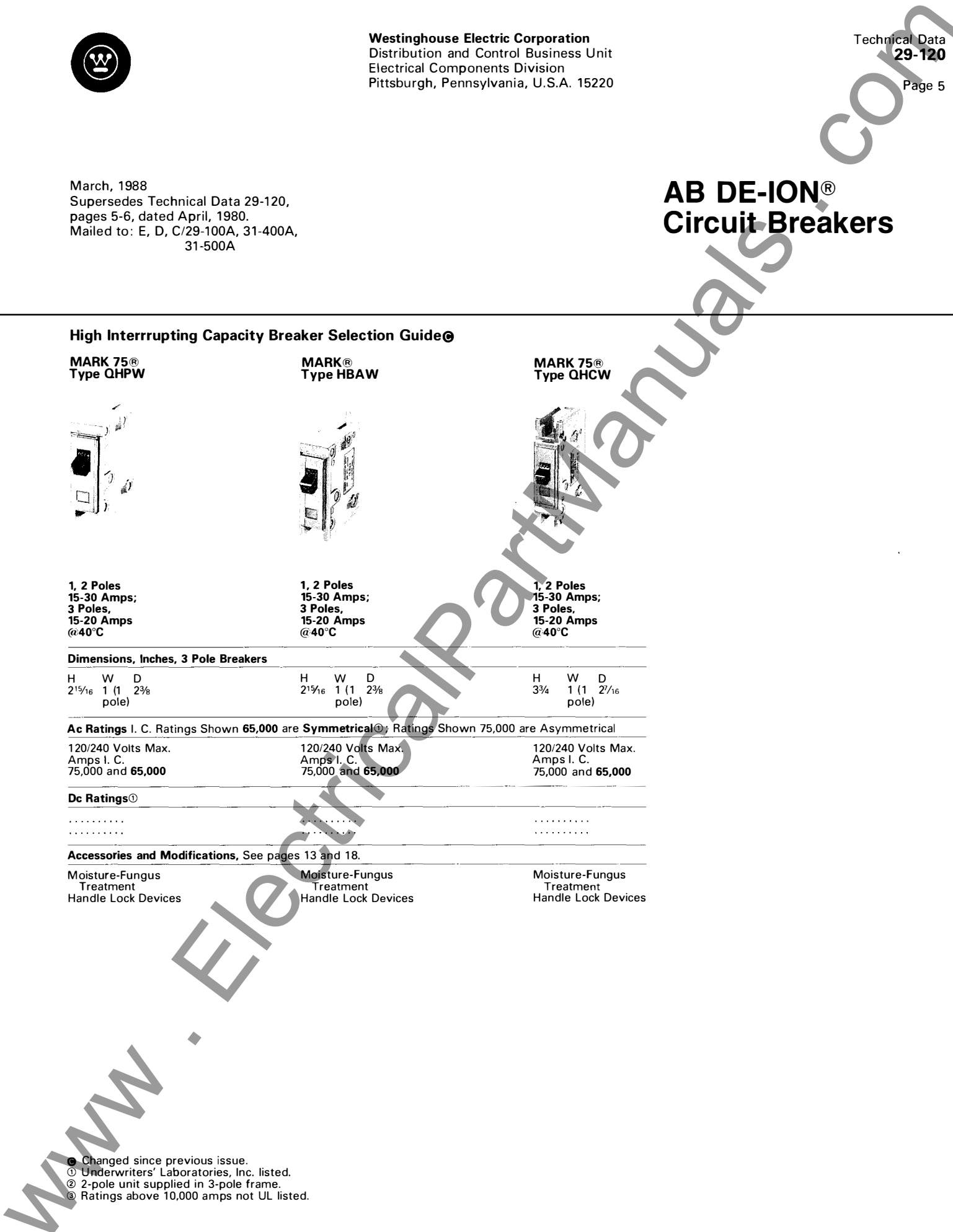
Dc Ratings[Ⓛ]

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Accessories and Modifications, See pages 13 and 18.

Moisture-Fungus Treatment Handle Lock Devices	Moisture-Fungus Treatment Handle Lock Devices	Moisture-Fungus Treatment Handle Lock Devices
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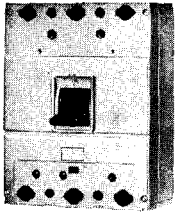
[Ⓞ] Changed since previous issue.
[Ⓛ] Underwriters' Laboratories, Inc. listed.
[Ⓛ] 2-pole unit supplied in 3-pole frame.
[Ⓞ] Ratings above 10,000 amps not UL listed.



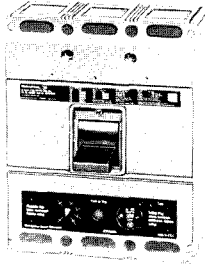


High Interrupting Capacity Breaker Selection Guide

**MARK 75® HLA
600**



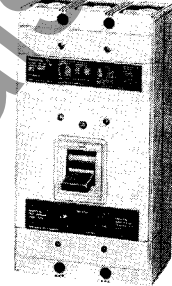
MARK 75® HLC



MARK 75® HMC



MARK 75® HNC



**2, 3 Poles^②
250-600 Amps
@40°C**

**2, 3 Poles^②
75-600 Amps**

**2, 3 Poles^②
400-800 Amps**

**2, 3 Poles^②
800-1200 Amps**

Dimensions, Inches, 3 Pole Breakers

H 10¾ W 8¼ D 4¹/₁₆

H 10¾ W 8¼ D 4¹/₁₆

H 16 W 8¼ D 4¹/₁₆

H 16 W 8¼ D 5¹/₂

Ac Ratings I. C. Ratings Shown **65,000** are **Symmetrical^①**; Ratings Shown 75,000 are Asymmetrical

600 Volts Max.
Amps I. C.
240 Volts:
75,000 and **65,000**
480 Volts:
40,000 and **35,000**
600 Volts:
30,000 and **25,000**

600 Volts Max.
Amps I. C.
240 Volts:
75,000 and **65,000**
480 Volts:
40,000 and **35,000**
600 Volts:
30,000 and **25,000**

600 Volts Max.
Amps I. C.
240 Volts:
75,000 and **65,000**
480 Volts:
58,000 and **50,000**
600 Volts:
30,000 and **25,000**

600 Volts Max.
Amps I. C.
240 Volts:
75,000 and **65,000**
480 Volts:
58,000 and **50,000**
600 Volts:
30,000 and **25,000**

Dc Ratings^①

250 Volts
20,000 Amps I. C. ^③

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Accessories and Modifications, See Pages 49-58 for Description and Underwriters' Laboratories, Inc. Status

Shunt Trip
Undervoltage Trip
Auxiliary Switch
Alarm Switch
Mechanical Interlock
Center Studs
Rear Connecting Studs
Moisture-Fungus
Treatment
Motor Operator
Enclosure Handle Mech.
Handle Lock Devices

Shunt Trip
Auxiliary Switch
Alarm Switch
Mechanical Interlock
Rear Connecting Studs
Moisture-Fungus
Treatment
Enclosure Handle Mech.
Handle Lock Devices

Shunt Trip
Auxiliary Switch
Alarm Switch
Mechanical Interlock
Moisture-Fungus
Treatment
Enclosure Handle Mech.
Rear Connecting Studs

Shunt Trip
Auxiliary Switch
Alarm Switch
Mechanical Interlock
Rear Connecting Studs
Moisture-Fungus
Treatment
Enclosure Handle Mech.

^① Underwriters' Laboratories, Inc. listed.
^② 2-pole unit supplied in 3-pole frame.
^③ Ratings above 10,000 amps not UL Listed.

Printed in USA



March, 1988
 Supersedes Technical Data 29-120,
 pages 7-8, dated October, 1981
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

AB DE-ION® Circuit Breakers

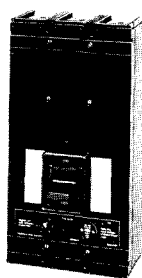
High Interrupting Capacity Selection Guide

FCL
 Current Limit-R



2, 3 Poles^②
 15-100 Amps
 @40°C

LCL
 Current Limit-R



2, 3 Poles^②
 125-400 Amps

TRI-PAC® FB



2, 3 Poles^②
 15-100 Amps
 @40°C

TRI-PAC® LA



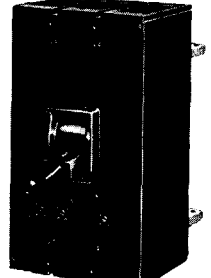
2, 3 Poles^②
 70-400 Amps
 @40°C

TRI-PAC® NB



2, 3 Poles^②
 300-800 Amps^⑤
 @40°C

TRI-PAC PB



2, 3 Poles^②
 600-1600 Amps
 @40°C

Dimensions, Inches, 3 Pole Breakers

FCL			LCL			TRI-PAC FB			TRI-PAC LA			TRI-PAC NB			TRI-PAC PB		
H	W	D	H	W	D	H	W	D	H	W	D	H	W	D	H	W	D
8 ³ / ₄	4 ¹ / ₈	3 ³ / ₈	16	8 ¹ / ₄	4 ¹ / ₁₆	8 ³ / ₄	4 ¹ / ₈	3 ¹ / ₂	16	8 ¹ / ₄	4 ³ / ₄	22	8 ¹ / ₄	5 ¹ / ₂	22 ¹ / ₈	12 ¹ / ₁₆	9 ¹ / ₁₆

Ac Rating I. C. Ratings Shown **65,000** are **Symmetrical** Ⓞ: Ratings Shown 75,000 are Asymmetrical

FCL	LCL	TRI-PAC FB	TRI-PAC LA	TRI-PAC NB	TRI-PAC PB
480 Volts Max. Amps I. C. 240 Volts: 200,000 480 Volts: 150,000	600 Volts Max. Amps I. C. 240 Volts: 200,000 480 Volts: 200,000 600 Volts: 100,000	600 Volts Max. Amps I. C. 240 Volts: 200,000 480 Volts: 200,000 600 Volts: 200,000	600 Volts Max. Amps I. C. 240 Volts: 200,000 480 Volts: 200,000 600 Volts: 200,000	600 Volts Max. Amps I. C. 240 Volts: 200,000 480 Volts: 200,000 600 Volts: 200,000	600 Volts Max. Amps I. C. 240 Volts: 200,000 480 Volts: 200,000 600 Volts: 200,000

Dc Ratings^①

.....	250 Volts 100,000 Amps I. C. Ⓞ	250 Volts 100,000 Amps I. C. Ⓞ	250 Volts ^④ 100,000 Amps I. C. Ⓞ	250 Volts ^④ 100,000 Amps I. C. Ⓞ
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Accessories and Modifications, See Pages 49-58 for Description and Underwriters' Laboratories, Inc. Status

FCL	LCL	TRI-PAC FB	TRI-PAC LA	TRI-PAC NB	TRI-PAC PB
Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Moisture-Fungus Treatment Motor Operator	Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Moisture-Fungus Treatment Motor Operator	Shunt Trip Undervoltage Trip Auxiliary Switch Mechanical Interlock Rear Connecting Studs Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech. Handle Lock Devices	Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Rear Connecting Studs Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech. Handle Lock Devices	Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Rear Connecting Studs Moisture-Fungus Treatment Motor Operator	Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Moisture-Fungus Treatment Motor Operator

① Underwriters' Laboratories, Inc. listed.

② 2-pole unit supplied in 3-pole frame.

③ Based on NEMA test procedures.

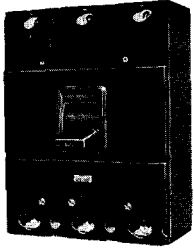
④ Dc rating applies only to magnetic only breakers.

⑤ For ratings above 350 amps, Dc rating applies only to magnetic only breakers.

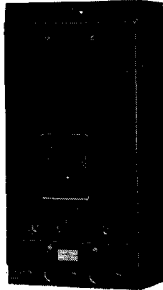


Replacement Breaker Selection Guide

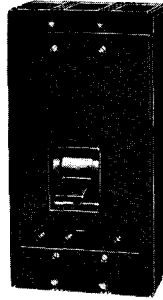
LAB, LA 400



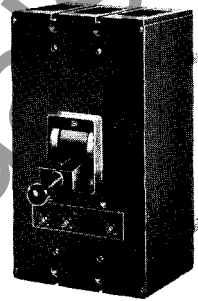
MA



NB



PB



2, 3 Poles^②
125-400 Amps
 @40°C

2, 3 Poles^②
125-800 Amps
 @40°C

2, 3 Poles^②
700-1200 Amps
 @40°C

2, 3 Poles^②
600-2500 Amps
 @40°C

Dimensions, Inches, 3-Pole Breakers

H	W	D	H	W	D	H	W	D	H	W	D
10 ³ / ₄	8 ³ / ₄	4 ¹ / ₁₆	16	8 ³ / ₄	4 ¹ / ₁₆	16	8 ³ / ₄	5 ¹ / ₂	22 ¹ / ₈	12 ¹ / ₁₆	9 ¹ / ₁₆

Ac Ratings I. C. Ratings Shown **25,000** are **Symmetrical^①**; Ratings Shown 30,000 are Asymmetrical

600 Volts Max. Amps I. C.	600 Volts Max. Amps I. C.	600 Volts Max. Amps I. C.	600 Volts Max. Amps I. C.
240 Volts: 50,000 and 42,000	240 Volts: 50,000 and 42,000	240 Volts: 50,000 and 42,000	240 Volts: 150,000 and 125,000
480 Volts: 35,000 and 30,000	480 Volts: 35,000 and 30,000	480 Volts: 35,000 and 30,000	480 Volts: 115,000 and 100,000
600 Volts: 25,000 and 22,000	600 Volts: 25,000 and 22,000	600 Volts: 25,000 and 22,000	600 Volts: 115,000 and 100,000

Dc Ratings^①

250 Volts 20,000 Amps I. C. ^③	250 Volts ^⑤ 20,000 Amps I. C. ^③	250 Volts ^⑤ 20,000 Amps I. C. ^③	250 Volts ^⑤ 75,000 Amps I. C. ^{③ ④}
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Accessories and Modifications. See Pages 49-58 for Description and Underwriters' Laboratories, Inc. Status

Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Center Studs Rear Connecting Studs Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech. Handle Lock Devices	Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Center Studs Rear Connecting Studs Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech.	Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Center Studs Rear Connecting Studs Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech.	Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech.
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Ⓢ Changed since previous issue.
 ① Underwriters' Laboratories, Inc. listed
 ② 2-pole unit supplied in 3-pole frame.
 ③ Ratings above 10,000 amps not UL Listed.
 ④ Based on NEMA test procedures.
 ⑤ Dc rating applies only to magnetic only breakers.
 ⑥ For ratings 700 amps and up, Dc Rating applies only to magnetic only breakers.

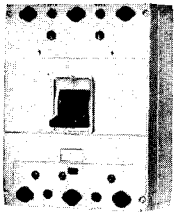


March, 1988
 Supersedes Technical Data 29-120,
 pages 9-10, dated April, 1980
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

AB DE-ION® Circuit Breakers

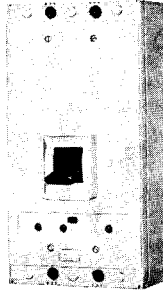
Replacement Breaker Selection GuideⓄ

MARK 75® HLA 400



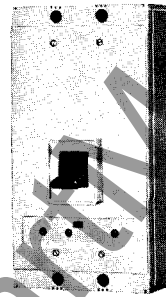
2, 3 PolesⓂ
 125-400 Amps
 @40°C

MARK 75® HMA



2, 3 PolesⓂ
 125-800 Amps
 @40°C

MARK 75® HNB



2, 3 PolesⓂ
 700-1200 Amps
 @40°C

Dimensions, Inches, 3-Pole Breakers

H	W	D	H	W	D	H	W	D
10¾	8¼	4½	16	8¼	4½	16	8¼	5½

Ac Ratings I. C. Ratings Shown 65,000 are SymmetricalⓁ; Ratings Shown 75,000 are Asymmetrical

600 Volts Max. Amps I. C.	600 Volts Max. Amps I. C.	600 Volts Max. Amps I. C.
240 Volts: 75,000 and 65,000	240 Volts: 75,000 and 65,000	240 Volts: 75,000 and 65,000
480 Volts: 40,000 and 35,000	480 Volts: 40,000 and 35,000	480 Volts: 40,000 and 35,000
600 Volts: 30,000 and 25,000	600 Volts: 30,000 and 25,000	600 Volts: 30,000 and 25,000

Dc RatingsⓁ

250 Volts 20,000 Amps I. C.●	250 VoltsⓄ 20,000 Amps I. C.●	250 VoltsⓄ 20,000 Amps I. C.③
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Accessories and Modifications, See Pages 49-58 for Description and Underwriters' Laboratories, Inc. Status

Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Center Studs Rear Connecting Studs Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech. Parallel Connections Handle Lock Devices	Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Center Studs Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech.	Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Center Studs Rear Connecting Studs Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech.
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● Changed since previous issue.
 Ⓛ Underwriters' Laboratories, Inc. listed.
 Ⓜ 2-pole unit supplied in 3-pole frame.
 Ⓞ Ratings above 10,000 amps not UL Listed.
 Ⓞ For ratings above 600 amps, Dc rating applies only to magnetic only breakers.



Guide to Quicklag® and Type BA Circuit Breaker Catalog Numbering System

Old System

Catalog Number: HQNP LA			
Base	Variations	No. of Poles	Amp Rating
HQNP: Type P, 10,000 Amps. I. C.	L: 120/240 Volts	1: 1 Pole	015=15 Amp.
QHP: Type P, 65,000 Amps. I. C.	A: Above 50 Amp.	2: 2 Poles	025=25 Amp.
HQNB: Type B, 10,000 Amps. I. C. ①	V: 50°C	3: 3 Poles	070=070 Amp.
QHB: Type B, 65,000 Amps. I. C. ①			100=100 Amp.
HQC: Type C, 10,000 Amps. I. C.			Etc.
QHC: Type C, 65,000 Amps. I. C.			
			B : 2 Pole Sw. Neutral

New System

Catalog Number: HQP 1			
Base	No. of Poles	Amp. Rating	Modifications
HQP: Type P 10,000 Amps. I. C.	1: 1 Pole	015: 15 Amps.	B: Sw. Neutral (2 Pole P and C only)
QPHW: Type P 22,000 Amps. I. C.	2: 2 Poles	025: 25 Amps.	C: Sw. Neutral (2 Pole BA only)
QHPX: Type P 42,000 Amps. I. C.	3: 3 Poles	070: 70 Amps	H: 240 Volt (2, 3 Poles)
QHPW: Type P 65,000 Amps. I. C.		100: 100 Amps	V: 50°C
BAB: Type B 10,000 Amps. I. C.		Etc.	
QBHW: Type B 22,000 Amps. I. C.			
HBAX: Type B 42,000 Amps. I. C.			
HBAW: Type B 65,000 Amps. I. C.			
QC: Type C 10,000 Amps. I. C.			
QCHW: Type C 22,000 Amps. I. C.			
QHCX: Type C 42,000 Amps. I. C.			
QHCW: Type C 65,000 Amps. I. C.			

Guide to Breaker Catalog Numbering System (For Breakers other than Quicklag, Type BA and SELTRONIC™)

Catalog Number: EB 3 030 A			
Breaker Type	No. of Poles	Trip Amp Rating	Modifications
CA	1: 1 Pole	Thermal Magnetic	A: Ambient Comp
DA	2: 2 Poles	030: 30 Amps.	C: Copper Only Terminals
EB	3: 3 Poles	100: 100 Amps.	F: Frame Only
EHB	4: 4 Poles	1200: 1200 Amps.	L: Line and Load Lugs (EB, EHB, FB, HFB, FB, TRI-PAC®)
FB		etc.	M: Magnetic Only
HFB		Magnetic Only	N: Molded Case Switch (Non-auto)
etc.		Use High Setting	P: TRI-PAC
		022	R: Used with P to indicate redesigned TRI-PAC (Types LA and PB)
		045	R: Used with FB magnetic only breakers and Type LFB current Limiters for FB breakers to indicate rejection feature.
		110	S: SAF-T-Vue®
		190	T: Trip Unit
		270	V: 50°C Calibration
		480	W: Without Terminals
		etc.	X: Load Terminals Only (except FB line listed under L above)
			Y: Line Terminals Only

Note: Above information is for identification of Catalog Number only. Do not use to construct catalog number not listed in this catalog.

⊙ Changed or added since previous issue.
① Replaced by Types BAB or HBAW.



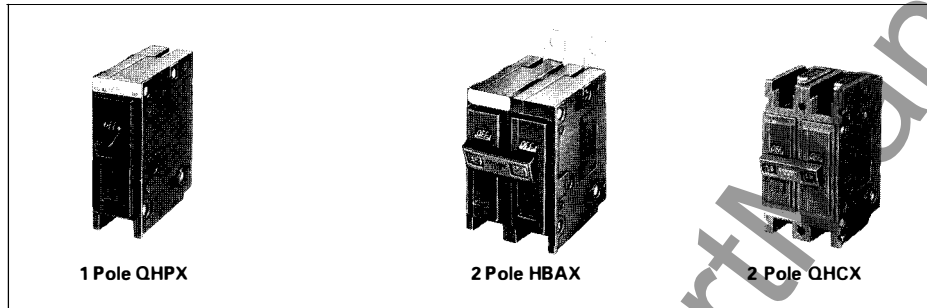
October, 1988
 Supersedes Technical Data 29-120,
 pages 15-16, dated March, 1981
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 31-500A

Quicklag® Type QHPX, HBAX, QHCX,
 100 Amperes, 42,000 Amperes I. C.
 Quicklag Ground Fault Breakers,
 Type P and B, 15-30 Amperes

AB DE-ION® Circuit Breakers

Type QHPX, HBAX, and QHCX Breakers

15-100 Amperes, 120/240, 240 Volts Ac, 1 and 2-Poles, 42,000 Amperes I.C.



Continuous Amps. @ 40°C	Catalog Numbers	
	1 Pole ^③	2 Poles ^④
	120/240 Volts Ac, Max.	120/240 Volts Ac, Max.

Type QHPX Plug-in Breakers (Discount Symbol CB-1)

15	QHPX1015 ^⑤	QHPX2015
20	QHPX1020 ^⑤	QHPX2020
25	QHPX1025	QHPX2025
30	QHPX1030	QHPX2030
35	QHPX1035	QHPX2035
40	QHPX1040	QHPX2040
45	QHPX1045	QHPX2045
50	QHPX1050	QHPX2050
55	QHPX1055	QHPX2055
60	QHPX1060	QHPX2060
70	QHPX1070	QHPX2070
80	.....	QHPX2080
90	.....	QHPX2090
100	.....	QHPX2100

Type HBAX Bolt-on Breakers (Discount Symbol CB-2)

15	HBAX1015 ^⑤	HBAX2015
20	HBAX1020 [●]	HBAX2020
25	HBAX1025	HBAX2025
30	HBAX1030	HBAX2030
35	HBAX1035	HBAX2035
40	HBAX1040	HBAX2040
45	HBAX1045	HBAX2045
50	HBAX1050	HBAX2050
55	HBAX1055	HBAX2055
60	HBAX1060	HBAX2060
70	HBAX1070	HBAX2070
80	.....	HBAX2080
90	.....	HBAX2090
100	.....	HBAX2100

Type QHCX Bolt-on Breakers (Discount Symbol CB-2)

15	QHCX1015 ^⑤	QHCX2015
20	QHCX1020 ^⑤	QHCX2020
25	QHCX1025	QHCX2025
30	QHCX1030	QHCX2030
35	QHCX1035	QHCX2035
40	QHCX1040	QHCX2040
45	QHCX1045	QHCX2045
50	QHCX1050	QHCX2050
55	QHCX1055	QHCX2055
60	QHCX1060	QHCX2060
70	QHCX1070	QHCX2070
80	.....	QHCX2080
90	.....	QHCX2090
100	.....	QHCX2100

These breakers are not defined in Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings:
 42,000 Sym.

Listed with Underwriters' Laboratories, Inc. except as noted.

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Note: All Two and Three pole breakers are of the common trip type.

Terminals

Terminals are Underwriters' Laboratories, Inc. listed as suitable for the wire type and size listed below. When used with aluminum conductors, use joint compound.

QHPX: Terminals on load side only; line terminals are plug-in female clamps which clip on bus stab.

HBAX: Terminals on load side only; line terminals are extended tang which bolts directly to bus.

QHCX: Terminals on line and load ends.

Breaker Amps	Terminal Type	Wire Range and Type
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Types QHPX and HBAX

5-30	Pressure Type	#14-#8 Cu/Al
35-70	Pressure Type	#14-#4 Cu/Al
90-100	Pressure Type	#8-1/0 Cu/Al

Type QHCX

10-20	Binding Screw	#14-#10 Cu/Al
30	Pressure Type	#14-#8 Cu/Al
35-50	Pressure Type	#14-#4 Cu/Al
55-70	Pressure Type	#8-#2 Cu/Al
80-100	Pressure Type	#6-#1 Cu/Al

For Special Calibrations and Accessories, see Page 16.

List Prices: See Price List 29-020, Dis. CB-1, CB-2

② Not listed with Underwriters' Laboratories, Inc.

③ Packaged: 24 in single carton, 144 in master; approx. ship wt.: 7 lbs. and 46 lbs. respectively.

④ Packaged: 12 in single carton, 72 in master; approx. ship wt.: 9 lbs. and 58 lbs. respectively.

⑤ Switching duty rated for 120 volt Ac fluorescent light applications only.



Type QHPX, HBAX, QHCX Breakers, Continued

Special Calibration (Also applies to QPH, QBH, QCH Breakers)

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hertz Ac circuits. See Application Data 29-160 for information regarding special conditions.

Type of Calibration	List Price Addition (CB-2 Disc.)	
	1-49 Identical Units	50 or More Identical Units
Thermal	Add 20% to List Price of Complete Breaker	None
Magnetic		None
Frequency		None

Breaker Accessories (See DB 29-150 for Description)
(Apply to QPH, QHPX, QBH, HBAX, QCH and QHCX Breakers.)

Description	Style Number
Dummy Breakers	
QPH, QHPX	2600D71G09
QBH, HBAX	2600D81G09
QCH, QHCX	2604D91G15
Moisture-Fungus Treatment - Refer to PL 29-020	
Handle Tie (1 Pole Only)	133A633G01
Lockdog (Non-Padlockable)	
1 Pole	1256C42G02
2, 3 Po	1256C42G01
Padlock Attachment (Removable-1 pole Breakers Only)	208B831G02
Padlock Device (Non-removable per California Code)	
1, 2, 3 Pole Breakers - QPH, QBH, QHPX, HBAX	1256C41G01
1, 2, 3 Pole Breakers - QCH, QHCX	750B211G01
Face Mounting Plate (QCH, QHCX)	
1 Pole	1258C07G01
2 Poles	1265C83G02
3 Poles	1265C83G03
Base Mounting Clamp (QCH, QHCX - 2 Required)	K82216
Base Mounting Plate (QCH, QHCX - 6 Poles)	207B513G01

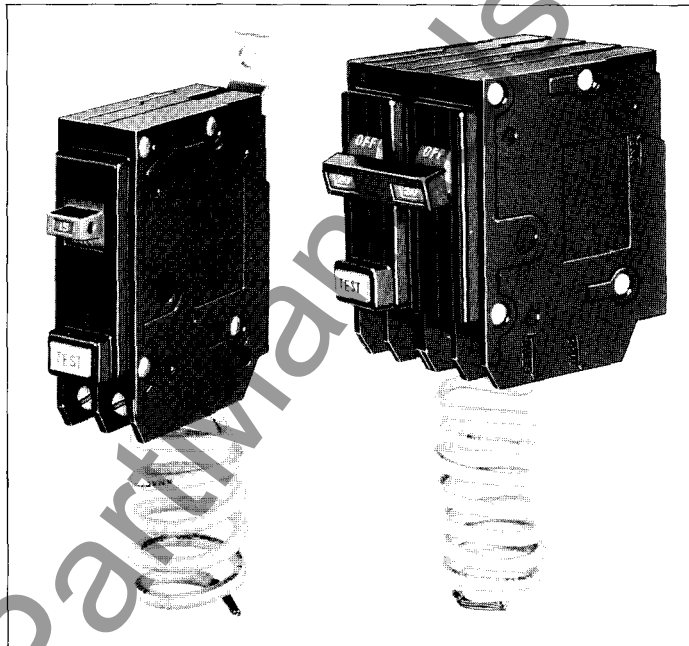
Panelboard Accessories

Description	Style Number
Number Tabs, 1-42, Gum-Backed	622B630H01
ON Button, Black on White	K-72641
OFF Button, Black on White	K-72642
Branch Breaker Connector Tube	K-82217

List Prices: See Price List 29-020, Dis. CB-2, CB-3

Quicklag Ground Fault Circuit Breakers,

Types P and B, 15-30 Amperes, 120 Volts Ac, 1 Pole;
15-30 Amperes, 120/240 Volts Ac, 2 Poles



Sensitivity: 5 Milliamps or greater.

Westinghouse Quicklag Ground Fault circuit breakers are UL listed as Class A, Group 1, ground fault circuit interrupters.

Quicklag Ground Fault circuit breakers are 1 or 2 pole, thermal magnetic circuit breakers, which incorporate a solid state ground fault sensing circuit to detect ground fault current. Available as plug-in (Type P) or bolt-on (Type B) design, they are interchangeable in load centers and panelboards with standard Westinghouse Type P plug-in, and Type B bolt-on Quicklag circuit breakers.

Quicklag Ground Fault circuit breakers are normally used in loadcenters or panelboards to protect small branch circuits in residential, commercial or industrial applications. They function to protect humans from ground faults of 5 milliamperes or greater, as well as normal circuit protection providing inverse time overload and instantaneous short circuit protection.

Typical applications include protection against ground fault hazards in circuits near swimming pools and outdoor receptacles for which the NEC requires protection of human life against ground faults. (Reference NEC articles 680-31, 680-20, 680-6, 555-3, and 210-8.)

Contin- uous Ampere Rating	Catalog Numbers 1 Pole, 120 Volts		Catalog Numbers 2 Poles, 120/240 Volts	
	Type P Plug-in	Type B Bolt-on	Type P Plug-in	Type B Bolt-on
10,000 Amperes I.C. (Discount Symbol CB-3)				
15	QPGF1015	QBGF1015	QPGF2015	QBGF2015
20	QPGF1020	QBGF1020	QPGF2020	QBGF2020
25	QPGF1025	QBGF1025	QPGF2025	QBGF2025
30	QPGF1030	QBGF1030	QPGF2030	QBGF2030
22,000 Amperes I.C. (Discount Symbol CB-3)				
15	QPHGF1015	QBHGF1015	QPHGF2015	QBHGF2015
20	QPHGF1020	QBHGF1020	QPHGF2020	QBHGF2020
25	QPHGF1025	QBHGF1025	QPHGF2025	QBHGF2025
30	QPHGF1030	QBHGF1030	QPHGF2030	QBHGF2030

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 31-500A

AB DE-ION® Circuit Breakers

Type GB and Type GHB Bolt-on Panelboard Circuit Breakers

15-100 Amperes, 120, 240, 277, 480Y/277V.,
 50/60 Hz., 125, 125/250V, Dc 1, 2, and 3
 PolesⓄ

These breakers meet the requirements of
 Federal Specification W-C-375b as follows:

Types GB, GHB, 120 and 240 Volts:

- 1 Pole: Class 11a
- 2, 3 Poles: Classes 10b, 11b, 12b, 14b, 15b

Type GHB, 277 and 480Y/277 Volts

- 1 Pole: Classes 12c, 13a
- 2, 3 Poles: Class 13b

Underwriters' Laboratories, Inc. Listed Interrupting Ratings

Type GB, GHB

- 1 Pole: 120 Volts Ac, 65,000 Amps. Sym.
- 2, 3 Poles: 240 Volts Ac, 65,000 Amps.
 Sym.

Type GHB

- 1 Pole: 277 Volts Ac, 14,000 Amps. Sym.
- 2, 3 Poles: 480Y/277 Volts Ac, 14,000
 Amps. Sym.

Type GB, GHB, Dc AmpsⓄ

- 1 Pole 15-70A.: 125V., 14,000A.
- 2 and 3 Pole 15-100A.: 125/250V., 14,000A.

Listed with Underwriters' Laboratories, Inc. except as noted.

On all 3 phase Delta, Grounded B phase
 applications, refer to Westinghouse.

Note: All two and three pole breakers are of
 the common trip type.

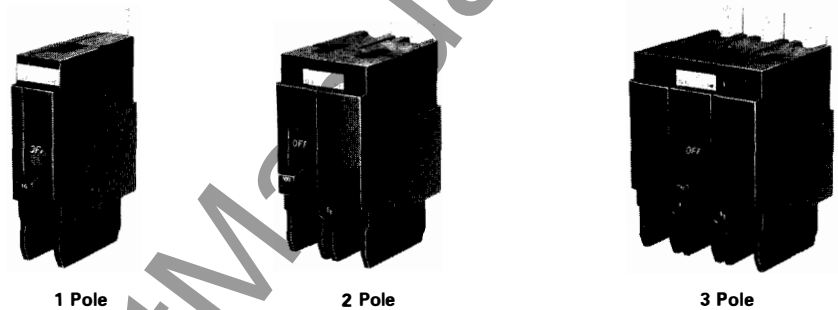
Terminals

For load side only. Line side connection is
 extended tang which bolts directly to bus.
 Load terminals are U/L Listed as suitable for
 wire type and size listed below. When used
 with aluminum conductors, use joint com-
 pound.

Breaker Amperes	Type Terminal	Wire Type	Wire Range
15-20	Clamp	Cu/Al	#14-#10
25-100	Pressure	Cu/Al	#10-1/0

List Prices: See Price List 29-020, Dis. CB-2

- Ⓞ Changed or added since previous issue.
- ① 24 breakers in single carton; Approx. ship wt.:
 16 lbs.
- ② 12 breakers in single carton; Approx. ship wt.:
 16 lbs.



Type GB Breakers

Contin- uous Ampere Rating (@ 40°C)	Catalog Numbers		
	1 Pole① 120 Volts Ac Max.	2 Pole② 240 Volts Ac Max.	3 Pole③ 240 Volts Ac Max.
15	GB1015④	GB2015	GB3015
20	GB1020④	GB2020	GB3020
25	GB1025	GB2025	GB3025
30	GB1030	GB2030	GB3030
35	GB1035	GB2035	GB3035
40	GB1040	GB2040	GB3040
50	GB1050	GB2050	GB3050
60	GB1060	GB2060	GB3060
70	GB1070	GB2070	GB3070
80	GB1080	GB2080	GB3080
90	GB1090	GB2090	GB3090
100	GB1100	GB2100	GB3100

Type GHB Breakers

Contin- uous Ampere Rating (@ 40°C)	Catalog Numbers		
	1 Pole① 277 Volts Ac Max.	2 Pole② 277/480 Volts Ac Max.	3 Pole③ 277/480 Volts Ac Max.
15	GHB1015④	GHB2015	GHB3015
20	GHB1020④	GHB2020	GHB3020
25	GHB1025	GHB2025	GHB3025
30	GHB1030	GHB2030	GHB3030
35	GHB1035	GHB2035	GHB3035
40	GHB1040	GHB2040	GHB3040
50	GHB1050	GHB2050	GHB3050
60	GHB1060	GHB2060	GHB3060
70	GHB1070	GHB2070	GHB3070
80	GHB1080	GHB2080	GHB3080
90	GHB1090	GHB2090	GHB3090
100	GHB1100	GHB2100	GHB3100

- ③ 8 breakers in single carton; Approx. ship wt.:
 16 lbs.
- ④ Switching duty rated for fluorescent light appli-
 cations only: GB, 120 volt Ac; GHB, 277 volt Ac.



AB DE-ION® Circuit Breakers

Type GHBS Solenoid-Operated, Remote-Controlled Circuit Breaker, 1-Pole, 15-20 Amperes, 277 Volts, 50/60 Hz

Westinghouse Type GHBS, Solenoid-Operated Remote-Controllable, Molded Case Circuit Breakers provide local or remote switching and overcurrent protection in a single device. The circuit breaker is a thermal-magnetic, 1-Pole device available in 15 and 20A continuous current ratings. Bolt-on line side connections are provided for mounting in Panelboards similar to standard GB/GHB Circuit Breakers.

The circuit breaker is designed for normal remote operation using an integral solenoid to toggle the Circuit Breaker Moving Contact Arm. A trip-free, bi-stable mechanical linkage provides alternate on/off remote switching.

A handle is provided for local maintenance and emergency switching. For normal operation, the handle must be switched to the ON position to arm the circuit breaker before the remote control can function. Once armed, Remote Control Operation takes place by pulsing the solenoid with a 24 Vac source to switch the circuit breaker from the ON/OFF position. A bracket located on either side of the handle permits the handle to be sealed in the ON or OFF position.

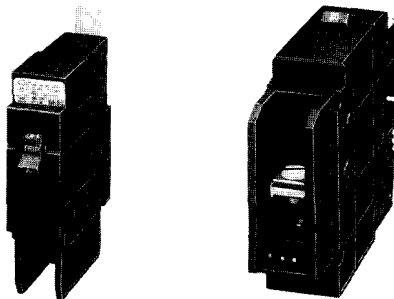
A mechanical target, visible through the face of the circuit breaker, provides positive local indication of the position of the contact arm. The handle also assumes a midpoint position for an automatic trip operation. An internally mounted auxiliary switch with one "a" contact is provided for remote circuit breaker open-closed status.

The solenoid and remote switching mechanism is capable of 30,000 operations which has been tested at a maximum rate of 6 operations per minute.

The Type GHBS Circuit Breaker is suitable for Switching Duty (SWD) application.

List Prices: See Price List 29-020, Dis. CB-2

① 24 Breakers in single carton; Approx. shipping weight 16 lbs.



These circuit breakers meet the requirements of Federal Specification W-C-375B as follows:

- 1 Pole, 120 V., Class 11a
- 1 Pole, 277 V., Class 13a

Underwriters Laboratories, Inc. listed Interrupting Ratings

- Type GHBS, 1 Pole, 50/60 Hz.
- 120 V., 65,000 Amps Rms Sym.
- 277 V., 14,000 Amps Rms Sym.

Terminals

For load side only. Line side connection is extended tang which bolts directly to panel-board bus. Load terminals are UL listed as suitable for wire type and size listed below. When used with aluminum conductors, use appropriate joint compound.

Breaker Amps	Type Terminal	Wire Type	Wire Range
15-20	Clamp	CU/AL	#14-10 AWG

Type GHBS Circuit Breakers

Continuous Ampere Rating @ 40°C	Catalog Numbers
15	1-Pole①
20	277 V. AC Max
	GHBS 1015
	GHBS 1020

Westinghouse Electric Corporation
Distribution and Control Business Unit
Electrical Components Division
Pittsburgh, Pennsylvania, U.S.A. 15220



September, 1987
 New Information
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

AB DE-ION® Circuit Breakers

Type GC and Type GHC Circuit Breakers
 15-100 Amperes, 120, 240, 277, 480Y/277V.,
 50/60 Hz., 125, 125/250V, DC 1, 2 and 3
 Poles

These circuit breakers meet the require-
 ments of Federal Specification W-C-375b as
 follows:

Types GC, 120 and 240V:

- 1 Pole: Class 11a
- 2 and 3 Pole: Classes 10b, 11b, 12b, 14b,
 15b

Types GHC, 277 and 480Y/277V:

- 1 Pole: Classes 12c, 13a
- 2 and 3 Pole: Class 13b

**Underwriters' Laboratories, Inc. Listed
 Interrupting Capacity Ratings**①

Type GC, GHC (50/60 Hz., RMS Sym. Amps)
 1 Pole: 120 V., 65,000A.
 2 and 3 Pole: 240V., 65,000A.

Type GHC (50/60 Hz., RMS Sym. Amps)
 1 Pole: 277V., 14,000A.
 2 and 3 Pole: 480Y/277V., 14,000A.

Type GC, GHC, DC Amps
 1 Pole 15-70A.: 125V., 14,000A.
 2 and 3 Pole 15-100A.: 125/250V., 14,000A.

Application Notes

- On all 3 phase Delta (240V) Grounded B
 phase applications, refer to Westing-
 house.
- 480Y/277V, circuit breakers (Type GHC)
 not suitable for 3 phase Delta (480V.)
 Grounded B phase applications.
- All two and three pole circuit breakers are
 of the common trip type.
- For available accessories, see TD 29-120,
 pages 16.5, 16.6.
- Single pole circuit breakers, 15 and 20A.
 Switching duty rated (SWD) for fluo-
 rescent lighting applications (Type GC, 120V.
 Ac and Type GHC, 277V. Ac).
- Suitable for reverse feed applications.

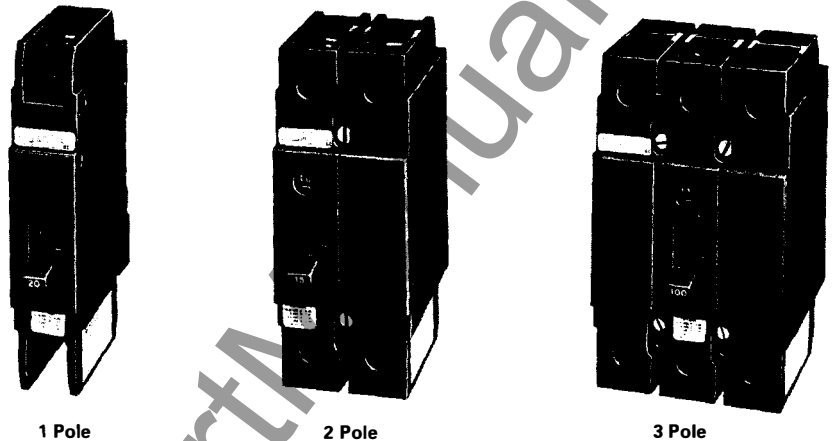
Special Purpose Breakers (see page 16.4)

Terminals

Line and load side terminals are UL Listed
 as suitable for wire type and size as indi-
 cated below. When used with aluminum
 conductors, use appropriate joint com-
 pound.

Breaker Amperes	Type Terminal	Wire Type	Wire Range
15-20	Clamp	Cu/Al	#14-#10 AWG
25-100	Pressure	Cu/Al	#10-1/0 AWG

List Prices: See Price List 29-020, Discount
 CB-2



Type GC Circuit Breakers

Contin- uous Ampere Rating @ 40°C	Catalog Numbers		
	1 Pole②	2 Poles③	3 Poles④
	120V. Ac Max. 125V. Dc Max.⑥	240V. Ac Max. 125/250V. Dc Max.	240V. Ac Max. 125/250V. Dc Max.⑦
15	GC1015⑤	GC2015	GC3015
20	GC1020⑤	GC2020	GC3020
25	GC1025	GC2025	GC3025
30	GC1030	GC2030	GC3030
35	GC1035	GC2035	GC3035
40	GC1040	GC2040	GC3040
45	GC1045	GC2045	GC3045
50	GC1050	GC2050	GC3050
60	GC1060	GC2060	GC3060
70	GC1070	GC2070	GC3070
80	GC1080	GC2080	GC3080
90	GC1090	GC2090	GC3090
100	GC1100	GC2100	GC3100

Type GHC Breakers

Contin- uous Ampere Rating @ 40°C	Catalog Numbers		
	1 Pole②	2 Pole③	3 Pole●
	277V. Ac Max. 125V. Dc Max.⑥	480Y/277V. Ac Max. 125/250V. Dc Max.	480Y/277V. Ac Max. 125/250V. Dc Max.●
15	GHC1015⑤	GHC2015	GHC3015
20	GHC1020⑤	GHC2020	GHC3020
25	GHC1025	GHC2025	GHC3025
30	GHC1030	GHC2030	GHC3030
35	GHC1035	GHC2035	GHC3035
40	GHC1040	GHC2040	GHC3040
45	GHC1045	GHC2045	GHC3045
50	GHC1050	GHC2050	GHC3050
60	GHC1060	GHC2060	GHC3060
70	GHC1070	GHC2070	GHC3070
80	GHC1080	GHC2080	GHC3080
90	GHC1090	GHC2090	GHC3090
100	GHC1100	GHC2100	GHC3100

① For IEC-157-1 (P1) Ratings, refer to Westinghouse.

② 24 circuit breakers in single carton; approx. ship wt. 18 lbs.

③ 12 circuit breakers in single carton; approx. ship wt. 18 lbs.

④ 8 circuit breakers in single carton; approx. ship wt. 18 lbs.

⑤ SWD rated.

⑥ 15-70A. only.

⑦ Use (2) outside poles.



AB DE-ION® Circuit Breakers

Special Purpose Breakers

These are Type GC and GHC circuit breakers with binding head screw-type terminals on line and load side. These circuit breakers with screw-type terminals will be marked "Special purpose breaker not for general use". To order this special breaker, use the catalog numbers below.

Type GC Breakers

Continuous Ampere Rating @ 40°C	Catalog Numbers		
	1 Pole ^② 120V Ac Max 120V Dc Max	2 Pole ^③ 240V Ac Max 125/250V Dc Max	3 Pole ^④ 240V Ac Max 125/250V Dc Max ^⑦
25	GC1025D	GC2025D	GC3025D
30	GC1030D	GC2030D	GC3030D
35	GC1035D	GC2035D	GC3035D
40	GC1040D	GC2040D	GC3040D
45	GC1045D	GC2045D	GC3045D
50	GC1050D	GC2050D	GC3050D
55	GC1055D	GC2055D	GC3055D
60	GC1060D	GC2060D	GC3060D

Type GHC Breakers

Continuous Ampere Rating @ 40°C	Catalog Numbers		
	1 Pole ^② 277V Ac Max 125V Dc Max ^⑥	2 Pole ^③ 480Y/277V Ac Max 125/250V Dc Max	3 Pole ^④ 480Y/277V Ac Max 125/250V Dc Max ^⑦
25	GHC1025D	GHC2025D	GHC3025D
30	GHC1030D	GHC2030D	GHC3030D
35	GHC1035D	GHC2035D	GHC3035D
40	GHC1040D	GHC2040D	GHC3040D
45	GHC1045D	GHC2045D	GHC3045D
50	GHC1050D	GHC2050D	GHC3050D
55	GHC1055D	GHC2055D	GHC3055D
60	GHC1060D	GHC2060D	GHC3060D

② 24 circuit breakers in single carton; approx. ship wt. 18 lbs.

③ 12 circuit breakers in single carton; approx. ship wt. 18 lbs.

④ 8 circuit breakers in single carton; approx. ship wt. 18 lbs.

⑤ SWD rated.

⑥ 15-70A. only.

⑦ Use (2) outside poles.



September, 1987
New Information
Mailed to: E, D, C/29-100A, 31-400A,
31-500A

AB DE-ION[®] Circuit Breakers

Circuit Breaker Accessories

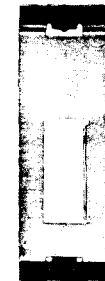
(Apply with GB, GHB, GC, GHC Circuit Breakers)

External Mounted Accessories

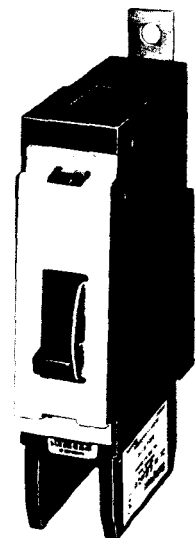
Description	Style Number	No. Units in Package
Lock Dog (Non-Padlockable)	1294C01H01	1
Padlockable Handle	1223C77G01	10
Mounting Hardware (GC/GHC)	624B375G23	1 [ⓐ]
Din Rail Adaptor [ⓑ] (GC/GHC)	1225C79G01	10
Base Mounting Plate [ⓒ] (GC/GHC)	207B513G01	1



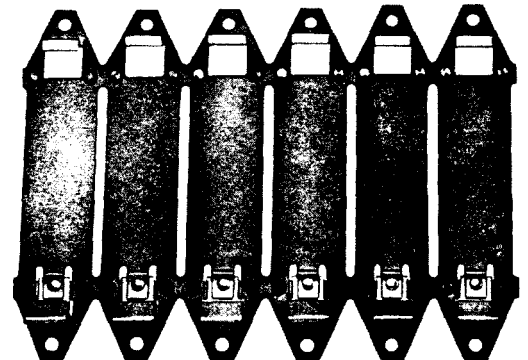
Lock Dog (Non-Padlockable)



Padlockable Handle



Din Rail Adapter



Base Mounting Plate



AB DE-ION® Circuit Breakers

Internally Mounted Accessories — (2) and (3) Pole Only^⑥

Note
GB/GHB/GC/GHC circuit breakers are factory sealed. Underwriters' Laboratories, Inc., requires that internal accessories be installed at the factory.

Internal accessories are UL listed for factory installation under E7819.

Where local codes and standards permit and UL listing is not required, internal accessories can be field installed. Accessory installation should be done before the circuit breaker is mounted and connected.

Table 1^⑦

Type Accessory	Electrical Ratings			Style Number ^{③ ⑤}
	Volts	Freq.	Amps	
Shunt Trip	120	50/60 Hz	1.1	1373D62G01
Shunt Trip	240	50/60 Hz	2.1	1373D62G02
Shunt Trip	12	Dc	2.8	1373D62G15
Shunt Trip	24	Dc	5.7	1373D62G16
Undervoltage Release	120	50/60 Hz	0.05	1373D62G03
Undervoltage Release	24	50/60 Hz	0.22	1373D62G04
Undervoltage Release	48	50/60 Hz	0.11	1373D62G05
Undervoltage Release	60	50/60 Hz	0.10	1373D62G06
Undervoltage Release	110	50 Hz	0.049	1373D62G07
Undervoltage Release	208	60 Hz	0.026	1373D62G08
Undervoltage Release	220	50 Hz	0.025	1373D62G09
Undervoltage Release	240	50/60 Hz	0.024	1373D62G10
Undervoltage Release	380	50 Hz	0.015	1373D62G11
Undervoltage Release	415	50 Hz	0.013	1373D62G12
Undervoltage Release	440	50 Hz	0.012	1373D62G13
Undervoltage Release	480	60 Hz	0.01	1373D62G14

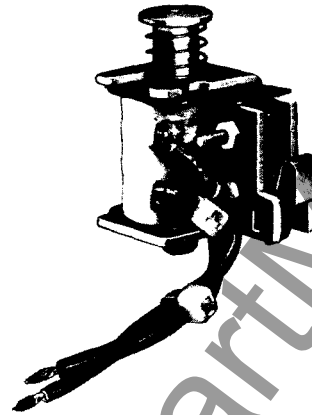
Table 2^⑧

Type Accessory	Electrical Rating			Contact Arrangement ^{③ ⑤}	Style Number ^{③ ⑤}
	Volts	Freq.	Amps		
Auxiliary Switch	240	50 60 Hz	6	1a-1b	1288C74G03
Auxiliary Switch	240	50 60 Hz	6	2a-2b	1288C73G03
Alarm Switch	240	50 60 Hz	6	1 break	1288C75G02

Shunt Trip

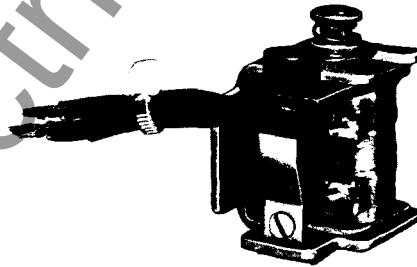
For tripping the circuit breaker from remote point. Solenoid device mounts within circuit breaker cover. Circuit breaker trips when coil is energized.

Since coil is intermittent rated only, a cut-off switch is included to interrupt the coil circuit when the circuit breaker opens.



Undervoltage Release

For undervoltage protection. Solenoid device mounts within circuit breaker cover. Trips circuit breaker within range of 35 to 70% of rated coil voltage. Picks up and seals in at 85% of rated coil voltage. The UVR is reset by the circuit breaker handle following an opening operation. The UVR is not designed for and should not be used as a circuit interlock.



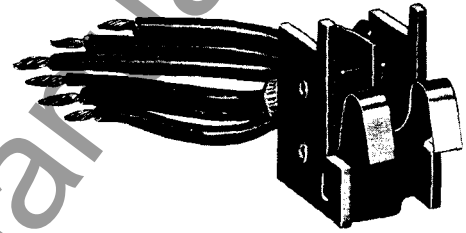
Typical internal accessory shipping weight 0.50 Lbs.

List Prices

See Price List 29-020, Dis. CB-2

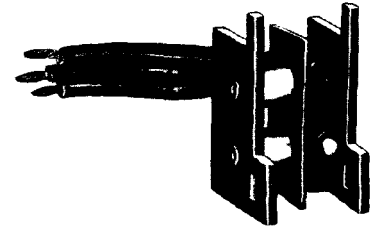
Auxiliary Switch

For auxiliary control circuits. Miniature switches mount within circuit breaker cover. Commonly used for remote indication of open/closed circuit breaker status as well as electrically interlocking circuitry. "a" contacts are open with the circuit breaker open. "b" contacts are closed with the circuit breaker open.



Alarm/Lockout Switch

For remote indication of automatic trip operation. Does not function with manual switching; however, it will operate when either a shunt trip or undervoltage release is operated. A "make" contact closes and a "break" contact opens when the alarm/lockout switch operates. The switch automatically resets when the circuit breaker is reset.



Either an auxiliary switch or an alarm/lockout switch may be mounted in a two pole circuit breaker. The two pole circuit breaker will not accept either the shunt trip or UVR.

- ① For use with standard 35mm Din Rail such as, 35 x 7.5 or 35 x 15mm per Din EN50022.
- ② Adaptor mounting screws included are for use with (2) and (3) pole circuit breakers. Adaptors for (1) pole circuit breakers clip into the base molding.
- ③ Suitable for mounting (6) single pole circuit breakers.
- ④ Suitable for mounting (1) two or three pole circuit breaker.
- ⑤ Includes 24 inch external pigtail leads, #18 AWG (16-.010).
- ⑥ A maximum of two internal accessories may be mounted in a three pole circuit breaker.
- ⑦ Suitable for mounting in left pole only of 3 pole breaker.
- ⑧ Suitable for mounting in right pole only of 2 or 3 pole breaker.



March, 1988
Supersedes Technical Data 29-120,
pages 17-18 dated March, 1981
Mailed to: E, D, C/29-100A, 31-400A,
31-500A

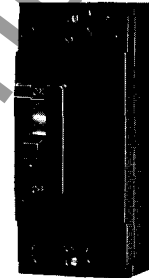
Type CA, CAH and HCA 225 Amperes
Type BAB 125 Amperes
MARK 75● Type HBA 30 Amperes

AB DE-ION® Circuit Breakers

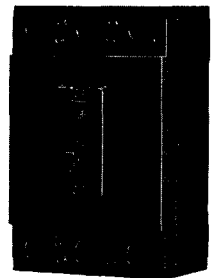
Type CA, CAH and HCA BreakersⓄ

125-225 Amperes, 240 Volts Ac, 2 and 3 Poles, Fixed Trip, Thermal Magnetic Breakers

Cont. Ampere Range @ 40°C	2 Pole Breakers			3 Pole Breakers		
	Catalog Numbers			Catalog Numbers		
	10,000	22,000	42,000	10,000	22,000	42,000
	Amps I.C.		Amps I.C.	Amps I.C.		Amps I.C.
Breakers With Line Terminals Only						
125	CA2125Y	CAH2125Y	HCA2125Y	CA3125Y	CAH3125Y	HCA3125Y
150	CA2150Y	CAH2150Y	HCA2150Y	CA3150Y	CAH3150Y	HCA3150Y
175	CA2175Y	CAH2175Y	HCA2175Y	CA3175Y	CAH3175Y	HCA3175Y
200	CA2200Y	CAH2200Y	HCA2200Y	CA3200Y	CAH3200Y	HCA3200Y
225	CA2225Y	CAH2225Y	HCA2225Y	CA3225Y	CAH3225Y	HCA3225Y
	Approx. Ship Wt.: 3¼ Lbs.			Approx. Ship Wt.: 4½ Lbs.		
Breakers With Line and Load Terminals						
125	CA2125	CAH2125	HCA2125	CA3125	CAH3125	HCA3125
150	CA2150	CAH2150	HCA2150	CA3150	CAH3150	HCA3150
175	CA2175	CAH2175	HCA2175	CA3175	CAH3175	HCA3175
200	CA2200	CAH2200	HCA2200	CA3200	CAH3200	HCA3200
225	CA2225	CAH2225	HCA2225	CA3225	CAH3225	HCA3225
	Approx. Ship Wt.: 3½ Lbs.			Approx. Ship Wt.: 5 Lbs.		



Type CA 2 Pole



Type CA 3 Pole

These breakers meet requirements of Federal Specification W-C-375b as follows: CA, Class 12b; CAH, Class 14b; HCA, not defined.

Underwriters' Laboratories, Inc. Listed Interrupting Rating: (2-Pole CA and CAH listed for grounded B Phase applications).

240 Volts Ac	Amperes ^①
CA	10,000 Asym. and Sym.
CAH	25,000 Asym., 22,000 Sym.
HCA	42,000 Sym.

TerminalsⓄ

Terminals are Underwriters' Laboratories, Inc. listed for the wire type and size listed below. When used with aluminum conductors, use joint compound.

Max. Amps.	Catalog Number	Wire Range and Type
225 ^②	TA225CA2	#1-300 MCM Al/Cu

Listed with Underwriters' Laboratories, Inc. except as noted (for C.S.A., see page 48).

List Prices: See Price List 29-020, Dis. CB-2

Accessories and Modifications
Description: Pages 49-58

Special CalibrationsⓄ

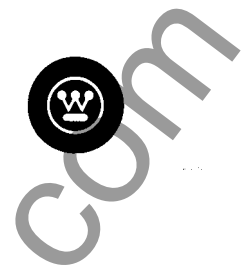
Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hertz Ac circuits. See Application Data 29-160 for information regarding special conditions. Maximum 400 Hz calibration: Type CA, HCA and CAH, 160 amps.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal	Add 10% of List Price of Complete Breaker	None
Magnetic		None
Frequency		None

50°C Calibration^③

Add suffix "V" to catalog number for complete breaker when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

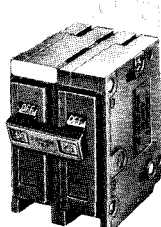
Ⓞ Changed or added since previous issue.
① Interrupting capacities shown do not apply to Molded Case Switches (MCS).
② Terminal TA225CA2 will replace both TA175CA1 and TA225CA1 as their stock is depleted.
③ Not UL Listed.



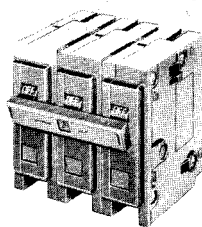
Type BA and MARK 75® Type HBA Breakers
10-125 Amperes, 120/240 and 240 Volts Ac, 1, 2 and 3-Pole



120/240 Volt



120/240 Volt



240 Volt

Contin- uous Amp Rat- ing (@ 40°C)	Catalog Numbers®					
	1 Pole●		2 Pole②		3 Pole③	
	120/240 Volts Ac Max.		120/240 Volts Ac Max.		240 Volts Ac Max.	240 Volts Ac Max.
	Standard	MARK 75	Standard	MARK 75	Standard	MARK 75
10	BAB1010		BAB2010		BAB2010H⑤	BAB3010H⑤
15	BAB1015④	HBAW1015④	BAB2015⑦	HBAW2015	BAB2015H	BAB3015H⑦
20	BAB1020④	HBAW1020④	BAB2020⑦	HBAW2020	BAB2020H	BAB3020H⑦
25	BAB1025	HBAW1025	BAB2025⑦	HBAW2025	BAB2025H	BAB3025H⑦
30	BAB1030	HBAW1030	BAB2030⑦	HBAW2030	BAB2030H	BAB3030H⑦
35	BAB1035		BAB2035⑦		BAB2035H	BAB3035H⑦
40	BAB1040		BAB2040⑦		BAB2040H	BAB3040H⑦
45	BAB1045		BAB2045⑦		BAB2045H	BAB3045H⑦
50	BAB1050		BAB2050⑦		BAB2050H	BAB3050H⑦
55	BAB1055		BAB2055⑦		BAB2055H	BAB3055H⑦
60	BAB1060		BAB2060⑦		BAB2060H	BAB3060H⑦
70	BAB1070		BAB2070		BAB2070H	BAB3070H
80			BAB2080		BAB2080H	BAB3080H
90			BAB2090		BAB2090H	BAB3090H
100			BAB2100		BAB2100H	BAB3100H
110			BAB2110			
125			BAB2125			

Type BA breakers meet the requirements of Federal Specification W-C-375b as follows: 1 pole, 120/240 volts Ac, Classes 10a, 11a, 12a; 2 pole, 120/240 volts Ac, Classes 10a, 12a; 2, 3 pole, 240 volts Ac, Classes 10b, 11b, 12b; MARK 75 Type HBA breakers, 1, 2 poles 120/240 volt Ac, Class 15a; 3 pole, 240 volt Ac, Class 15b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings

Type BAB: 10,000 Amps. (Asym. or Sym.)
Type HBA: 75,000 Amps Asym.; 65,000 Amps. Sym.

Listed with Underwriters' Laboratories, Inc. except as noted.

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Note: All two and three pole breakers are of the common trip type.

Terminals®

Load side only - line side connection is extended tang which bolts directly to bus. Load terminals are U/L listed as suitable for wire type and size listed below. When used with aluminum conductors, use joint compound.

Breaker Amperes	Type Terminal	Wire Type	Wire Range
10- 30	Pressure	Cu/Al	#14 - #8
35- 50	Pressure	Cu/Al	#14 - #4
55-100	Pressure	Cu/Al	# 8 - 1/0

Special Breakers

Tungsten Lampload: Use standard 1 pole 15 or 20 amp Type BAB.

Switching Neutral: For application in accordance with N.E.C. 514-5, 240-22 and 380-2. (2 pole breakers)

10 Amps: Cat. No. BAB2010C
15 Amps: Cat. No. BAB2015C
20 Amps: Cat. No. BAB2020C

HID (High Intensity Discharge): Breakers designed specifically for use with high intensity discharge lighting (UL Listed as standard lighting breakers®).

Contin- uous Ampere Rating @ 40°C	Catalog Numbers	
	1 Pole 120/240 Volts Ac Max.	2 Pole 120/240 Volts Ac Max.
15	BAB1015D	BAB2015D
20	BAB1020D	BAB2020D
25	BAB1025D	BAB2025D
30	BAB1030D	BAB2030D

List Prices: See Price List 29-020, Dis. CB-2

Panelboard Accessories

Description	Style Number
Number Tabs, 1-42, Gum-Backed ON Button, Black on White OFF Button, Black on White	622B630H01 K-72641 K-72642

Breaker Accessories

(See DB 29-150 for description.)

Description	Style Number
Dummy Breaker	2600D81G09
Moisture-Fungus Treat.	
1-Pole	
2-Pole	
3-Pole	
California Handle Tie	
1 Pole Breakers Only	133A633G01
Lockdog (Non-padlock)	
1 Pole Only	1256C42G02
2, 3 Pole	1256C42G01
Padlock Attach., Removable	
1 Pole Only	208B831G02
Padlock Device (Non-Remove. per California Code)	
1, 2, 3 Poles	1256C41G01

Special Calibration®

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hertz Ac circuits. See Application Data 29-160 for information regarding special conditions.

Type of Calibration	List Price Addition	
	1-49 Identical Units	50 or More Identical Units
Thermal	Add 20% to List Price of Complete Breaker	None
Magnetic		None
Frequency		None

- Changed or added since previous issue.
- ① 24 breakers in single carton, 144 in master carton.
Approx. ship. wt.: 7 lbs and 46 lbs. respectively.
- ② 12 breakers in single carton, 72 in master carton.
Approx. ship wt.: 9 lbs. and 58 lbs. respectively.

- 8 breakers in single carton, 48 in master carton.
Approx. ship. wt.: 9 lbs. and 58 lbs. respectively.
- ④ Switching duty rated for 120 volt Ac fluorescent light applications only.
- ⑤ Not listed with Underwriters' Laboratories, Inc.

- ® UL does not have a specific category for HID breakers.
- ⑦ Listed for "HACR" applications per N.E.C. 430-53.



March, 1988
Supersedes Technical Data 29-120,
pages 19-20, 23-26, 39-40, dated April, 1980
and pages 21-22, dated October, 1981
Mailed to: E, D, C/29-100A, 31-400A,
31-500A

AB DE-ION[®] Circuit Breakers

Replacement Breakers

Type DA Breakers

Replaced by Series C Type DK.
See Frame Book 29-103.

DA Breakers for replacement purposes.
See Technical Data 29-121.

Types EHB, FB, HFB

Replaced by Series C F-Frame.
See Frame Book 29-101.

Type EB

Replaced by Series C F-Frame or Type GC.
See Technical Data 29-120 pg 16.3 for GC.

Types EB, EHB, FB, HFB for replacement purposes.
See Technical Data 29-121.

Type FB magnetic only

Replaced by Series C Type HMCP.
See Frame Book 29-111.

Types JA, KA, HKA

Replaced by Series C J-Frame.
See Frame Book 29-102.

Types JA, KA, HKA for replacement purposes.
See Technical Data 29-121.

Magnetic only breakers replaced by HMCP.
See Frame Book 29-111A.

Types JB, KB, HKB

Replaced by Series C J-Frame.
See Frame Book 29-102.

Types JB, KB, HKB for replacement purposes.
See Technical Data 29-121.

Magnetic only breakers replaced by HMCP.
See Frame Book 29-111A.

Types LB, LBB, HLB

Replaced by Series C K-Frame.
See Frame Book 29-103.

Types LB, LBB, HLB for replacement purposes.
See Technical Data 29-121.

Magnetic only breakers replaced by HMCP.
See Frame Book 29-111A.



Type LA and MARK 75® Type HLA 600 Amp Frame Breakers®
250-600 Amperes, 600 Volts Ac, 250 Volts Dc, 2, 3 Poles, Interchangeable Trip Thermal Magnetic, Saf-T-Vue and MARK 75 Breakers

Con- tin- uous Am- pere Rat- ing (at 40°C	Magnetic Trip Setting Amperes ⑥ Low High	Complete Breaker			Shipped as Frame, Trip Unit and Terminals⑦			
		Includes Pressure Type Aluminum Terminals④			Frame Only			Trip Unit Only
		Catalog Number			Catalog Number			Catalog Number
		Standard	Saf-T-Vue	MARK 75	Standard	Saf-T-Vue	MARK 75	Standard, Saf-T-Vue, MARK 75

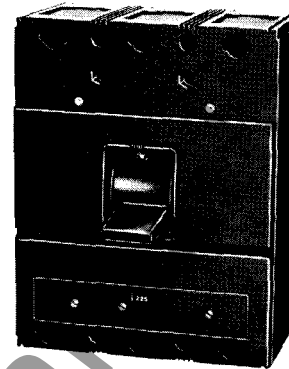
600 Ampere Frame Breakers®

2 Poles, 600 Volts Ac, 250 Volts Dc®

250	1250	2500	2603D50G01	2603D50G13	1256C10G02	LA2600F	LA2600FS	HLA2600F	2603D46G07
300	1500	3000	2603D50G02	2603D50G14	1256C10G03	LA2600F	LA2600FS	HLA2600F	2603D46G08
350	1750	3500	2603D50G03	2603D50G15	1256C10G04	LA2600F	LA2600FS	HLA2600F	2603D46G09
400	2000	4000	2603D50G04	2603D50G16	1256C10G05	LA2600F	LA2600FS	HLA2600F	2603D46G10
500	2500	5000	LA2500	LA2500S	HLA2500	LA2600F	LA2600FS	HLA2600F	HLA2500T
600	3000	6000	LA2600	LA2600S	HLA2600	LA2600F	LA2600FS	HLA2600F	HLA2600T

3 Poles, 600 Volts Ac Only

250	1250	2500	2603D50G07	2603D50G19	1256C10G12	LA3600F	LA3600FS	HLA3600F	2603D46G26
300	1500	3000	2603D50G08	2603D50G20	1256C10G13	LA3600F	LA3600FS	HLA3600F	2603D46G27
350	1750	3500	2603D50G09	2603D50G21	1256C10G14	LA3600F	LA3600FS	HLA3600F	2603D46G28
400	2000	4000	2603D50G10	2603D50G22	1256C10G15	LA3600F	LA3600FS	HLA3600F	2603D46G29
500	2500	5000	LA3500	LA3500S	HLA3500	LA3600F	LA3600FS	HLA3600F	HLA3500T
600	3000	6000	LA3600	LA3600S	HLA3600	LA3600F	LA3600FS	HLA3600F	HLA3600T



Terminals③ ④ ⑥

Two terminals are required per pole. Terminals are Underwriters' Laboratories, Inc. listed for wire type and range listed below. When used with aluminum cable, use joint compound. To order optional copper only terminals, add suffix "C" to complete breaker catalog number.

Max. Amps	Terminal Cat. Number	Wire Range, Type No. of Cables
Standard Al/Cu Pressure Terminals		
600⑦	TA600LA	2 250-500 MCM Al/Cu
Optional Copper Pressure Terminals		
600⑦	T600LA	2 250-500 MCM Cu

For Panelboard and Switchboards applications where only line side or load side terminals are required, add suffix "X" to complete breaker catalog number.

Special Breakers® Trip Units Only

Contin- uous Amper Rating	Magnetic Trip Setting, Amperes⑥ Low High	Cat/Style Number	
		2-Poles②	3-Poles

Magnetic Only Breakers, Front Adjustable

600 Ampere Frame Breakers®

600	1125	2250	2603D47G07	2603D47G26
600	1500	3000	2603D47G08	2603D47G27
600	2000	4000	2603D47G10	2603D47G29
600	2500	5000	HLA2500TM	HLA3500TM
600	3000	6000	HLA2600TM	HLA3600TM

Ambient Compensating Breakers

600 Ampere Frame Breakers®

250	1250	2500	5683D88G07	5683D88G26
300	1500	3000	5683D88G08	5683D88G27
350	1750	3500	5683D88G09	5683D88G28
400	2000	4000	5683D88G10	5683D88G29
500	2500	5000	HLA2500TA	HLA3500TA
600	3000	6000	HLA2600TA	HLA3600TA

Special Calibrations®

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hz Ac circuits. See application data 29-160 for information regarding special conditions. Maximum 400 Hz calibration: 600 amp frame, 450 amps.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal Ambient Frequency	Add 20% to List Price of Trip Unit	None None None

50°C Calibration®

Add suffix "V" to catalog number for complete breaker or trip unit only, when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

Type LA breakers meet requirements for class 21a circuit breakers, and Type HLA meet requirements for class 23a as defined by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings®

Volts Max. Amperes

Standard Breakers

240 Ac	50,000 Asym., 42,000 Sym.
480 Ac	35,000 Asym., 30,000 Sym.
600 Ac	25,000 Asym., 22,000 Sym.
250 Dc	20,000⑧

Mark 75 Breakers

240 Ac	75,000 Asym., 65,000 Sym.
480 Ac	40,000 Asym., 35,000 Sym.
600 Ac	30,000 Asym., 25,000 Sym.
250 Dc	20,000⑧

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Magnetic Only and Ambient Compensating Breakers®

For description, refer to DB 29-150 and AD 29-160. To order, select frame, trip unit and terminals from tables this page.

Accessories and Modifications

Description: Pages 49-58

List Prices: See Price List 29-020, Dis. CB-2

- ⑥ Changed or added since previous issue.
- ⑦ Two-pole breakers or trips are supplied in 3-pole frames with current carrying parts omitted from center pole.
- ⑧ Terminals, trip units and accessories are not interchangeable between 400 and 600 ampere frames.
- ⑨ Terminals shipped separately from breakers.
- ⑩ Not listed with Underwriters' Laboratories, Inc.
- ⑪ Set on high side, adjustable to lower limits.
- ⑫ For 600 amp frame breakers only.
- ⑬ Ratings above 10,000 amps not UL listed.
- ⑭ Interrupting capacities shown do not apply to molded case switches.



August, 1988
 New Information
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

DC Circuit Breakers

AB DE-ION® Circuit Breakers

UL Listed DC Circuit Breakers

These new UL Listed DC Molded Case Circuit Breakers are for use in the ungrounded battery supply circuits of UPS systems providing continuous, reliable AC power to computer controlled applications such as financial transactions and telecommunications.

These devices are an excellent alternative to molded case switches and fuses because they are easier to install, and require less maintenance.

- LADC (600A) circuit breakers are thermal magnetic type devices and have interrupting ratings of 25 kA at 500 VDC nominal with 3 poles in series.
- NCDC Seltronic® (1200A) Circuit Breakers are available with fixed current rating plugs covering a continuous current range of 600 to 1200 amperes and have an interrupting rating of 30 kA at 500 VDC nominal with 3 poles in series. The 24 VDC and 48 VDC control voltage rating plugs are interchangeable and enable easy matching of the circuit breaker DC control voltage requirements to available auxiliary power.

DC Circuit Breaker Ratings

Breaker Type	LADC*	NCDC*
Maximum Ampere Rating	600	1200
Standard Voltage	DC 35	DC 25
Freq.	384②	500②
kA Interrupting Capacity	30	30

*8 milliseconds time constant.

Accessories

- The LADC circuit breaker uses the same accessories used on the type LA3600 circuit breaker.
- The NCDC circuit breaker contains an undervoltage release that will trip the circuit breaker when the control voltage drops below its minimum value (Refer to IL 15549). A standard shunt trip accessory is not required. The circuit breaker may be tripped remotely by opening the circuit between the control power source and the trip unit. In addition, the following two internal accessories are available;

1. An alarm (Signal)/Lockout Switch factory installed only, or
2. An Auxiliary Switch for field installation.

Frame and Trip Unit or Rating Plugs

Catalog Number	Trip Unit	Ampere Rating
Type LADC		
LADC3600F		600
	2603D46G29	400
	HLA3500T	500
	HLA3600T	600

Type NCDC		
NCDC312F1		1200
NCDC312F2		1200

Current Rating Plugs

For NCDC312F1 and NCDC312F2	Current Rating
NCDC0600A	600
NCDC0700A	700
NCDC0800A	800
NCDC1000A	1000
NCDC1200A	1200

Control Voltage Rating Plugs①

For NCDC312F1 Only	Control Voltage
NCDC024V	24
NCDC048V	48
For NCDC312F2 Only	Control Voltage
NCDC125V	125

NCDC TK Test Kit

Terminals

Use standard Cu/Al or optional copper only terminals for types LA600 or NC as shown in Technical Data 29-120.

Shorting Straps For Series Connecting Poles

Breaker Frame	Catalog Number
LADC	SS600
NCDC	SS1200

Order as Follows:

- Type LADC**
 1 . . . amp breaker without terminals consisting of:
 1 - LADC3600F frame
 1 - Trip unit (specify catalog number or style number)
 Accessories as required
- Type NCDC**
 1 . . . amp breaker without terminals consisting of:
 1 - NCDC312F() frame
 1 - Current rating plug (specify catalog number)
 1 - Voltage rating plug. (specify catalog number)
 Accessories as required

Note: Shorting straps and/or terminals are to be ordered as separate items.

List Prices: See Price List 29-020, Dis. CB-2.

- ① Voltage rating plugs are not interchangeable between the two NCDC frames.
- ② 3 Poles in series.

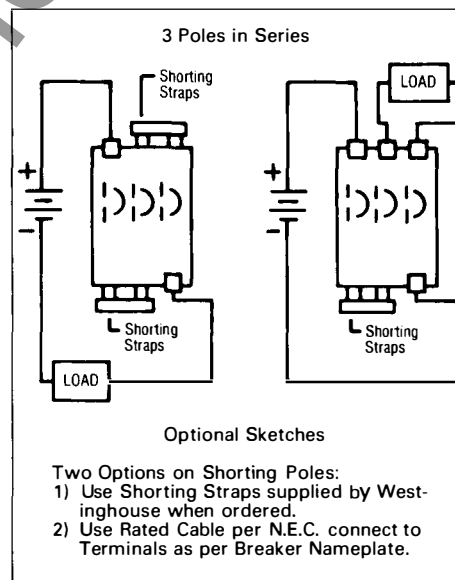


Fig. 1. Series connection diagrams.



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Westinghouse Electric Corporation
Distribution and Control Business Unit
Electrical Components Division
Pittsburgh, Pennsylvania, U.S.A. 15220

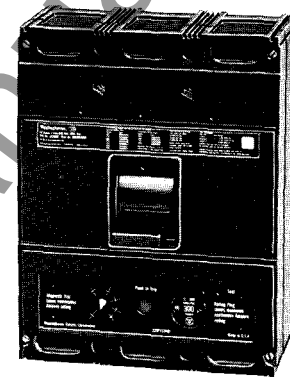


December, 1988
New Information
Mailed to: E, D, C/29-100A, 31-400A,
31-500A

Types LCY, LCYA, LCYG and LCYGA
240 Volts Ac, 3 Pole
300-600 Amperes SELTRONIC™ Breakers

Types MCY, MCYA, M CYG and MCYGA
240 Volts Ac, 3 Pole
800 Ampere SELTRONIC™ Breakers

AB DE-ION® Circuit Breakers



Types LCY and LCYA SELTRONIC™ Circuit Breakers with Solid State Trip Units

240 Volts Ac, 50/60 Hz Complete Breaker Requires Frame, Rating Plug and Terminals

Frame Only

Poles	Catalog Numbers	
	Standard (Long Delay and Magnetic Trip)	Long Delay, Magnetic Trip and Adjustable Short Delay Time (.06-.22 seconds)

Types LCY and LCYA (300-600 Amperes)

3	LCY3600F	LCYA3600F
---	----------	-----------

Type L CYG and LCYGA SELTRONIC Breakers with Built-in Ground Fault Protection

Complete Breaker Requires Frame, Rating Plug, and Terminals, Extra Current Transformer Included for Neutral^① ② See Accessories Page 32.2 for Indicator Kit

Frame Only

Poles	Catalog Numbers		Ground Fault Characteristics	
	Standard (Long Delay, Magnetic Trip) and Ground Fault Trip	Long Delay, Magnetic Trip, Adjustable Short Delay Time and Ground Fault Trip	Pick-up Setting Amps	Time Setting

Types L CYG, LCYGA (300-600 Amperes)

3	LCYG3600F	LCYGA3600F	120-600	3.5-30 Cy
---	-----------	------------	---------	-----------

Terminals (Order Separately)

Two terminals are required per pole. Terminals are UL Inc. listed for wire type and range listed at right. When used with aluminum cable, use joint compound.

Max. Amps	Terminal Cat. Number	Wire Range, Type No. of Cables
Standard Al/Cu Pressure Terminals		
500 ^⑧	TA602LD ^⑧	(2) 250-350 MCM Al/Cu
600 ^⑧	TA603LA ^⑧	(2) 400-500 MCM Al/Cu
600 ^⑧	TA600LA ^⑧	(2) 250-500 MCM Al/Cu
Optional Copper Pressure Terminals		
600 ^⑧	T600LA	(2) 250-500 MCM Cu

Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A. see page 48.)

Type LCY breakers are not defined by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings

Volts Max.	Amperes
240 Ac	115,000 Asym., 100,000 Sym.

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Further Information

List Prices: See Price List 29-020, Dis. CB-2

Factory Mounted and Other Accessories

and Modifications: Pages 49-58 (LC-600)

Field Mountable Attachments: This Page

Rating Plugs: Page 32.1 (LC-600)

Portable Test Kit: Page 32.2

Field Mountable Attachments^③ ④ ⑤

Description	Style Number
Provision to trip flux transfer shunt trip from external source:	
32 to 120 Volts (Dc to 60 Hz) ●	1371D11G22
240 to 600 Volts Ac (50/60 Hz) ⑥	1371D11G32
Provision to trip flux transfer shunt trip from external source, plus a 1A-1B auxiliary switch:	
32 to 120 Volts (Dc to 60 Hz) ⑦	1371D11G15
240 to 600 Volts Ac (50/60 Hz) ⑥	1371D11G25
Provision to trip flux transfer shunt trip from 24 volt Dc source.	1371D93G01
1A-1B Auxiliary Switch	1371D11G03

① Available without extra C.T. for neutral. Order by description as similar to above except without neutral C.T. or external C.T. terminal connections. (Same Price) Note the standard ground fault unit above can also be used without the neutral C.T.

② These breakers use LC terminals. The fourth C.T. uses MC breaker terminals.

③ Only one attachment may be mounted per breaker.

④ For other possible combinations, refer to Westinghouse.

⑤ Does not void listing of UL listed breakers.

⑥ Not for use on ground fault applications.

⑦ Rated 48 volts minimum for ground fault applications requiring tripping at 55% of voltage.

⑧ Type Al9Cu aluminum terminal.

⑨ Available 1st quarter 1989.

⑩ For 600 amp frame breakers only.



AB DE-ION Circuit Breakers

Types MCY and MCYA SELTRONIC[®] Circuit Breakers with Solid State Trip Units
 240 Volts Ac, 50/60 Hz Complete Breaker Requires Frame, Rating Plug and Terminals

Frame Only

Poles	Catalog Numbers	
	Standard (Long Delay and Magnetic Trip)	Long Delay, Magnetic Trip and Adjustable Short Delay Time (.08-.28 seconds)

Types MCY and MCYA 400 to 800 Amperes

3	MCY3800F	MCYA3800F
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Types MCG and MCGA SELTRONIC Circuit Breakers with Built-in Ground Fault Protection

Complete Breaker Requires Frame, Rating Plug, and Terminals – Extra Current Transformer Included for Neutral^{①②} See Page 32.2 for Optional Indicator Kit

Frame Only

Poles	Catalog Numbers		Ground Fault Characteristics	
	Standard (Long Delay, Magnetic and Ground Fault Trip)	Long Delay, Magnetic Trip) Adjustable Short Delay Time and Ground Fault Trip	Pick-up Setting (Amps)	Time Setting

Types MCG and MCGA 400 to 800 Amperes^③

3	MCG3800F	MCGA3800F	80-800	3.5-30 Cy
---	----------	-----------	--------	-----------

Terminals (Two Required per Pole)^④

Max. Amps	Terminal Cat. No.	No., Size of Cable, Type
Al/Cu Pressure Terminals		
600	TA700MA1 ^⑤	(2) # 1-500 MCM Al/Cu
800	TA800MA2 ^⑤	(3) 3/0-400 MCM Al/Cu
800	TA801MA ^⑤	(2) 500-750 MCM Al/Cu

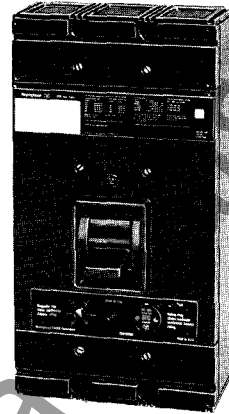
Copper Only Pressure Terminals

600	T600MA1	(2) 2/0-500 MCM Cu
800	T800MA1	(3) 3/0-300 MCM Cu

Field Mountable Attachments^{④⑤⑥}

Description	Style Number
Provision to trip flux transfer shunt trip from external source:	
32 to 120 Volts (Dc to 60 Hz) ^⑦	1371D72G22
240 to 600 Volts Ac (50/60 Hz) ^⑧	1371D72G32
Provision to trip flux transfer shunt trip from external source, plus 1A-1B Auxiliary switch:	
32 to 120 Volts (Dc to 60 Hz) ^⑦	1371D72G15
240 to 600 Volts Ac (50/60 Hz) ^⑧	1371D72G25
Provision to trip flux transfer shunt trip from external 24 volt Dc source	1370D85G01
1A-1B Auxiliary Switch	1371D72G03

- ① Available without extra C.T. for neutral. Order by description as similar to above except without neutral C.T. or external C.T. Terminal connections. (Same Price)
 Note: the standard ground fault unit above can also be used without the neutral C.T.
- ② Order two of the desired terminals for each pole of the breaker and two for the neutral C.T.
- ③ For applications other than standard residual scheme, see AD 29-160.
- ④ Does not void listing of UL listed breakers.
- ⑤ Only one of the attachments may be mounted per breaker.
- ⑥ For other possible combinations, refer to factory.
- ⑦ Rated 48 volts minimum for ground fault applications requiring tripping @ 55% of voltage.
- ⑧ Not for Ground Fault Applications.
- ⑨ Also used on breakers with ground fault and on separately mounted other than current transformers.
- ⑩ Type Al9Cu aluminum terminal.



Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A. see page 48.)

Type MCY breakers are not defined by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings

Max. Volts	Amperes
240 Ac	115,000 Asym., 100,000 Sym.

Further Information

- List Prices: See Price List 29-020, Dis. CB-2
- Factory Mounted and Other Accessories and Modifications: Pages 49-58
- Field Mountable Attachments: This Page
- Rating Plugs: Page 32.1
- Portable Test Kit: Page 32.2
- Remote Ground Fault Trip Indicator: Page 32.2

Westinghouse Electric Corporation
 Distribution and Control Business Unit
 Electrical Components Division
 Pittsburgh, Pennsylvania, U.S.A. 15220



December, 1988
New Information
Mailed to: E, D, C/29-100A, 31-400A,
31-500A

Types NCY, NCYA, NCYG and NCYGA
240 Volt Ac, 3 Pole
1200 Ampere SELTRONICSM Breakers

Type LAY, 240 Volt
3 Pole 250-600 Ampere
SELTRONICSM Breakers

AB DE-ION[®] Circuit Breakers

Types NCY and NCYA SELTRONICSM Circuit Breakers with Solid State Trip Units

240 Volts Ac, 50/60 Hz Complete Breaker Requires Frame, Rating Plug and Terminals

Poles	Catalog Numbers	
	Standard (Long Delay, Magnetic Trip) and Magnetic Trip	Long Delay, Magnetic Trip and Adjustable Short Delay Time (.08-.28 seconds)

Types NCY and NCYA 800 to 1200 Amperes

3	NCY31200F	NCYA31200F
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Type NCYG, NCYGA SELTRONIC Breakers with Built-in Ground Fault Protection

Complete Breaker Requires Frame, Rating Plug, and Terminals - Extra Current Transformer Included for Neutral^① ② See Page 32.2 for Optional Indicator Kit

Poles	Catalog Numbers		Ground Fault Characteristics	
	Standard (Long Delay, Magnetic Trip) and Ground Fault Trip	Long Delay, Magnetic Trip, Adjustable Short Delay Time and Ground Fault Trip	Pick-up Setting (Amps)	Time Setting

Types NCYG and NCYGA 800 to 1200 Amperes^③

3	NCYG31200F	NCYGA31200F	120-1200	3.5-30 Cy
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Terminals (Two Required per Pole)^④

Max. Amps	Terminal Cat. No.	No., Size of Cable, Type
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Al/Cu Pressure Terminals

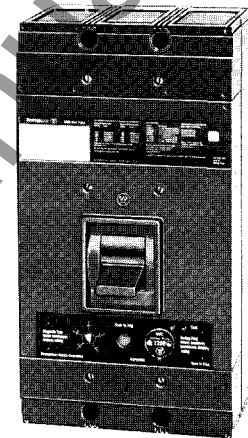
1000	TA1000NB1●	(3) 3/0-400 MCM Al/Cu
1200	TA1200NB1⑩	(4) 4/0-500 MCM Al/Cu
1200	TA1201NB1⑪	(3) 500-750 MCM Al/Cu

Copper Only Pressure Terminals

1000	T1000NB1	(3) 3/0-500 MCM Cu
1200	T1200NB1	(4) 3/0-400 MCM Cu

Field Mountable Attachments^④ ⑤ ⑥

Description	Style Number
Provision to trip flux transfer shunt trip from external source:	
32 to 120 Volts (Dc to 60 Hz) ^⑦	1372D39G13
240 to 600 Volts Ac (50/60 Hz) ^⑥	1372D39G23
Provision to trip flux transfer shunt trip from external source, plus a 1A-1B auxiliary switch:	
32 to 120 Volts (Dc to 60 Hz) ^⑦	1372D39G16
240 to 600 Volts Ac (50/60 Hz) ^⑥	1372D39G26
Provision to trip flux transfer shunt trip from external 24 volt Dc source	1371D94G05
1A-1B Auxiliary Switch	1372D39G03



Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A. see page 48.)

Type NCY breakers are not defined by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings

Volts Max.	Amperes
240 Ac	115,000 Asym., 100,000 Sym.

Further Information

List Prices: See Price List 29-020, Dis. CB-2
Factory Mounted and Other Accessories and Modifications: Pages 49-58
Field Mountable Attachments: This Page
Rating Plugs: Page 32.1
Portable Test Kit: Page 32.2
Remote Ground Fault Trip Indicator: Page 32.2

- Available without extra C.T. for neutral. Order by description as similar to above except without neutral C.T. or external C.T. Terminal connections. (Same Price)
Note: the standard ground fault unit above can also be used without the neutral C.T.
- ② Order two of the desired terminals for each pole of the breaker and two for the neutral C.T.
- ③ For applications other than standard residual scheme, see AD 29-160.
- ④ Does not void listing of UL listed breakers.

- ⑤ Only one of the attachments may be mounted per breaker.
- ⑥ For other possible combinations, refer to factory.
- ⑦ Rated 48 volts minimum for ground fault applications requiring tripping @ 55% of voltage.
- ⑧ Not for Ground Fault Applications.
- ⑨ Also used on breakers with ground fault and on separately mounted neutral current transformers.
- ⑩ Type A19Cu aluminum terminal.
- ⑪ Type A17Cu aluminum terminal.



AB DE-ION Circuit Breakers

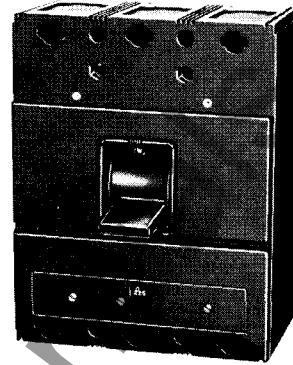
Type LAY 600 Amp Frame Breakers

250-600 Amperes, 240 Volts Ac, 3 Poles, Interchangeable Trip Thermal Magnetic

Contin- uous Am- pere Rat- ing (a) 40°C	Magnetic Trip Setting Amperes ① Low High	Complete Breaker		Shipped as Frame, Trip Unit and Terminals④	
		Includes Pressure Type Aluminum Terminals②	Catalog Number	Frame Only	Trip Unit Only	Catalog Number

600 Ampere Frame Breakers③ 3 Poles, 240 Volts Ac Only

250	1250	2500	LAY3250	LAY3600F	2603D46G26
300	1500	3000	LAY3300	LAY3600F	2603D46G27
350	1750	3500	LAY3350	LAY3600F	2603D46G28
400	2000	4000	LAY3400	LAY3600F	2603D46G29
500	2500	5000	LAY3500	LAY3600F	HLA3500T
600	3000	6000	LAY3600	LAY3600F	HLA3600T



Special Calibrations③

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hz Ac circuits. See application data 29-160 for information regarding special conditions. Maximum 400 Hz calibration: 600 amp frame, 450 amps.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal Ambient Frequency	Add 20% to List Price of Trip Unit	None None None

50°C Calibration③

Add suffix "V" to catalog number for complete breaker or trip unit only, when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A. see page 48.)

Type LAY breakers are not defined by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings

Volts Max.	Amperes
240 Ac	115,000 Asym., 100,000 Sym.

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Terminals②

Two terminals are required per pole. Terminals are Underwriters' Laboratories, Inc. listed for wire type and range listed below. When used with aluminum cable, use joint compound.

Max. Amps	Terminal Cat. Number	Wire Range, Type No. of Cables
Standard Al/Cu Pressure Terminals		
500④⑤	TA602LD⑤	(2) 250-350 MCM Al/Cu
600④⑤	TA603LA⑤	(2) 400-500 MCM Al/Cu
600④	TA600LA⑤	(2) 250-500 MCM Al/Cu

Optional Copper Pressure Terminals

600④	T600LA	(2) 250-500 MCM Cu
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Accessories and Modifications

Description: Pages 49-58

List Prices: See Price List 29-020, Dis. CB-2

- Set on high side, adjustable to lower limits.
- ② Terminals shipped separately from breakers.
- ③ Not listed with Underwriters' Laboratories, Inc.
- ④ For 600 amp frame breakers only.
- ⑤ Available 1st quarter 1989.
- ⑥ Type Al9Cu aluminum terminal.

Westinghouse Electric Corporation
Distribution and Control Business Unit
Electrical Components Division
Pittsburgh, Pennsylvania, U.S.A. 15220



December, 1988
 New Information
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

Type MAY 240 Volt Ac, 3 Pole
 600-800 Amperes SELTRONICSM Breakers

Type NBY, 240 Volt 3 Pole
 700-1200 Amperes
 SELTRONICSM Breakers

AB DE-ION[®] Circuit Breakers

Type MAY Breakers

600-800 Amperes, 240 Volts Ac, 3 Poles, Interchangeable Trip

Con- tin- uous Am- pere Rat- ing (^a) 40°C	Magnetic Trip Setting, Amperes ^① Low High	Complete Breaker		Shipped as Frame, Trip Unit and Terminals ^②	
		Includes Pressure Type Aluminum Terminals ^②	Catalog Number	Frame Only	Catalog Number

3 Poles, 240 Volts Ac Only

600	3000	6000	MAY3600	MAY3800F	HMA3600T
700	3000	6000	MAY3700 ^③	MAY3800F	HMA3700T ^③
800	3000	6000	MAY3800 ^③	MAY3800F	HMA3800T ^③

Special Calibrations^④

Special calibration price additions apply to ampere ratings not listed as standard, ambients other than 40°C or 50°C, or frequencies other than 60 Hertz Ac (50 Hertz Ac minimum – 60 Hertz Ac maximum) See AD 29-160 for additional information regarding special conditions.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal Ambient Frequency	Add 20% of Trip Unit List Price	None None None

50°C Calibration^④

Add suffix "V" to catalog number for complete breaker or trip unit only, when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A. see page 48.)

Type MAY breakers are not defined by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings

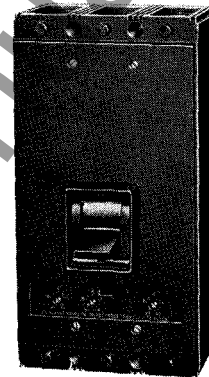
Volts Max.	Amperes
240 Ac	115,000 Asym., 100,000 Sym.

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Accessories and Modifications

Description: Pages 49-58

List Prices: See Price List 29-020 Dis. CB-2



Terminals^⑤

Two terminals are required per pole. Terminals are Underwriters' Laboratories, Inc. listed for wire type and range listed below. When used with aluminum cable, use joint compound.

Max. Amps	Terminal Cat. No.	Wire Range, Type No. of Cables
Standard Al/Cu Pressure Terminals		
600	TA700MA1 ^⑥	2 #1-500 MCM Al/Cu
800	TA800MA2 ^⑤	3 3/0-400 MCM Al/Cu
800	TA801MA ^⑤	2 500-750 MCM Al/Cu
Optional Copper Pressure Terminals		
350	T350MA	1 1#-600 MCM Cu
600	T600MA1	2 2/0-500 MCM Cu
800	T800MA1	3 3/0-300 MCM Cu

^① Set on high side, adjustable to lower limit.

^② Terminals shipped separate from breaker.

^③ 60 Hertz Ac only.

^④ Not listed with Underwriters' Laboratories, Inc.

^⑤ Type Al9Cu aluminum terminal.



AB DE-ION Circuit Breakers

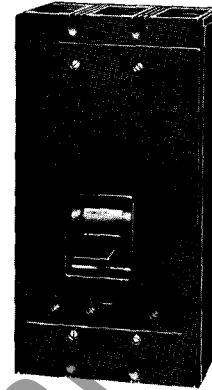
Type NBY Breakers

700-1200 Amperes, 240 Volts, 60 Hertz Ac^①, 3 Poles, Interchangeable Trip

Contin- uous Am- pere Rat- ing (<i>r</i>) 40°C	Magnetic Trip Setting Amperes ● Low High	Complete Breaker	Shipped as Frame, Trip Unit and Terminals ^③	
		Includes Pressure Type Aluminum Terminals ^③ Catalog Number	Frame Only Catalog Number	Trip Unit Only Catalog Number

3 Poles, 600 Volts Ac Only

700	3000	6000	NBY3700	NBY31200F	HNB3700T
800	3000	6000	NBY3800	NBY31200F	HNB3800T
900	4000	8000	NBY3900	NBY31200F	HNB3900T
1000	4000	8000	NBY31000	NBY31200F	HNB31000T
1200	4000	8000	NBY31200	NBY31200F	HNB31200T



Special Calibrations^④

Special calibration price additions apply to ampere ratings not listed as standard, ambients other than 40°C or 50°C, or frequencies other than 60 Hertz Ac (50 Hertz Ac minimum - 60 Hertz Ac maximum) See AD 29-160 for additional information regarding special conditions.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal Ambient Frequency	Add 15% of Trip Unit List Price	None None None

50°C Calibration^④

Add suffix "V" to catalog number for complete breaker or trip unit only, when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

Accessories and Modifications

Description: Pages 49-58

List Prices: See Price List 29-020 Dis. CB-2

Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A. see page 48.)

Type NBY breakers are not defined by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. listed Interrupting Ratings:

Volts Max.	Amperes
240 Ac	115,000 Asym., 100,000 Sym.

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Terminals^⑤

Two terminals are required per pole. Terminals are Underwriters' Laboratories, Inc. listed for wire type and range listed below. When used with aluminum conductors, use joint compound.

Max. Ampere Ratings	Terminal Catalog Number	Wire Range, Type, No. of Cables
Standard Al/Cu Pressure Terminals		
1000	TA1000NB1 ^⑤	3 3/0-400 MCM Al/Cu
1200	TA1200NB1 ^⑤	4 4/0-500 MCM Al/Cu
1200	TA1201NB1 ^⑤	3 500-750 MCM Al/Cu
Alternate Copper Pressure Terminals		
1000	T1000NB1	3 3/0-500 MCM Cu
1200	T1200NB1	4 3/0-400 MCM Cu

① Higher frequency calibration not available. Minimum of 50 cycle calibration available on special order.

② Set on high side, adjustable to lower limits.

③ Terminals shipped separately from breaker.

④ Not listed with Underwriters' Laboratories, Inc.

⑤ Type A19Cu aluminum terminal.

⑥ Type A17Cu aluminum terminal.

Westinghouse Electric Corporation
Distribution and Control Business Unit
Electrical Components Division
Pittsburgh, Pennsylvania, U.S.A. 15220



November, 1988
Supersedes Technical Data 29-120,
pages 27-28, dated September, 1984
Mailed to: E, D, C/29-100A, 31-400A,
31-500A

Types LC, LCC, LCA, LCCA and MARK 75
Types HLC, HLCC, HLCA, HLCCA 75-600
Amperes SELTRONIC™ Breakers

Types LCG, LCCG, LCGA, LCCGA and MARK
75 Types HLCCG, HLCCG, HLCCGA
75-600 Amperes SELTRONIC™ Breakers

AB DE-ION® Circuit Breakers



Types LC, LCC, LCA, LCCA, MARK 75® Types HLC, HLCC, HLCA, HLCCA SELTRONIC™ Circuit Breakers With Solid State Trip UnitsⓄ

600 Volts Ac, 50/60 Hz Complete Breaker Requires Frame, Rating Plug and TerminalsⓄ
Frame Only

Poles	Catalog Numbers		
	Standard (Long Delay and Magnetic Trip)	Magnetic OnlyⓂ	Long Delay, Magnetic Trip and Adjustable Short Delay Time (.06-.22 seconds)

Breakers for Standard Applications

Types LC 150 and LCA 150 (75-150 Amps.)

2	LC2150F	LC2150FM	LCA2150F
3	LC3150F	LC3150FM	LCA3150F

MARK 75 Types HLC 150 and HLCA 150 (75-150 Amps.)

2	HLC2150F	HLC2150FM	HLCA2150F
3	HLC3150F	HLC3150FM	HLCA3150F

Types LC 300 and LCA 300 (150-300 Amps.)

2	LC2300F	LC2300FM	LCA2300F
3	LC3300F	LC3300FM	LCA3300F

MARK 75 Types HLC 300 and HLCA 300 (150-300 Amps.)

2	HLC2300F	HLC2300FM	HLCA2300F
3	HLC3300F	HLC3300FM	HLCA3300F

Types LC 400 and LCA 400 (200-400 Amps.)

2	LC2400F	LC2400FM	LCA2400F
3	LC3400F	LC3400FM	LCA3400F

MARK 75 Types HLC 400 and HLCA 400 (200-400 Amps.)

2	HLC2400F	HLC2400FM	HLCA2400F
3	HLC3400F	HLC3400FM	HLCA3400F

Types LC 600 and LCA 600 (300-600 Amps.)

2	LC2600F	LC2600FM	LCA2600F
3	LC3600F	LC3600FM	LCA3600F

MARK 75 Types HLC 600 and HLCA 600 (300-600 Amps.)

2	HLC2600F	HLC2600FM	HLCA2600F
3	HLC3600F	HLC3600FM	HLCA3600F

Type LC 600 Molded Case Switch: Refer to Pages 46.1, 46.2

Breakers for Applications at 100% Rating

Types LCC 600 and LCCA 600 (300-600 Amps.)

3	LCC3600F	LCCA3600F
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MARK 75 Types HLCC 600 and HLCCA 600 (300-600 Amps.)

3	HLCC3600F	HLCCA3600F
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Field Mountable Attachments Ⓜ Ⓞ Ⓟ Ⓠ Ⓡ

Description	Style Number
Provision to trip flux transfer shunt trip from external source: 32 to 120 volts (DC to 60 Hz)Ⓡ	1371D11G22
240 to 600 volts Ac, 50/60 HzⓄ	1371D11G32
Provision to trip flux transfer shunt trip from external source, plus a 1A-1B auxiliary switch: 32 to 120 volts (DC to 60 Hz)Ⓡ	1371D11G15
240 to 600 volts Ac 50/60 HzⓄ	1371D11G25
Provision to trip flux transfer shunt trip from 24 volt Dc source	1371D93G01
1A-1B Auxiliary Switch	1371D11G03

- Ⓞ Changed or added since previous issue.
- Ⓟ Two pole breakers are supplied in three pole frames with current carrying parts omitted from center pole.
- Ⓠ UL Inc. recognized component.
- Ⓡ Only one attachment may be mounted per breaker.
- Ⓞ For other possible combinations, refer to Westinghouse.

- Ⓞ Molded case switches do not use standard SELTRONIC attachments, and should be ordered by description for factory mounting.
- Ⓞ Does not void listing of UL listed breakers.
- Ⓡ Rated 48 volts minimum for ground fault applications requiring tripping at 55% of voltage.
- Ⓞ Not for use on ground fault applications.
- Ⓞ Interrupting capacities shown do not apply to molded case switches (MCS).

Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

Type LC breakers meet requirements for class 21a circuit breakers, and Type HLC meet requirements for class 23a as defined by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting RatingsⓄ

Volts Max.	Amperes
Standard Breakers	
240 Ac	50,000 Asym., 42,000 Sym.
480 Ac	35,000 Asym., 30,000 Sym.
600 Ac	25,000 Asym., 22,000 Sym.

MARK 75 Breakers

240 Ac	75,000 Asym., 65,000 Sym.
480 Ac	40,000 Asym., 35,000 Sym.
600 Ac	30,000 Asym., 25,000 Sym.

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Further Information

- List Prices: See Price List 29-020, Dis. CB-2
- Factory Mounted and Other Accessories and Modifications: Pages 49-58
- Field Mountable Attachments: Page 25
- Rating Plugs: Page 32.1
- Portable Test Kit: Page 32.2
- Terminals: Page 26



AB DE-ION Circuit Breakers

Types LCG, LCCG, LCGA, LCCGA, MARK 75® HLCG, HLCCG, HLCGA, HLCCGA SELTRONIC Breakers With Built-in Ground Fault Protectionⓐ

Complete Breaker Requires Frame, Rating Plug, and Terminals, Extra Current Transformer Included for Neutral^{①②} See Accessories Page 32.2 for Indicator Kit

Poles ③	Catalog Numbers		Ground Fault Characteristics	
	Standard (Long Delay, Magnetic Trip) and Ground Fault Trip	Long Delay, Magnetic Trip, Adjustable Short Delay Time and Ground Fault Trip	Pick-up Setting Amps	Time Setting
Breakers for Standard Application				
Types LCG 150 and LCGA 150 (75-150 Amps.)^④				
3	LCG3150F	LCGA3150F	50-150	3.5-30 Cy
MARK 75 Types HLCG 150 and HLCGA 150 (75-150 Amps.)^④				
3	HLCG3150F	HLCGA3150F	50-150	3.5-30 Cy
Types LCG 300 and LCGA 300 (150-300 Amps.)^④				
3	LCG3300F	LCGA3300F	60-300	3.5-30 Cy
MARK 75 Types HLCG 300 and HLCGA 300 (150-300 Amps.)^④				
3	HLCG3300F	HLCGA3300F	60-300	3.5-30 Cy
Types LCG 400 and LCGA 400 (200-400 Amps.)^④				
3	LCG3400F	LCGA3400F	80-400	3.5-30 Cy
MARK 75 Types HLCG 400 and HLCGA 400 (200-400 Amps.)^④				
3	HLCG3400F	HLCGA3400F	80-400	3.5-30 Cy
Types LCG 600 and LCGA 600 (300-600 Amps.)^④				
3	LCG3600F	LCGA3600F	120-600	3.5-30 Cy
MARK 75 Types HLCG 600 and HLCGA 600 (300-600 Amps.)^④				
3	HLCG3600F	HLCGA3600F	120-600	3.5-30 Cy
Breakers for Application at 100% Rating				
Types LCCG 600 and LCCGA 600 (300-600 Amps.)^④				
3	LCCG3600F	LCCGA3600F	120-600	3.5-30 Cy
MARK 75 Types HLCCG 600 and HLCCGA 600 (300-600 Amps.)^④				
3	HLCCG3600F	HLCCGA3600F	120-600	3.5-30 Cy

- ⓐ Changed or added since previous issue.
- ① Available without extra C.T. for neutral. Order by description as similar to above except without neutral C.T. or external C.T. terminal connections. (Same price). Note the standard ground fault unit above can also be used without the neutral C.T.
- ② These breakers use LC terminals. The fourth C.T. uses MC breaker terminals, page 28.
- ③ Two pole breakers supplied in three pole frames with current carrying parts omitted from center pole.
- ④ For applications other than standard residual scheme, see AD 29-160.
- ⑤ Available first quarter 1989.
- ⑥ Type AL9CU aluminum terminal.

Terminals (Order Separately)

Two terminals are required per pole. Terminals are UL Inc. listed for wire type and range listed below. When used with aluminum cable, use joint compound.

Max. Amps.	Terminal Cat. No.	Wire Range, type No. of Cables
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150, 300, and 400 Amp Frames Only

Al/Cu Pressure Terminals

225	TA225LA1	(1) #6-350 MCM Cu, or (1) #4-350 MCM Al
400	TA400LA1	(1) #4-250 MCM Al/Cu, plus (1) 3/0-600 MCM Al/Cu

Copper Pressure Terminals

225	T225LA	(1) #6-350 MCM Cu
225	T225LBF	(1) #6-250 MCM Cu
400	T401LA	(1) #4-250 MCM Cu, plus (1) 3/0-600 MCM Cu

600 Amp Frame Only[ⓐ]

Al/Cu Pressure Terminals

500 ^⑤	TA602LD ^⑥	(2) 250-350 MCM Al/Cu
600 ^⑤	TA603LA ^⑥	(2) 400-500 MCM Al/Cu
600	TA600LA ^⑥	(2) 250-500 MCM Al/Cu

Copper Pressure Terminals

600	T600LA	(2) 250-500 MCM Cu
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Further Information

- List Prices: See Price List 29-020, Dis. CB-2
- Factory Mounted and Other Accessories and Modifications: Pages 49-58
- Field Mountable Attachments: Page 25
- Rating Plugs: Page 32.1
- Portable Test Kit: Page 32.2
- Remote Ground Fault Trip Indicator: Page 32.2

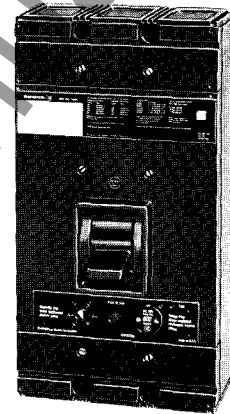
Westinghouse Electric Corporation
Distribution and Control Business Unit
Electrical Components Division
Pittsburgh, Pennsylvania, U.S.A. 15220



November, 1988
 Supersedes Technical Data 29-120,
 page 29, dated September, 1984
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

Types MC, MCC, MCA, MCCA, MCG, MCCG,
 MCGA, MCCGA and MARK 75 Types HMC,
 HMCC, HMCA, HMCCA, HMCG, HMCCG,
 HMCGA, HMCCGA
 800 Ampere SELTRONIC™ Breakers

AB DE-ION® Circuit Breakers



Types MC, MCC, MCA, MCCA, MARK 75® Types HMC, HMCC, HMCA, HMCCA SELTRONIC™ Circuit Breakers with Solid State Trip Unitsⓐ

600 Volts Ac, 50/60 Hz Complete Breaker Requires Frame, Rating Plug, and Terminalsⓐ
 Frame Only

Poles ①	Catalog Numbers		
	Standard (Long Delay and Magnetic Trip)	Magnetic Only②	Long Delay, Magnetic Trip and Adjustable Short Delay Time (.08-.28 seconds)

Breakers for Standard Application

Types MC and MCA 400 to 800 Amps.

2	MC2800F	MC2800FM	MCA2800F
3	MC3800F	MC3800FM	MCA3800F

MARK 75 Types HMC and HMCA 400 to 800 Amps.

2	HMC2800F	HMC2800FM	HMCA2800F
3	HMC3800F	HMC3800FM	HMCA3800F

Type MC800 Molded Case Switch: Refer to Pages 46.1, 46.2

Breakers for Application at 100% Rating

Types MCC and MCCA 400 to 800 Amps.

3	MCC3800F	MCCA3800F
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MARK 75 Types HMCC and HMCCA 400 to 800 Amps.

3	HMCC3800F	HMCCA3800F
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Types MCG, MCCG, MCGA MCCGA and MARK 75 Types HMCG, HMCCG, HMCGA, HMCCGA SELTRONIC Circuit Breakers With Built-in Ground Fault Protectionⓐ

Complete Breaker Requires Frame, Rating Plug and Terminals – Extra Current Transformer Included for Neutral③④ See Page 32.2 For Optional Indicator Kit

Frame Only

Poles	Catalog Numbers	Ground Fault Characteristics	
		Pick-up Setting Amps	Time Setting
	Standard (Long Delay, Magnetic and Ground Fault Trip)	Long Delay, Magnetic Trip, Adjustable Short Delay Time and Ground Fault Trip	

Breakers for Standard Applications

Types MCG and MCGA 400 to 800 Amps.⑤

3	MCG3800F	MCGA3800F	80-800	3.5-30 Cy
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MARK 75 Types HMCG and HMCGA 400 to 800 Amps.⑤

3	HMCG3800F	HMCGA3800F	80-800	3.5-30 Cy
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Breakers for Applications at 100% Rating

Types MCCG and MCCGA 400 to 800 Amps.⑤

3	MCCG3800F	MCCGA3800F	80-800	3.5-30 Cy
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MARK 75 Types HMCCG and HMCCGA 400 to 800 Amps.⑤

3	HMCCG3800F	HMCCGA3800F	80-800	3.5-30 Cy
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Listed with Underwriters' Laboratories, Inc. except as noted (For C.S.A., see page 48.)

Type MC SELTRONIC breakers meet requirements for class 21a, and MARK 75. Type HMC meet class 23a as defined by Federal Spec W-C-375b.

UL Listed Interrupting Capacity, RMS Symmetrical Amperes®

Breaker	Ac Volts		
	240	480	600
MC, MCG	42000	30000	22000
HMC, HMCG	65000	50000	25000

Further Information

List Prices: See Price List 29-020, Dis. CB-2
 Factory Mounted and Other Accessories and Modifications: Pages 49-58
 Field Mountable Attachments: Page 28
 Rating Plugs: Page 32.1
 Portable Test Kit: Page 32.2
 Remote Ground Fault Trip Indicator: Page 32.2

ⓐ Changed or added since previous issue.

① Two pole breakers are supplied in three pole frames with current-carrying parts omitted from center pole.

② UL Inc. recognized component.

③ Available without extra C.T. for neutral. Order by description as similar to above except without neutral C.T. or external C.T. Terminal connections. (Same Price)

Note: the standard ground fault unit above can also be used without the neutral C.T.

④ Order two of the desired terminals for each pole of the breaker and two for the neutral C.T.

⑤ For applications other than standard residual scheme, see AD 29-160.

⑥ Interrupting capacities shown do not apply to molded case switches (MCS).



AB DE-ION Circuit Breakers

Field Mountable Attachments^{①②③④}

Description	Style Number
Provision to trip flux transfer shunt trip from external source:	
32 to 120 Volts (Dc to 60 Hz) ^⑤	1371D72G22
240 to 600 Volts Ac (50/60 Hz) ^⑥	1371D72G32
Provision to trip flux transfer shunt trip from external source, plus 1A-1B Auxiliary Switch:	
32 to 120 Volts (Dc to 60 Hz) ^⑤	1371D72G15
240 to 600 Volts Ac (50/60 Hz) ^⑥	1371D72G25
Provision to trip flux transfer shunt trip from external 24 volt Dc source.	1370D85G01
1A-1B Auxiliary Switch	1371D72G03

Terminals (Two Required per Pole)^⑦

Max. Amps	Terminal Cat. No.	No., Size of Cable
Al/Cu Pressure Terminals		
600	TA700MA1 ^⑧	(2) # 1-500MCM
800	TA800MA2 ^⑧	(3) 3/0-400MCM
800	TA801MA ^⑧	(2) 500-750MCM
Copper Only Pressure Terminals		
600	T600MA1	(2) 2/0-500MCM
800	T800MA1	(3) 3/0-300MCM

- ① Does not void listing of UL listed breakers.
- ② Only one of the attachments may be mounted per breaker.
- ③ For other possible combinations, refer to factory.
- ④ Molded case switches do not use standard self-trip attachments and should be ordered by description.
- ⑤ Rated 48 volts minimum for ground fault applications requiring tripping (\approx 55% of voltage).
- ⑥ Not for Ground Fault Applications.
- ⑦ Also used on breakers with ground fault and on separately mounted neutral current transformers.
- ⑧ Type AL9CU aluminum terminal.

Westinghouse Electric Corporation
 Distribution and Control Business Unit
 Electrical Components Division
 Pittsburgh, Pennsylvania, U.S.A. 15220

Printed in U.S.A.



November, 1988
Supersedes Technical Data 29-120,
page 30, dated September, 1984
Mailed to: E, D, C/29-100A, 31-400A,
31-500A

Type NC, NCA, NCG, NCGA and MARK 75
Type HNC, HNCA, HNCG, HNCGA
1200 Ampere SELTRONIC Breakers

AB DE-ION® Circuit Breakers

Type NC, NCA, MARK 75® Type HNC, HNCA SELTRONIC™ Circuit Breakers with Solid State Trip Units

600 Volts Ac, 50/60 Hz Complete Breaker Requires Frame, Rating Plug, and Terminals

Frame Only

Poles	Catalog Numbers		
●	Standard (Long Delay and Magnetic Trip)	Magnetic Only ^④	Long Delay, Magnetic Trip and Adjustable Short Delay Time (.08-.28 Seconds)

Types NC and NCA 800 to 1200 Amps

2	NC21200F	NC21200FM	NCA21200F
3	NC31200F	NC31200FM	NCA31200F

Mark 75 Types HNC and HNCA 800 to 1200 Amps

2	HNC21200F	HNC21200FM	HNCA21200F
3	HNC31200F	HNC31200FM	HNCA31200F

Type NC 1200 Molded Case Switch: Refer to Pages 46.1, 46.2

Type NCG, NCGA, and MARK 75 Type HNCG, HNCGA SELTRONIC Circuit Breakers With Built-in Ground Fault Protection

Complete Breaker Requires Frame, Rating Plug and Terminals – Extra Current Transformer Included for Neutral^⑨ See Page 32.2 for Optional Indicator Kit

Frame Only

Poles	Catalog Numbers		Ground Fault Characteristics	
	Standard (Long Delay, Magnetic and Ground Fault Trip)	Long Delay, Magnetic Trip, Adjustable Short Delay Time, and Ground Fault Trip	Pick-up Setting Amps	Time Setting
3	NCG31200F	NCGA31200F	120-1200	3.5-30 Cy
3	HNCG31200F	HNCGA31200F	120-1200	3.5-30 Cy

Types NCG and NCGA 800 to 1200 Amperes^⑫

3	NCG31200F	NCGA31200F	120-1200	3.5-30 Cy
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Mark 75 Types HNCG and HNCGA 800 to 1200 Amperes^⑫

3	HNCG31200F	HNCGA31200F	120-1200	3.5-30 Cy
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Field Mountable Attachments^{① ③ ⑥ ⑦}

Description	Style Number
Provision to trip flux transfer shunt trip from external source: 32 to 120 Volts (Dc to 60 Hz) ^④	1372D39G13
240 to 600 Volts Ac (50/60 Hz) ^④	1372D39G23
Provision to trip flux transfer shunt trip from external source, plus a 1A-1B auxiliary switch: 32 to 120 Volts (Dc to 60 Hz) ^④	1372D39G16
240 to 600 Volts Ac (50/60 Hz) ^④	1372D39G26
Provision to trip flux transfer shunt trip from external 24 volt Dc source.....	1371D94G05
1A-1B Auxiliary Switch.....	1372D39G03

Terminals (Two Required per Pole)^⑥

Max. Amps	Terminal Cat. No.	No., Size of Cable
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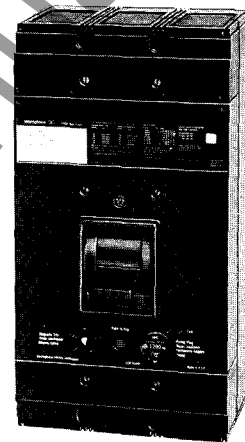
Al/Cu Pressure Terminals

1000	TA1000NB1 ^⑬	(3) 3/0-400MCM
1200	TA1200NB1 ^⑬	(4) 4/0-500MCM
1200	TA1201NB1 ^⑬	(3) 500-750MCM

Copper Only Pressure Terminals

1000	T1000NB1	(3) 3/0-500MCM
1200	T1200NB1	(4) 3/0-400MCM

- ① Does not void listing of UL listed breakers.
- ③ Not U/L listed.
- Only one of the attachments may be mounted per breaker.
- ④ Rated 48 volts minimum for ground fault applications requiring tripping (i.e. 55% of voltage).
- Two pole breakers are supplied in three pole frames with current-carrying parts omitted from center pole.
- ⑤ For other possible combinations, refer to factory.
- ⑦ Molded case switches do not use standard seltronic attachments and should be ordered by description.
- ⑧ Also used on breakers with ground fault and on separately mounted neutral current transformers.
- ⑨ Available without extra C.T. for neutral. Order by description as similar to above except without neutral C.T. or external C.T. Terminal connections. (Same Price)
Note: the standard ground fault unit above can also be used without the neutral C.T.



Listed with Underwriter's Laboratories, Inc. except as noted. (For C.S.A. see page 48.)

Type NC SELTRONIC breakers meet requirements for class 21a, and MARK 75. Type HNC meet class 23a as defined by Federal Spec W-C-375b.

UL Listed Interrupting Capacity, RMS Symmetrical Amperes^⑬

Breaker	Ac Volts		
	240	480	600
NC, NCG	42000	30000	22000
HNC, HNCG	65000	50000	25000

Further Information

List Prices: See Price List 29-020, Dis. CB-2
Factory Mounted and Other Accessories and Modifications: Pages 49-58
Field Mountable Attachments: This Page
Rating Plugs: Page 32.1
Portable Test Kit: Page 32.2
Remote Ground Fault Trip Indicator: Page 32.2

- ⑥ Order two of the desired terminals for each pole of the breaker and two for the neutral C.T.
- ⑦ Not for Ground Fault Applications.
- ⑫ For applications other than standard residual scheme, see AD 29-160.
- ⑬ Interrupting capacities shown do not apply to molded case switches (MCS).
- ⑭ UL Inc. recognized component.
- ⑮ Type AL9CU aluminum terminal.
- ⑯ Type AL7CU aluminum terminal.



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Printed in U.S.A.

Westinghouse Electric Corporation
Distribution and Control Business Unit
Electrical Components Division
Pittsburgh, Pennsylvania, U.S.A. 15220



February 1990
Supersedes Technical Data 29-120
pages 31-32, dated August 1989
Mailed to: E, D, C/29-100A, 31-400A

Type PC, PCA, PCC, PCCA 2000, 2500 and
3000 Amperes SELTRONIC Circuit Breakers

Type PCG, PCGA, PCCG, PCCGA 2000, 2500,
and 3000 Ampere SELTRONIC Circuit Breakers
with Built-in Ground Fault Protection

AB DE-ION® Circuit Breakers

Type PC, PCA, PCC, PCCA 2000, 2500 and 3000 Ampere SELTRONIC™ Circuit Breakers With Solid State Trip Units, 600 Volts Ac, 50/60 Hz

Complete Breaker Requires Frame, Rating Plug and Rear Connectors (connectors are included in 3000 amp and all front connected frames.)

Breakers for Standard Applications				Breakers for Applications at 100% Rating							
Frame Only				Frame Only							
Poles ③	Catalog Numbers		Catalog Numbers	Poles ③	Catalog Numbers		Catalog Numbers				
	Standard (Long Delay and Magnetic Trip)	Magnetic Only④	Long Delay, Magnetic Trip, and Adjustable Short Delay Time (.08-.28 seconds)		Standard (Long Delay and Magnetic Trip)	Magnetic Only④	Long Delay, Magnetic Trip, and Adjustable Short Delay Time (.08-.28 seconds)				
Type PC 2000, 1000 to 2000 Amps②				Type PCA 2000②				Type PCC 2000, 1000 to 2000 Amps④			
Rear Connected Breakers				Rear Connected Breakers				Rear Connected Breakers			
2	PC22000F	PC22000FM	PCA22000F	2	PCC22000F	PCC22000FM	2	PCCA22000F	PCCA22000F		
3	PC32000F	PC32000FM	PCA32000F	3	PCC32000F	PCC32000FM	3	PCCA32000F	PCCA32000F		
Front Connected Breakers				Front Connected Breakers				Front Connected Breakers			
2	PCF22000F	PCF22000FM	PCFA22000F	2	PCCF22000F	PCCF22000FM	2	PCCFA22000F	PCCFA22000F		
3	PCF32000F	PCF32000FM	PCFA32000F	3	PCCF32000F	PCCF32000FM	3	PCCFA32000F	PCCFA32000F		
Type PC 2500, 1400 to 2500 Amps②				Type PCA 2500②				Type PCC 2500, 1400 to 2500 Amps④			
Rear Connected Breakers				Rear Connected Breakers				Rear Connected Breakers			
2	PC22500F	PC22500FM	PCA22500F	2	PCC22500F	PCC22500FM	2	PCCA22500F	PCCA22500F		
3	PC32500F	PC32500FM	PCA32500F	3	PCC32500F	PCC32500FM	3	PCCA32500F	PCCA32500F		
Front Connected Breakers				Front Connected Breakers				Front Connected Breakers			
2	PCF22500F	PCF22500FM	PCFA22500F	2	PCCF22500F	PCCF22500FM	2	PCCFA22500F	PCCFA22500F		
3	PCF32500F	PCF32500FM	PCFA32500F	3	PCCF32500F	PCCF32500FM	3	PCCFA32500F	PCCFA32500F		
Type PC 3000, 1600 to 3000 Amps②				Type PCA 3000②				Type PCC 3000, 1600 to 3000 Amps④			
Rear Connected Breakers				Rear Connected Breakers				Rear Connected Breakers			
2	PC23000F	PC23000FM	PCA23000F	2	PCC23000F	PCC23000FM	2	PCCA23000F	PCCA23000F		
3	PC33000F	PC33000FM	PCA33000F	3	PCC33000F	PCC33000FM	3	PCCA33000F	PCCA33000F		

Type PC, PCC Molded Case Switches: Refer to Pages 46.1, 46.2

Drawout Mounting Breakers, 3 Pole Only
List Price includes: Breaker frame and complete drawout frame with safety tripping interlock. Order by description. Secondary contacts supplied as required at no extra charge. Order required rating plug separately. ⑦

Standard Breakers	Molded Case Switch See Page 46.1
PCC2000④	PCC2000
PCC2500④	PCC2500
PCC3000④	PCC3000

Stationary Portion of Drawout Frame Only for Future Breaker Installations, 3 Pole Only. (Order by Description.)

Availability: PCC 2000, PCC 2500,
PCC 3000④⑤⑥

- ① Not UL listed.
- ② UL listed for standard applications.
- ③ Two pole breakers are supplied in three pole frames with current carrying parts omitted from center pole.
- ④ These breakers are UL Listed for application at 100% of rating per NEC exceptions when used in a properly ventilated and listed enclosure.
- ⑤ Secondary contacts, when required for motor operator or other attachment, must be specified and factory mounted on stationary frame when it is ordered separately.

Special Type PCC Breakers for SCR Power Supplies

These drawout mounting breakers are designed with a 2 to 4 times magnetic trip adjustment and special time delay trip characteristics to provide maximum protection and coordination with SCR power supplies on offshore drilling rigs. Suitable for application at 100% of rating.

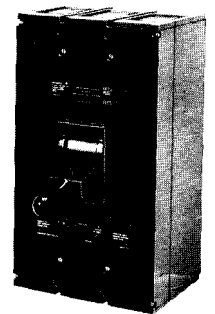
List Price includes breaker frame and drawout frame complete with safety tripping interlock. Order by description. Secondary contacts supplied as required. Order standard rating plugs separately. Order other modifications from pages 49-58.

Availability: PCC2000, PCC2500 Drawout-Mounting breakers

- ⑤ When ordering breaker with movable portion only for use with previously installed stationary portion, deduct the list price of stationary portion from list price of complete breaker with drawout frame.
- ⑦ Includes breakers without adjustable short delay time.
- ⑧ Interrupting capacities shown do not apply to molded case switches (MCS).
- ⑨ UL Inc. recognized component.

Type PC and PCC meet requirements of Class 25a as defined in Federal Spec. W-C-375b.

Listed with Underwriters' Laboratories, Inc. except as noted (For C.S.A. see page 48)



UL Listed Interrupting Capacity RMS Symmetrical Amperes (Std. and Grd. Flt. Breakers)⑧

Breaker	Ac Volts		
	240	480	600
PC, PCC	125,000	100,000	100,000

Further Information
List Prices: See Price List 29-020, Dis. CB-2
Factory Mounted and Other Accessories and Modifications: Pages 49-58
Field Mountable Attachments: Page 32
Rating Plugs: Page 32.1
Portable Test Kit: Page 32.2
Approx. Ship. Wt: Page 32



AB DE-ION Circuit Breakers

Type PCG, PCGA, PCCG, PCCGA SELTRONIC™ Breakers With Built-in Ground Fault Protection

Includes Extra Current Transformer for Neutral^③ (Optional Indicator Kit Page 32.2)

Breakers for Standard Application

Complete Breaker Requires Frame, Rating Plug and Rear Connectors (except Front Connected Frames and 3000 Amp Frames Include Connectors)

Frames Only		Ground Fault Characteristics		
Poles	Standard (Long Delay Magnetic and Ground Fault Trip)	Long Delay, Magnetic, Ground Fault Trip, and Adjustable Short Delay Time (.08-.28 Seconds)	Pick-up Setting	Time Setting
	Catalog Number	Catalog Number		
Type PCG 2000^④		Type PCGA 2000^④ 1000 to 2000 Amps^④		
Rear Connected Breakers 3 PCG32000F		PCGA32000F	200-1200	3.5-30 Cy
Front Connected Breakers 3 PCFG32000F		PCFGA32000F		
Type PCG 2500^④		Type PCGA 2500^④ 1400 to 2500 Amps^④		
Rear Connected Breakers 3 PCG32500F		PCGA32500F	240-1200	3.5-30 Cy
Front Connected Breakers 3 PCFG32500F		PCFGA32500F		
Type PCG 3000^④		Type PCGA 3000^④ 1600 to 3000 Amps^④		
3	PCG33000F	PCGA33000F	300-1200	3.5-30 Cy

Breakers for Application at 100% Rating

Frames Only		Ground Fault Characteristics		
Poles	Standard (Long Delay Magnetic and Ground Fault Trip)	Long Delay, Magnetic, Ground Fault Trip, and Adjustable Short Delay Time (.08-.28 Seconds)	Pick-up Setting	Time Setting
	Catalog Number	Catalog Number		
Type PCCG 2000^②		Type PCCGA 2000^② 1000 to 2000 Amps^④		
Rear Connected Breakers 3 PCCG32000F		PCCGA32000F	200-1200	3.5-30 Cy
Front Connected Breakers 3 PCCFG32000F		PCCFGA32000F		
Type PCCG 2500^②		Type PCCGA 2500^③ 1400 to 2500 Amps^④		
Rear Connected Breakers 3 PCCG32500F		PCCGA32500F	240-1200	3.5-30 Cy
Front Connected Breakers 3 PCCFG32500F		PCCFGA32500F		
Type PCCG 3000^②		Type PCCGA 3000^③ 1600 to 3000 Amps^④		
3	PCCG33000F	PCCGA33000F	300-1200	3.5-30 Cy

Field Mountable Attachments^⑤ ⑥ ⑩

Description	Style Number
Provision to trip flux transfer shunt trip from external source: 32 to 120 Volts (Dc to 60 Hz) ^⑦	1372D35G22
240 to 600 Volts Ac, 50/60 Hz ^⑧	1372D35G32
Provision to trip flux transfer shunt trip from external source plus 1A-1B Auxiliary Switch: 32 to 120 Volts (Dc to 60 Hz) ^⑦	1372D35G15
240 to 600 Volts Ac, 50/60 Hz ^⑧	1372D35G25
Provision to trip flux transfer shunt trip from external 24 volt Dc source 1A-1B Auxiliary Switch	1371D95G01 .1372D35G03

- ① UL listed for standard applications.
- ② These breakers are UL listed for application at 100% of rating per NEC exceptions when used in a properly ventilated and listed enclosure.
- ③ Available without external C.T. for neutral. Order by description and specify similar to above except no neutral C.T. or terminal connections for neutral C.T. Same price. Note: the standard ground fault unit listed above can also be used without the neutral C.T.
- ④ For application other than standard residual schemes, refer to AD 29-160.

- ⑤ For other possible combinations, refer to Westinghouse.
- ⑥ Does not void listing of UL Listed Breakers.
- ⑦ Rated 48 volts minimum for Ground Fault applications.
- ⑧ Not required for front connected frames.
- ⑨ Not for ground fault applications.
- ⑩ Only one of these attachments may be mounted per breaker.
- ⑪ Also apply to equivalent ratings of PCG and PCCG ground fault breakers.
- ⑫ Changed or added since previous issue.

Modifications and Accessories

Rear Bus Connectors

Two required per pole. Fixed mounting breakers.

Breaker Frame ^⑪	Connector Style Cat. No.
PC2000 ^⑥ , PCC2000 ^⑥	BA2000PB
PC2500 ^⑥ , PCC2500 ^⑥	BA2500PB ^⑥
PC3000, PCC3000	Included in Frame

Racking Crank for Drawout Frames

To engage or withdraw the moving portion of the drawout. A standard 1/2 inch hex socket with extension can be used for this purpose.

Style No. 765A767G01.

Cell Switches Mounted on Drawout Frames, All Ratings

A maximum of four switches can be provided. Order by description. Each switch provides a NO and NC contact that transfers before reaching the test position when being withdrawn, and after the test position when being racked in.

Approximate Shipping Wts., PC and PCC Breakers (3 Poles)

Rating	Breaker			
	PC, PCC	PCF, PCCF	PCG, PCCG	PCFG, PCCFG
2000	136 Lbs.	163 Lbs.	160 Lbs.	185 Lbs.
2500	145 Lbs.	175 Lbs.	170 Lbs.	200 Lbs.
3000	220 Lbs.	.....	245 Lbs.	.....

Further Information

- List Prices: See Price List 29-020, Dis. CB-2
- Factory Mounted and Other Accessories and Modifications: Pages 49-58
- Field Mountable Attachments: This Page
- Rating Plugs: Page 32.1
- Portable Test Kit: Page 32.2
- Remote Ground Fault Trip Indicator: Page 32.2



September, 1986
Supersedes Technical Data 29-120,
pages 32.1-32.2, dated September, 1984
Mailed to: E, D, C/29-100A, 31-400A

Rating Plugs for SELTRONIC™ and
Type LCL Current Limit-R Circuit Breakers

Portable Test Kit and Remote Ground Fault
Trip Indicator

AB DE-ION® Circuit Breakers

Rating Plug Selection Data

Rating Plugs Listed Below Are For Both Standard Breakers and Breakers with Built-in Ground Fault Protection

Rating Plugs Only (For 2 or 3 Pole Frames)

Continuous Ampere Rating ^①	Magnetic Trip Setting, Amperes		Fixed Rating Plugs Catalog Number	Adjustable Rating Plugs ^{②③} Catalog Number
	Low	High		
For 150 Amp. Frames: LC, LCA, LCG, LCGA, HLC, HLCA, HLCG, HLCGA				
75	225	750	1LC75	.....
90	270	900	1LC90	.....
100	300	1000	1LC100	A1LC100 ^④
125	375	1250	1LC125	A1LC125
150	450	1500	1LC150	A1LC150 ^④

For 300 Amp. Frames: LC, LCA, LCG, LCGA, HLC, HLCA, HLCG, HLCGA

150	450	1500	3LC150	.....
175	525	1750	3LC175	.....
200	600	2000	3LC200	.....
225	675	2250	3LC225	A3LC225
250	750	2500	3LC250	A3LC250
275	825	2750	3LC275	A3LC275
300	900	3000	3LC300	A3LC300 ^④

For 400 Amp. Frames: LC, LCA, LCG, LCGA, HLC, HLCA, HLCG, HLCGA

200	600	2000	4LC200	.....
225	675	2250	4LC225	.....
250	750	2500	4LC250	.....
300	900	3000	4LC300	A4LC300
350	1050	3500	4LC350	A4LC350
400	1200	4000	4LC400	A4LC400 ^④

For 600 Amp. Frames: LC, LCA, LCG, LCGA, HLC, HLCA, HLCG, HLCGA

300	900	3000	6LC300	.....
350	1050	3500	6LC350	.....
400	1200	4000	6LC400	A6LC400 ^④
450	1350	4500	6LC450	A6LC450
500	1500	5000	6LC500	A6LC500
600	1800	6000	6LC600	A6LC600 ^④

For 800 Amp. Frames: MC, MCA, MCG, MCGA, HMC, HMCA, HMC, HMC, HMC

400	1200	4000	8MC400	.....
500	1500	5000	8MC500	A8MC500 ^④
600	1800	6000	8MC600	A8MC600
700	2100	7000	8MC700	A8MC700
800	2400	8000	8MC800	A8MC800 ^④

For 1200 Amp. Frames: NC, NCA, NCG, NCGA, HNC, HNCA, HNC, HNC, HNC

800	1600	6400	12NC800	A12NC800 ^④
900	1800	7200	12NC900	A12NC900
1000	2000	8000	12NC1000	A12NC1000
1200	2400	9600	12NC1200	A12NC1200 ^④

Rating Plugs Only (For 2 or 3 Pole Frames)

Continuous Ampere Rating ^①	Magnetic Trip Setting, Amperes		Fixed Rating Plugs Catalog Number	Adjustable Rating Plugs ^{②③} Catalog Number
	Low	High		
For 2000 Amp. Frames: PC, PCA, PCC, PCCA, PCG, PCGA, PCCG, PCCGA				
1000	2000	8000	20PC1000	.....
1200	2400	9600	20PC1200	.....
1400	2800	11200	20PC1400	.....
1600	3200	12800	20PC1600	A20PC1600
1800	3600	14400	20PC1800	A20PC1800
2000	4000	16000	20PC2000	A20PC2000 ^④

For 2500 Amp. Frames: PC, PCA, PCC, PCCA, PCG, PCGA, PCCG, PCCGA

1400	2800	11200	25PC1400	.....
1600	3200	12800	25PC1600	.....
1800	3600	14400	25PC1800	A25PC1800
2000	4000	16000	25PC2000	A25PC2000
2500	5000	20000	25PC2500	A25PC2500 ^④

For 3000 Amp. Frames: PC, PCA, PCC, PCCA, PCG, PCGA, PCCG, PCCGA

1600	3200	12800	30PC1600	.....
1800	3600	14400	30PC1800	.....
2000	4000	16000	30PC2000	.....
2500	5000	20000	30PC2500	A30PC2500
3000	6000	24000	30PC3000	A30PC3000 ^④

For 250 Amp. Frames: LCL, LCLA Current Limit-R

125	375	1125	2LCL125	.....
150	450	1350	2LCL150	.....
175	525	1575	2LCL175	A2LCL175 ^④
200	600	1800	2LCL200	A2LCL200
225	675	2025	2LCL225	A2LCL225
250	750	2250	2LCL250	A2LCL250 ^④

For 400 Amp. Frames: LCL, LCLA Current Limit-R

200	400	1600	4LCL200	.....
225	450	1800	4LCL225	.....
250	500	2000	4LCL250	.....
275	550	2200	4LCL275	.....
300	600	2400	4LCL300	A4LCL300 ^④
350	700	2800	4LCL350	A4LCL350
400	800	3200	4LCL400	A4LCL400 ^④

Note: Refer to Westinghouse for old style (three prong) Ground Fault Rating Plugs

Further Information

List Prices: See Price List 29-020, Dis. CB-2

① Ampere rating when used in magnetic only frames:

LC-150: 150 Amps	MC-800: 800 Amps	PC-3000: 3000 Amps
LC-300: 300 Amps	NC-1200: 1200 Amps	LCL-250: 250 Amps
LC-400: 400 Amps	PC-2000: 2000 Amps	LCL-400: 400 Amps
LC-600: 600 Amps	PC-2500: 2500 Amps	

② Magnetic Trip range of adjustable rating plugs:
LC, HLC, MC, HMC: 3 to 10 times ampere setting
NC, HNC, PC, PCC, LCL-400: 2 to 8 times ampere setting
LCL-250: 3 to 9 times ampere setting

③ Adjustable 70 to 100% except as noted.

④ Adjustable 50 to 100%

⑤ Adjustable 75 to 100%.

⑥ Adjustable 80 to 100%.



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AB DE-ION Circuit Breakers

Accessories for SELTRONIC and Current Limit-R Circuit Breakers

Portable Test Kit

Provides verification of performance of all frame sizes of SELTRONIC breakers while devices are still in service under varying load and/or phase unbalance. The tester operates on 120 volt 50/60 Hz and includes complete instructions and test times for testing the long time, instantaneous operation and optional ground fault operation of the breaker.



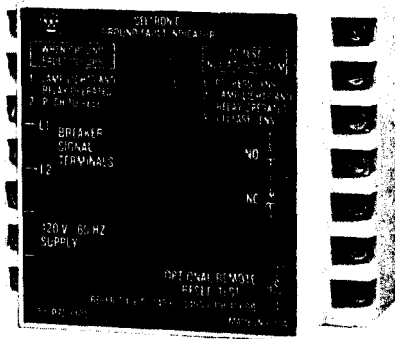
Style Number: 1287C56G02

Further Information

List Prices: See Price List 29-020, Dis. CB-2

Remote Ground Fault Trip Indicator[Ⓢ]

For use only with SELTRONIC Circuit Breakers (LCG, HLCG, MCG, HMCG, NCG, HNCG, PCG and PCCG) with built-in ground fault protection.

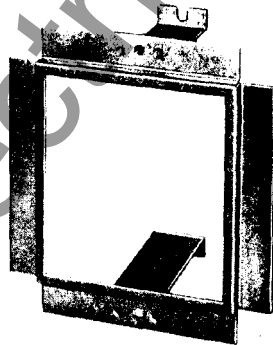


The Seltronic Ground Fault indicator is a remotely mounted device with a combination indicating light/reset/test button that will light when the breaker trips on a Ground Fault. Tripping from overloads or short circuits will not activate the device. A separate 120-50/60 power source is required to power the light and internal relay which has 1 N.O. and 1 N.C. contacts for customer connected alarm etc. Designed for panel mounting, it can be face-mounted by ordering the optional mounting bracket below.

Indicator Style Number: 1259C14G01

Face Mounting Bracket for Ground Fault Indicator

Style Number: 1264C67G01



[Ⓢ] UL Inc. listed as a recognized component.

Westinghouse Electric Corporation
Distribution and Control Business Unit
Components Division
Beaver, Pennsylvania 15009



September, 1984
Supersedes Technical Data 29-120
pages 33-34, dated April, 1980
Mailed to: E, D, C/29-100A, 31-400A

Type FCL Current Limit-R Breakers,
100 Amperes

Type LCL Current Limit-R Breakers,
400 Amperes

AB DE-ION® Circuit Breakers

Type FCL Current Limit-R Thermal Magnetic, High Interrupting Capacity Current Limiting Circuit Breakers

15 to 100 Amperes, 480 Volts Ac Non-Interchangeable Trip, Line and Load Terminals included.

Continuous Ampere Rating @40°C	2 Poles ^② Catalog Number	3 Poles Catalog Number
15	FCL2015L	FCL3015L
20	FCL2020L	FCL3020L
25	FCL2025L	FCL3025L
30	FCL2030L	FCL3030L
35	FCL2035L	FCL3035L
40	FCL2040L	FCL3040L
45	FCL2045L	FCL3045L
50	FCL2050L	FCL3050L
60	FCL2060L	FCL3060L
70	FCL2070L	FCL3070L
80	FCL2080L	FCL3080L
90	FCL2090L	FCL3090L
100	FCL2100L	FCL3100L

Special Calibrations^③

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal	Add 10% to List Price of Complete breaker	None

50°C Calibration^③

Add suffix "V" to catalog number for complete breaker, listed above, when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

Terminals

Breakers listed include line and load terminals. Terminals are Underwriters' Laboratories, Inc. listed for wire sizes and types listed below. When used with aluminum cable, use joint compound. To order optional aluminum terminals, add suffix "Z" to breaker catalog number listed.

Max. Breaker Amps	Wire Type	Wire Range
Standard Pressure Terminals		
100	Al/Cu	#14-1/0
Optional Al/Cu Pressure Terminals		
50	Al/Cu	#14-#4
100	Al/Cu	#4-1/0

- ② 2-pole breakers are supplied in 3-pole frames with current carrying parts omitted from the center pole.
③ Not Underwriters' Laboratories, Inc. listed.



Listed with Underwriters' Laboratories, Inc. except as noted.

Type FCL breakers are not defined in Federal Specification W-C-375-b.

UL Listed Interrupting Ratings, Symmetrical Amperes

Volts, Ac	Interrupting Capacity
240	200,000
480	150,000

On all 3 phase Delta, Ground B phase applications, refer to Westinghouse.

Further Information

List Prices: See Price List 29-020, Dis. CB-2

Accessories and Modifications

Description: Pages 49-58

AB DE-ION Circuit Breaker

Type LCL, LCLA, LCLG, LCLGA Current Limit-R, High Interrupting Capacity Current Limiting Circuit Breakers
125 to 400 Amperes, 600 Volts Ac With Solid State Trip Units

Standard Breakers 600 Volts Ac, 50/60 Hz. Ⓢ

Complete Breaker Requires Frame, Rating Plug and Terminals.

Frame Only

Poles (1)	Catalog Numbers		
		Standard (Long Delay Magnetic Trip and Current Limiting)	Magnetic Only(2) and Current Limiting

Types LCL and LCLA 250 Ampere Frame (125-250 Amperes)

2	LCL2250F	LCL2250FM	LCLA2250F
3	LCL3250F	LCL3250FM	LCLA3250F

Type LCL and LCLA 400 Ampere Frame (200-400 Amperes)

2	LCL2400F	LCL2400FM	LCLA2400F
3	LCL3400F	LCL3400FM	LCLA3400F

Breakers With Built-in Ground Fault Protection Ⓢ

Complete Breaker Requires Frame, Rating Plug and Terminals - Extra Current Transformer Included for Neutral. See Page 32.2 for Optional Indicator Kit

Frame Only

Poles Ⓣ	Catalog Numbers	
		Standard (Long Delay, Magnetic Trip, Current Limiting, and Ground Fault Trip)

Type LCLG and LCLGA 250 Ampere Frame (125-250 Amperes)

2	LCLG2250F	LCLGA2250F
3	LCLG3250F	LCLGA3250F

Type LCLG and LCLGA 400 Ampere Frame (200-400 Amperes)

2	LCLG2400F	LCLGA2400F
3	LCLG3400F	LCLGA3400F

Field Attachments(2)

Description	Style Number
Provision to trip flux transfer shunt trip from external 32 to 120 volt (Dc to 60 Hz) source(6)	1372D49G22
Provision to trip flux transfer shunt trip from external 240 to 600 Volts Ac 50/60 Hz source(6)	1372D49G32
Provision to trip flux transfer shunt trip from external 32 to 120 volt (Dc to 60 Hz) source, plus a 1A-1B auxiliary switch(6)	1372D49G15
Provision to trip flux transfer shunt trip from external 240 to 600 volts Ac 50/60 Hz source, plus a 1A-1B auxiliary switch(6)	1372D49G25
1A-1B Auxiliary Switch	1372D49G03
Provision to trip flux transfer shunt trip from 24 Volts Dc	1371D96G01

● Changed or added since previous issue.

- ① Two pole breakers are supplied in three pole frames with current carrying parts omitted from center pole.
- ② Only one of these attachments may be mounted per breaker.
- ③ Terminals shipped separately from breaker.
- ④ Not Underwriters' Laboratories, Inc. listed.
- ⑤ Rated 48 volts minimum for ground fault applications.
- ⑥ Not for ground fault applications.
- ⑦ UL Inc. recognized component.

Terminals(3) (Order Separately)

Two terminals are required per pole. Terminals are Underwriters' Laboratories, Inc. listed for wire type and range listed below. When used with aluminum cable, use joint compound.

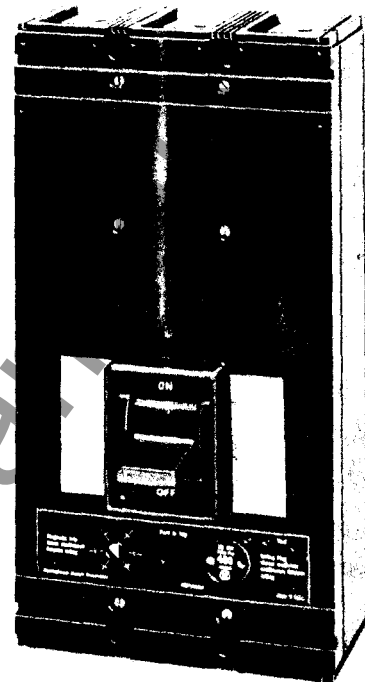
Max. Amps	Terminal Catalog Number	Wire Range, (1/0) No. of Cables
-----------	-------------------------	---------------------------------

Standard Copper Pressure Terminals		
225	T225LA	1#6-350 MCM Cu
400	T401LA	1#4-250 MCM Cu, plus 1 3/0-600 MCM Cu

Optional Al/Cu Pressure Terminals		
225	TA225LA1	1#6-350 MCM Cu, or 1#4-350 MCM Al
400	TA400LA1	1#4-250 MCM Al/Cu, plus 1 3/0-600 MCM Al/Cu

Field Testing

Type LCL breakers can be functionally tested by use of the SELTRONIC test kit, style 1287C56G02, shown on page 32.2.



Listed with Underwriters' Laboratories, Inc. except as noted.

Type LCL breakers are not defined in Federal Specifications W-C-375-b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings, Symmetrical Amperes

Volts, Ac	Interrupting Capacity
240	200,000
480	200,000
600	100,000

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Further Information

- List Prices: See Price List 29-020, Dis. CB-2
- Factory Mounted and Other Accessories and Modifications: Pages 49-58
- Field Mountable Attachments: This Page
- Rating Plugs: Page 32.1
- Portable Test Kit: Page 32.2
- Remote Ground Fault Indicator Kit: Page 32.2

Westinghouse Electric Corporation
Commercial Division - Components
Beaver, Pennsylvania 15009



July, 1988
 Supersedes Technical Data 29-120
 pages 35-36, dated April, 1980
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

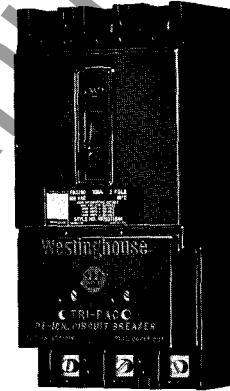
Type FB TRI-PAC® Breakers, 100 Amperes
 Type LA TRI-PAC Breakers, 400 Amperes

AB DE-ION® Circuit Breakers

Type FB TRI-PAC Thermal Magnetic/Current Limiting Breakers 15-100 Amperes, 600 Volts Ac, 250 Volts Dc Replaceable Current Limiters

Continuous Ampere Rating (at 40°C)	Catalog Numbers (Current Limiters Included)	
	2-Poles ^②	3-Poles
15	FB2015PL	FB3015PL
20	FB2020PL	FB3020PL
30	FB2030PL	FB3030PL
40	FB2040PL	FB3040PL
50	FB2050PL	FB3050PL
60	FB2060PL	FB3060PL
70	FB2070PL	FB3070PL
90	FB2090PL	FB3090PL
100	FB2100PL	FB3100PL

Approx. Ship. Wt. 11½ Lbs.



Replacement Current Limiters and Housing Assembly

Current Limiters: One required per pole;

Catalog Number	Application
100FBP06	Supplied as standard in Type FB TRI-PAC breakers rated 15-100 amperes. Replaces 200 FBP03 formerly supplied on 15-40 ampere ratings, and 500FBP07 formerly supplied on 50-100 ampere ratings.

Refer to Application Data 29-160 for complete application information.

Special Calibrations^③

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hertz Ac circuits. See application data 29-160 for information regarding special conditions.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal	Add 10% to List Price of Complete breaker	None
Magnetic		None
Frequency		None

Current Limiter housing Assembly, complete with current limiters.

Ampere Rating	Poles	Style Number
15-100	2	176C593G09
15-100	3	176C593G10

50°C Calibration^③

Add suffix "V" to catalog number for complete breaker, listed above, when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

TRI-PAC FB breakers meet the requirements for Class 16a, 16b, 17a and 26a circuit breakers as defined in Federal Specification W-C-375b.

Interrupting Ratings

Underwriters' Laboratories, Inc. Listed
 600 Volts Ac Max.: 200,000 Amperes Sym.

Based on NEMA Test Procedures
 250 Volt Dc Max.: 100,000 Amps

On all 3 phase Delta, Ground B phase applications, refer to Westinghouse.

Terminals

Breakers listed include line and load terminals. Terminals are Underwriters' Laboratories, Inc. listed for wire sizes and types listed below. When used with aluminum cable, use joint compound. To order optional aluminum terminals, add suffix "Z" to breaker catalog number listed.

Max. Breaker Amps	Wire Type	Wire Range
Standard Pressure Terminals	100 Al/Cu	#14-1/0
	Optional Al/Cu Pressure Terminals	
50	Al/Cu	#14-#4
100	Al/Cu	#4-4/0

Accessories and Modifications

Description: Pages 49-58

List Prices: See Price List 29-020, Dis. CB-2

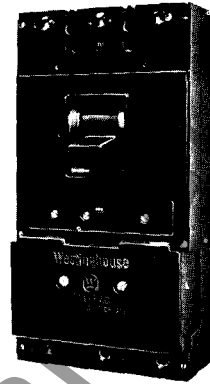
^② 2 pole breakers are supplied in 3-pole frames with current carrying parts omitted from the center pole.

^③ Not listed with Underwriters' Laboratories, Inc.



Type LA TRI-PAC® Thermal Magnetic Breakers
70-400 Amperes, 600 Volts Ac, 250 Volts Dc, 2, 3 Poles, Interchangeable Trip, Replaceable Current Limiters

Contin- uous Ampere Rating @ 40°C	Magnetic Trip Setting Amperes®		Complete Breaker		Shipped as Frame, Trip Units, Limiters and Terminals®		
	Low	High	Includes Pressure Type Aluminum Terminals® ①		Frame Only	Trip Unit Only	Current Limiters (1 Required per Pole)
			Catalog Number	Catalog Number	Catalog Number	Catalog Number	
2 Poles, 600 Volts Ac, 250 Volts Dc®							
70	350	700	LA2070PR	LA2400PRF	LA2070PT	200LAP08	
90	450	900	LA2090PR	LA2400PRF	LA2090PT	200LAP08	
100	500	1000	LA2100PR	LA2400PRF	LA2100PT	200LAP08	
125	625	1250	LA2125PR	LA2400PRF	LA2125PT	200LAP08	
150	750	1500	LA2150PR	LA2400PRF	LA2150PT	200LAP08	
175	875	1750	LA2175PR	LA2400PRF	LA2175PT	200LAP08	
200	1000	2000	LA2200PR	LA2400PRF	LA2200PT	200LAP08	
225	1125	2250	LA2225PR	LA2400PRF	LA2225PT	400LAP10	
250	1250	2500	LA2250PR	LA2400PRF	LA2250PT	400LAP10	
300	1500	3000	LA2300PR	LA2400PRF	LA2300PT	400LAP10	
350	1750	3500	LA2350PR	LA2400PRF	LA2350PT	400LAP10	
400	2000	4000	LA2400PR	LA2400PRF	LA2400PT	400LAP10	
			Approx. Ship. Wt. 29½ Lbs.	Approx. Ship. Wt. 23½ Lbs.	Approx. Ship. Wt. 2½ Lbs.		
3-Poles, 600 Volts Ac Only							
70	350	700	LA3070PR	LA3400PRF	LA3070PT	200LAP08	
90	450	900	LA3090PR	LA3400PRF	LA3090PT	200LAP08	
100	500	1000	LA3100PR	LA3400PRF	LA3100PT	200LAP08	
125	625	1250	LA3125PR	LA3400PRF	LA3125PT	200LAP08	
150	750	1500	LA3150PR	LA3400PRF	LA3150PT	200LAP08	
175	875	1750	LA3175PR	LA3400PRF	LA3175PT	200LAP08	
200	1000	2000	LA3200PR	LA3400PRF	LA3200PT	200LAP08	
225	1125	2250	LA3225PR	LA3400PRF	LA3225PT	400LAP10	
250	1250	2500	LA3250PR	LA3400PRF	LA3250PT	400LAP10	
300	1500	3000	LA3300PR	LA3400PRF	LA3300PT	400LAP10	
350	1750	3500	LA3350PR	LA3400PRF	LA3350PT	400LAP10	
400	2000	4000	LA3400PR	LA3400PRF	LA3400PT	400LAP10	
			Approx. Ship. Wt. 34 Lbs.	Approx. Ship. Wt. 25 Lbs.	Approx. Ship. Wt. 3 Lbs.		



Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

TRI-PAC LA breakers meet the requirements for Class 16a, 16b, 17a and 26a circuit breakers as defined in Federal Specification W-C-375b.

Interrupting Ratings
Underwriters' Laboratories, Inc. Listed
600 Volts Ac, Max.: 200,000 Amperes Sym.

Based on NEMA Test Procedures
250 Volts Dc Max.: 100,000 Amps.

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Terminals® ②
Two terminals are required per pole. Terminals are Underwriters' Laboratories, Inc. listed for wire size and type listed below. When used with aluminum conductors, use joint compound. To order optional copper only terminals, add suffix "C" to complete breaker catalog number.

Max. Amps	Terminal Catalog Number	Wire Range, Type, No. of Cables
Standard Al/Cu Pressure Terminals		
225	TA225LA1	1 #6-350 MCM Cu, or 1 #4-350 MCM Al
400	TA400LA1	1 #4-250 MCM Al/Cu, plus 1 3/0-600 MCM Al/Cu

Optional Copper Pressure Terminals		
225	T225LA	1 #6-350 MCM Cu
225⑦	T225LBF	1 #6-250 MCM Cu
400	T401LA	1 #4-250 MCM Cu, plus 1 3/0-600 MCM Cu

Special Breakers
Magnetic only TRI-PAC breakers are available on request. Refer to AD 29-160 for available trip ranges.

Accessories and Modifications
Description: Pages 49-58

List Prices: See Price List 29-020, Dis. CB-2

Current Limiters®

Included with breaker, one required per pole.

Cat. No.	Application
200LAP08	Supplied as standard on ratings through 200 amps.
400LAP10	Supplied as standard on 225 thru 400 amp ratings, optional on lower ratings when a higher "cross-over point" is desired. (Above two limiters replace 800LAP12 formerly supplied as standard on all ratings, 600LAP09 optional on ratings thru 300 amps, 300LAP05 optional on ratings thru 150 amp, and special rating limiter 1000LAP14.)
500LAP15 ②④	Special rating where a higher "cross-over point" is desired on 200 amp and higher ratings (Replaces limiter 1500LAP20)

Refer to application data 29-160 for more complete application information.

- ① Changed or added since previous issue.
- ② Not Underwriters' Laboratories, Inc. listed.
- ③ 2-pole breakers or trips are supplied in 3-pole frames with current carrying parts omitted from the center pole.
- ④ Protection based on 100,000 amp max. fault, 480 volts max.

Special Calibration® ②

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hz Ac circuits. See Ad 29-160 for information regarding special conditions.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal Ambient Frequency	Add 30% to List Price of Trip Unit	None None None

50°C Calibration® ②

Add suffix "V" to catalog number for complete breaker, or trip unit only, when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

- ⑤ Set on high side, adjustable to lower limits.
- ⑥ Terminals shipped separately from breakers.
- ⑦ Optional terminal.
- ⑧ New limiters suitable for replacement in existing breakers by using plug-in conductor from old limiter (instructions included with limiter).



May 1990
Supersedes Technical Data 29-120,
pages 37-38, dated April 1980
Mailed to: E, D, C/29-100A, 31-400A,
31-500A

Type NB TRI-PAC® Breakers, 800 Amperes
Type PB TRI-PAC Breakers, 1600 Amperes

AB DE-ION® Circuit Breakers

Type NB TRI-PAC® Thermal Magnetic Breakers

300-800 Amperes, 600 Volts Ac, 250 Volts Dc®, 2, 3 Poles, Interchangeable Trip, Replaceable Current Limiters

Contin- uous Ampere Rating @ 40°C	Magnetic Trip Setting, Amperes		Complete Breaker Includes Pressure Type Copper Terminals®	Shipped as Frame, Trip Unit, Limiters and Terminals		
	Low	High		Frame Only	Trip Unit Only	Current Limiter 1 Required Per Pole
			Catalog Number	Catalog Number	Catalog Number	Catalog Number
2-Poles, 600 Volts Ac, 250 Volts Dc®						
300	1500	3000	NB2300P	NB2800PF	NB2300PT	500NBP12
350	1750	3500	NB2350P	NB2800PF	NB2350PT	500NBP12
400③	2000	4000	NB2400P	NB2800PF	NB2400PT	500NBP12
500③	2500	5000	NB2500P	NB2800PF	NB2500PT	500NBP12
600③	3000	6000	NB2600P	NB2800PF	NB2600PT	800NBP20
700③	3000	6000	NB2700P	NB2800PF	NB2700PT	800NBP20
800③	3000	6000	NB2800P	NB2800PF	NB2800PT	800NBP20
3-Poles, 600 Volts Ac Only						
300	1500	3000	NB3300P	NB3800PF	NB3300PT	500NBP12
350	1750	3500	NB3350P	NB3800PF	NB3350PT	500NBP12
400③	2000	4000	NB3400P	NB3800PF	NB3400PT	500NBP12
500③	2500	5000	NB3500P	NB3800PF	NB3500PT	500NBP12
600③	3000	6000	NB3600P	NB3800PF	NB3600PT	800NBP20
700③	3000	6000	NB3700P	NB3800PF	NB3700PT	800NBP20
800③	3000	6000	NB3800P	NB3800PF	NB3800PT	800NBP20

Approx. Ship. Wt.
75 Lbs.

Approx. Ship. Wt.
4 Lbs.

Current Limiters

Included with breaker, one required per pole.

Catalog Number	Application
500NBP12	Supplied as standard on ratings thru 500 amps.
800NBP20	Supplied as standard on 600-800 amp ratings, or optional on lower ratings when a higher "cross-over point" is desired. Above two limiters replace 1000NBP14 formerly supplied on ratings up to 600 amps, 1500NBP20 supplied on 700 amp, and 2500NBP25 supplied on 800 amps.

Refer to AD 29-160 for more complete application information.

- Changed or added since previous issue.
- ② 2-pole breakers or trips are supplied in 3-pole frames with current-carrying parts omitted from center pole.
- ③ 60 Hertz Ac only.
- ④ Frames, terminals, studs, mounting hardware, dimensions and shipping weights are same as standard thermal magnetic breakers.
- ⑤ Shipped separately from breaker.
- ⑥ Dc rating applies to 350 amperes maximum thermal or to magnetic only breakers.
- ⑦ Not UL Listed.

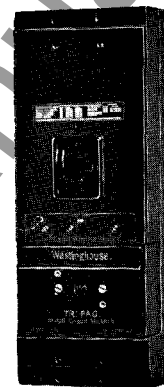
Special Calibration⑦

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C, or frequencies other than 60 Hertz Ac. (400-800 ampere ratings: 50 Hertz Ac minimum, 60 Hertz Ac maximum.) See AD 29-160 for additional information regarding special conditions.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal Magnetic	Add 15% to List Price of Trip Unit	None None

50°C Calibration⑦

Add suffix "V" to catalog number for complete breaker or trip unit only when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.



Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

TRI-PAC NB breakers meet the requirements for Class 16b, 17a and 26a circuit breakers as defined in Federal Specification W-C-375b.

Interrupting Ratings

Underwriters' Laboratories, Inc. Listed
600 Volts Ac Max.: 200,000 Amps. Sym.

Based on NEMA Test Procedures
250 Volts Dc Max.®: 100,000 Amps.

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Terminals⑤

Two terminals are required per pole. Terminals are Underwriters' Laboratories, Inc. listed for wire size and type listed below. When used with aluminum conductors, use joint compound.

Max. Ampere Rating	Terminal Catalog	Wire Range, Type No. of Cables
Standard Al/Cu Pressure Terminals		
350	T350NB	1 #1-600 MCM Cu Only
700	TA700NB1	2 #1-500 MCM Al/Cu
800	TA1000NB1	3 3/0-400 MCM Al/Cu
800	TA1201NB1	3 500-750 MCM Al/Cu

Optional Copper-Only Pressure Terminals		
700	T700NB1	2 2/0-500 MCM Cu Only
800	T1000NB1	3 3/0-500 MCM Cu Only

Special Breakers

Magnetic only TRI-PAC breakers are available on request. Refer to AD 29-160 for available trip ranges. Price same as thermal magnetic breaker.

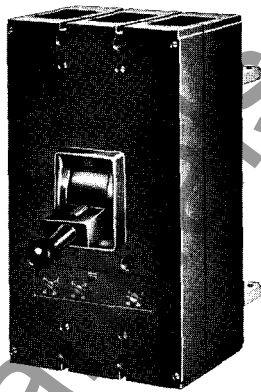
Accessories and Modifications
Description: Pages 49-58

List Prices: See Price List 29-020, Dis. CB-2



Type PB TRI-PAC® Thermal Magnetic/Current Limiting Breakers
600-1600 Amperes, 600 Volts, 60 Hertz Ac[ⓐ], 250 Volts Dc[ⓑ], 2, 3 Poles Interchangeable Trip, Replaceable Current Limiters

Contin- uous Ampere Rating @ 40°C	Ac Magnetic Trip Setting (Set on High Side, Adjust- able to Lower Limits)		Complete Breaker	Shipped as Frame, Trip Unit Current Limiters and Connectors		
	Low	High	Includes Rear "T" Connectors [Ⓒ]	Frame Only	Trip Unit Only	Current Limiters 1 Required Per Pole
			Catalog Number	Catalog Number	Catalog Number	Catalog Number
2-Pole, 600 Volts Ac[ⓐ]						
600	1500	5000	PB2600PR	PB21600PRF	PB2600PRT	1000PBPR20
700	1500	5000	PB2700PR	PB21600PRF	PB2700PRT	1000PBPR20
800	1500	5000	PB2800PR	PB21600PRF	PB2800PRT	1000PBPR20
900	1500	5000	PB2900PR	PB21600PRF	PB2900PRT	1000PBPR20
1000	1500	5000	PB21000PR	PB21600PRF	PB21000PRT	1000PBPR20
1200	2000	6000	PB21200PR	PB21600PRF	PB21200PRT	1600PBPR30
1400	2500	7000	PB21400PR	PB21600PRF	PB21400PRT	1600PBPR30
1600	3000	8000	PB21600PR	PB21600PRF	PB21600PRT	1600PBPR30
	Approx. Ship. Wt.		148 lbs.	106 lbs.	18 lbs.	4 lbs.
3-Pole, 600 Volts Ac						
600	1500	5000	PB3600PR	PB31600PRF	PB3600PRT	1000PBPR20
700	1500	5000	PB3700PR	PB31600PRF	PB3700PRT	1000PBPR20
800	1500	5000	PB3800PR	PB31600PRF	PB3800PRT	1000PBPR20
900	1500	5000	PB3900PR	PB31600PRF	PB3900PRT	1000PBPR20
1000	1500	5000	PB31000PR	PB31600PRF	PB31000PRT	1000PBPR20
1200	2000	6000	PB31200PR	PB31600PRF	PB31200PRT	1600PBPR30
1400	2500	7000	PB31400PR	PB31600PRF	PB31400PRT	1600PBPR30
1600	3000	8000	PB31600PR	PB31600PRF	PB31600PRT	1600PBPR30
	Approx. Ship. Wt.		179 lbs.	120 lbs.	23 lbs.	4 lbs.



Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

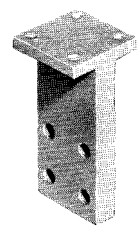
TRI-PAC PB breakers meet the requirements for Class 17a and 26a circuit breakers as defined in Federal Specification W-C-375b.

Interrupting Ratings
Underwriters' Laboratories, Inc. Listed
600 Volts Ac Max.: 200,000 Amps. Sym.

Based on NEMA Test Procedure
250 Volts Dc[ⓑ]: 100,000 Amps.

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Bus Bar Connectors[Ⓒ]
"T" Connector for Cu/Al Bus
Two required per pole. For rear bus connection. Accepts up to four bus bolts. May be rotated 90°. Catalog Number BA2000PB.



Cable Connector[Ⓒ] (Optional)
For "T" connector. Accepts four 400-600 MCM copper cables. Style Number 505C706G04.
Discount Symbol: CB-2



Special Breakers[Ⓒ]
Magnetic Only Type TRI-PACS: Available on request. Refer to Application Data 29-160 for available trip ranges.

List Prices: See Price List 29-020, Dis. CB-2

Current Limiters
Included with breaker, one required per pole.

Catalog Number	Application
1000PBPR20	Supplied as standard on ratings thru 1000 amps. (Replaces limiter 1500PBPR30 formerly supplied on 600 and 700 amp ratings, and 3000PBPR27 supplied on 800-1000 amp ratings.)
1600PBPR30	Supplied as standard on 1200-1600 amp ratings. Optional on lower ratings where a higher "cross-over point" is desired. (Replaces limiter 4000PBPR30 formerly supplied on 1200-1400 amp ratings, and 5000PBPR42 supplied on 1600 amp ratings.)

Special Calibrations[Ⓒ]
Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. See Application Data 29-160 for information regarding special conditions.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal Ambient	Add 15% of Trip Unit List Price	None None

50°C Calibration[Ⓒ] ⑦
Add suffix "V" to catalog number for complete breaker when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

Refer to AD 29-160 for more complete application information.

- Ⓒ Changed or added since previous issue.
- Ⓒ Higher frequency calibration not available. Minimum of 50 Hertz calibration available on special order.
- Ⓒ 250 volts Dc rating applies only to magnetic only breakers.
- Ⓒ 2-pole breakers are supplied in 3-pole frames with current carrying parts omitted from center pole.
- Ⓒ Shipped separately from breaker.
- Ⓒ Not Underwriters' Laboratories, Inc. listed.
- Ⓒ 50°C calibration not available on 1600 amp rating. Ⓒ

Westinghouse Electric Corporation
Distribution and Control Business Unit
Electrical Components Division
Pittsburgh, Pennsylvania, U.S.A. 15220

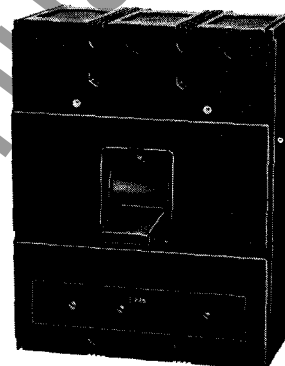
Printed in USA



January, 1989
 Supersedes Technical Data 29-120,
 pages 41-42, dated April, 1980
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

Replacement Breakers
 Type LAB400 Amperes
 Type LA400 Amperes
 Mark 75 Type HLA 400 Amperes

AB DE-ION® Circuit Breakers



Type LAB Thermal Magnetic, Saf-T-Vue® Breakers

125-400 Amperes, 600 Volts Ac, 250 Volts Dc, 2, 3 Poles, Fixed Trip

Contin- uous Ampere Rating @ 40°C	Magnetic Trip Setting, Amperes ⑥		Complete Breaker Includes Pressure Type Aluminum Terminals④		Breaker Without Terminals	
	Low	High	Catalog Number		Catalog Number	
			Standard	Saf-T-Vue	Standard	Saf-T-Vue
2-Poles, 600 Volts Ac, 250 Volts Dc③						
125	625	1250	LAB2125	LAB2125S	LAB2125W	LAB2125SW
150	750	1500	LAB2150	LAB2150S	LAB2150W	LAB2150SW
175	875	1750	LAB2175	LAB2175S	LAB2175W	LAB2175SW
200	1000	2000	LAB2200	LAB2200S	LAB2200W	LAB2200SW
225	1125	2250	LAB2225	LAB2225S	LAB2225W	LAB2225SW
250	1250	2500	LAB2250	LAB2250S	LAB2250W	LAB2250SW
300	1500	3000	LAB2300	LAB2300S	LAB2300W	LAB2300SW
350	1750	3500	LAB2350	LAB2350S	LAB2350W	LAB2350SW
400	2000	4000	LAB2400	LAB2400S	LAB2400W	LAB2400SW
			Approx. Ship. Wt. 22 Lbs.		Approx. Ship. Wt. 22 Lbs.	
3-Poles, 600 Volts Ac Only						
125	625	1250	LAB3125	LAB3125S	LAB3125W	LAB3125SW
150	750	1500	LAB3150	LAB3150S	LAB3150W	LAB3150SW
175	875	1750	LAB3175	LAB3175S	LAB3175W	LAB3175SW
200	1000	2000	LAB3200	LAB3200S	LAB3200W	LAB3200SW
225	1125	2250	LAB3225	LAB3225S	LAB3225W	LAB3225SW
250	1250	2500	LAB3250	LAB3250S	LAB3250W	LAB3250SW
300	1500	3000	LAB3300	LAB3300S	LAB3300W	LAB3300SW
350	1750	3500	LAB3350	LAB3350S	LAB3350W	LAB3350SW
400	2000	4000	LAB3400	LAB3400S	LAB3400W	LAB3400SW
			Approx. Ship. Wt. 24½ Lbs.		Approx. Ship. Wt. 24½ Lbs.	

For panelboard or switchboard applications where only line side or load side terminals are required, add suffix "X" to complete breaker catalog number.

Special Breakers②

Contin- uous Ampere Rating	Magnetic Trip Setting, Amperes⑥		Breaker Catalog Number		3-Poles Standard	Saf-T-Vue
	Low	High	2-Poles③ Standard	Saf-T-Vue		
Magnetic Only Breakers, Front Adjustable-Without Terminals⑦						
400	350	700	LAB2700MW	LAB2700SMW	LAB3700MW	LAB3700SMW
400	625	1250	LAB21250MW	LAB21250SMW	LAB31250MW	LAB31250SMW
400	750	1500	LAB21500MW	LAB21500SMW	LAB31500MW	LAB31500SMW
400	875	1750	LAB21750MW	LAB21750SMW	LAB31750MW	LAB31750SMW
400	1125	2250	LAB22250MW	LAB22250SMW	LAB32250MW	LAB32250SMW
400	1500	3000	LAB23000MW	LAB23000SMW	LAB33000MW	LAB33000SMW
400	2000	4000	LAB24000MW	LAB24000SMW	LAB34000MW	LAB34000SMW
Ambient Compensating Breakers-Includes Terminals						
125	625	1250	LAB2125A	.....	LAB3125A	.....
150	750	1500	LAB2150A	.....	LAB3150A	.....
175	875	1750	LAB2175A	.....	LAB3175A	.....
200	1000	2000	LAB2200A	.....	LAB3200A	.....
225	1125	2250	LAB2225A	.....	LAB3225A	.....
250	1250	2500	LAB2250A	.....	LAB3250A	.....
300	1500	3000	LAB2300A	.....	LAB3300A	.....
350	1750	3500	LAB2350A	.....	LAB3350A	.....
400	2000	4000	LAB2400A	.....	LAB3400A	.....

Special Calibrations②

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hertz Ac circuits. See AD 29-160 for information regarding special conditions. Maximum calibration for 400 Hz is 300 amps.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal	Add 10% to	None
Magnetic	List Price of	None
Frequency	Complete Breaker	None

50°C Calibration②

Add suffix "V" to catalog number for complete breaker when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

Type LAB breakers meet requirements for class 21a circuit breakers, as defined by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings⑨

Max. Volts	Amperes
240 Ac	50,000 Asym., 42,000 Sym.
480 Ac	35,000 Asym., 30,000 Sym.
600 Ac	25,000 Asym., 22,000 Sym.
250 Dc	20,000⑩

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Terminals④

Two required per pole. Select from table on page 42.

Magnetic Only and Ambient Compensating Breakers

For description, refer to AD 29-160. To order, select catalog number from table at left.

Accessories and Modifications

Description: Pages 49-58

List Prices: See Price List 29-020, Dis. CB-2

- ① Changed or added since previous issue.
- ② Not listed with Underwriters' Laboratories, Inc.
- ③ 2-Pole breakers or trips are supplied in 3-pole frames with current carrying parts omitted from center pole.
- ④ Terminals shipped separately from breaker.
- ⑤ Set on high side, adjustable to lower limits.
- ⑥ Select desired terminals from page 42 and order as separate item.
- ⑦ Ratings above 10,000 amps not UL listed.
- ⑧ Interrupting capacities shown do not apply to molded case switches (MCS).



Type LA and MARK 75 Type HLA®

70-400 Amperes, 600 Volts Ac, 250 Volts Dc, 2, 3 Poles, Interchangeable Trip

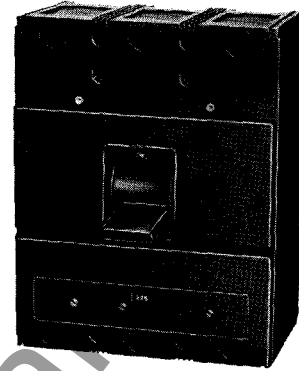
Con- tin- uous Am- pere Rat- ing @ 40°C	Magnetic Trip Setting Amperes ^⑥		Complete Breaker		Shipped as Frame, Trip Unit and Terminals		
	Low	High	Includes Pressure Type Aluminum Terminals ^⑦		Frame Only		
			Catalog Number		Catalog Number		
			Standard	Saf-T-Vue MARK 75	Standard	Saf-T-Vue MARK 75	Trip Unit Only Catalog Number Standard, MARK 75 or Saf-T-Vue

400 Ampere Frame Breakers^③

2-Poles, 600 Volts Ac, 250 Volts Dc^③

70 ^④	350	700	LA2070	LA2070S	.....	LA2400F	LA2400FS	.....	HLA2070T
90 ^④	450	900	LA2090	LA2090S	.....	LA2400F	LA2400FS	.....	HLA2090T
100 ^④	500	1000	LA2100	LA2100S	.....	LA2400F	LA2400FS	.....	HLA2100T
125	625	1250	LA2125	LA2125S	HLA2125	LA2400F	LA2400FS	HLA2400F	HLA2125T
150	750	1500	LA2150	LA2150S	HLA2150	LA2400F	LA2400FS	HLA2400F	HLA2150T
175	875	1750	LA2175	LA2175S	HLA2175	LA2400F	LA2400FS	HLA2400F	HLA2175T
200	1000	2000	LA2200	LA2200S	HLA2200	LA2400F	LA2400FS	HLA2400F	HLA2200T
225	1125	2250	LA2225	LA2225S	HLA2225	LA2400F	LA2400FS	HLA2400F	HLA2225T
250	1250	2500	LA2250	LA2250S	HLA2250	LA2400F	LA2400FS	HLA2400F	HLA2250T
300	1500	3000	LA2300	LA2300S	HLA2300	LA2400F	LA2400FS	HLA2400F	HLA2300T
350	1750	3500	LA2350	LA2350S	HLA2350	LA2400F	LA2400FS	HLA2400F	HLA2350T
400	2000	4000	LA2400	LA2400S	HLA2400	LA2400F	LA2400FS	HLA2400F	HLA2400T

Approx. Ship. Wt. 21 3/4 Lbs. Approx. Ship. Wt. 17 1/2 Lbs. Approx. Ship. Wt. 2 1/4 Lbs.



Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

3 Poles, 600 Volts Ac Only

70 ^④	350	700	LA3070	LA3070S	.....	LA3400F	LA3400FS	.....	HLA3070T
90 ^④	450	900	LA3090	LA3090S	.....	LA3400F	LA3400FS	.....	HLA3090T
100 ^④	500	1000	LA3100	LA3100S	.....	LA3400F	LA3400FS	.....	HLA3100T
125	625	1250	LA3125	LA3125S	HLA3125	LA3400F	LA3400FS	HLA3400F	HLA3125T
150	750	1500	LA3150	LA3150S	HLA3150	LA3400F	LA3400FS	HLA3400F	HLA3150T
175	875	1750	LA3175	LA3175S	HLA3175	LA3400F	LA3400FS	HLA3400F	HLA3175T
200	1000	2000	LA3200	LA3200S	HLA3200	LA3400F	LA3400FS	HLA3400F	HLA3200T
225	1125	2250	LA3225	LA3225S	HLA3225	LA3400F	LA3400FS	HLA3400F	HLA3225T
250	1250	2500	LA3250	LA3250S	HLA3250	LA3400F	LA3400FS	HLA3400F	HLA3250T
300	1500	3000	LA3300	LA3300S	HLA3300	LA3400F	LA3400FS	HLA3400F	HLA3300T
350	1750	3500	LA3350	LA3350S	HLA3350	LA3400F	LA3400FS	HLA3400F	HLA3350T
400	2000	4000	LA3400	LA3400S	HLA3400	LA3400F	LA3400FS	HLA3400F	HLA3400T

Approx. Ship. Wt. 24 1/2 Lbs. Approx. Ship. Wt. 19 Lbs. Approx. Ship. Wt. 3 Lbs.

Type LA breakers meet requirements for class 21a circuit breakers, and Type HLA meet requirements for class 23a as defined by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings^⑩

Volts Max.	Amperes
240 Ac	50,000 Asym., 42,000 Sym.
480 Ac	35,000 Asym., 30,000 Sym.
600 Ac	25,000 Asym., 22,000 Sym.
250 Dc	20,000 ^⑪

MARK 75 Breakers

240 Ac	75,000 Asym., 65,000 Sym.
480 Ac	40,000 Asym., 35,000 Sym.
600 Ac	30,000 Asym., 25,000 Sym.
250 Dc	20,000 ^⑪

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Accessories and Modifications

Descriptions: Pages 49-58

List Prices: See Price List 29-020, Dis. CB-2

For Panelboard and switchboard applications where only line side or load side terminals are required, add suffix "X" to complete breaker catalog number.

Terminals^{⑤ ⑦ ⑧}

Two terminals are required per pole. Terminals are Underwriters' Laboratories, Inc. listed for wire type and range listed below. When used with aluminum cable, use joint compound. To order optional copper only terminals, add suffix "C" to complete breaker catalog number.

Max. Amps	Terminal Catalog Number	Wire Range, Type, No. of Cables
225 ^⑨	TA225LA1	1 #6-350 MCM Cu, or 1 #4-350 MCM Al
400 ^⑨	TA400LA1	1 #4-250 MCM Al/Cu, plus 1 3/0-600 MCM Al/Cu

Optional Copper Pressure Terminals

225 ^⑨	T225LA	1 #6-350 MCM Cu
225 ^{⑨ ⑩}	T225LBF	1 #6-250 MCM Cu
400 ^⑨	T401LA	1 #4-250 MCM Cu, plus 1 3/0-600 MCM Cu

- ③ Changed or added since previous issue.
- ④ 2-pole breakers or trips are supplied in 3-pole frames with current carrying parts omitted from center pole.
- ⑤ These ratings have interrupting capacities reduced to 25,000 amps sym. at 240 volts, 20,000 amps sym. at 480 volts, and 15,000 amps sym. at 600 volts.
- ⑥ Terminals, trip units and accessories are not interchangeable between 400 and 600 ampere frames.
- ⑦ Set on high side, adjustable to lower limits.
- ⑧ Terminals shipped separately from breaker.
- ⑨ 400 amp frame only.
- ⑩ Optional terminal.
- ⑪ Ratings above 10,000 amps not UL Listed.
- ⑫ Interrupting capacities do not apply to molded case switches (MCS).

Westinghouse Electric Corporation
Distribution and Control Business Unit
Electrical Components Division
Pittsburgh, Pennsylvania, U.S.A. 15220



January 1990
 Supersedes Technical Data 29-120
 pages 43-44, dated April, 1980
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

Type LA400 Amperes
 Type MA800 Amperes

AB DE-ION® Circuit Breakers

Type LA Breakers

70-400 Amperes, 600 Volts Ac, 250 Volts Dc, 2, 3 Poles, Interchangeable Trip

Special Breakers^① Trip Units Only

Contin- uous Ampere Rating	Magnetic Trip Setting, Amperes ^②	Catalog Number	
		2-Poles ^③	3-Poles
	Low		
	High		

Magnetic Only Breakers, Front Adjustable 400 Ampere Frame Breakers^④

400	350	700	HLA2700TM	HLA3700TM
400	625	1250	HLA21250TM	HLA31250TM
400	750	1500	HLA21500TM	HLA31500TM
400	875	1750	HLA21750TM	HLA31750TM
400	1125	2250	HLA22250TM	HLA32250TM
400	1500	3000	HLA23000TM	HLA33000TM
400	2000	4000	HLA24000TM	HLA34000TM

Ambient Compensating Breakers 400 Ampere Frame Breakers Only^④

70 ^⑤	350	700	HLA2070TA	HLA3070TA
90 ^⑤	450	900	HLA2090TA	HLA3090TA
100 ^⑤	500	1000	HLA2100TA	HLA3100TA
125	625	1250	HLA2125TA	HLA3125TA
150	750	1500	HLA2150TA	HLA3150TA
175	875	1750	HLA2175TA	HLA3175TA
200	1000	2000	HLA2200TA	HLA3200TA
225	1125	2250	HLA2225TA	HLA3225TA
250	1250	2500	HLA2250TA	HLA3250TA
300	1500	3000	HLA2300TA	HLA3300TA
350	1750	3500	HLA2350TA	HLA3350TA
400	2000	4000	HLA2400TA	HLA3400TA

Magnetic Only and Ambient Compensating Breakers^①

For description, refer to DB 29-150 and AD 29-160. To order, select trip unit from table at left, frame and terminals from page 42.

Special Calibrations^① ⑥

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hertz Ac circuits. See Application Data 29-160 for information regarding special conditions. Maximum 400/415 Hz calibration: 400 amp frame, 300 amps.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal Ambient Frequency	Add 30% of List Price of Trip Unit	None None None

50°C Calibration^①

Add suffix "V" to catalog number for complete breaker or trip unit only, when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

List Prices: See Price List 29-020, Dis. CB-2

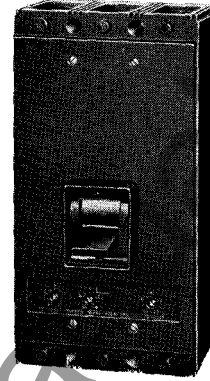
- ⑥ Changed or added since previous issue.
- ① Not listed with Underwriters' Laboratories, Inc.
- ② Set on high side, adjustable to lower limits.
- ③ Two-pole breakers or trips are supplied in 3-pole frames with current carrying parts omitted from center pole.
- ④ Terminals, trip units and accessories are not interchangeable between 400 and 600 amp frames.
- ⑤ These ratings have lower interrupting capacities. See note 4, page 42.



Type MA Breakers

125-800 Amperes, 600 Volts Ac, 250 Volts Dc^①, 2, 3 Poles, Interchangeable Trip

Contin- uous Am- pere Rat- ing @ 40°C	Magnetic Trip Setting, Amperes ② Low High		Complete Breaker			Shipped as Frame, Trip Unit and Terminals ^③			
			Includes Pressure Type Copper Terminals ^④			Frame Only			Trip Unit Only
			Catalog Number			Catalog Number			Catalog Number
			Standard	Saf-T-Vue	MARK 75	Standard	Saf-T-Vue	MARK 75	Standard Saf-T-Vue, MARK 75
2-Poles, 600 Volts Ac, 250 Volts Dc^{①④}									
125	625	1250	MA2125	MA2125S	HMA2125	MA2800F	MA2800FS	HMA2800F	HMA2125T
150	750	1500	MA2150	MA2150S	HMA2150	MA2800F	MA2800FS	HMA2800F	HMA2150T
175	875	1750	MA2175	MA2175S	HMA2175	MA2800F	MA2800FS	HMA2800F	HMA2175T
200	1000	2000	MA2200	MA2200S	HMA2200	MA2800F	MA2800FS	HMA2800F	HMA2200T
225	1125	2250	MA2225	MA2225S	HMA2225	MA2800F	MA2800FS	HMA2800F	HMA2225T
250	1250	2500	MA2250	MA2250S	HMA2250	MA2800F	MA2800FS	HMA2800F	HMA2250T
300	1500	3000	MA2300	MA2300S	HMA2300	MA2800F	MA2800FS	HMA2800F	HMA2300T
350	1750	3500	MA2350	MA2350S	HMA2350	MA2800F	MA2800FS	HMA2800F	HMA2350T
400	2000	4000	MA2400	MA2400S	HMA2400	MA2800F	MA2800FS	HMA2800F	HMA2400T
500	2500	5000	MA2500	MA2500S	HMA2500	MA2800F	MA2800FS	HMA2800F	HMA2500T
600	3000	6000	MA2600	MA2600S	HMA2600	MA2800F	MA2800FS	HMA2800F	HMA2600T
700	3000	6000	MA2700 ^⑤	MA2700S	HMA2700	MA2800F	MA2800FS	HMA2800F	HMA2700T ^⑥
800	3000	6000	MA2800 ^⑤	MA2800S	HMA2800	MA2800F	MA2800FS	HMA2800F	HMA2800T ^⑥
800	MCS ^⑥		MA2800WK	MA2800WSK	.....	.....	.....	.....	Incl. in Frame Approx. Ship. Wt. 3 1/2 Lbs.
						Approx. Ship. Wt. 24 Lbs.			
3 Poles, 600 Volts Ac Only									
125	625	1250	MA3125	MA3125S	HMA3125	MA3800F	MA3800FS	HMA3800F	HMA3125T
150	750	1500	MA3150	MA3150S	HMA3150	MA3800F	MA3800FS	HMA3800F	HMA3150T
175	875	1750	MA3175	MA3175S	HMA3175	MA3800F	MA3800FS	HMA3800F	HMA3175T
200	1000	2000	MA3200	MA3200S	HMA3200	MA3800F	MA3800FS	HMA3800F	HMA3200T
225	1125	2250	MA3225	MA3225S	HMA3225	MA3800F	MA3800FS	HMA3800F	HMA3225T
250	1250	2500	MA3250	MA3250S	HMA3250	MA3800F	MA3800FS	HMA3800F	HMA3250T
300	1500	3000	MA3300	MA3300S	HMA3300	MA3800F	MA3800FS	HMA3800F	HMA3300T
350	1750	3500	MA3350	MA3350S	HMA3350	MA3800F	MA3800FS	HMA3800F	HMA3350T
400	2000	4000	MA3400	MA3400S	HMA3400	MA3800F	MA3800FS	HMA3800F	HMA3400T
500	2500	5000	MA3500	MA3500S	HMA3500	MA3800F	MA3800FS	HMA3800F	HMA3500T
600	3000	6000	MA3600	MA3600S	HMA3600	MA3800F	MA3800FS	HMA3800F	HMA3600T
700	3000	6000	MA3700 ^⑤	MA3700S	HMA3700	MA3800F	MA3800FS	HMA3800F	HMA3700T ^⑥
800	3000	6000	MA3800 ^⑤	MA3800S	HMA3800	MA3800F	MA3800FS	HMA3800F	HMA3800T ^⑥
800	MCS ^⑥		MA3800WK	MA3800WSK	.....	.....	.....	.....	Incl. in Frame Approx. Ship. Wt. 4 Lbs.
						Approx. Ship. Wt. 28 Lbs.			



Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A. see page 48.)

Type MA breakers meet requirements for class 21a circuit breakers, and Type HMA meet requirements for class 23a, as defined by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings^⑥

Max. Volts	Amperes
240 Ac	50,000 Asym., 42,000 Sym.
480 Ac	35,000 Asym., 30,000 Sym.
600 Ac	25,000 Asym., 22,000 Sym.
250 Dc ^①	20,000 ^⑥
Mark 75 Breakers	
240 Ac	75,000 Asym., 65,000 Sym.
480 Ac	40,000 Asym., 35,000 Sym.
600 Ac	30,000 Asym., 25,000 Sym.
250 Dc ^①	20,000 ^⑥

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Terminals^③

Two terminals are required per pole. Terminals are Underwriters' Laboratories, Inc. listed for wire type and range listed below. When used with aluminum conductors, use joint compound.

Max. Amps.	Terminal Cat. No.	Wire Range, Type No. of Cables
600	TA700MA1	2 #1-500 MCM Al/Cu
800	TA800MA2	3 3/0-400 MCM Al/Cu
800 ^⑦	TA801MA	2 500-750 MCM Al/Cu

Optional Copper Pressure Terminals

350	T350MA	1 1#-600 MCM Cu
600	T600MA1	2 2/0-500 MCM Cu
800	T800MA1	3 3/0-300 MCM Cu

Magnetic Only and Ambient Compensating Breakers

For description, refer to AD 29-160. To order a complete breaker, select trip unit plus frame and terminals.

Magnetic Only Breakers, Front Adj.^⑦

Contin- uous Am- pere Rating	Magnetic Trip Range		Cat. Number, Trip Unit Only	
	Low	High	2 Poles ^④	3 Poles
800	625	1250	HMA21250TM	HMA31250TM
800	1000	2000	HMA22000TM	HMA32000TM
800	1500	3000	HMA23000TM	HMA33000TM
800	2000	4000	HMA24000TM	HMA34000TM
800	3000	6000	HMA26000TM	HMA36000TM
800	4000	8000	HMA28000TM	HMA38000TM

- ③ Changed or added since previous issue.
- ④ Above 600 amps., Dc rating applies to magnetic only breakers.
- ⑤ Set on high side, adjustable to lower limit.
- ⑥ Terminals shipped separate from breaker.
- ⑦ 2-pole breakers supplied in 3-pole frames with current carrying parts omitted from center pole.
- ⑧ 60 Hertz Ac only.
- ⑨ Interrupting capacities shown do not apply to high magnetic molded case switches (MCS).
- ⑩ Not listed with Underwriters' Laboratories, Inc.
- ⑪ Ratings above 10,000 amps not UL Listed.

Ambient Compensating Breakers^⑦

Contin- uous Amper- e Rating	Magnetic Trip Range		Cat. Number Trip Unit Only	
	Low	High	2-Poles	3-Poles
125	625	1250	HMA2125TA	HMA3125TA
150	750	1500	HMA2150TA	HMA3150TA
175	875	1750	HMA2175TA	HMA3175TA
200	1000	2000	HMA2200TA	HMA3200TA
225	1125	2250	HMA2225TA	HMA3225TA
250	1250	2500	HMA2250TA	HMA3250TA
300	1500	3000	HMA2300TA	HMA3300TA
350	1750	3500	HMA2350TA	HMA3350TA
400	2000	4000	HMA2400TA	HMA3400TA
500	2500	5000	HMA2500TA	HMA3500TA
600	3000	6000	HMA2600TA	HMA3600TA
700	3000	6000	HMA2700TA	HMA3700TA
800	3000	6000	HMA2800TA	HMA3800TA

Special Calibrations: See Page 45

Accessories and Modifications

Description: Pages 49-58

List Prices: See Price List 29-020, Dis. CB-2



February 1991
Supersedes Technical Data 29-120,
pages 45-46, dated April 1980
Mailed to: E, D, C/29-100A, 31-400A,
31-500A

Replacement Breakers
Type NB 1200 Amperes

AB DE-ION® Circuit Breakers

Type NB Breakers

700-1200 Amperes, 600 Volts, 60 Hertz Ac^②, 250 Volts Dc^④, 2, 3 Poles, Interchangeable Trip

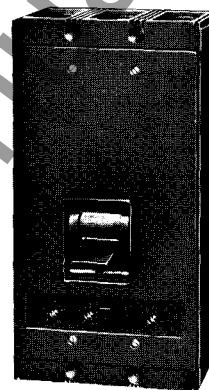
Con- tin- uous Am- pere Rat- ing @ 40°C	Magnetic Trip Setting, Amperes		Complete Breaker			Shipped as Frame, Trip Unit and Terminals ^⑥			
	Low	High	Includes Pressure Type Copper Terminals ^⑤			Frame Only			Trip Unit Only
			Catalog Number			Catalog Number			Catalog Number
			Standard	Saf-T-Vue	MARK 75	Standard	Saf-T-Vue	MARK 75	Standard Saf-T-Vue, MARK 75

2 Poles, 600 Volts Ac, 250 Volts Dc^④

700	3000	6000	NB2700	NB2700S	HNB2700	NB21200F	NB21200FS	HNB21200F	HNB2700T
800	3000	6000	NB2800	NB2800S	HNB2800	NB21200F	NB21200FS	HNB21200F	HNB2800T
900	4000	8000	NB2900	NB2900S	HNB2900	NB21200F	NB21200FS	HNB21200F	HNB2900T
1000	4000	8000	NB21000	NB21000S	HNB21000	NB21200F	NB21200FS	HNB21200F	HNB21000T
1200	4000	8000	NB21200	NB21200S	HNB21200	NB21200F	NB21200FS	HNB21200F	HNB21200T
Approx. Ship. Wt. 43 Lbs.						Approx. Ship. Wt. 29 Lbs.			

3-Poles, 600 Volts Ac Only

700	3000	6000	NB3700	NB3700S	HNB3700	NB31200F	NB31200FS	HNB31200F	HNB3700T
800	3000	6000	NB3800	NB3800S	HNB3800	NB31200F	NB31200FS	HNB31200F	HNB3800T
900	4000	8000	NB3900	NB3900S	HNB3900	NB31200F	NB31200FS	HNB31200F	HNB3900T
1000	4000	8000	NB31000	NB31000S	HNB31000	NB31200F	NB31200FS	HNB31200F	HNB31000T
1200	4000	8000	NB31200	NB31200S	HNB31200	NB31200F	NB31200FS	HNB31200F	HNB31200T
Approx. Ship. Wt. 51 Lbs.						Approx. Ship. Wt. 32 Lbs.			



Listed with Underwriters' Laboratories, Inc.
except as noted. (For C.S.A., see page 48.)

Type NB breakers meet requirements for
class 21a circuit breakers, and Type HNB
meet requirements for class 23a, as defined
by Federal Specification W-C-375b.

Magnetic Only Breakers, Front Adjustable^⑦

Con- tin- uous Am- pere Rating	Magnetic Trip Range ^⑦		Trip Unit Only	
	Low	High	2-Poles ^⑧	3-Poles
			Catalog Number	Catalog Number
1200	3000	6000	HNB26000TM	HNB36000TM
1200	4000	8000	HNB28000TM	HNB38000TM
1200	5000	10000	HNB210000TM	HNB310000TM
1200	6000	12000	HNB212000TM	HNB312000TM

Magnetic Only Breakers^⑧

For description, refer to D3 29-150 or AD
29-160. To order a complete breaker, select
trip unit, plus frame and terminals.

Special Calibrations^⑨

Special calibration price additions apply to
ampere ratings not listed as standard,
ambients other than 40°C or 50°C, or
frequencies other than 60 Hertz Ac (50 Hertz
Ac minimum - 60 Hertz Ac maximum for
ratings of 700 amps and above). See AD
29-160 for additional information regarding
special conditions. Maximum 400 Hz
calibration for type MA is 475 amps.

Type of Calibration	1-24 Identical Units	25 or More Ident. Units
	Type MA, HMA		Type NB, HNB
Thermal Ambient Frequency	Add 20% of Trip Unit List Price	Add 15% of Trip Unit List Price

None
None
None

50°C Calibration^⑩

Add suffix "V" to catalog number for
complete breaker or trip unit only, when
ordering listed ampere ratings for breakers to
be used in 50°C ambients. Same price as
standard 40°C breakers.

Accessories and Modifications

Description: Pages 49-58

List Prices: See Price List 29-020 Dis. CB-2

Underwriters' Laboratories, Inc. listed Interrupting Ratings:

Max. Volts	Amperes
Standard Breakers	
240 Ac	50,000 Asym., 42,000 Sym.
480 Ac	35,000 Asym., 30,000 Sym.
600 Ac	25,000 Asym., 22,000 Sym.
250 Dc ^④	20,000 ^⑩
Mark 75 Breakers	
240 Ac	75,000 Asym., 65,000 Sym.
480 Ac	40,000 Asym., 35,000 Sym.
600 Ac	30,000 Asym., 25,000 Sym.
250 Dc ^④	20,000 ^⑩

On all 3 phase Delta, Grounded B phase
applications, refer to Westinghouse.

Terminals^⑪

Two terminals are required per pole. Termi-
nals are Underwriters' Laboratories, Inc.
listed for wire type and range listed below.
When used with aluminum conductors, use
joint compound. To order optional copper
terminals, add suffix "C" to complete
breaker catalog number.

Max. Ampere Ratings	Terminal Catalog Number	Wire Range, Type, No. of Cables
---------------------------	-------------------------------	------------------------------------

Standard Al/Cu Pressure Terminals		
1000	TA1000NB1	3 3/0-400 MCM Al/Cu
1200	TA1200NB1	4 4/0-500 MCM Al/Cu
Optional Copper or Al/Cu Pressure Terminals		
1000	T1000NB1	3 3/0-500 MCM Cu
1200	T1200NB1	4 3/0-400 MCM Cu
1200	TA1201NB1	3 500-750 MCM Al/Cu

- ① Changed or added since previous issue.
- ② Higher frequency calibration not available. Minimum of 50 cycle calibration available on special order.
- ③ 2-pole breakers supplied in 3-pole frames with current carrying parts omitted from center pole.
- ④ 250 volt Dc rating applied only to magnetic only type breakers.
- ⑤ Frames, terminals, studs, mounting hardware, dimensions and shipping weights are same as standard thermal magnetic breakers.
- ⑥ Terminals shipped separately from breaker.
- ⑦ Set on high side, adjustable to lower limits.
- ⑧ Not listed with Underwriters' Laboratories, Inc.
- ⑨ Ratings above 10,000 amps not UL Listed.



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Electrical Components Division
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February 1990
Supersedes Technical Data 29-120,
pages 46.1-46.2, dated October 1988
Mailed to: E, D, C/29-100A, 31-400A,
31-500A

Molded Case Switches
High Magnetic Trip Type (Fixed Trip Setting)

AB DE-ION® Circuit Breakers

Molded Case Switches With High Magnetic Trip (Fixed Trip Setting)

Switch Catalog Number ^① ②	No. of Poles	Max. Volts	Max. Amps.	Switch Catalog Number ^① ②	No. of Poles	Max. Volts	Max. Amps.	Switch Catalog Number ^① ②	No. of Poles	Max. Volts	Max. Amps.
CA2225WK	2	240	225	MA2800WK	2	600	800	PBF22000K	2	600	2000
CA3225WK	3	240	225	MA2800WSK	2	600	800	PBF32000K	3	600	2000
LA2400WK	2	600	400	MA3800WK	3	600	800	PC22000WK	2	600	2000
LA2400WSK	2	600	400	MA3800WSK	3	600	800	PC22500WK	2	600	2500
LA2600WK	2	600	600	MC2800WK	2	600	800	PC23000K	2	600	3000
LA2600WSK	2	600	600	MC3800WK	3	600	800	PC32000WK	3	600	2000
LA3400WK	3	600	400	MCC2800WK [Ⓞ]	2	600	800	PC32500WK	3	600	2500
LA3400WSK	3	600	400	MCC3800WK [Ⓞ]	3	600	800	PC33000K	3	600	3000
LA3600WK	3	600	600	NB21200WK	2	600	1200	PCC22000WK	2	600	2000
LA3600WSK	3	600	600	NB21200WSK	2	600	1200	PCC22500WK	2	600	2500
LAB2400WK	2	600	400	NB31200WK	3	600	1200	PCC23000K	2	600	3000
LAB2400WSK	2	600	400	NB31200WSK	3	600	1200	PCC32000WK	3	600	2000
LAB3400WK	3	600	400	NC21200WK	2	600	1200	PCC32500WK	3	600	2500
LAB3400WSK	3	600	400	NC31200WK	3	600	1200	PCC33000K	3	600	3000
LC2600WK	2	600	600	PB22000WK	2	600	2000	PCF22000K	2	600	2000
LC3600WK	3	600	600	PB22500WK	2	600	2500	PCF32000K	3	600	2000
LCC2600WK [Ⓞ]	2	600	600	PB32000WK	3	600	2000				
LCC3600WK [Ⓞ]	3	600	600	PB32500WK	3	600	2500				

Molded Case Switch Terminal Data

MCS Type	Max. Switch Amps.	Standard Terminals (Aluminum Body)				Optional Terminals			
		Terminal Type or Cat. No.	Wire Type	No. of Wires	Wire Range	Terminal Type or Cat. No.	Wire Type	No. of Wires	Wire Range
CA	225	TA225CA2	Cu/Al	1	#1-300 MCM	.....	....	..	.....
LA400, LAB	400	TA400LA1	Cu/Al	1	#4-250 MCM, plus 3/0-600 MCM	T401LA	Cu	1	#4-250 MCM, plus 3/0-600 MCM
LA600, LC600	600	TA600LA	Cu/Al	2	250/500 MCM	T600LA	Cu	2	250/500 MCM
MC, MA	800	TA800MA2	Cu/Al	3	3/0-400 MCM	T800MA1	Cu	3	3/0-300 MCM
NC, NB	1200	TA1200NB1	Cu/Al	4	4/0-500 MCM	T1200NB1	Cu	4	3/0-400 MCM
NC, NB	1200	.....	....	..	.....	TA1201NB1	Cu/Al	3	500-750 MCM
PC2000, PCC2000	2000	BA2000PB Rear Bus Connector							
PC2500, PCC2500	2500	BA2500PB Rear Bus Connector [Ⓞ]							
PC3000, PCC3000	3000	Rear Bus Connector Included in Frame							

Molded Case Switches

Molded Case Switches are Underwriters' Laboratories, Inc. listed devices and are available only as high magnetic trip type with fixed trip setting.

For application information and UL Inc. listed withstand ratings, refer to Application Data 29-160, pages 75-76.

Further Information

List Prices: Price List 29-020 Disc. Symbol CB-2

Molded Case Switches With High Magnetic Trip — Trip Setting And Tolerance

Frame	Rating	Trip Setting (Amp.)	Tolerance (%)
CA	225	2250	+20 -10
LA (400)	400	4000	+10 -0
LA/LC	600	6000	+10 -0
MA/MC	800	8000	+10 -0
NB/NC	1200	12000	+10 -0
PB/PC	2000-3000	12000	+10 -0

Types DA, EB, EHB, FB, JA, JB, KA, KB, LBB and LB replaced by Series C.
See Frame Books 29-101, 29-102, 29-103.

Types DA, EB, EHB, FB, JA, JB, KA, KB, LBB and LB for replacement purposes.
See Technical Data 29-121.

[Ⓞ] Changed or added since previous issue.
^① Catalog number suffix identification:
K = Molded Case Switch with High Magnetic Trip (Fixed Trip Setting)
S = Saf-T-Vue cover
W = No terminals

^② Molded case switch dimensions are the same as the equivalent thermal magnetic breaker. Refer to Dimension Sheet 29-170.



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Supersedes Technical Data 29-120,
pages 47-48, dated October 1981
Mailed to: E, D, C/29-100A, 31-400A,
31-500A

Replacement Breakers
Type PB 2500 Amperes

AB DE-ION® Circuit Breakers

Type PB Breakers[ⓐ]

600-2500 Amperes, 600 Volts, 60 Cycle Ac[ⓐ], 250 Volts Dc[ⓑ], 2, 3 Poles, Interchangeable Trip

Continuous Ampere Rating (@ 40°C)	Magnetic Trip Setting, Amperes ⓐ ⓑ		Complete Breaker Includes Bus Bar Connectors [ⓐ]	Shipped as Frame, Trip Unit and Terminals	
	Low	High	Catalog Number	Frame Only	Trip Unit Only

2-Poles, 600 Volts Ac Only[ⓐ]

600	1500	5000	PB2600	PB22500F	PB2600T
700	1500	5000	PB2700	PB22500F	PB2700T
800	1500	5000	PB2800	PB22500F	PB2800T
900	1500	5000	PB2900	PB22500F	PB2900T
1000	1500	5000	PB21000	PB22500F	PB21000T
1200	2000	6000	PB21200	PB22500F	PB21200T
1400	2500	7000	PB21400	PB22500F	PB21400T
1600	3000	8000	PB21600	PB22500F	PB21600T
1800	3000	8000	PB21800	PB22500F	PB21800T
2000	3000	8000	PB22000	PB22500F	PB22000T
2500	3000	8000	PB22500	PB22500F	PB22500T
		Approx. Ship. Wt.	132 Lbs.	98 Lbs.	18 Lbs.
		Approx. Ship. Wt.	144 Lbs.	98 Lbs.	18 Lbs.

3-Poles, 600 Volts Ac Only

600	1500	5000	PB3600	PB32500F	PB3600T
700	1500	5000	PB3700	PB32500F	PB3700T
800	1500	5000	PB3800	PB32500F	PB3800T
900	1500	5000	PB3900	PB32500F	PB3900T
1000	1500	5000	PB31000	PB32500F	PB31000T
1200	2000	6000	PB31200	PB32500F	PB31200T
1400	2500	7000	PB31400	PB32500F	PB31400T
1600	3000	8000	PB31600	PB32500F	PB31600T
1800	3000	8000	PB31800	PB32500F	PB31800T
2000	3000	8000	PB32000	PB32500F	PB32000T
2500	3000	8000	PB32500	PB32500F	PB32500T
		Approx. Ship. Wt.	155 Lbs.	108 Lbs.	23 Lbs.
		Approx. Ship. Wt.	173 Lbs.	108 Lbs.	23 Lbs.

Special Breakers[ⓐ] (See page 48 also)

Magnetic Only, Front Adjustable[ⓐ]

Trip Unit Only

Contin- uous Ampere Rating	Magnetic Trip Range, Amperes [ⓐ]		2-Poles [ⓐ]	3-Poles
	Low	High	Catalog Number	Catalog Number

For Rear Connected Type PB Breakers

2000	1500	5000	PB25000TM	PB35000TM
2000	2000	6000	PB26000TM	PB36000TM
2000	2500	7000	PB27000TM	PB37000TM
2000	3000	8000	PB28000TM	PB38000TM
2000	3500	10000	PB210000TM	PB310000TM
2000	4000	12000	PB212000TM	PB312000TM
2500	4000	12000	373D488G08	373D488G09

For Front Connected Type PBF Breakers

2000	1500	5000	PBF25000TM	PBF35000TM
2000	2000	6000	PBF26000TM	PBF36000TM
2000	2500	7000	PBF27000TM	PBF37000TM
2000	3000	8000	PBF28000TM	PBF38000TM
2000	3500	10000	PBF210000TM	PBF310000TM
2000	4000	12000	PBF212000TM	PBF312000TM

Special Calibration[ⓐ]

See Page 48.

Magnetic Only Breakers[ⓐ]

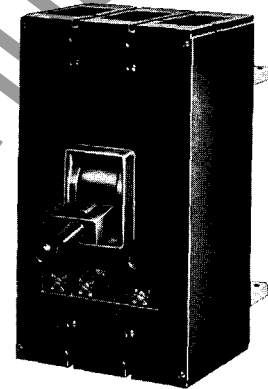
For description, refer to DB 29-150 and AD 29-160. To order a complete breaker, select trip unit, plus frame and connectors.

Accessories and Modifications

Description: Pages 49-58

List Prices: See Price List 29-020, Dis. CB-2

- ⓐ Changed since previous issue.
- ⓑ Not listed with Underwriters' Laboratories, Inc.
- ⓒ Frames, connectors, dimensions and shipping weights are same as thermal magnetic breakers.
- ⓓ 2-pole breakers are supplied in 3-pole frames with current carrying parts omitted from center pole.
- ⓔ Higher frequency calibration not available. Minimum of 50 Hertz calibration available on special order.
- ⓕ Higher magnetic trip settings are available as special calibration. Refer to magnetic only breakers for specific trip ranges.
- ⓖ Available only on magnetic only breakers.
- ⓗ Based on NEMA test procedure.
- ⓘ Set on high side, adjustable to lower limits.
- ⓙ Shipped separately from breaker.



Rear Connected
PB Breaker

Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

Type PB breakers meet the requirements for class 25a circuit breakers as defined by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings

Max. Volts	Amperes
240 Ac	150,000 Asym., 125,000 Sym.
480 Ac	115,000 Asym., 100,000 Sym.
600 Ac	115,000 Asym., 100,000 Sym.
250 Dc [ⓑ]	75,000 Amperes [ⓐ]

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Bus Bar Connections[ⓐ]

"T" Connector (For Cu/Al Bus)

Two required per pole. For rear bus connection of breakers thru 2000 amps. Accepts up to four bus bolts. May be rotated 90°.

Catalog Number BA2000PB

"C" Connector (For Cu/Al Bus)

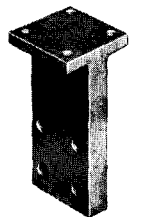
Two required per pole. For rear bus connection of 2500 amp breakers.

Breaker Amps.	Cat. No.
2500	BA2500PB

Cable Connector

Fits "T" Connector and 2000 amp front connected breakers. Accepts four 600 MCM copper cables.

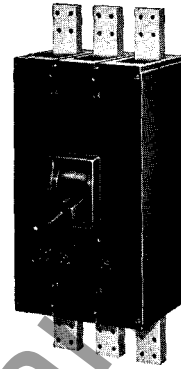
Style Number 505C706G04
Discount Symbol CB-2





Type PB Breakers, Continued
Type PBF Front Connected Breakers[ⓐ]

Continuous Ampere Rating (@ 40°C	Magnetic Trip Setting, Amperes (Set on High Side, Adjustable to Lower Limits)		Complete Breaker Includes Bus Bar Connectors [ⓑ]	Shipped As:	
	Low	High		Frame Only Includes Bus Bar Connectors [ⓑ]	Trip Unit Only
			Catalog Number	Catalog Number	Catalog Number
2-Pole, 600 Volts Ac[ⓐ]					
600	1500	5000	PBF2600	PBF22000F	PBF2600T
700	1500	5000	PBF2700	PBF22000F	PBF2700T
800	1500	5000	PBF2800	PBF22000F	PBF2800T
900	1500	5000	PBF2900	PBF22000F	PBF2900T
1000	1500	5000	PBF21000	PBF22000F	PBF21000T
1200	2000	6000	PBF21200	PBF22000F	PBF21200T
1400	2500	7000	PBF21400	PBF22000F	PBF21400T
1600	3000	8000	PBF21600	PBF22000F	PBF21600T
1800	3000	8000	PBF21800	PBF22000F	PBF21800T
2000	3000	8000	PBF22000	PBF22000F	PBF22000T
3-Pole, 600 Volts Ac					
600	1500	5000	PBF3600	PBF32000F	PBF3600T
700	1500	5000	PBF3700	PBF32000F	PBF3700T
800	1500	5000	PBF3800	PBF32000F	PBF3800T
900	1500	5000	PBF3900	PBF32000F	PBF3900T
1000	1500	5000	PBF31000	PBF32000F	PBF31000T
1200	2000	6000	PBF31200	PBF32000F	PBF31200T
1400	2500	7000	PBF31400	PBF32000F	PBF31400T
1600	3000	8000	PBF31600	PBF32000F	PBF31600T
1800	3000	8000	PBF31800	PBF32000F	PBF31800T
2000	3000	8000	PBF32000	PBF32000F	PBF32000T



PBF Front Connected

**Canadian Standards Association (CSA)
Listing[ⓐ]**

Most standard thermal magnetic molded case circuit breakers listed with Underwriters' Laboratories, Inc., and having a UL label are also listed with CSA and may be marked with the CSA monogram, except FCL and LCL Current Limit-R breakers.

Special Calibrations[ⓐ]

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. See AD 29-160 for information regarding special conditions.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal [ⓐ]	Add 15% to List Price of Trip Unit	None
Magnetic		None

50°C Calibration[ⓐ] ④

Add suffix "V" to catalog number for complete breaker when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

- ⓐ Changed or added since previous issue.
- ⓑ Not listed with Underwriters' Laboratories, Inc.
- ⓒ 2-pole breakers supplied in 3-pole frames with current carrying parts omitted from center pole.
- ④ 50°C or higher calibration not available for 2500 ampere trip units.
- ⓓ Included with frame.

List Prices: See Price List 29-020, Dis. CB-2

Westinghouse Electric Corporation
Distribution and Control Business Unit
Electrical Components Division
Pittsburgh, Pennsylvania, U.S.A. 15220



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Supplement to Technical Data 29-120,
page .03, dated May 22, 1985
Mailed to: E, D, C/29-100A, 31-400A,
31-500A

Accessories

Accessories

List Prices: See Price List 29-020, Dis. CB-2

Reader Connected Studs[Ⓢ] Ⓞ

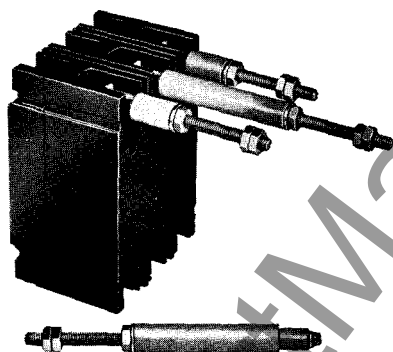
For FCL, LAB, LA, MA, HLA, HMA, HNB,
TRI-PAC[®] FB, TRI-PAC LA and TRI-PAC NB
Breakers

For complete stud assembly, order a stud and
appropriate tube based on thickness of cus-
tomer's mounting panel. A short stud must
be assembled adjacent to a long stud to main-
tain clearances required by Underwriters'
Laboratories, Inc. Ⓞ. Two studs are required
per pole. Refer to DS 29-170 for stud sizes and
extensions behind breaker.

For FCL, TRI-PAC FB Breakers

FCL, TRI-PAC FB (100 Amp Max.)

Stud Ampere Rating	Length	Part No.	Tube Part No.
1	Short	451D874G01	32B9446H20
	Long	451D874G02	32B9446H24
1 1/16 - 1 5/16	Short	451D874G01	32B9446H21
	Long	451D874G02	32B9446H25
3/8 - 5/8	Short	451D874G01	32B9446H22
	Long	451D874G02	32B9446H26
1/4 - 5/16	Short	451D874G01	32B9446H23
	Long	451D874G02	32B9446H27



For LAB, LA, MA, HLA, HMA, HNB, TRI-PAC
LA and TRI-PAC NB Breakers

For insulated panels only; 2 required per pole.

Stud Ampere Rating	Diameter, Inches and Thread	Extension Back of Breaker, Inches	Stud Style Number
LAB, LA, HLA, LC, HLC, LCL, TRI-PAC LA Breakers			
225 [Ⓢ]	1/2-13	3 7/32	1241 345
225 [Ⓢ]	1/2-13	6 9/32	1241 346
225 [Ⓢ] Ⓞ	1/2-13	4 31/32	1241 392
400 [Ⓢ]	3/4-16	5 15/32	05B7383G15
400 [Ⓢ]	3/4-16	7 31/32	05B7383G16
400 [Ⓢ]	3/4-16	10 15/32	05B7383G17
600 [Ⓢ]	1 -12	5 29/32	314C960G07
600 [Ⓢ]	1 -12	8 13/32	314C960G08
600 [Ⓢ]	1 -12	10 29/32	314C960G09

MA, HMA, MC, HMC Breakers

225	1/2-13	3 21/32	314C960G01
400	3/4-16	5 29/32	314C960G04
400	3/4-16	8 13/32	314C960G05
400	3/4-16	10 29/32	314C960G06
600	1 -12	5 29/32	314C960G07
600	1 -12	8 13/32	314C960G08
600	1 -12	10 29/32	314C960G09
800	1 1/2-12	5 29/32	314C960G10
800	1 1/2-12	8 13/32	314C960G11
800	1 1/2-12	10 29/32	314C960G12

NB, HNB, NC, HNC Breakers

800	1 1/2-12	5 1/2	623B222G01
800	1 1/2-12	8	623B222G02
800	1 1/2-12	10 1/2	623B222G03
1200	1 1/4-12	5 1/2	373B375G04
1200	1 1/4-12	10 1/2	373B375G03

TRI-PAC NB Breakers

450	1 1/2-12	5 1/2	623B222G01
450	1 1/2-12	8	623B222G02
450	1 1/2-12	10 1/2	623B222G03
800	1 1/4-12	5 1/2	373B375G04
800	1 1/4-12	10 1/2	373B375G03

AB DE-ION[®]
Circuit Breakers

Panelboard Connecting Straps[Ⓢ] Ⓞ

For connecting line end of breakers to panel-
board bus.



Ampere Rating	Connector Type	Style Number
CA Breaker Power Panelboards (Convertible)		
Bus Spacing 3 1/2"		
225	Center	1253C74G01
225	Outside	1253C74G02
3-Pole Mounting Bracket		
2-Pole Mounting Bracket		
624B624H01		
624B624H02		

LAB, LA, HLA, LC, HLC 150, 300, 400 Amp Frames

Bus Spacing 3 1/2"		
400	Center	32B4570G02
400	Outside	314C541G01
Mtg. Bracket (2 Req'd)		
208B297H01		

LA, HLA, LC, HLC 600 Amp Frames

Bus Spacing 3 1/2"		
600	Center	624B609G01
600	Outside	506C052G01
Mtg. Bracket (2 Req'd)		
208B297H01		

MA, HMA, MC, HMC Breakers Bus Spacing 3 1/2"

800	Short	314C996G01
800	Medium	314C996G02
800	Long	314C996G03
Mtg. Bracket (4 Req'd)		
315C270H01		

NB, HNB, NC, HNC Breakers Bus Spacing 3 1/2"

1200	Short	505C606G04
1200	Medium	505C606G05
1200	Long	505C606G06
Mtg. Bracket (4 Req'd)		
315C270H01		

LCL Breakers Bus Spacing 3 1/2"

400	Short	1275C85G01
400	Medium	1275C85G02
400	Long	1275C85G03
Mtg. Bracket Kit (1 Req'd)		
751B044G01		

Ⓢ Changed or added since previous issue.
Ⓞ This is a special stud which includes six contact
nuts for use where bus contact nuts must be
used.
Ⓢ 150, 250, 300 and 400 amp frames only.
Ⓞ 400 ampere LA studs of the same length have
sufficient clearance; however, customer con-
nections may make it necessary to use a short
stud adjacent to a long stud.
Ⓢ Not Underwriters' Laboratories, Inc. listed.
Ⓞ 600 ampere frames only.

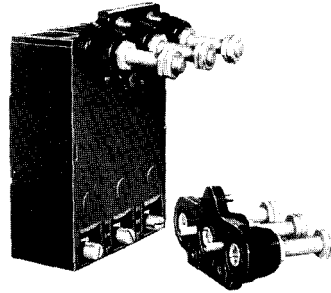
10/16/89
HORIZONTAL CA
IN POWER LINE 3
LONG - HMC 779 G01-34'
MIDDLE - G02-28
SHORT - H03-27



Accessories, Continued

Plug-in Adapter Kits

For rear connected applications such as switchboards. Facilitates ease of installation and front removal of breaker. Includes conductor for mounting on breaker, plug-in mounting blocks with matching conductor, rear studs and mounting hardware. Order 2 mounting blocks style number when line and load are required; order 1 mounting block style number when either line or load is required.



For Most Breakers Listed



New Design for 800 and 1200 Amp Breakers

List Prices: See Price List 29-020, Dis. CB-2

Description	Style Number
FB TRI-PAC and FCL Breakers	
1 Mounting Block, Line or Load	
3-Pole, 100 Ampere	507C036G03
3-Pole, 150 Ampere	507C036G04
LAB, LA, HLA, LC, HLC, LCL (150, 250, 300 and 400 Amp Frame)	
2 Mounting Blocks, Line and Load	
2-Pole	313C644G25
3-Pole	313C644G26
1 Mounting Block, Line or Load	
2-Pole	450D010G15
3-Pole	450D010G16
LA, HLA, LC, HLC (600 Ampere Frames)	
2 Mounting Blocks, Line and Load	
2-Pole	313C644G50
3-Pole	313C644G51
1 Mounting Block, Line or Load	
2-Pole	506C059G01
3-Pole	506C059G02

Description	Style Number
MA, HMA, MC, HMC Breakers	
2 Mounting Blocks, Line and Load	
2-Pole, 125-600 Ampere	313C644G27
2-Pole, 700-800 Ampere	176C544G01
3-Pole, 125-600 Ampere	313C644G28
3-Pole, 700-800 Ampere	176C544G02
1 Mounting Block, Line or Load	
2-Pole, 125-600 Ampere	313C370G03
2-Pole, 700-800 Ampere	507C049G01
3-Pole, 125-600 Ampere	313C370G04
3-Pole, 700-800 Ampere	507C049G02
MA, HMA, MC, HMC, NB, HNB, NC, HNC, NB TRI-PAC Breakers (New Design)	
1 Mounting Block, Line or Load	
MA, HMA, MC, HMC 2-Poles	2614D53G05
MA, HMA, MC, HMC 3-Poles	2614D53G06
NB, HNB, NC, HNC, NB TRI-PAC, 2-Poles	2614D53G03
NB, HNB, NC, HNC, NB TRI-PAC, 3-Poles	2614D53G04
TRI-PAC LA Breakers	
2 Mounting Blocks, Line and Load	
2-Pole	313C644G41
3-Pole	313C644G42
1 Mounting Block, Line Only	
2-Pole	450D010G17
3-Pole	450D010G19
1 Mounting Block, Load Only	
2-Pole	450D010G18
3-Pole	450D010G20

Mounting Block for Type NB, HNB, NC, HNC and NB TRI-PAC Breakers

An insulated base having front-removable bolted connections for mounting and connecting the breaker and bus connectors extending from the rear of the base. One block required per breaker. (See DS 29-170).

Ampere Rating	No. of Poles	Style Number
NB, HNB, NC, HNC Breakers		
1200	2	4990D16G02
1200	3	4990D16G01
NB TRI-PAC		
800	2	4990D16G04
800	3	4990D16G03

- ① Changed or added since previous issue.
- ② 700-800 amp adapter kit is front removable, bolt-on design — not plug-in type.
- ③ Not Underwriters' Laboratories, Inc. listed.
- ④ These plug-in adapter kits are UL Listed as recognized components.
- ⑤ NB and new design MA, MC, NB and NC have flat bus rear connectors. Others have threaded studs.



May 1990
Supersedes Technical Data 29-120,
pages 49-50, dated March 1988
Mailed to: E, D, C/29-100A, 31-400A,
31-500A

Accessories

AB DE-ION® Circuit Breakers

Accessories

List Prices: See Price List 29-020, Dis. CB-2

Rear Connected Studs® C

For FCL, LAB, LA, MA, HLA, HMA, HNB,
TRI-PAC® FB, TRI-PAC LA and TRI-PAC NB
Breakers

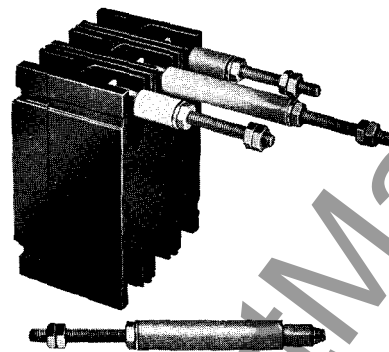
For complete stud assembly, order a stud and
appropriate tube based on thickness of cus-
tomer's mounting panel. A short stud must
be assembled adjacent to a long stud to main-
tain clearances required by Underwriters'
Laboratories, Inc. ④. Two studs are required
per pole. Refer to DS 29-170 for stud sizes and
extensions behind breaker.

For FCL, TRI-PAC FB Breakers® C

Mounting Panel Thickness, Inches	Stud		Tube	
	Length	Style Number	Length, Inches	Style Number
1	Short	451D874G01	1 1/16	32B9446H20
	Long	451D874G02	3 7/16	32B9446H24
1 1/16 - 1 5/16	Short	451D874G01	1 3/8	32B9446H21
	Long	451D874G02	3 3/4	32B9446H25
3/8 - 5/8	Short	451D874G01	1 11/16	32B9446H22
	Long	451D874G02	4 1/16	32B9446H26
1/4 - 5/16	Short	451D874G01	2	32B9446H23
	Long	451D874G02	4 3/8	32B9446H27

FCL, TRI-PAC FB (100 Amp Max.)

225	1/2-13	3 21/32	314C960G01
400	3/4-16	5 29/32	314C960G04
400	3/4-16	8 13/32	314C960G05
400	3/4-16	10 29/32	314C960G06
600	1 -12	5 29/32	314C960G07
600	1 -12	8 13/32	314C960G08
600	1 -12	10 29/32	314C960G09
800	1 1/8-12	5 29/32	314C960G10
800	1 1/8-12	8 13/32	314C960G11
800	1 1/8-12	10 29/32	314C960G12



**For LAB, LA, MA, HLA, HMA, HNB, TRI-PAC
LA and TRI-PAC NB Breakers**

For insulated panels only; 2 required per pole.

Stud Ampere Rating	Diameter, Inches and Thread	Extension Back of Breaker, Inches	Stud Style Number
225	1/2-13	3 7/32	1241 345
225	1/2-13	6 9/32	1241 346
225	1/2-13	4 31/32	1241 392
400	3/4-16	5 15/32	05B7383G15
400	3/4-16	7 31/32	05B7383G16
400	3/4-16	10 15/32	05B7383G17
600	1 -12	5 29/32	314C960G07
600	1 -12	8 13/32	314C960G08
600	1 -12	10 29/32	314C960G09

MA, HMA, MC, HMC Breakers

225	1/2-13	3 21/32	314C960G01
400	3/4-16	5 29/32	314C960G04
400	3/4-16	8 13/32	314C960G05
400	3/4-16	10 29/32	314C960G06
600	1 -12	5 29/32	314C960G07
600	1 -12	8 13/32	314C960G08
600	1 -12	10 29/32	314C960G09
800	1 1/8-12	5 29/32	314C960G10
800	1 1/8-12	8 13/32	314C960G11
800	1 1/8-12	10 29/32	314C960G12

NB, HNB, NC, HNC Breakers

800	1 1/8-12	5 1/2	623B222G01
800	1 1/8-12	8	623B222G02
800	1 1/8-12	10 1/2	623B222G03
1200	1 1/4-12	5 1/2	373B375G04
1200	1 1/4-12	10 1/2	373B375G03

TRI-PAC NB Breakers

450	1 1/8-12	5 1/2	623B222G01
450	1 1/8-12	8	623B222G02
450	1 1/8-12	10 1/2	623B222G03
800	1 1/4-12	5 1/2	373B375G04
800	1 1/4-12	10 1/2	373B375G03

Panelboard Connecting Straps®

For connecting line end of breakers to panel-
board bus.



Ampere Rating	Connector Type	Style Number
CA Breaker Power Panelboards (Convertible)		
Bus Spacing 3 1/2"		
225	Center	1253C74G01
225	Outside	1253C74G02
3-Pole Mounting Bracket		
		624B624H01
2-Pole Mounting Bracket		
		624B624H02

LAB, LA, HLA, LC, HLC 150, 300, 400 Amp Frames

Bus Spacing 3 1/2"		
400	Center	32B4570G02
400	Outside	314C541G01
Mtg. Bracket (2 Req'd)		
		208B297H01

LA, HLA, LC, HLC 600 Amp Frames

Bus Spacing 3 1/2"		
600	Center	624B609G01
600	Outside	506C052G01
Mtg. Bracket (2 Req'd)		
		208B297H01

MA, HMA, MC, HMC Breakers Bus Spacing 3 1/2"

800	Short	314C996G01
800	Medium	314C996G02
800	Long	314C996G03
Mtg. Bracket (4 Req'd)		
		315C270H01

NB, HNB, NC, HNC Breakers Bus Spacing 3 1/2"

1200	Short	505C606G04
1200	Medium	505C606G05
1200	Long	505C606G06
Mtg. Bracket (4 Req'd)		
		315C270H01

LCL Breakers Bus Spacing 3 1/2"

400	Short	1275C85G01
400	Medium	1275C85G02
400	Long	1275C85G03
Mtg. Bracket Kit (1 Req'd)		
		751B044G01

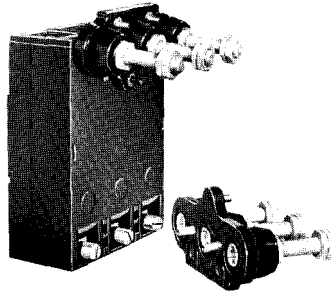
© Changed or added since previous issue.
 ② This is a special stud which includes six contact
nuts for use where bus contact nuts must be
used.
 ③ 150, 250, 300 and 400 amp frames only.
 ④ 400 ampere LA studs of the same length have
sufficient clearance; however, customer con-
nections may make it necessary to use a short
stud adjacent to a long stud.
 ⑤ Not Underwriters' Laboratories, Inc. listed.
 ⑥ 600 ampere frames only.



Accessories, Continued

Plug-in Adapter Kits

For rear connected applications such as switchboards. Facilitates ease of installation and front removal of breaker. Includes conductor for mounting on breaker, plug-in mounting blocks with matching conductor, rear studs and mounting hardware⁵. Order 2 mounting blocks style number when line and load are required; order 1 mounting block style number when either line or load is required.



List Prices: See Price List 29-020, Dis. CB-2

For Most Breakers Listed²

New Design for 800 and 1200 Amp Breakers

Description	Style Number
FB TRI-PAC and FCL Breakers²	
1 Mounting Block, Line or Load	
3-Pole, 100 Ampere	507C036G03
3-Pole, 150 Ampere	507C036G04
LAB, LA, HLA, LC, HLC, LCL (150, 250, 300 and 400 Amp Frame)²	
2 Mounting Blocks, Line and Load	
2-Pole	313C644G25
3-Pole	313C644G26
1 Mounting Block, Line or Load	
2-Pole	450D010G15
3-Pole	450D010G16
LA, HLA, LC, HLC (600 Ampere Frames)²	
2 Mounting Blocks, Line and Load	
2-Pole	313C644G50
3-Pole	313C644G51
1 Mounting Block, Line or Load	
2-Pole	506C059G01
3-Pole	506C059G02

Description	Style Number
MA, HMA, MC, HMC Breakers²	
2 Mounting Blocks, Line and Load	
2-Pole, 125-600 Ampere	313C644G27
2-Pole, 700-800 Ampere	176C544G01 ²
3-Pole, 125-600 Ampere	313C644G28
3-Pole, 700-800 Ampere	176C544G02 ²
1 Mounting Block, Line or Load	
2-Pole, 125-600 Ampere	313C370G03
2-Pole, 700-800 Ampere	507C049G01 ²
3-Pole, 125-600 Ampere	313C370G04
3-Pole, 700-800 Ampere	507C049G02 ²
MA, HMA, MC, HMC, NB, HNB, NC, HNC, NB-TRI-PAC Breakers² (New Design)	
1 Mounting Block, Line or Load	
MA, HMA, MC, HMC 2-Poles	2614D53G05
MA, HMA, MC, HMC 3-Poles	2614D53G06
NB, HNB, NC, HNC, NB TRI-PAC, 2-Poles	2614D53G03
NB, HNB, NC, HNC, NB TRI-PAC, 3-Poles	2614D53G04
TRI-PACLA Breakers²	
2 Mounting Blocks, Line and Load	
2-Pole	313C644G41
3-Pole	313C644G42
1 Mounting Block, Line Only	
2-Pole	450D010G17
3-Pole	450D010G19
1 Mounting Block, Load Only	
2-Pole	450D010G18
3-Pole	450D010G20

Mounting Block for Type NB, HNB, NC, HNC and NB TRI-PAC Breakers³

An insulated base having front-removable bolted connections for mounting and connecting the breaker and bus connectors extending from the rear of the base. One block required per breaker. (See DS 29-170).

Ampere Rating	No. of Poles	Style Number
NB, HNB, NC, HNC Breakers		
1200	2	4990D16G02
1200	3	4990D16G01
NB TRI-PAC		
800	2	4990D16G04
800	3	4990D16G03

- ² 700-800 amp adapter kit is front removable, bolt-on design — not plug-in type.
- ³ Not Underwriters' Laboratories, Inc. listed.
- ⁴ These plug-in adapter kits are UL Listed as recognized components.
- ⁵ NB and new design MA, MC, NB and NC have flat bus rear connectors. Others have threaded studs.

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31-500A

Accessories, Modifications

AB DE-ION® Circuit Breakers

Accessories, Continued
Extended Line Terminal Shields® ③



For shielding line side terminal connections. One shield required per breaker. Order separately when needed. Sold only in lots of 10, including hardware.

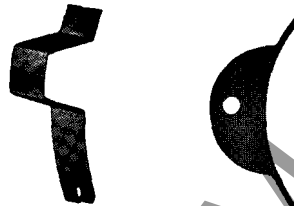
Breaker Frame	Style Number
LAB, LA, HLA, LC, HLC, TRI-PAC LA	314C420G05
LAB, LA, (Saf-T-Vue)	314C420G02
MA, HMA, MC, HMC	208B966G01
NB, HNB, TRI-PAC® NB, NC, HNC	208B966G02
TRI-PAC FB, FCL	625B229G08⑦

Base Mounting Hardware®

No charge when ordered with breaker. Order separately when needed.

Breaker Frame	Style Number
2-Pole Breakers	
CA	21C6782G28
2- and 3-Pole Breakers	
TRI-PAC FB, FCL	21C6782G18
LAB, LA, HLA, LC, HLC, TRI-PAC LA, LCL	1614 613
MA, NB, HMA, HNB, TRI-PAC NB, MC, HMC, NC, HNC	1091 716
PB, TRI-PAC PB, PC, PCC	624B375G22
3-Pole Breakers	
CA	21C6782G29

Handle Locks®



Typical Photos

Non-Padlockable

For prevention of unintentional operation of breaker. Fits over breaker handle and may be removed.

Padlockable®

For prevention of unauthorized operation of breaker. Is non-removable once installed on breaker. Meets Underwriters' Laboratories, Inc. and California Code requirements. Note: All breakers are trip free and will trip with handle locks attached. Cannot be used when handle extension is used.

Breaker Frame	Style Number
Non-Padlockable	
TRI-PAC FB, CA	1720 360
LAB, LA, LC, HLC, MA, NB, HLA, HMA, HNB, TRI-PAC LA, TRI-PAC NB, MC, HMC, NC, HNC	1720 101
GB, GC, GHB, GHC	1294C01H01
Padlockable	
CA®	506C438G01
TRI-PAC FB, CA	765A754G01
LA, LAB, HLA, LC, HLC, TRI-PAC LA	373B591G02
GB, GC, GHB, GHC	1223C77G01

Handle Extension®

For use in convertible power panelboards. Must be ordered separately. Style number 372B399G01 for LAB, LA, HLA breakers; no charge when ordered with breaker.

Molded Type Handle Extension®

For MA, HMA, MC, HMC breakers. Style Number 1251C65G01

For NB, HNB, NC, HNC and TRI-PAC NB Breakers

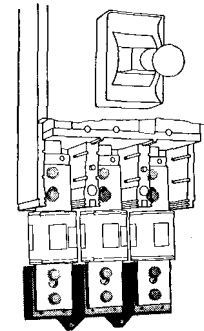
Style Number 1251C65G01, included with frame at no charge if ordered separately. See Price List 29-020.

For PB, PC, PCC, TRI-PAC PB Breakers
Style Number 315C882G01

Included with frame at no charge; if ordered separately. See Price List 29-020.

List Prices: See Price List 29-020, Dis. CB-2

Fuse Mounting Base for PB Breakers® ⑥
For 2000 amp non-automatic breakers only.



Catalog Number: FMB2000PB

For use with non-automatic, 3-pole circuit breaker. Includes fuse mounting base and hardware to mount standard class L current limiting fuses, 801 to 2000 amps (fuses not included).®

For complete installation, order:

1. Front connected, non-automatic PB breaker. (Order similar to standard front connected, except omit load conductor extensions)
2. Fuse mounting base.
3. Fuses (from distributor).

Cable Connectors

The fuse mounting base will accept the following terminals for front cable connection (omit "T" connectors from rear connected breakers).

Style Number	Wire Range, Type No. of Cables
672B655G01	3 3/0-400 MCM Cu
180C046G03	4 400-500 MCM Cu

③ Changed or added since previous issue.
④ Not Underwriters' Laboratories, Inc. listed.
⑤ Individually mounted.
⑥ Group mounted.
⑦ Designed for use with load centers.
⑧ Interrupters used with fuse mounting base will accept all standard PB accessories. See DS 29-170 for mounting details.
⑨ This style is 1 package of 10.



Modifications ① ②

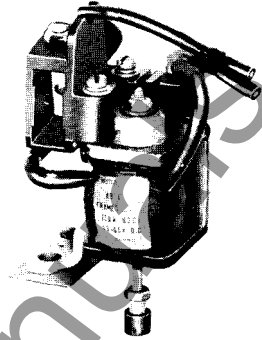
List Prices: See Price List 29-020 Dis. CB-2 Only two internally mounted modifications – shunt trip, under voltage release, auxiliary switch, alarm switch – may be mounted in LA thru PB, HLA thru HNB. Only one of these modifications may be mounted in FB TRI-PAC® and SELTRONIC® breakers. None are available in 1-pole breakers. Refer to Westinghouse for possible special combinations of the following modifications not in tabulations.

Shunt Trip

For tripping breaker from a remote point. A solenoid device mounts within breaker case. Breaker trips when coil is energized.

Shunt trips should not be used as circuit interlocks using maintained contact pilot devices.

A cut-off switch breaks the circuit to the momentary rated coil when breaker opens (except CA). Available for control voltages up to 250 volts Dc or 600 volts Ac. Voltage and frequency must be specified. Standard leads extend 18" outside of breaker. Longer leads may be specified.



Shunt Trip for Field Mounting ② ③ ④

Voltage/ Hertz	Breaker Type				
	FCL	LA, LAB, HLA	MA, HMA	NB, HNB, NB TRI-PAC	PB, PB TRI-PAC
Right Hand Mounting					
600/50-60 Hz	1369D80G15	2606D56G15	2606D57G15	2606D58G15	2606D59G15
480/50-60 Hz	1369D80G16	2606D56G16	2606D57G16	2606D58G16	2606D59G16
240/50-60 Hz	1369D80G17	2606D56G17	2606D57G17	2606D58G17	2606D59G17
208/50-60 Hz	1369D80G18	2606D56G18	2606D57G18	2606D58G18	2606D59G18
120/50-60 Hz	1369D80G19	2606D56G19	2606D57G19	2606D58G19	2606D59G19
60/50-60 Hz	1369D80G20	2606D56G20	2606D57G20	2606D58G20	2606D59G20
48/50-60 Hz	1369D80G21	2606D56G21	2606D57G21	2606D58G21	2606D59G21
24/50-60 Hz	1369D80G22	2606D56G22	2606D57G22	2606D58G22	2606D59G22
250 Dc	1369D80G23	2606D56G23	2606D57G23	2606D58G23	2606D59G23
125 Dc	1369D80G24	2606D56G24	2606D57G24	2606D58G24	2606D59G24
60 Dc	1369D80G25	2606D56G25	2606D57G25	2606D58G25	2606D59G25
48 Dc	1369D80G26	2606D56G26	2606D57G26	2606D58G26	2606D59G26
24 Dc	1369D80G27	2606D56G27	2606D57G27	2606D58G27	2606D59G27
12 Dc	1369D80G28	2606D56G28	2606D57G28	2606D58G28	2606D59G28
Left Hand Mounting					
600/50-60 Hz	1369D80G01	2606D56G01	2606D57G01	2606D58G01	2606D59G01
480/50-60 Hz	1369D80G02	2606D56G02	2606D57G02	2606D58G02	2606D59G02
240/50-60 Hz	1369D80G03	2606D56G03	2606D57G03	2606D58G03	2606D59G03
208/50-60 Hz	1369D80G04	2606D56G04	2606D57G04	2606D58G04	2606D59G04
120/50-60 Hz	1369D80G05	2606D56G05	2606D57G05	2606D58G05	2606D59G05
60/50-60 Hz	1369D80G06	2606D56G06	2606D57G06	2606D58G06	2606D59G06
48/50-60 Hz	1369D80G07	2606D56G07	2606D57G07	2606D58G07	2606D59G07
24/50-60 Hz	1369D80G08	2606D56G08	2606D57G08	2606D58G08	2606D59G08
250 Dc	1369D80G09	2606D56G09	2606D57G09	2606D58G09	2606D59G09
125 Dc	1369D80G10	2606D56G10	2606D57G10	2606D58G10	2606D59G10
60 Dc	1369D80G11	2606D56G11	2606D57G11	2606D58G11	2606D59G11
48 Dc	1369D80G12	2606D56G12	2606D57G12	2606D58G12	2606D59G12
24 Dc	1369D80G13	2606D56G13	2606D57G13	2606D58G13	2606D59G13
12 Dc	1369D80G14	2606D56G14	2606D57G14	2606D58G14	2606D59G14

Factory Mounted Shunt Trips ① ② ③

All of the above shunt trips can be specified for factory mounting at the same price as listed for the kit. These shunt trips have the leads out the side and are UL listed when factory mounted, unless other non-UL Listed modifications are used.

Factory mounted shunt trips only can be supplied for the following breakers: CA ⑥ ⑦, FB Tri-Pac ⑦, LA TRI-PAC and molded case switches ③

Price same as similar kit except price CA from accessory section of 29-020.

- ③ Changed or added since previous issue.
- ① Right hand mounting considered standard unless specified otherwise.
- ② 120 volt Ac ratings suitable for 55% pickup for ground fault applications.
- ③ Not field mountable on molded case switches.
- ④ Field mounting voids breakers' UL listing except on LA, HLA, MA, HMA, NB, HNB, NB TRI-PAC, PB, PB TRI-PAC and SELTRONIC breakers.
- ⑤ Not UL listed.
- ⑥ CA shunt trip supplied without cut-off switch.
- ⑦ Right hand mounting only.



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 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

Modifications

AB DE-ION[®] Circuit Breakers

Left Hand Mounting Kits for SELTRONIC and Type LCL Current Limiting Breakers

Provision to trip flux transfer shunt trip from external 32 to 120 volt (Dc to 60 Hz) source. ① ③	{ MC, HMC Style 1371D72G22 NC, HNC Style 1372D39G13 PC, PCC Style 1372D35G22 LC, HLC Style 1371D11G22 LCL Style 1372D49G22
Provision to trip flux transfer shunt trip from external 240 to 600 volt Ac, 50/60 Hz source. ② ③	{ MC, HMC Style 1371D72G32 NC, HNC Style 1372D39G23 PC, PCC Style 1372D35G32 LC, HLC Style 1371D11G32 LCL Style 1372D49G32

Shunt Trip Coil Data

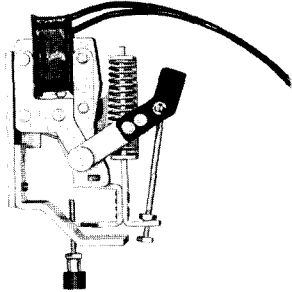
Shunt Trip Voltage Rating	For All Breakers Listed Above and on Previous Page		Type CA		SELTRONIC and LCL	
	Except CA and SELTRONIC Coil Inrush		Coil Inrush		Coil Inrush	
	Amperes	Volt-Amperes	Amperes	Volt-Amperes	Amperes	Volt-Amperes
600 AC	0.105	63.0	..	..	..	..
480 AC	0.085	40.8	..	..	..	..
240 AC	1.7	408.0	1.1	264.	..	..
208 AC	1.4	291.2	..	..	..	..
120 AC	0.88	105.6	2.11	253.	.15	18
60 AC	9.10	546.0	..	..	..	..
48 AC	7.50	360.0	..	..	..	..
24 AC	3.95	94.8	..	..	..	..
250 DC	2.5	625.0	.28	70.	..	..
125 DC	0.975	121.9	.57	71.	..	..
60 DC	0.525	31.5	..	..	..	..
48 DC	1.3	62.4	1.34	64.	..	..
24 DC (FCL)	6.0	144.0	..	..	..	..
24 DC (others)	8.	192.	2.66	64.	..	..
12 DC	6.	72.	5.22	63.	..	..

List Prices: See Price List 29-020, Dis. CB-2

① Rated 48 volts minimum for ground fault applications.
 ② Not for ground fault.
 ③ Also available factory mounted for 24 volt Dc. Order by description.



Standard Undervoltage Release[ⓐ]



For undervoltage protection. A solenoid device mounts within breaker case. Coil must be energized before closing breaker. Trips breaker when voltage drops below 35 to 70% of coil rating. Picks up and seals in at 85% of coil rating. For line voltages up to 250 volts Dc or 600 volts Ac. Externally mounted resistors are supplied for certain ratings. Standard leads extend 18" outside of breaker. Longer leads may be specified. **Note:** U.V.R. attachments are not designed for, and should not be used as, circuit interlocks. For further information, refer to Westinghouse.

Factory Mounted Undervoltage Releases.[ⓑ]

All of the above undervoltage releases can be specified for factory mounting at the same price as listed for the kit. These attachments have the leads out the side and are U L listed when factory mounted unless other non-U L listed modifications are used.

Factory mounted undervoltage releases only can be supplied for the following breakers:

- FB TRI-PAC[ⓐ], LA TRI-PAC and FCL; LCL 120 Volts Ac only.

SELTRONIC Breakers[ⓐ] (120 V Ac 60 Hz only standard), MC, HMC[ⓐ], NC, HNC[ⓐ], PC, PCC, LC, HLC.

SELTRONIC Breakers With Remote Trip Provisions[ⓐ]. MC, HMC[ⓐ], NC, HNC[ⓐ], PC, PCC[ⓐ], LC, HLC[ⓐ].

Price same as similar kits except SELTRONIC attachments are priced from attachment section of Price List 29-020.

- [ⓐ] Changed or added since previous issue.
- [ⓑ] Righthand mounting only.
- [Ⓒ] Not UL listed.
- [Ⓓ] Righthand mounting considered standard unless specified otherwise except seltronic available for lefthand only. (LC is righthand).
- [Ⓔ] Not available on SELTRONIC breakers with built in ground fault.
- [Ⓕ] Not field mountable on non automatic breakers. (Molded case switches)
- [Ⓖ] Cannot be used with other attachments except a small 1A-1B auxiliary switch rated 250 volts can be supplied in righthand pole.
- [Ⓗ] Provided with two leads (total of 4) for use with a remote normally open contact (pushbutton etc.) to trip the breaker. No external power required.

Undervoltage Release Attachment Kits for Field Mounting[ⓐ] [ⓑ]

Attachment Voltage Hertz	Breaker Type			
	LA, LAB, HLA	MA, HMA	NB, HNB, NB TRI-PAC	PB, PB TRI-PAC
For Right Hand Mounting				
24 60	60A9355G17	.....	.....	.....
48 60	60A9355G08	.....	.....	5674D29G16
120 60	60A9355G01	457D727G01	373D632G01	5674D29G09
208 60	60A9355G02	457D727G19	373D632G19	5674D29G10
240 60	60A9355G03	457D727G02	373D632G02	5674D29G11
480 60	60A9355G05	457D727G03	373D632G03	5674D29G13
600 60	60A9355G06	457D727G04	373D632G04	5674D29G14
12 DC	458D020G01	457D727G09	372D032G01	4976D85G01
24 DC	458D020G02	457D727G10	372D032G02	4976D85G02
48 DC	458D020G03	457D727G11	372D032G03	4976D85G03
60 DC	458D020G04	457D727G21	.....	4976D85G04
125 DC	458D020G07	457D727G12	372D032G04	4976D85G07
250 DC	458D020G08	457D727G13	372D032G05	4976D85G08

For Left Hand Mounting

48 60	60A9355G16	.....	.....	5674D29G08
120 60	60A9355G09	457D727G05	373D632G05	5674D29G01
208 60	60A9355G10	457D727G20	373D632G20	5674D29G02
240 60	60A9355G11	457D727G06	373D632G06	5674D29G03
480 60	60A9355G13	457D727G07	373D632G07	5674D29G05
600 60	60A9355G14	457D727G08	373D632G08	5674D29G06
12 DC	458D020G11	457D727G14	372D032G06	4976D85G11
24 DC	458D020G12	457D727G15	372D032G07	4976D85G12
48 DC	458D020G13	457D727G16	372D032G08	4976D85G13
60 DC	458D020G14	457D727G22	.....	4976D85G14
125 DC	458D020G17	457D727G17	372D032G09	4976D85G17
250 DC	458D020G18	457D727G18	372D032G10	4976D85G18

Undervoltage Release Coil Data

Voltage Rating, Hertz	Breaker Type							
	FB TRI-PAC			MA and HMA			MC, HMC, NC HNC, PC, PCC LC, HLC, LCL	
	Coil Amperes	Series Resistance (Ohms)	Total VA	Coil Amperes	External Series Resistance (Ohms)	Total VA	Coil Amperes	Total VA
600 AC	0.020	25,000	12.0	0.012	50,000	7.2	..	..
480 AC	0.016	20,000	7.7	0.013	30,000	6.3	..	..
240 AC	0.021	6,000	5.1	0.013	.....	3.2	..	..
208 AC	0.019	6,000	4.0	0.018	.....	3.8	..	..
120 AC	0.023	.....	2.8	0.023	.....	2.8	.05	6
60 AC	0.203	250	12.2	.....	.....	..	..	..
48 AC	0.245	150	11.8	.....	.....	..	..	..
24 AC	0.250	50	6.0	.....	.....	..	..	..
250 DC	0.026	5,000	6.5	0.013	16,500	3.3	..	..
125 DC	0.026	.....	3.3	0.013	6,500	1.7	..	..
60 DC	0.248	200	14.9	0.013	1,500	0.8	..	..
48 DC	0.260	150	12.5	0.012	600	0.6	..	..
24 DC	0.141	.....	3.4	0.023	.....	0.6	..	..
12 DC	0.286	.....	3.5	0.048	.....	0.6	..	..

Voltage Rating, Hertz	Breaker Type						
	LA, LAB, HLA, LA TRI-PAC, PB, PB TRI-PAC			NB, HNB and NB TRI-PAC			
	Coil Amperes	External Series Resistance (Ohms)	Total VA	Coil Amperes	External Series Resistance (Ohms)	Total VA	Total VA
600 AC	0.029	20,000	17.4	0.016	35,000	9.6	9.6
480 AC	0.014	.....	6.8	0.013	30,000	6.3	6.3
240 AC	0.036	.....	8.7	0.013	.....	3.2	3.2
208 AC	0.036	.....	7.5	0.018	.....	3.8	3.8
120 AC	0.073	.....	8.8	0.023	.....	2.8	2.8
48 AC	0.152	.....	7.3	.....	.....	..	..
250 DC	0.035	5,000	8.8	0.013	16,500	3.3	3.3
125 DC	0.039	1,500	4.9	0.013	6,500	1.7	1.7
60 DC	0.034	.....	2.1	.....	.....	..	..
48 DC	0.040	.....	2.0	0.012	600	0.6	0.6
24 DC	0.069	.....	1.7	0.023	.....	0.6	0.6
12 DC	0.136	.....	1.7	0.048	.....	0.6	0.6

List Prices: See Price List 29-020 Dis. CB-2.

[ⓐ] Field mounting voids UL listing of breaker except on LA, HLA, MA, HMA, NB, HNB, NB TRI-PAC, PB or PB TRI-PAC.



May 1990
 Supersedes Technical Data 29-120,
 pages 55-56, dated March 1988
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

Modifications

AB DE-ION® Circuit Breakers

Alarm Switch

Availability: LA thru HNB, TRI-PAC NB, TRI-PAC PB Frames. For light or alarm indication when breaker trips. Does not function with manual operation. Automatically resets when breaker is relatched. Standard leads extend 18" out side of breaker. Longer leads may be specified. Not field mountable.

Breaker Frame	Normal Pole Mtg.	Contact Operation (Specify Type Desired)
FCL LAB, LA, MA, NB, HLA, HMA, HNB, TRI-PAC LA, TRI-PAC NB	Center	Make or Break
PB, TRI-PAC PB	Left	Make or Break
MC, HMC	Left only ^②	Make or Break
NC, HNC	Left only ^②	Make or Break
PC, PCC	Left ^{②③}	Make or Break
LC, HLC	Left ^②	Make or Break
LCL	Left ^②	Make or Break

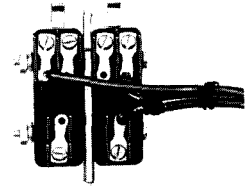
Alarm Switch Contact Rating (Non Inductive)

MC, HMC, LA, LAB, HLA, LC, HLC, LA Tri-Pac:
 10 amps, 120 volt Ac; 5A, 240 volt Ac.
 All other breakers:
 10 amps, 120-240 volt Ac.

List Prices: See Price List 29-020 Dis. CB-2.

Auxiliary Switch^④

For auxiliary control circuits. Miniature switches mount within breaker. Commonly used for remote indication of open or closed breaker and electrically interlocking component control circuits. "A" contacts are closed when breaker is closed. "B" contacts are open when breaker is closed. Standard leads extend 18" out side of breaker. Longer leads may be specified.



Auxiliary Switch Attachment Kits for Field Mounting^{⑤⑥⑦⑧}

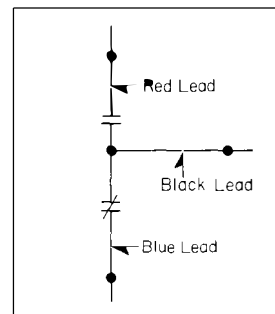
Breaker Type	For Left Hand Mounting		For Right Hand Mounting		Max Ac Voltage Rating ^⑥	Max. Non-Inductive Amps.
	1A-1B	2A-2B	1A-1B	2A-2B		
FCL	1369D79G03	.....	1369D79G03	.....	240	5
LA, LAB, HLA	655D555G12	655D555G13	655D555G05	655D555G06	480	10
MA, HMA	458D013G12	458D013G13	458D013G05	458D013G06	480	10
NB, HNB, NB TRI-PAC	498D016G12	498D016G13	498D016G05	498D016G06	480	10
PB, PB TRI-PAC	2602D32G11	2602D32G12	2602D32G14	2602D32G15	480	10
MC, HMC, MCG, HMC	1371D72G03	1371D72G06	.....	.....	480	6(10@240)
NC, HNC, NCG, HNC	1372D39G03	1372D39G06	.....	.....	480	6(10@240)
PC, PCC, PCG, PCCG	1372D35G03	1372D35G06	.....	.....	480	6(10@240)
LC, HLC, LCG, HLC	1371D11G03	1371D11G06	.....	.....	480	6(10@240)
LCL	1372D49G03	1372D49G06	.....	.....	480	6(10@240)

Factory Mounted Auxiliary Switches^④

All of the above auxiliary switches can be specified for factory mounting at the same price as listed for the kit. These attachments have the leads out the side of the breaker and are UL listed when factory mounted unless other non UL listed modifications are used (except as noted).

Factory mounted switches only can be supplied for the following breakers:
 CA^①, FB Tri-Pac^⑤, LA Tri-Pac.

Price same as a similar kit except price CA from accessory section of PL 29-020.



- ⑤ Changed or added since previous issue.
- ① Not UL listed.
- ② When alarm switch is used in conjunction with auxiliary switch, the auxiliary switch is rated 250 volts max., 5 amps. max.
- ③ Except when other attachments are used, must be mounted in right pole.
- ④ Righthand mounting standard for CA. All others are lefthand mounting as standard unless otherwise specified.
- ⑤ Not for use on non-automatic breakers. (Molded case switches).
- ⑥ All switches are multiples of 1A-1B with a common electrical connection (See diagram below).
- ⑦ Field mounting voids UL listing of breaker except on LA, HLA, MA, HMA, NB, HNB, NB TRI-PAC, PB, PB TRI-PAC and SELTRONIC breakers.
- ⑧ For Dc applications refer to factory.
- ⑨ Righthand mounting only.



Modifications, Continued
Paralleling Straps^①

Availability: CA. To parallel 2-pole breakers for high current single pole operation. Consists of straps at both line and load ends, as well as inside ahead of trip unit to equalize current division. Review paralleling applications with Westinghouse.

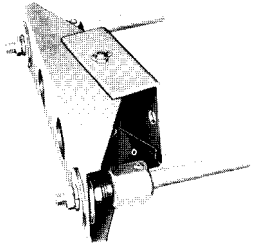
Moisture-Fungus-Corrosion Treatment^①

Availability: CA thru TRI-PAC[®] PB
Treatment can be provided to meet customer's specific atmospheric conditions. Moisture-fungus treating material used meets JAN-T-152; treatment meets MIL-V-173a. Requests and orders should specify government specifications or conditions to be met.

Mechanical Interlocks^①

For mechanically interlocking a pair of breakers so that only one may be closed at one time, but both may be open simultaneously.

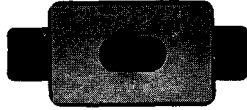
Walking Beam Type^{① ② ④ ⑤}



Availability: LA thru TRI-PAC[®] PB^② except current limiting breakers.

Mounts on panel (not included) at rear of breaker. Standard breaker spacing: center to center; LAB, LA, LC, HLC, MA, MC, NB, NC, HLA, HMA, HMC, HNB, HNC, TRI-PAC LA, TRI-PAC NB: 8½" center to center; TRI-PAC FB: 4¾" center to center; PB, PC, PCC, TRI-PAC PB: 12¼" center to center. Order as a set of two special factory drilled breakers and 1 walking beam interlock. Specify breaker type, panel thickness and center-to-center dimension of breakers.

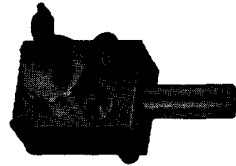
Sliding Bar Type (Field Mountable)^{① ③}



Availability: LA thru TRI-PAC NB

Mounts on panel (not included) fitting over front of breakers. Standard breaker spacing: LAB, LA, LC, HLC, MA, MC, NB, NC, HLA, HMA, HMC, HNB, HNC, TRI-PAC LA, TRI-PAC NB: 8½"; TRI-PAC FB: 4¾" center to center.

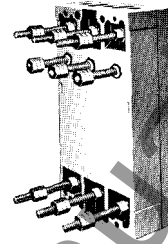
Kirk Key Interlock^③



Availability: 600 Amp Frames (LA) thru 3000 Amp Frames except FLC, LCL and CA.

Permits interlocking of two breakers or one breaker with other devices. Before breaker can be closed, key must be inserted and turned in breaker interlock. Breaker must be opened before key can be removed. It can then be inserted in interlock or other devices to permit their closure. Requests and orders should completely outline interlocking scheme, ultimate user and his address.

Center Studs^①



Availability: 600 Amp Frames (LA) thru 1200 Amp Frames except SELTRONIC and current limiting breakers.

Provides connections for dual voltage generators, so that same trip unit can be used for protection at both voltages. At higher voltage, the trip unit carries full load current. At lower voltage, half the current by-passes the trip unit through the center studs. Trip rating cannot exceed 50% of frame rating.

- ① Not UL Listed.
- ② 2000 amp maximum for PB breaker.
- ③ Not available on motor operated breakers.
- ④ Not available on draw-out breakers.
- ⑤ Not available for FCL or LCL breakers.



January 1990
 Supersedes Technical Data 29-120,
 pages 57-58, dated March 1988
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

Motor Operators
 Drawout Frames

AB DE-ION® Circuit Breakers

Accessories, Continued

Motor Operators^②

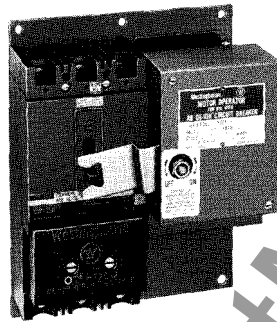
Motor operators provide complete remote control by means of a pushbutton or similar pilot device^③. Positive switching action is accomplished by use of an operating arm engaging the breaker handle. The unit is energized momentarily to actuate the lever arm moving it to either the "ON" or "OFF" position. The control is broken by an internal cutoff switch. Means for emergency manual operation is provided.

Motor operators are available with motors rated 120 volts Ac, 208 volts Ac, and 240 volts Ac.^④

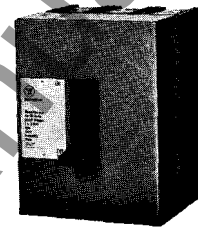
The 480 volt operators utilize a 120 volt Ac motor in conjunction with a 480/240 to 120 volt dual voltage transformer. (On LA and larger operators, the transformer is supplied for separate mounting by the customer.)

Note: The motor operator is intended only for infrequent operation in line with Underwriters' Laboratories, Inc. endurance standards for AB molded case breakers.

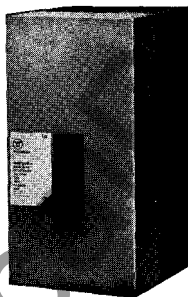
List Prices: See Price List 29-020, Dis. CB-2



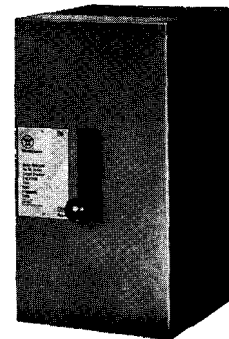
For FB TRI-PAC Breakers



For LAB, LA, HLA Breakers



For MA, HMA, NB, HNB Breakers



For PB Breakers

Motor Operator Selection^①

Type Breaker	Ac Voltage				Dc Voltage	
	120	208	240	480	125	24
	Style Number	Style Number	Style Number	Style Number	Style Number	Style Number
FB TRI-PAC	656D148G11	656D148G04	656D148G13	656D148G03	.....	.....
FCL	656D148G15	656D148G10	656D148G17	656D148G09	.....	.....
LAB, LA, HLA, LC, HLC	2607D97G37	2607D97G40	2607D97G38	2607D97G39	2607D97G51	2607D97G42
MA, HMA, MC, HMC	5664D54G75	5664D54G78	5664D54G76	5664D54G77	5664D54G96	5664D54G81
NB, HNB, NC, HNC	5664D54G71	5664D54G74	5664D54G72	5664D54G73	5664D54G95	.....
PB, PC, PCC, PB TRI-PAC	5661D52G01	5661D52G04	5661D52G02	5661D52G03	5661D52G17	.....
LA TRI-PAC	2607D97G22	2607D97G25	2607D97G23	2607D97G24	2607D97G44	.....
NB TRI-PAC	5664D54G65	5664D54G68	5664D54G66	5664D54G67	5664D54G82	.....
LCL	5664D54G83	5664D54G86	5664D54G84	5664D54G85	5664D54G77	5664D54G88

Back Mounting Plates

Type Breaker	120, 208, 240, 480 Volts Ac
	Style Number
FCL	1282C01G01

Dimensions: DS 29-170

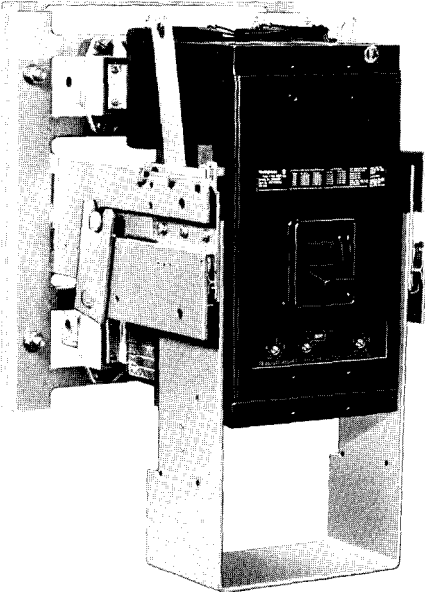
- ① Changed or added since previous issue.
- ② Ac voltage rated operators are UL listed as recognized components.
- ③ The pilot device must be maintained contact type for FB TRI-PAC, FCL, mechanisms; momentary contact type for all others.
- ④ LA and larger available for 125 volts Dc.

Motor Data

Type Breaker	Motor Type	Hp.	Inrush Current, Ampere (Peak)			Continuous Current (RMS)			Operating Time, Open or Close
			120 Volts	208 Volts	240 Volts	120 Volts	208 Volts	240 Volts	
TRI-PAC FB	Split Phase	1/75	10	4	5	2.3	1.17	1.65	1.5 Seconds
LAB, LA, HLA	Reversing	...	8	5	4	...	...	...	12 Cycles
MA, HMA, NB, HNB	Reversing	...	11	7	6	...	...	...	12 Cycles
PB	Reversing	...	20	12	11	...	...	...	10 Cycles



Drawout Frame^②



These drawout frames are for use with standard 3-pole Westinghouse molded case circuit breakers. They consist of two separate parts: stationary mounting frame and movable carrier frame. Slide rails are drawer-type, and a screw mechanism is used to engage or withdraw the movable carrier frame.

The drawout frames have three positions: connected, test and disconnected. The frames do not include a safety tripping interlock, or secondary contacts. These are optional items and may be ordered at additional cost.

Breakers mounted in the drawout frames can be equipped with standard breaker accessories including shunt trip, undervoltage release, auxiliary switch, alarm switch and motor operator.

Optional Features

Safety Interlock^①

This feature trips the breaker as the movable carrier frame is withdrawn, and must be factory installed. Order as follows.

For LA, MA and NB breakers.^①

Order standard stationary mounting frame. Order breaker and movable carrier frame assembled with safety interlock.

Secondary Contacts

These are used to disconnect auxiliary circuits when attachments such as shunt trip or motor operator are used. Available in multiples of four contacts with a maximum of 24 contacts for the LA 600 or 32 contacts for the MA and NB. They must be factory mounted. Order by description as similar to stationary or moving frame and specify number of contacts required. Price from accessory section of Price List 29-020.

Selection Data^{① ③}

Breaker Type	Stationary Mounting Frame Style Number ^①	Movable Carrier Frame Style Number ^①
LA600, HLA600, LC600, HLC600	2603D84G01	2608D35G06
MA, HMA, MC, HMC	2603D85G01	2608D34G10
NB, HNB, NC, HNC	2603D85G01	2608D34G08
NB TRI-PAC	2603D85G09	2608D34G12 ^①

Ordering Information^③

Standard Installation

Order one stationary mounting frame and one movable carrier frame.

Order breakers without terminals or rear connectors.

Order any attachments desired (shunt trip, undervoltage release, etc.)

- Order secondary contacts as required:
- a shunt trip, undervoltage release or alarm switch requires two contacts;
 - a 1A-1B auxiliary switch requires three contacts;
 - a motor operator requires a maximum of four contacts;
 - others as required.

With Safety Interlock

Order stationary mounting frame and movable carrier frame as directed under Optional Features.

Racking Crank

A special crank to engage or withdraw the moving portion of the drawout. A standard 1/2 inch hex socket with extension can be used for this purpose.

Style Number: 765A767G01

Cell Switches Mounted on Draw-out Frames, All Ratings

Up to four switches can be provided. Order by description.

Each switch provides NO and NC contact that transfers before reaching the test position when being withdrawn, and after the test position when being racked in.

List Prices: See Price List 29-020, Dis. CB-2

^① Safety interlock not available on NB TRI-PAC, MC, NC, HMC, HNC, LC, HLC.
^② These units are UL listed.
^③ SELTRONIC™ circuit breakers with built-in ground fault require a special breaker frame with leads out the side in place of standard terminal block. Order by description the breaker frame and carrier as one assembly.

Printed in U.S.A.



July, 1988
 Supersedes Technical Data 29-120
 pages 35-36, dated April, 1980
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

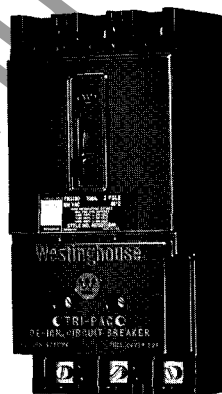
Type FB TRI-PAC® Breakers, 100 Amperes
 Type LA TRI-PAC Breakers, 400 Amperes

AB DE-ION® Circuit Breakers

Type FB TRI-PAC Thermal Magnetic/Current Limiting Breakers 15-100 Amperes, 600 Volts Ac, 250 Volts Dc Replaceable Current Limiters

Continuous Ampere Rating @ 40°C	Catalog Numbers (Current Limiters Included)	
	2-Poles ^②	3-Poles
15	FB2015PL	FB3015PL
20	FB2020PL	FB3020PL
30	FB2030PL	FB3030PL
40	FB2040PL	FB3040PL
50	FB2050PL	FB3050PL
60	FB2060PL	FB3060PL
70	FB2070PL	FB3070PL
90	FB2090PL	FB3090PL
100	FB2100PL	FB3100PL

Approx. Ship. Wt. 11½ Lbs.



Replacement Current Limiters and Housing Assembly

Current Limiters: One required per pole;

Catalog Number	Application
100FBP06	Supplied as standard in Type FB TRI-PAC breakers rated 15-100 amperes. Replaces 200 FBP03 formerly supplied on 15-40 ampere ratings, and 500FBP07 formerly supplied on 50-100 ampere ratings.

Refer to Application Data 29-160 for complete application information.

Special Calibrations^③

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hertz Ac circuits. See application data 29-160 for information regarding special conditions.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal Magnetic Frequency	Add 10% to List Price of Complete breaker	None None None

Current Limiter Housing Assembly, complete with current limiters.

Ampere Rating	Poles	Style Number
15-100	2	176C593G09
15-100	3	176C593G10

50°C Calibration^③

Add suffix "V" to catalog number for complete breaker, listed above, when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

TRI-PAC FB breakers meet the requirements for Class 16a, 16b, 17a and 26a circuit breakers as defined in Federal Specification W-C-375b.

Interrupting Ratings

Underwriters' Laboratories, Inc. Listed
 600 Volts Ac Max.: 200,000 Amperes Sym.

Based on NEMA Test Procedures
 250 Volt Dc Max.: 100,000 Amps

On all 3 phase Delta, Ground B phase applications, refer to Westinghouse.

Terminals

Breakers listed include line and load terminals. Terminals are Underwriters' Laboratories, Inc. listed for wire sizes and types listed below. When used with aluminum cable, use joint compound. To order optional aluminum terminals, add suffix "Z" to breaker catalog number listed.

Max. Breaker Amps	Wire Type	Wire Range
Standard Pressure Terminals	100	Al/Cu #14-1/0
	Optional Al/Cu Pressure Terminals	
50	Al/Cu	#14-#4
100	Al/Cu	#4-4/0

Accessories and Modifications
 Description: Pages 49-58

List Prices: See Price List 29-020, Dis. CB-2

② 2 pole breakers are supplied in 3-pole frames with current carrying parts omitted from the center pole.
 ③ Not listed with Underwriters' Laboratories, Inc.



Type LA TRI-PAC® Thermal Magnetic Breakers
70-400 Amperes, 600 Volts Ac, 250 Volts Dc, 2, 3 Poles, Interchangeable Trip, Replaceable Current Limiters

Contin- uous Ampere Rating @ 40°C	Magnetic Trip Setting Amperes ^③		Complete Breaker Includes Pressure Type Aluminum Terminals ^④		Shipped as Frame, Trip Units, Limiters and Terminals ^⑤		
	Low	High	Catalog Number	Frame Only Catalog Number	Trip Unit Only Catalog Number	Current Limiters (1 Required per Pole) Catalog Number	
2 Poles, 600 Volts Ac, 250 Volts Dc^⑥							
70	350	700	LA2070PR	LA2400PRF	LA2070PT	200LAP08	
90	450	900	LA2090PR	LA2400PRF	LA2090PT	200LAP08	
100	500	1000	LA2100PR	LA2400PRF	LA2100PT	200LAP08	
125	625	1250	LA2125PR	LA2400PRF	LA2125PT	200LAP08	
150	750	1500	LA2150PR	LA2400PRF	LA2150PT	200LAP08	
175	875	1750	LA2175PR	LA2400PRF	LA2175PT	200LAP08	
200	1000	2000	LA2200PR	LA2400PRF	LA2200PT	200LAP08	
225	1125	2250	LA2225PR	LA2400PRF	LA2225PT	400LAP10	
250	1250	2500	LA2250PR	LA2400PRF	LA2250PT	400LAP10	
300	1500	3000	LA2300PR	LA2400PRF	LA2300PT	400LAP10	
350	1750	3500	LA2350PR	LA2400PRF	LA2350PT	400LAP10	
400	2000	4000	LA2400PR Approx. Ship. Wt. 29½ Lbs.	LA2400PRF Approx. Ship. Wt. 23½ Lbs.	LA2400PT Approx. Ship. Wt. 2¼ Lbs.	400LAP10	
3-Poles, 600 Volts Ac Only							
70	350	700	LA3070PR	LA3400PRF	LA3070PT	200LAP08	
90	450	900	LA3090PR	LA3400PRF	LA3090PT	200LAP08	
100	500	1000	LA3100PR	LA3400PRF	LA3100PT	200LAP08	
125	625	1250	LA3125PR	LA3400PRF	LA3125PT	200LAP08	
150	750	1500	LA3150PR	LA3400PRF	LA3150PT	200LAP08	
175	875	1750	LA3175PR	LA3400PRF	LA3175PT	200LAP08	
200	1000	2000	LA3200PR	LA3400PRF	LA3200PT	200LAP08	
225	1125	2250	LA3225PR	LA3400PRF	LA3225PT	400LAP10	
250	1250	2500	LA3250PR	LA3400PRF	LA3250PT	400LAP10	
300	1500	3000	LA3300PR	LA3400PRF	LA3300PT	400LAP10	
350	1750	3500	LA3350PR	LA3400PRF	LA3350PT	400LAP10	
400	2000	4000	LA3400PR Approx. Ship. Wt. 34 Lbs.	LA3400PRF Approx. Ship. Wt. 25 Lbs.	LA3400PT Approx. Ship. Wt. 3 Lbs.	400LAP10	



Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

TRI-PAC LA breakers meet the requirements for Class 16a, 16b, 17a and 26a circuit breakers as defined in Federal Specification W-C-375b.

Interrupting Ratings
Underwriters' Laboratories, Inc. Listed
600 Volts Ac, Max.: 200,000 Amperes Sym.

Based on NEMA Test Procedures
250 Volts Dc Max.: 100,000 Amps.

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Terminals^⑥
Two terminals are required per pole. Terminals are Underwriters' Laboratories, Inc. listed for wire size and type listed below. When used with aluminum conductors, use joint compound. To order optional copper only terminals, add suffix "C" to complete breaker catalog number.

Max. Amps	Terminal Catalog Number	Wire Range, Type, No. of Cables
Standard Al/Cu Pressure Terminals		
225	TA225LA1	1 #6-350 MCM Cu, or 1 #4-350 MCM Al
400	TA400LA1	1 #4-250 MCM Al/Cu, plus 1 3/0-600 MCM Al/Cu

Optional Copper Pressure Terminals		
225	T225LA	1 #6-350 MCM Cu
225 ^⑦	T225LBF	1 #6-250 MCM Cu
400	T401LA	1 #4-250 MCM Cu, plus 1 3/0-600 MCM Cu

Special Breakers
Magnetic only TRI-PAC breakers are available on request. Refer to AD 29-160 for available trip ranges.

Accessories and Modifications
Description: Pages 49-58

List Prices: See Price List 29-020, Dis. CB-2

Current Limiters^⑧
Included with breaker, one required per pole.

Cat. No.	Application
200LAP08	Supplied as standard on ratings through 200 amps.
400LAP10	Supplied as standard on 225 thru 400 amp ratings, optional on lower ratings when a higher "cross-over point" is desired. (Above two limiters replace 800LAP12 formerly supplied as standard on all ratings, 600LAP09 optional on ratings thru 300 amps, 300LAP05 optional on ratings thru 150 amp, and special rating limiter 1000LAP14.)
500LAP15 ②④	Special rating where a higher "cross-over point" is desired on 200 amp and higher ratings (Replaces limiter 1500LAP20)

Refer to application data 29-160 for more complete application information.

① Changed or added since previous issue.
② Not Underwriters' Laboratories, Inc. listed.
③ 2-pole breakers or trips are supplied in 3-pole frames with current carrying parts omitted from the center pole.
④ Protection based on 100,000 amp max. fault, 480 volts max.

Special Calibration^⑨
Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hz Ac circuits. See Ad 29-160 for information regarding special conditions.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal Ambient Frequency	Add 30% to List Price of Trip Unit	None None None

50°C Calibration^⑩
Add suffix "V" to catalog number for complete breaker, or trip unit only, when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

⑤ Set on high side, adjustable to lower limits.
⑥ Terminals shipped separately from breakers.
⑦ Optional terminal.
⑧ New limiters suitable for replacement in existing breakers by using plug-in conductor from old limiter (instructions included with limiter).



August, 1988
 New Information
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

DC Circuit Breakers

AB DE-ION® Circuit Breakers

UL Listed DC Circuit Breakers

These new UL Listed DC Molded Case Circuit Breakers are for use in the ungrounded battery supply circuits of UPS systems providing continuous, reliable AC power to computer controlled applications such as financial transactions and telecommunications.

These devices are an excellent alternative to molded case switches and fuses because they are easier to install, and require less maintenance.

- LADC (600A) circuit breakers are thermal magnetic type devices and have interrupting ratings of 25 kA at 500 VDC nominal with 3 poles in series.
- NCDC Seltronic® (1200A) Circuit Breakers are available with fixed current rating plugs covering a continuous current range of 600 to 1200 amperes and have an interrupting rating of 30 kA at 500 VDC nominal with 3 poles in series. The 24 VDC and 48 VDC control voltage rating plugs are interchangeable and enable easy matching of the circuit breaker DC control voltage requirements to available auxiliary power.

DC Circuit Breaker Ratings

Breaker Type	LADC*	NCDC*
Maximum Ampere Rating	600	1200
Standard Voltage	384 ^②	500 ^②
Freq.	DC	DC
kA Interrupting Capacity	35	25
UL 489	30	30

*8 milliseconds time constant.

Accessories

- The LADC circuit breaker uses the same accessories used on the type LA3600 circuit breaker.
- The NCDC circuit breaker contains an undervoltage release that will trip the circuit breaker when the control voltage drops below its minimum value (Refer to IL 15549). A standard shunt trip accessory is not required. The circuit breaker may be tripped remotely by opening the circuit between the control power source and the trip unit. In addition, the following two internal accessories are available;

1. An alarm (Signal)/Lockout Switch factory installed only, or
2. An Auxiliary Switch for field installation.

Frame and Trip Unit or Rating Plugs

Catalog Number	Trip Unit	Ampere Rating
Type LADC		
LADC3600F		600
	2603D46G29	400
	HLA3500T	500
	HLA3600T	600
Type NCDC		
NCDC312F1		1200
NCDC312F2		1200
Current Rating Plugs		
For NCDC312F1 and NCDC312F2		
	NCDC0600A	600
	NCDC0700A	700
	NCDC0800A	800
	NCDC1000A	1000
	NCDC1200A	1200
Control Voltage Rating Plugs^①		
For NCDC312F1 Only		
	NCDC024V	24
	NCDC048V	48
For NCDC312F2 Only		
	NCDC125V	125
NCDCTK	Test Kit	

Terminals

Use standard Cu/Al or optional copper only terminals for types LA600 or NC as shown in Technical Data 29-120.

Shorting Straps For Series Connecting Poles

Breaker Frame	Catalog Number
LADC	SS600
NCDC	SS1200

Order as Follows:

- Type LADC
 1 amp breaker without terminals consisting of:
 1 - LADC3600F frame
 1 - Trip unit (specify catalog number or style number)
 Accessories as required
- Type NCDC
 1 amp breaker without terminals consisting of:
 1 - NCDC312F() frame
 1 - Current rating plug (specify catalog number)
 1 - Voltage rating plug. (specify catalog number)
 Accessories as required

Note: Shorting straps and/or terminals are to be ordered as separate items.

List Prices: See Price List 29-020, Dis. CB-2.

- Voltage rating plugs are not interchangeable between the two NCDC frames.
- ② 3 Poles in series.

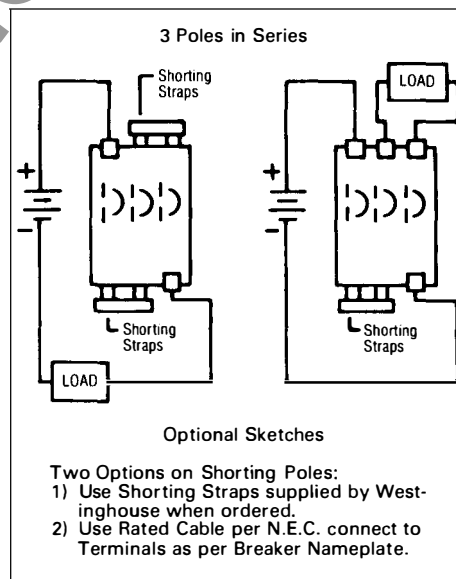


Fig. 1. Series connection diagrams.





June, 1988
 Supersedes Technical Data 29-120,
 pages 46.1-46.2, dated March, 1988
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

Molded Case Switches
 Standard Type (No Overcurrent Protection)
 High Magnetic Trip Type (Fixed Trip Setting)

AB DE-ION® Circuit Breakers

Molded Case Switches

Molded Case Switches are Underwriters' Laboratories, Inc. listed devices and are available as standard type with no overcurrent protection, and high magnetic trip type with fixed trip setting. ④ ⑥

For application information and UL Inc. listed withstand ratings, refer to Application Data 29-160, pages 75-76.

Further Information

List Prices: Price List 29-020
 Terminals: Page 46.2

Standard Molded Case Switches (No Overcurrent Protection)⑥

Switch Catalog Number ① ② ③	No. of Poles	Max. Volts	Max. Amps	Switch Catalog Number ① ② ③	No. of Poles	Max. Volts	Max. Amps
LAB2400NW	2	600	400	PBF22000N	2	600	2000
LAB3400NW	3	600	400	PBF32000N	3	600	2000
LA2400NW	2	600	400				
LA2600NW	2	600	600	PB22000N	2	600	2000
LA3400NW	3	600	400	PB32000N	3	600	2000
LA3600NW	3	600	600	PB22500N	2	600	2500
				PB32500N	3	600	2500
LC2600NW	2	600	600				
LC3600NW	3	600	600	PCF22000N	2	600	2000
				PCF32000N	3	600	2000
MA2800NW	2	600	800	PCF22500N	2	600	2500
MA3800NW	3	600	800	PCF32500N	3	600	2500
MC2800NW	2	600	800	PC22000NW	2	600	2000
MC3800NW	3	600	800	PC32000NW	3	600	2000
				PC22500NW	2	600	2500
NB21200N	2	600	1200	PC32500NW	3	600	2500
NB31200N	3	600	1200	PC23000N	2	600	3000
				PC33000N	3	600	3000
NC21200NW	2	600	1200				
NC31200NW	3	600	1200				

Types DA, EB, EHB, FB, JA, JB, KA, KB, LBB and LB for replacement purposes.
 See Technical Data 29-121.

⑥ Changed or added since previous issue.

① Catalog number suffix letter identification:
 N = Molded Case Switch (No overcurrent protection)
 W = No terminals

② Molded case switch dimensions are the same as the equivalent type thermal magnetic breaker. Refer to Dimension Sheet 29-170.

③ Most three pole units up to 1200 amps (except CA) are available with a Saf-T-Vue® cover.

④ As listed on this page and page 46.2. ⑥



Molded Case Switches With High Magnetic Trip (Fixed Trip Setting)

Switch Catalog Number ①②	No. of Poles	Max. Volts	Max. Amps.	Switch Catalog Number ①②	No. of Poles	Max. Volts	Max. Amps.	Switch Catalog Number ①②	No. of Poles	Max. Volts	Max. Amps.
CA2225WK	2	240	225	MA2800WK	2	600	800	PBF22000K	2	600	2000
CA3225WK	3	240	225	MA2800WSK	2	600	800	PBF32000K	3	600	2000
LA2400WK	2	600	400	MA3800WK	3	600	800	PC22000WK	2	600	2000
LA2400WSK	2	600	400	MA3800WSK	3	600	800	PC22500WK	2	600	2500
LA2600WK	2	600	600	MC2800WK	2	600	800	PC23000K	2	600	3000
LA2600WSK	2	600	600	MC3800WK	3	600	800	PC32000WK	3	600	2000
LA3400WK	3	600	400	NB21200WK	2	600	1200	PC32500WK	3	600	2500
LA3400WSK	3	600	400	NB21200WSK	2	600	1200	PC33000K	3	600	3000
LA3600WK	3	600	600	NB31200WK	3	600	1200	PCC22000WK	2	600	2000
LA3600WSK	3	600	600	NB31200WSK	3	600	1200	PCC22500WK	2	600	2500
LAB2400WK	2	600	400	NC21200WK	2	600	1200	PCC23000K	2	600	3000
LAB2400WSK	2	600	400	NC31200WK	3	600	1200	PCC32000WK	3	600	2000
LAB3400WK	3	600	400	PB22000WK	2	600	2000	PCC32500WK	3	600	2500
LAB3400WSK	3	600	400	PB22500WK	2	600	2500	PCC33000K	3	600	3000
LC2600WK	2	600	600	PB32000WK	3	600	2000	PCF22000K	2	600	2000
LC3600WK	3	600	600	PB32500WK	3	600	2500	PCF32000K	3	600	2000

Molded Case Switch Terminal Data

MCS Type	Max. Switch Amps.	Standard Terminals (Aluminum Body)				Optional Terminals			
		Terminal Type or Cat. No.	Wire Type	No. of Wires	Wire Range	Terminal Type or Cat. No.	Wire Type	No. of Wires	Wire Range
CA	225	TA225CA2	Cu/Al	1	#1-300 MCM	.....	....	..	.....
LA400, LAB	400	TA400LA1	Cu/Al	1	#4-250 MCM, plus 3/0-600 MCM	T401LA	Cu	1	#4-250 MCM, plus 3/0-600 MCM
LA600, LC600	600	TA600LA	Cu/Al	2	250/500 MCM	T600LA	Cu	2	250/500 MCM
MC, MA	800	TA800MA2	Cu/Al	3	3/0-400 MCM	T800MA1	Cu	3	3/0-300 MCM
NC, NB	1200	TA1200NB1	Cu/Al	4	4/0-500 MCM	T1200NB1	Cu	4	3/0-400 MCM
NC, NB	1200	.....	.....	..	.....	TA1201NB1	Cu/Al	3	500-750 MCM
PC2000, PCC2000	2000	BA2000PB Rear Bus Connector							
PC2500, PCC2500	2500	Style 315C910G03 Rear Bus Connector							
PC3000, PCC3000	3000	Rear Bus Connector Included in Frame							

Types DA, EB, EHB, FB, JA, JB, KA, KB, LBB and LB replaced by Series C.
See Frame Books 29-101, 29-102, 29-103.

Types DA, EB, EHB, FB, JA, JB, KA, KB, LBB and LB for replacement purposes.
See Technical Data 29-121.

- Ⓞ Changed or added since previous issue.
- ① Catalog number suffix identification:
K = Molded Case Switch with High Magnetic Trip (Fixed Trip Setting)
S = Saf-T-Vue cover
W = No terminals

② Molded case switch dimensions are the same as the equivalent thermal magnetic breaker. Refer to Dimension Sheet 29-170.

Molded Case Switches With High Magnetic Trip — Trip Setting And ToleranceⓄ

Frame	Rating	Trip Setting (Amp.)	Tolerance (%)
CA	225	2250	+20 -10
LA (400)	400	4000	+10 -0
LA/LC	600	6000	+10 -0
MA/MC	800	8000	+10 -0
NB/NC	1200	12000	+10 -0
PB/PC	2000-3000	12000	+10 -0

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Electrical Components Division
Pittsburgh, Pennsylvania, U.S.A. 15220



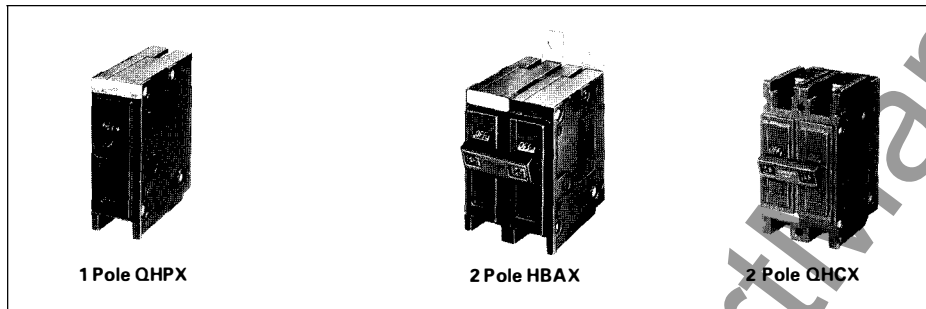
October, 1988
 Supersedes Technical Data 29-120,
 pages 15-16, dated March, 1981
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

Quicklag® Type QHPX, HBAX, QHCX,
 100 Amperes, 42,000 Amperes I. C.
 Quicklag Ground Fault Breakers,
 Type P and B, 15-30 Amperes

AB DE-ION® Circuit Breakers

Type QHPX, HBAX, and QHCX Breakers

15-100 Amperes, 120/240, 240 Volts Ac, 1 and 2-Poles, 42,000 Amperes I.C.



1 Pole QHPX

2 Pole HBAX

2 Pole QHCX

These breakers are not defined in Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings:
 42,000 Sym.

Listed with Underwriters' Laboratories, Inc. except as noted.

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Note: All Two and Three pole breakers are of the common trip type.

Continuous Amps. @ 40°C	Catalog Numbers	
	1 Pole ^②	2 Poles ^②
	120/240 Volts Ac, Max.	120/240 Volts Ac, Max.

Type QHPX Plug-in Breakers (Discount Symbol CB-1)

15	QHPX 1015 ^⑤	QHPX2015
20	QHPX 1020 ^⑤	QHPX2020
25	QHPX 1025	QHPX2025
30	QHPX 1030	QHPX2030
35	QHPX 1035	QHPX2035
40	QHPX 1040	QHPX2040
45	QHPX 1045	QHPX2045
50	QHPX 1050	QHPX2050
55	QHPX 1055	QHPX2055
60	QHPX 1060	QHPX2060
70	QHPX 1070	QHPX2070
80	.....	QHPX2080
90	.....	QHPX2090
100	.....	QHPX2100

Type HBAX Bolt-on Breakers (Discount Symbol CB-2)

15	HBAX 1015 ^⑤	HBAX2015
20	HBAX 1020 ^⑤	HBAX2020
25	HBAX 1025	HBAX2025
30	HBAX 1030	HBAX2030
35	HBAX 1035	HBAX2035
40	HBAX 1040	HBAX2040
45	HBAX 1045	HBAX2045
50	HBAX 1050	HBAX2050
55	HBAX 1055	HBAX2055
60	HBAX 1060	HBAX2060
70	HBAX 1070	HBAX2070
80	.....	HBAX2080
90	.....	HBAX2090
100	.....	HBAX2100

Type QHCX Bolt-on Breakers (Discount Symbol CB-2)

15	QHCX 1015 ^⑤	QHCX2015
20	QHCX 1020 ^⑤	QHCX2020
25	QHCX 1025	QHCX2025
30	QHCX 1030	QHCX2030
35	QHCX 1035	QHCX2035
40	QHCX 1040	QHCX2040
45	QHCX 1045	QHCX2045
50	QHCX 1050	QHCX2050
55	QHCX 1055	QHCX2055
60	QHCX 1060	QHCX2060
70	QHCX 1070	QHCX2070
80	.....	QHCX2080
90	.....	QHCX2090
100	.....	QHCX2100

Terminals

Terminals are Underwriters' Laboratories, Inc. listed as suitable for the wire type and size listed below. When used with aluminum conductors, use joint compound.

QHPX: Terminals on load side only; line terminals are plug-in female clamps which clip on bus stab.

HBAX: Terminals on load side only; line terminals are extended tang which bolts directly to bus.

QHCX: Terminals on line and load ends.

Breaker Amps	Terminal Type	Wire Range and Type
--------------	---------------	---------------------

Types QHPX and HBAX

5-30	Pressure Type	#14-#8 Cu/Al
35-70	Pressure Type	#14-#4 Cu/Al
90-100	Pressure Type	#8-1/0 Cu/Al

Type QHCX

10-20	Binding Screw	#14-#10 Cu/Al
30	Pressure Type	#14-#8 Cu/Al
35-50	Pressure Type	#14-#4 Cu/Al
55-70	Pressure Type	#8-#2 Cu/Al
80-100	Pressure Type	#6-#1 Cu/Al

For Special Calibrations and Accessories, see Page 16.

List Prices: See Price List 29-020, Dis. CB-1, CB-2

- ② Not listed with Underwriters' Laboratories, Inc.
- ③ Packaged: 24 in single carton, 144 in master; approx. ship wt.: 7 lbs. and 46 lbs. respectively.
- ④ Packaged: 12 in single carton, 72 in master; approx. ship wt.: 9 lbs. and 58 lbs. respectively.
- ⑤ Switching duty rated for 120 volt Ac fluorescent light applications only.



Type QHPX, HBAX, QHCX Breakers, Continued

Special Calibration (Also applies to QPH, QBH, QCH Breakers)

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hertz Ac circuits. See Application Data 29-160 for information regarding special conditions.

Type of Calibration	List Price Addition (CB-2 Disc.)	
	1-49 Identical Units	50 or More Identical Units
Thermal	Add 20% to List Price of Complete Breaker	None
Magnetic		None
Frequency		None

Breaker Accessories (See DB 29-150 for Description)
(Apply to QPH, QHPX, QBH, HBAX, QCH and QHCX Breakers.)

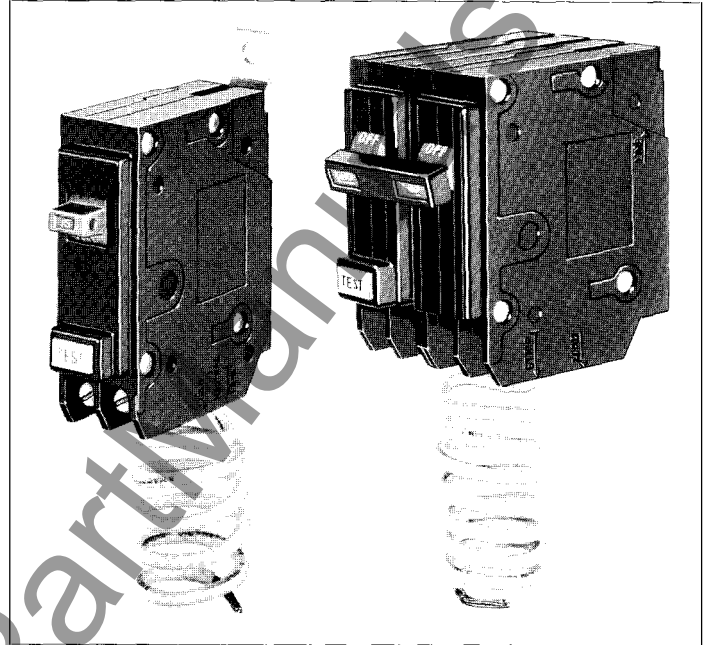
Description	Style Number
Dummy Breakers	
QPH, QHPX	2600D71G09
QBH, HBAX	2600D81G09
QCH, QHCX	2604D91G15
Moisture-Fungus Treatment - Refer to PL 29-020	
Handle Tie (1 Pole Only)	133A633G01
Lockdog (Non-Padlockable)	
1 Pole	1256C42G02
2, 3 Po	1256C42G01
Padlock Attachment (Removable-1 pole Breakers Only)	2088B831G02
Padlock Device (Non-removable per California Code)	
1, 2, 3 Pole Breakers - QPH, QBH, QHPX, HBAX	1256C41G01
1, 2, 3 Pole Breakers - QCH, QHCX	750B211G01
Face Mounting Plate (QCH, QHCX)	
1 Pole	1258C07G01
2 Poles	1265C83G02
3 Poles	1265C83G03
Base Mounting Clamp (QCH, QHCX - 2 Required)	K82216
Base Mounting Plate (QCH, QHCX - 6 Poles)	207B513G01

Panelboard Accessories

Description	Style Number
Number Tabs, 1-42, Gum-Backed	622B630H01
ON Button, Black on White	K-72641
OFF Button, Black on White	K-72642
Branch Breaker Connector Tube	K-82217

List Prices: See Price List 29-020, Dis. CB-2, CB-3

Quicklag Ground Fault Circuit Breakers,
Types P and B, 15-30 Amperes, 120 Volts Ac, 1 Pole;
15-30 Amperes, 120/240 Volts Ac, 2 Poles



Sensitivity: 5 Milliamps or greater.

Westinghouse Quicklag Ground Fault circuit breakers are UL listed as Class A, Group 1, ground fault circuit interrupters.

Quicklag Ground Fault circuit breakers are 1 or 2 pole, thermal magnetic circuit breakers, which incorporate a solid state ground fault sensing circuit to detect ground fault current. Available as plug-in (Type P) or bolt-on (Type B) design, they are interchangeable in load centers and panelboards with standard Westinghouse Type P plug-in, and Type B bolt-on Quicklag circuit breakers.

Quicklag Ground Fault circuit breakers are normally used in loadcenters or panelboards to protect small branch circuits in residential, commercial or industrial applications. They function to protect humans from ground faults of 5 milliamperes or greater, as well as normal circuit protection providing inverse time overload and instantaneous short circuit protection.

Typical applications include protection against ground fault hazards in circuits near swimming pools and outdoor receptacles for which the NEC requires protection of human life against ground faults. (Reference NEC articles 680-31, 680-20, 680-6, 555-3, and 210-8.)

Contin- uous Ampere Rating	Catalog Numbers 1 Pole, 120 Volts		Catalog Numbers 2 Poles, 120/240 Volts	
	Type P Plug-in	Type B Bolt-on	Type P Plug-in	Type B Bolt-on
10,000 Amperes I.C. (Discount Symbol CB-3)				
15	QPGF1015	QBGF1015	QPGF2015	QBGF2015
20	QPGF1020	QBGF1020	QPGF2020	QBGF2020
25	QPGF1025	QBGF1025	QPGF2025	QBGF2025
30	QPGF1030	QBGF1030	QPGF2030	QBGF2030
22,000 Amperes I.C. (Discount Symbol CB-3)				
15	QPHGF1015	QBHGF1015	QPHGF2015	QBHGF2015
20	QPHGF1020	QBHGF1020	QPHGF2020	QBHGF2020
25	QPHGF1025	QBHGF1025	QPHGF2025	QBHGF2025
30	QPHGF1030	QBHGF1030	QPHGF2030	QBHGF2030



October, 1988
 Supersedes Technical Data 29-120,
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 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

Molded Case Switches
 High Magnetic Trip Type (Fixed Trip Setting)

AB DE-ION® Circuit Breakers

Molded Case Switches With High Magnetic Trip (Fixed Trip Setting)

Switch Catalog Number ①②	No. of Poles	Max. Volts	Max. Amps.	Switch Catalog Number ①②	No. of Poles	Max. Volts	Max. Amps.	Switch Catalog Number ①②	No. of Poles	Max. Volts	Max. Amps.
CA2225WK	2	240	225	MA2800WK	2	600	800	PBF22000K	2	600	2000
CA3225WK	3	240	225	MA2800WSK	2	600	800	PBF32000K	3	600	2000
LA2400WK	2	600	400	MA3800WK	3	600	800	PC22000WK	2	600	2000
LA2400WSK	2	600	400	MA3800WSK	3	600	800	PC22500WK	2	600	2500
LA2600WK	2	600	600	MC2800WK	2	600	800	PC23000K	2	600	3000
LA2600WSK	2	600	600	MC3800WK	3	600	800	PC32000WK	3	600	2000
LA3400WK	3	600	400	NB21200WK	2	600	1200	PC32500WK	3	600	2500
LA3400WSK	3	600	400	NB21200WSK	2	600	1200	PC33000K	3	600	3000
LA3600WK	3	600	600	NB31200WK	3	600	1200	PCC22000WK	2	600	2000
LA3600WSK	3	600	600	NB31200WSK	3	600	1200	PCC22500WK	2	600	2500
LAB2400WK	2	600	400	NC21200WK	2	600	1200	PCC23000K	2	600	3000
LAB2400WSK	2	600	400	NC31200WK	3	600	1200	PCC32000WK	3	600	2000
LAB3400WK	3	600	400	PB22000WK	2	600	2000	PCC32500WK	3	600	2500
LAB3400WSK	3	600	400	PB22500WK	2	600	2500	PCC33000K	3	600	3000
LC2600WK	2	600	600	PB32000WK	3	600	2000	PCF22000K	2	600	2000
LC3600WK	3	600	600	PB32500WK	3	600	2500	PCF32000K	3	600	2000

Molded Case Switch Terminal Data

MCS Type	Max. Switch Amps.	Standard Terminals (Aluminum Body)				Optional Terminals			
		Terminal Type or Cat. No.	Wire Type	No. of Wires	Wire Range	Terminal Type or Cat. No.	Wire Type	No. of Wires	Wire Range
CA	225	TA225CA2	Cu/Al	1	#1-300 MCM	.....	.....	..	.....
LA400, LAB	400	TA400LA1	Cu/Al	1	#4-250 MCM, plus 3 0-600 MCM	T401LA	Cu	1	#4-250 MCM, plus 3 0-600 MCM
LA600, LC600	600	TA600LA	Cu/Al	2	250-500 MCM	T600LA	Cu	2	250-500 MCM
MC, MA	800	TA800MA2	Cu/Al	3	3 0-400 MCM	T800MA1	Cu	3	3 0-300 MCM
NC, NB	1200	TA1200NB1	Cu/Al	4	4 0-500 MCM	T1200NB1	Cu	4	3 0-400 MCM
NC, NB	1200	.....	.....	..	.....	TA1201NB1	Cu/Al	3	500-750 MCM
PC2000, PCC2000	2000	BA2000PB Rear Bus Connector							
PC2500, PCC2500	2500	Style 315C910G03 Rear Bus Connector							
PC3000, PCC3000	3000	Rear Bus Connector Included in Frame							

Molded Case Switches

Molded Case Switches are Underwriters' Laboratories, Inc. listed devices and are available only as high magnetic trip type with fixed trip setting.

For application information and UL Inc. listed withstand ratings, refer to Application Data 29-160, pages 75-76.

Further Information

List Prices: Price List 29-020 Disc. Symbol CB-2

Molded Case Switches With High Magnetic Trip — Trip Setting And Tolerance

Frame	Rating	Trip Setting (Amp.)	Tolerance (%)
CA	225	2250	+20 -10
LA (400)	400	4000	+10 -0
LA/LC	600	6000	+10 -0
MA/MC	800	8000	+10 0
NB/NC	1200	12000	+10 -0
PB/PC	2000-3000	12000	+10 -0

Types DA, EB, EHB, FB, JA, JB, KA, KB, LBB and LB replaced by Series C.
 See Frame Books 29-101, 29-102, 29-103.

Types DA, EB, EHB, FB, JA, JB, KA, KB, LBB and LB for replacement purposes.
 See Technical Data 29-121.

Ⓢ Changed or added since previous issue.

① Catalog number suffix identification:
 K = Molded Case Switch with High Magnetic Trip (Fixed Trip Setting)
 S = Saf-T-Vue cover
 W = No terminals

② Molded case switch dimensions are the same as the equivalent thermal magnetic breaker. Refer to Dimension Sheet 29-170.



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Westinghouse Electric Corporation
Distribution and Control Business Unit
Electrical Components Division
Pittsburgh, Pennsylvania, U.S.A. 15220



October, 1976
Supersedes 29-120 T WE A, pages 1-2,
dated October, 1975, and 29-121 T WE A,
pages 1-2, dated October, 1975
Mailed to: E, D, C/1901, 1903, 1928/PL

For Lighting, Distribution and Power Circuits

AB DE-ION® Circuit Breakers

All Westinghouse molded case circuit breakers are built to meet requirements of NEMA Standard AB-1-1975.

Ordering Information

AB De-ion® circuit breakers are to be ordered as follows:

Fixed Trip Breakers

Order complete breaker or complete breaker less terminals plus required terminals.

Interchangeable Trip Breakers

Order frame, trip unit and terminals.

When Ordering, Specify:

Catalog Number or Style Number, Quantity

List Prices

To obtain list price of breakers, modifications and accessories, locate style or catalog number from appropriate page of Technical Data and refer to Price List 29-020 P WE A.

Where mounting hardware is desired, specify quantity and style number. No charge when ordered with complete breaker.

If breakers are to be modified, order "similar to" a standard catalog number, and describe the special features desired.

Available accessories are listed beginning on page 43. In some cases, accessories are listed for sale in quantity lots. In these instances, order item in quantity lots indicated.

Minimum Quantities: For a basic part or common part as shown on individual breaker pages, minimum ordering quantities are listed.

Molded Case Switches (Non-Automatic Breakers)

Due to an Underwriters' Laboratories, Inc. directive, breakers formerly identified as non-automatic are now called Molded Case Switches (MCS). All breakers formerly identified by NA, Non-auto or Non-Automatic in selection tables, now have the letters MCS after the continuous ampere rating or under Magnetic Trip Setting.

Panelboard Connecting Straps

Conditions: The purchaser does not automatically secure Underwriters' approval simply by incorporating these parts into his panelboards. Underwriters' Laboratories, Inc. list certain requirements that the manufacturers' product must meet; therefore, separate approval must be obtained. However, these panelboard parts are adequate to meet Underwriters' specifications as component

parts, and if properly used with Westinghouse AB De-ion circuit breakers, will enable the user to maintain Underwriters' Laboratories standards. These panelboard parts are available to original equipment manufacturers only. They are not for use as replacement parts.

Replacement parts for Westinghouse panelboards should be selected and ordered from Renewal Parts Price List 120 or negotiated with Distribution Equipment Division, St. Louis, Missouri.

Further Information

AB De-ion® Circuit Breakers

Price List 29-020 P WE A
Descriptive Bulletin 29-150
Application Data 29-160
Dimension Sheet 29-170

Obsolete Breaker Guide

Listed below is a tabulation of AB DE-ION® circuit breakers made obsolete by the development of a full range of modern, electrically equivalent breakers. These obsolete breakers are not available and are listed only as a guide to the equivalent modern breaker.

Obsolete Breakers		Equivalent Modern Replacement Breakers	
Frame	Amperes	Frame	29-120 T WE A Page
QCC	125- 225	CA	15
EA	5- 100	EB	17
E	5- 100	EB	17
EH	10- 100	EHB	17
F	5- 100	FB	17
FA	10- 150	FB	17
G	40- 100	FB	17
J	80- 225	JB	19
JK	70- 225	KB	20
K	70- 225	KB	20
KL	125- 400	LB	22
LM	600	MA	38
LM	800	MA	38
LM	1000	NB	39
LM	1200	NB	39
HF	15- 50	HFB	17
HF	70- 100	HFB	17
HFA	10- 150	HFB	17
HK	70- 225	HKB	20
HKL	125- 400	HLB	22
HLM	125- 600	HMA	38
HLM	700- 800	HMA	38
HLM	900-1200	HNB	39
TRI-PAC® F	15- 100	TRI-PAC FB	29
TRI-PAC FA	15- 100	TRI-PAC FB	29
TRI-PAC K	70- 225	TRI-PAC LA	30
TRI-PAC KL	125- 400	TRI-PAC LA	30
TRI-PAC L	125- 600	TRI-PAC NB	31
P1	10- 50	Quicklag®C	Ⓣ
PT	10- 50	ALB-1	
		(Ref. 29-220 T WE A)	..

Ⓣ Shock Tested type.

Index Breaker	Page Numbers	
	Selection Guide	Ordering Date

Standard Breakers 100 and 150 Amperes

Quicklag P, C	2	11
Quicklag QPH, QBH, QCH	2	13
Quicklag Grd Fault Type BA	2	14
Type BA	3	16
Type EB, EHB, FB	3	17

225 Amperes

Type CA, CAH	2	15
Type JA, KA	7	33, 34

250 Amperes

Type JB, KB	3	19, 20
-------------	---	--------

400 Amperes

Type DA	3	15
Type LB, LBB	4	21, 22
Type LAB, LA	7	35, 36

600 Amperes

Type LA	4	24
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800 Amperes

Type MA	7	38
Type MC	4	25

1200 Amperes

Type NB	7	39
Type NC	4	26

3000 Amperes

Type PB	7	41
Type PC, PCC	4	27, 28

Mark 75® Breakers

Quicklag HP, HC	5	11
Type HBA	5	16

150 Amperes

Type HFB	5	17
----------	---	----

225 Amperes

Type HKA	8	34
----------	---	----

250 Amperes

Type HKB	5	20
----------	---	----

400 and 600 Amperes

Type HLB	5	22
Type HLA 400	8	36
Type HLA 600	6	24

800 Amperes

Type HMA	8	38
Type HMC	6	25

1200 Amperes

Type HNB	8	39
Type HNC	6	26

TRI-PAC® Breakers

100 Amp. Type FB	6	29
400 Amp. Type LA	6	30
800 Amp. Type NB	6	31
1600 Amp. Type PB	6	32

Modifications, Accessories, Motor Operators	43-52	43-52
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Standard Breaker Selection Guide

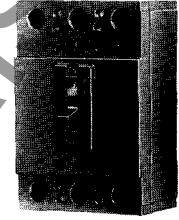
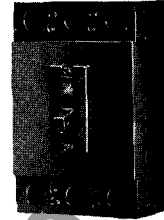
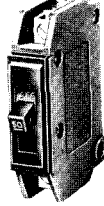
Quicklag® P, QPH

Quicklag® QBH

Quicklag® C, QCH

Quicklag® Ground Fault CA

CAH



1, 2, 3 Poles
10-100 Amps
@40°C

1, 2, 3 Poles
10-100 Amps
@40°C

1, 2, 3 Poles
10-100 Amps
@40°C

1, 2 Poles
15-30 Amps
@40°C

2, 3 Poles
125-225 Amps
@40°C

2, 3 Poles
125-225 Amps
@40°C

Dimensions, Inches, 3 Pole Breakers

H	W	D	H	W	D	H	W	D	H	W	D	H	W	D	H	W	D
3 ³ / ₄	3	2 ⁵ / ₈	3	3	2 ⁵ / ₈	3 ³ / ₄	3	2 ⁵ / ₈	3 ³ / ₈	1 ¹ / ₂	2 ³ / ₈ (One Pole)	6 ¹ / ₂	4 ¹ / ₂	2 ¹ / ₁₆	6 ¹ / ₂	4 ¹ / ₂	2 ¹ / ₁₆

Ac Ratings I.C. Ratings Shown 10,000 are Symmetrical^①; Ratings Shown 10,000 are Asymmetrical

120/240, 240 Volts Max. Amps I.C.	120/240, 240 Volts Max. Amps I. C.	120/240, 240 Volts Max. Amps I. C.	120/240 Volts Max. Amps I. C.	240 Volts Max. Amps I. C.	240 Volts Max. Amps I. C.
120/240 Volts: 10,000 and 25,000 120/240 Volts: 10,000 and 22,000	120/240 Volts: 25,000 120/240 Volts: 22,000	120/240 Volts: 10,000 and 25,000 120/240 Volts: 10,000 and 22,000	120 Volts 10,000 and 22,000	10,000 and 10,000	22,000 and 25,000
240 Volts: 10,000 and 10,000 or 25,000 and 22,000	240 Volts: 25,000 and 22,000	240 Volts: 10,000 and 10,000 or 25,000 and 22,000	120/240 Volts: 10,000 and 10,000		

Dc Rating^①

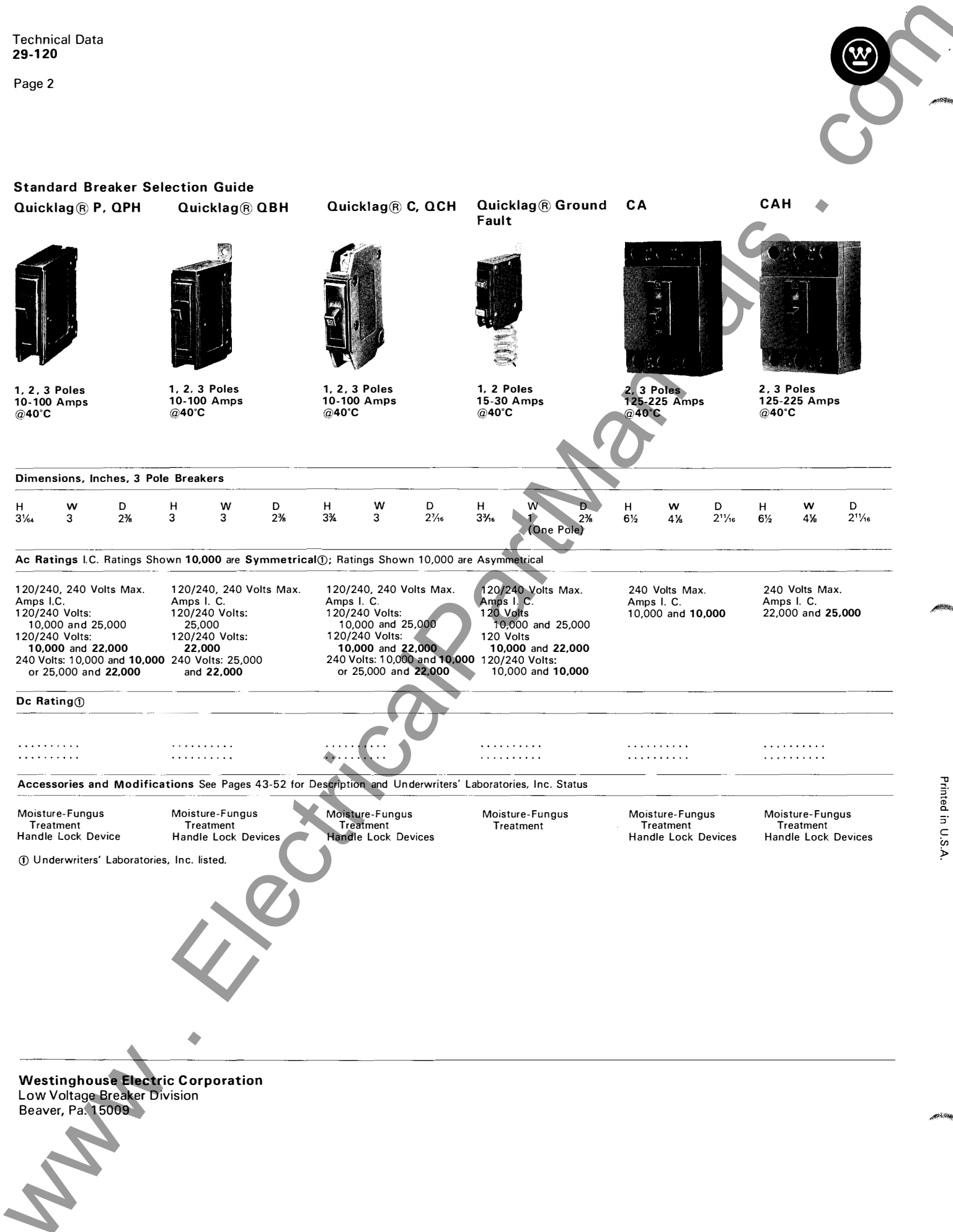
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Accessories and Modifications See Pages 43-52 for Description and Underwriters' Laboratories, Inc. Status

Moisture-Fungus Treatment Handle Lock Device	Moisture-Fungus Treatment Handle Lock Devices	Moisture-Fungus Treatment Handle Lock Devices	Moisture-Fungus Treatment	Moisture-Fungus Treatment Handle Lock Devices	Moisture-Fungus Treatment Handle Lock Devices

^① Underwriters' Laboratories, Inc. listed.

Printed in U.S.A.





October, 1981
Supersedes Technical Data 29-120, pages 1-2,
dated April, 1980
Mailed to: E, D, C/1901, 1903, 1928/PL

For Lighting, Distribution and Power Circuits

AB DE-ION® Circuit Breakers

All Westinghouse molded case circuit breakers are built to meet requirements of NEMA Standard AB-1-1975.

Ordering Information

AB De-ion® circuit breakers are to be ordered as follows:

Fixed Trip Breakers

Order complete breaker or complete breaker less terminals plus required terminals.

Interchangeable Trip Breakers

Order frame, trip unit and terminals.

When Ordering, Specify:

Catalog Number or Style Number, Quantity

List Prices

To obtain list price of breakers, modifications and accessories, locate style or catalog number from appropriate page of Technical Data and refer to Price List 29-020.

Where mounting hardware is desired, specify quantity and style number. No charge when ordered with complete breaker.

If breakers are to be modified, order "similar to" a standard catalog number, and describe the special features desired.

Available accessories are listed beginning on page 49. In some cases, accessories are listed for sale in quantity lots. In these instances, order item in quantity lots indicated.

Minimum Quantities: For a basic part or common part as shown on individual breaker pages, minimum ordering quantities are listed.

Molded Case Switches (Non-Automatic Breakers)

Due to an Underwriters' Laboratories, Inc. directive, breakers formerly identified as non-automatic are now called Molded Case Switches (MCS). All breakers formerly identified by NA, Non-auto or Non-Automatic in selection tables, now have the letters MCS after the continuous ampere rating or under Magnetic Trip Setting.

Panelboard Connecting Straps

Conditions: The purchaser does not automatically secure Underwriters' approval simply by incorporating these parts into his panelboards. Underwriters' Laboratories, Inc. list certain requirements that the manufacturers' product must meet; therefore, separate approval must be obtained. However, these panelboard parts are adequate to meet Underwriters' specifications as component

parts, and if properly used with Westinghouse AB De-ion circuit breakers, will enable the user to maintain Underwriters' Laboratories standards. These panelboard parts are available to original equipment manufacturers only. They are not for use as replacement parts.

Replacement parts for Westinghouse panelboards should be selected and ordered from Renewal Parts Price List 120 or negotiated with Distribution Equipment Division, St. Louis, Missouri.

Further Information

AB De-ion® Circuit Breakers

Price List 29-020
Descriptive Bulletin 29-150
Application Data 29-160
Dimension Sheet 29-170

Obsolete Breaker Guide

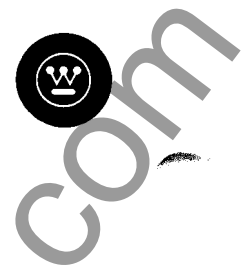
Listed below is a tabulation of AB De-ion® circuit breakers made obsolete by the development of a full range of modern, electrically equivalent breakers. These obsolete breakers are not available and are listed only as a guide to the equivalent modern breaker.

Obsolete Breakers		Equivalent Modern Replacement Breakers		29-120 Page
Frame	Amperes	Frame		
QCC	125- 225	CA	17	
EA	5- 100	EB	19	
E	5- 100	EB	19	
EH	10- 100	EHB	19	
F	5- 100	FB	19	
FA	10- 150	FB	19	
G	40- 100	FB	19	
J	80- 225	JB	21	
JK	70- 225	KB	22	
K	70- 225	KB	22	
KL	125- 400	LB	24	
LM	600	MA	44	
LM	800	MA	44	
LM	1000	NB	45	
LM	1200	NB	45	
HF	15- 50	HFB	19	
HF	70- 100	HFB	19	
HFA	10- 150	HFB	19	
HK	70- 225	HKB	22	
HKL	125- 400	HLB	24	
HLM	125- 600	HMA	44	
HLM	700- 800	HMA	44	
HLM	900-1200	HNB	45	
TRI-PAC® F	15- 100	TRI-PAC FB	35	
TRI-PAC FA	15- 100	TRI-PAC FB	35	
TRI-PAC K	70- 225	TRI-PAC LA	36	
TRI-PAC KL	125- 400	TRI-PAC LA	36	
TRI-PAC L	125- 600	TRI-PAC NB	37	
P1	10- 50	Quicklag® C	①	
PT	10- 50	ALB-1 (Ref. TD 29-220)		

Index Breaker		Page Numbers	
		Selection Guide	Ordering Data
Standard Breakers			
100 and 150 Amperes			
Quicklag HQP, QC		2	12
Quicklag QPHW, QBHW, QCHW		2	14
Quicklag QHPX, HBAX, QHCX		2	15
Quicklag Grd. Fault Type BA, BAB		2	16
Type EB, EHB, FB		3	18
Type LC		3	19
		4	27
225 Amperes			
Type CA, CAH, HCA		2	17
Type JA, KA		8	39,40
250 Amperes			
Type JB, KB		3	21,22
300 Amperes			
Type LC		4	27
400 Amperes			
Type DA		3	17
Type LBB, LB		4	23,24
Type LAB, LA		8	41,42
600 Amperes			
Type LA		4	26
Type LC		4	27
800 Amperes			
Type MA		8	44
Type MC		4	29
1200 Amperes			
Type NB		8	45
Type NC		4	30
2500 Amperes®			
Type PB		8	47
3000 Amperes®			
Type PC, PCC		4	31
MARK 75® Breakers			
30 Amperes			
Quicklag QHPW, QHCW		5	12
Type HBA		5	18
150 Amperes			
Type HFB		5	19
Type HLC		4	27
225 Amperes			
Type HKA		9	40
250 Amperes			
Type HKB		5	22
300 Amperes			
Type HLC		4	27
400 and 600 Amperes			
Type HLB		5	24
Type HLA400		9	42
Type HLA600		6	26
Type HLC		6	27
800 Amperes			
Type HMA		9	44
Type HMC		6	29
1200 Amperes			
Type HNB		9	45
Type HNC		6	30
Current Limit-R-Breakers			
FCL		7	33
LCL		7	34
TRI-PAC® Breakers			
100 Amp. Type FB		7	35
400 Amp. Type LA		7	36
800 Amp. Type NB		7	37
1600 Amp. Type PB		7	38
Modifications Accessories, Motor Operators		49-58	49-58

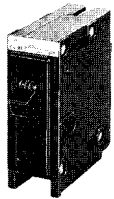
① Shock Tested type.

® Changed since previous issue.



Standard Breaker Selection Guide

HQP, QPHW, QHPX



1, 2, 3 Poles
10-125 Amps
@40°C

QBHW, HBAX



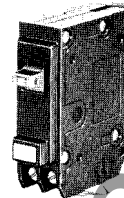
1, 2, 3 Poles
10-100 Amps
@40°C

QC, QCHW, QHCX



1, 2, 3 Poles
10-100 Amps
@40°C

Quicklag® Ground Fault



1, 2 Poles
15-30 Amps
@40°C

CA, CAH, HCA



2, 3 Poles
125-225 Amps
@40°C

Dimensions, Inches, 3 Pole Breakers

H	W	D	H	W	D	H	W	D	H	W	D	H	W	D
2 ¹⁵ / ₁₆	3	2 ³ / ₈	2 ⁵ / ₁₆	3	2 ³ / ₈	3 ³ / ₄	3	2 ⁷ / ₁₆	3 ³ / ₁₆	1 (One Pole)	2 ³ / ₈	6 ¹ / ₂	4 ¹ / ₈	2 ¹¹ / ₁₆

Ac Ratings I.C. Ratings Shown 10,000 are Symmetrical ①; Ratings Shown 10,000 are Asymmetrical

120/240, 240 Volts Max. Amps I. C. 120/240 Volts: 10,000, 25,000 and 50,000 120/240 Volts: 10,000, 22,000 and 42,000 240 Volts: 10,000 and 10,000, 25,000 and 22,000 or 50,000 and 42,000	120/240, 240 Volts Max. Amps I. C. 120/240 Volts: 25,000 and 50,000 120/240 Volts: 22,000 and 42,000 240 Volts: 25,000 and 50,000 22,000 and 42,000	120/240, 240 Volts Max. Amps I. C. 120/240 Volts: 10,000, 25,000 and 50,000 120/240 Volts: 10,000, 22,000 and 42,000 240 Volts: 10,000 and 10,000, 25,000 and 22,000 or 50,000 and 42,000	120/240 Volts Max. Amps I. C. 120 Volts 10,000 and 25,000 120 Volts 10,000 and 22,000 120/240 Volts: 10,000 and 10,000	240 Volts Max. Amps I. C. CA: 10,000 and 10,000 CAH: 25,000 and 22,000 HCA: 50,000 and 42,000
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Dc Rating ①

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Accessories and Modifications See Pages 49-58 for Description and Underwriters' Laboratories, Inc. Status

Moisture-Fungus Treatment Handle Lock Device	Moisture-Fungus Treatment Handle Lock Devices	Moisture-Fungus Treatment Handle Lock Devices	Moisture-Fungus Treatment	Moisture-Fungus Treatment Handle Lock Devices
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① Underwriters' Laboratories, Inc. listed.



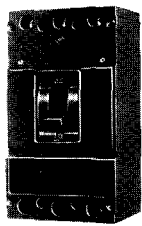
October, 1981
 Supersedes Technical Data 29-120 T WE A,
 pages 3-4, dated April, 1980.
 Mailed to: E, D, C/1901, 1903, 1928/PL

For Lighting, Distribution and Power Circuits

AB DE-ION® Circuit Breakers

Standard Breaker Selection Guide

DA



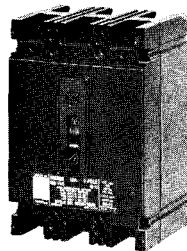
2, 3 Poles^①
 250-400 Amps
 @40°C

BA, BAB



1, 2, 3 Poles
 15-100 Amps
 @40°C

EB



1, 2, 3 Poles
 15-100 Amps
 @40°C

EHB



1, 2, 3 Poles
 15-100 Amps
 @40°C

FB



2, 3 Poles
 15-150 Amps
 @40°C

JB, KB



2, 3 Poles^①
 70-250 Amps
 @40°C

Dimensions, Inches, 3 Pole Breakers

H	W	D	H	W	D	H	W	D	H	W	D	H	W	D
10 ³ / ₈	5 ¹ / ₂	4 ¹ / ₁₆	3	3	2 ³ / ₈	6	4 ¹ / ₈	3 ³ / ₈	6	4 ¹ / ₈	3 ³ / ₈	6	4 ¹ / ₈	3 ³ / ₈

Ac Ratings I. C. Ratings Shown 18,000 are Symmetrical^②; Ratings Shown 20,000 are Asymmetrical

240 Volts Max. Amps I. C. 25,000 and 22,000	120/240, 240, 277 Volts Max. Amps I. C. 120/240 Volts: 10,000 and 10,000 240 Volts: 10,000 and 10,000 277 Volts: 10,000 and 10,000	120, 240 Volts Max. Amps I. C. 120 Volts: 10,000 and 10,000 240 Volts: 10,000 and 10,000	277, 480 Volts Max. Amps I. C. 240 Volts: 20,000 and 18,000 480 Volts: 15,000 and 14,000 277 Volts: 15,000 and 14,000	600 Volts Max. Amps I. C. 240 Volts: 20,000 and 18,000 480 Volts: 15,000 and 14,000 600 Volts: 15,000 and 14,000	600 Volts Max. Amps I. C. 240 Volts: 30,000 and 25,000 480 Volts: 25,000 and 22,000 600 Volts: 15,000 ^③ and 14,000 ^③

Dc Ratings^②

250 Volts 10,000 Amps I. C.	125, 125/250 Volts 5,000 Amps I. C.	125, 250 Volts 10,000 Amps I. C.	250 Volts 10,000 Amps I. C.	250 Volts 10,000 Amps I. C.
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Accessories and Modifications See Pages 49-58 for Description and Underwriters' Laboratories, Inc. Status

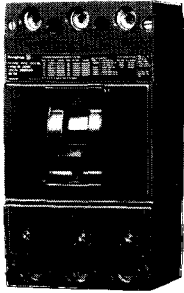
DA	BA, BAB	EB	EHB	FB	JB, KB
Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Center Studs Rear Connecting Studs Ground Current Limiter Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech. Parallel Connections Handle Lock Devices	Moisture-Fungus Treatment Handle Lock Devices	Shunt Trip Auxiliary Switch Mechanical Interlock Center Studs Rear Connecting Studs Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech. Parallel Connections Handle Lock Devices Undervoltage Trip Alarm Switch	Shunt Trip Auxiliary Switch Alarm Switch Mechanical Interlock Center Studs Rear Connecting Studs Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech. Parallel Connections Handle Lock Devices Undervoltage Trip	Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Center Studs Field Discharge Contact Center Studs Rear Connecting Studs Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech. Parallel Connections Handle Lock Devices	Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Center Studs Rear Connecting Studs Ground Current Limiter Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech. Parallel Connections Handle Lock Devices

① Not Underwriters' Laboratories, Inc. listed.
 ② Underwriters' Laboratories, Inc. listed.
 ③ 2-pole unit supplied in 3-pole frame.
 ④ Changed since previous issue.



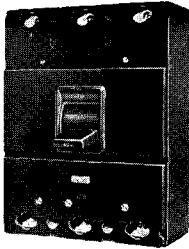
Standard Breaker Selection Guide

LB, LBB



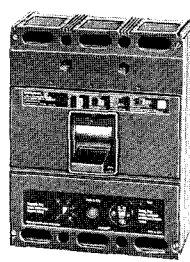
2, 3 Pole^②
70-400 Amps
@40°C

LA 600



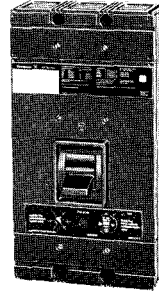
2, 3 Poles^②
250-600 Amps
@40°C

LC



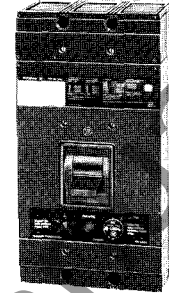
2, 3 Poles^②
75-600 Amps

MC



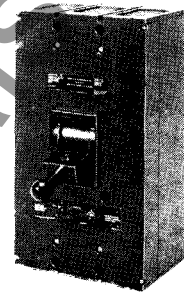
2, 3 Poles^②
400-800 Amps

NC



2, 3 Poles^②
800-1200 Amps

PC, PCC



2, 3 Poles^②
1000-3000 Amps

Dimensions, Inches, 3-Pole Breakers

H	W	D	H	W	D	H	W	D	H	W	D	H	W	D
10 ³ / ₈	5 ¹ / ₂	4 ¹ / ₁₆	10 ³ / ₈	8 ¹ / ₄	4 ¹ / ₁₆	10 ³ / ₈	8 ¹ / ₄	4 ¹ / ₁₆	16	8 ¹ / ₄	4 ¹ / ₁₆	16	8 ¹ / ₄	5 ¹ / ₂

Ac Ratings I. C. Ratings Shown **42,000** are **Symmetrical** ①; Ratings Shown 50,000 are Asymmetrical

600 Volts Max. Amps I. C. 240 Volts: 50,000 and 42,000 480 Volts: 35,000 and 30,000 600 Volts: 25,000 and 22,000	600 Volts Max. Amps I. C. 240 Volts: 50,000 and 42,000 480 Volts: 35,000 and 30,000 600 Volts: 25,000 and 22,000	600 Volts Max. Amps I. C. 240 Volts: 50,000 and 42,000 480 Volts: 35,000 and 30,000 600 Volts: 25,000 and 22,000	600 Volts Max. Amps I. C. 240 Volts: 50,000 and 42,000 480 Volts: 35,000 and 30,000 600 Volts: 25,000 and 22,000	600 Volts Max. Amps I. C. 240 Volts: 50,000 and 42,000 480 Volts: 35,000 and 30,000 600 Volts: 25,000 and 22,000	600 Volts Max. Amps I. C. 240 Volts: 150,000 and 125,000 480 Volts: 115,000 and 100,000 600 Volts: 115,000 and 100,000
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Dc Ratings ①

250 Volts 20,000 Amps I. C. ③	250 Volts 20,000 Amps I. C. ③
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Accessories and Modifications See Pages 49-58 for Description and Underwriters' Laboratories, Inc. Status

Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Center Studs Rear Connecting Studs Ground Current Limiter Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech. Parallel Connections Handle Lock Devices	Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Center Studs Rear Connecting Studs Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech. Handle Lock Devices	Shunt Trip Auxiliary Switch Alarm Switch Mechanical Interlock Rear Connecting Studs Moisture-Fungus Treatment Enclosure Handle Mech.	Shunt Trip Auxiliary Switch Alarm Switch Mechanical Interlock Rear Connecting Studs Moisture-Fungus Treatment Enclosure Handle Mech.	Shunt Trip Auxiliary Switch Alarm Switch Mechanical Interlock Rear Connecting Studs Moisture-Fungus Treatment Enclosure Handle Mech.	Drawout Frame Shunt Trip Auxiliary Switch Alarm Switch Mechanical Interlock Center Studs Rear Connecting Studs Moisture-Fungus Treatment Enclosure Handle Mech.
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① Underwriters' Laboratories, Inc. listed.
② 2-Pole Unit supplied in 3-pole frame.
③ Ratings above 10,000 amps not UL Listed.

Printed in USA

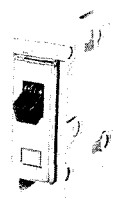


April, 1980
 Supersedes Technical Data 29-120 T WE A,
 pages 5-6, dated October, 1975.
 Mailed to: E, D, C/1901, 1903, 1928/PL

AB DE-ION® Circuit Breakers

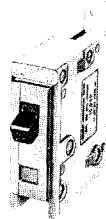
High Interrupting Capacity Breaker Selection Guide

MARK 75®
 Type QHPW



1, 2 Poles
 15-30 Amps;
 3 Poles,
 15-20 Amps
 @40°C

MARK 75®
 Type HBAW



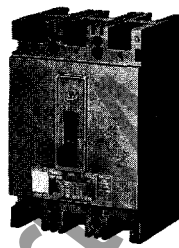
1, 2 Poles
 15-30 Amps;
 3 Poles
 15-20 Amps
 @40°C

MARK 75®
 Type QHCW



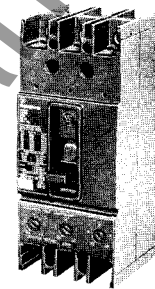
1, 2 Poles
 15-30 Amps;
 3 Poles
 15-20 Amps
 @40°C

MARK 75® HFB



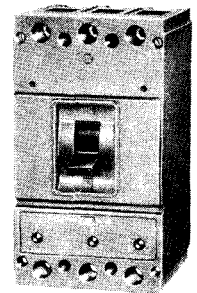
1, 2, 3 Poles^②
 15-150 Amps
 @40°C

MARK 75® HKB



2, 3 Poles^②
 70-250 Amps
 @40°C

MARK 75® HLB



2, 3 Poles^②
 125-400 Amps
 @40°C

Dimensions, Inches, 3 Pole Breakers

H W D
 2¹⁵/₁₆ 1(1 2⁷/₁₆
 pole)

H W D
 2¹⁵/₁₆ 1(1 2⁷/₁₆
 pole)

H W D
 3³/₄ 1(1 2⁷/₁₆
 pole)

H W D
 6 4⁷/₈ 3³/₈

H W D
 10 4⁷/₈ 4¹/₁₆

H W D
 10⁷/₈ 5¹/₂ 4¹/₁₆

Ac Rating I. C. Ratings Shown 65,000 are Symmetrical ^①; Ratings Shown 75,000 are Asymmetrical

120/240 Volts Max.
 Amps I. C.
 75,000 and 65,000

120/240 Volts Max.
 Amps I. C.
 75,000 and 65,000

120/240 Volts Max.
 Amps I. C.
 75,000 and 65,000

600 Volts Max.
 Amps I. C.
 240 Volts:
 75,000 and 65,000
 480 Volts:
 30,000 and 25,000
 600 Volts:
 20,000 and 18,000

600 Volts Max.
 Amps I. C.
 240 Volts:
 75,000 and 65,000
 480 Volts:
 30,000 and 25,000
 600 Volts:
 20,000 and 18,000

600 Volts Max.
 Amps I. C.
 240 Volts:
 75,000 and 65,000
 480 Volts:
 40,000 and 35,000
 600 Volts:
 30,000 and 25,000

Dc Ratings^①

.....

.....

.....

250 Volts
 20,000 Amps I. C. ^③

250 Volts
 20,000 Amps I. C. ^③

250 Volts
 20,000 Amps I. C. ^③

Accessories and Modifications. See Pages 49-58 for Description and Underwriters' Laboratories, Inc. Status.)

Moisture-Fungus
 Treatment
 Handle Lock Devices

Moisture-Fungus
 Treatment
 Handle Lock Devices

Moisture-Fungus
 Treatment
 Handle Lock Devices

Shunt Trip
 Undervoltage Trip
 Auxiliary Switch
 Alarm Switch
 Mechanical Interlock
 Center Studs
 Rear Connecting Studs
 Moisture-Fungus
 Treatment
 Motor Operator
 Enclosure Handle Mech.
 Parallel Connections
 Handle Lock Devices

Shunt Trip
 Undervoltage Trip
 Auxiliary Switch
 Alarm Switch
 Mechanical Interlock
 Center Studs
 Rear Connecting Studs
 Ground Current Limiter
 Moisture-Fungus
 Treatment
 Motor Operator
 Enclosure Handle Mech.
 Parallel Connections
 Handle Lock Devices

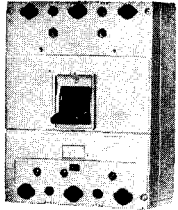
Shunt Trip
 Undervoltage Trip
 Auxiliary Switch
 Alarm Switch
 Mechanical Interlock
 Center Studs
 Rear Connecting Studs
 Ground Current Limiter
 Moisture-Fungus
 Treatment
 Motor Operator
 Enclosure Handle Mech.
 Parallel Connections
 Handle Lock Devices

^① Underwriters' Laboratories, Inc. listed.
^② 2-pole unit supplied in 3-pole frame.
^③ Ratings above 10,000 amps not UL Listed.

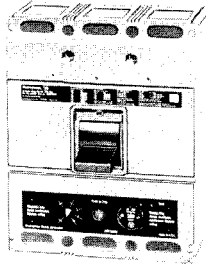


High Interrupting Capacity Breaker Selection Guide

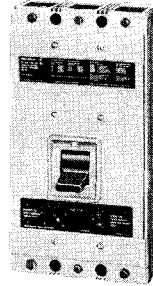
**MARK 75® HLA
600**



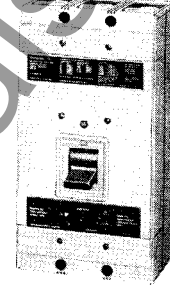
MARK 75® HLC



MARK 75® HMC



MARK 75® HNC



**2, 3 Poles^②
250-600 Amps
@40°C**

**2, 3 Poles^②
75-600 Amps**

**2, 3 Poles^②
400-800 Amps**

**2, 3 Poles^②
800-1200 Amps**

Dimensions, Inches, 3 Pole Breakers

H	W	D	H	W	D	H	W	D	H	W	D
10¾	8¼	4½	10¾	8¼	4½	16	8¼	4½	16	8¼	5½

Ac Ratings I. C. Ratings Shown **65,000** are **Symmetrical^①**; Ratings Shown 75,000 are Asymmetrical

600 Volts Max. Amps I. C. 240 Volts: 75,000 and 65,000 480 Volts: 40,000 and 35,000 600 Volts: 30,000 and 25,000	600 Volts Max. Amps I. C. 240 Volts: 75,000 and 65,000 480 Volts: 40,000 and 35,000 600 Volts: 30,000 and 25,000	600 Volts Max. Amps I. C. 240 Volts: 75,000 and 65,000 480 Volts: 58,000 and 50,000 600 Volts: 30,000 and 25,000	600 Volts Max. Amps I. C. 240 Volts: 75,000 and 65,000 480 Volts: 58,000 and 50,000 600 Volts: 30,000 and 25,000
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Dc Ratings^①

250 Volts 20,000 Amps I. C. ^③
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Accessories and Modifications, See Pages 49-58 for Description and Underwriters' Laboratories, Inc. Status

Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Center Studs Rear Connecting Studs Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech. Parallel Connections Handle Lock Devices	Shunt Trip Auxiliary Switch Alarm Switch Mechanical Interlock Rear Connecting Studs Moisture-Fungus Treatment Enclosure Handle Mech. Handle Lock Devices	Shunt Trip Auxiliary Switch Alarm Switch Mechanical Interlock Moisture-Fungus Treatment Enclosure Handle Mech. Rear Connecting Studs	Shunt Trip Auxiliary Switch Alarm Switch Mechanical Interlock Rear Connecting Studs Moisture-Fungus Treatment Enclosure Handle Mech.
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① Underwriters' Laboratories, Inc. listed.
② 2-pole unit supplied in 3-pole frame.
③ Ratings above 10,000 amps not UL Listed.

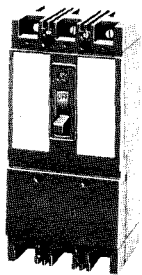


October, 1981
 Supersedes Technical Data 29-120 T WE A,
 pages 7-8, dated April, 1980.
 Mailed to: E, D, C/1901, 1903, 1928/PL

AB DE-ION® Circuit Breakers

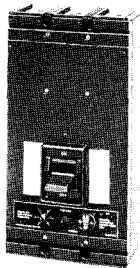
High Interrupting Capacity Selection Guide

FCL
 Current Limit-R



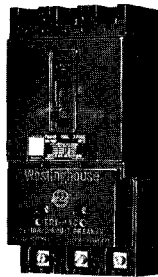
2, 3 Poles^②
 15-100 Amps
 @40°C

LCL
 Current Limit-R



2, 3 Poles^②
 125-400 Amps

TRI-PAC® FB



2, 3 Poles^②
 15-100 Amps
 @40°C

TRI-PAC® LA



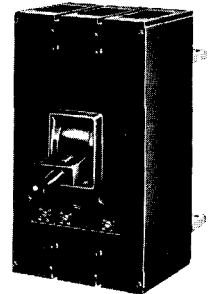
2, 3 Poles^②
 70-400 Amps
 @40°C

TRI-PAC® NB



2, 3 Poles^②
 300-800 Amps^⑤
 @40°C

TRI-PAC PB



2, 3 Poles^②
 600-1600 Amps
 @40°C

Dimensions, Inches, 3 Pole Breakers

FCL			LCL			TRI-PAC FB			TRI-PAC LA			TRI-PAC NB			TRI-PAC PB		
H	W	D	H	W	D	H	W	D	H	W	D	H	W	D	H	W	D
8¾	4¼	3¾	16	8¼	4 1/16	8¾	4¼	3 1/2	16	8¼	4¾	22	8¼	5 1/2	22 1/8	12 1/16	9 1/16

Ac Rating I. C. Ratings Shown **65,000** are **Symmetrical**^①; Ratings Shown 75,000 are Asymmetrical

FCL	LCL	TRI-PAC FB	TRI-PAC LA	TRI-PAC NB	TRI-PAC PB
480 Volts Max. Amps I. C. 240 Volts: 200,000 480 Volts: 150,000	480 Volts Max. Amps I. C. 240 Volts: 200,000 480 Volts: 200,000	600 Volts Max. Amps I. C. 240 Volts: 200,000 480 Volts: 200,000 600 Volts: 200,000	600 Volts Max. Amps I. C. 240 Volts: 200,000 480 Volts: 200,000 600 Volts: 200,000	600 Volts Max. Amps I. C. 240 Volts: 200,000 480 Volts: 200,000 600 Volts: 200,000	600 Volts Max. Amps I. C. 240 Volts: 200,000 480 Volts: 200,000 600 Volts: 200,000

Dc Ratings^①

.....	250 Volts 100,000 Amps I. C. ^③	250 Volts 100,000 Amps I. C. ^③	250 Volts ^⑤ 100,000 Amps I. C. ^⑤	250 Volts ^④ 100,000 Amps I. C. ^④
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Accessories and Modifications, See Pages 49-58 for Description and Underwriters' Laboratories, Inc. Status

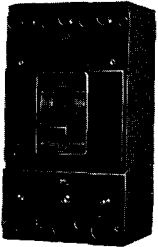
FCL	LCL	TRI-PAC FB	TRI-PAC LA	TRI-PAC NB	TRI-PAC PB
Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Moisture-Fungus Treatment Motor Operator	Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Moisture-Fungus Treatment Motor Operator	Shunt Trip Undervoltage Trip Auxiliary Switch Mechanical Interlock Rear Connecting Studs Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech. Handle Lock Devices	Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Rear Connecting Studs Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech. Handle Lock Devices	Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Rear Connecting Studs Moisture-Fungus Treatment Motor Operator	Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Moisture-Fungus Treatment Motor Operator

① Underwriters' Laboratories, Inc. listed.
 ② 2-pole unit supplied in 3-pole frame.
 ③ Based on NEMA test procedures.
 ④ Dc rating applies only to magnetic only breakers.
 ⑤ For ratings above 350 amps, Dc rating applies only to magnetic only breakers.



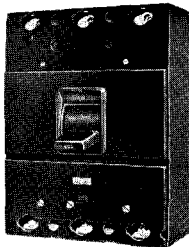
Replacement Breaker Selection Guide

JA, KA



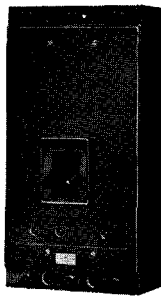
2, 3 Poles^②
70-225 Amps
@40°C

LAB, LA 400



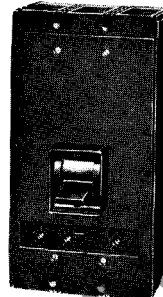
2, 3 Poles^②
125-400 Amps
@40°C

MA



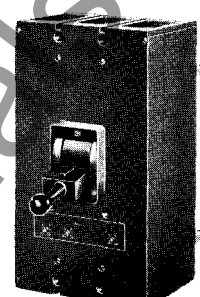
2, 3 Poles^②
125-800 Amps
@40°C

NB



2, 3 Poles^②
700-1200 Amps
@40°C

PB



2, 3 Poles^②
600-2500 Amps^⑥
@40°C

Dimensions, Inches, 3 Pole Breakers

H	W	D	H	W	D	H	W	D	H	W	D	H	W	D
10 ¹ / ₈	5 ¹ / ₂	4 ¹ / ₁₆	10 ³ / ₈	8 ³ / ₈	4 ¹ / ₁₆	16	8 ³ / ₈	4 ¹ / ₁₆	16	8 ³ / ₈	5 ¹ / ₂	22 ¹ / ₈	12 ¹ / ₁₆	9 ¹ / ₁₆

AC Rating I. C. Ratings Shown 25,000 are Symmetrical^③; Ratings Shown 30,000 are Asymmetrical.

600 Volts Max. Amps I. C. 240 Volts: 30,000 and 25,000 480 Volts: 25,000 and 22,000 600 Volts: 25,000 and 22,000	600 Volts Max. Amps I. C. 240 Volts: 50,000 and 42,000 480 Volts: 35,000 and 30,000 600 Volts: 25,000 and 22,000	600 Volts Max. Amps I. C. 240 Volts: 50,000 and 42,000 480 Volts: 35,000 and 30,000 600 Volts: 25,000 and 22,000	600 Volts Max. Amps I. C. 240 Volts: 50,000 and 42,000 480 Volts: 35,000 and 30,000 600 Volts: 25,000 and 22,000	600 Volts Max. Amps I. C. 240 Volts: 150,000 and 125,000 480 Volts: 115,000 and 100,000 600 Volts: 115,000 and 100,000
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Dc Rating^④

250 Volts 10,000 Amps I. C.	250 Volts 20,000 Amps I. C. ^⑤	250 Volts ^⑥ 20,000 Amps I. C. ^⑤	250 Volts ^⑥ 20,000 Amps I. C. ^⑤	250 Volts ^⑥ 75,000 Amps I. C. ^⑤ ④
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Accessories and Modifications, See Pages 49-58 for Description and Underwriters' Laboratories, Inc. Status

Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Center Studs Rear Connecting Studs Ground Current Limiter Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech. Parallel Connections Handle Lock Devices	Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Center Studs Rear Connecting Studs Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech. Handle Lock Devices	Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Center Studs Rear Connecting Studs Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech.	Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Center Studs Rear Connecting Studs Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech.	Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech.
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- ① Underwriters' Laboratories, Inc. listed
- ② 2-pole unit supplied in 3-pole frame.
- ③ Ratings above 10,000 amps not UL Listed.
- ④ Based on NEMA test procedures
- ⑤ Dc rating applies only to magnetic only breakers.
- ⑥ For ratings 700 amps and up, Dc Rating applies only to magnetic only breakers.
- ⑦ Changed since previous issue.

Westinghouse Electric Corporation
Low Voltage Breaker Division
Beaver, Pa. 15009

** 7 1/2 / 15 - 20000 available
as thermal-magnetic three
pole for 250V DC - 20000A 30
but must be checked
All have - (M) Acc. Dist. B91*

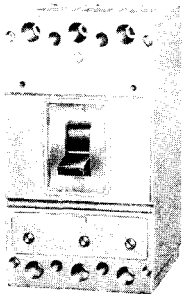


April, 1980
 Supersedes Technical Data 29-120 T WE A,
 Pages 9-10, dated October, 1975
 Mailed to: E, D, C/1901, 1903, 1928/PL

AB DE-ION® Circuit Breakers

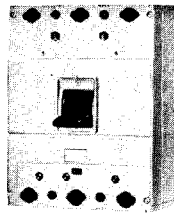
Replacement Breaker Selection Guide

MARK 75® HKA



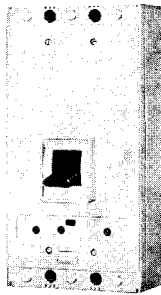
2, 3 Poles^②
 70-225 Amps
 @40°C

MARK 75® HLA 400



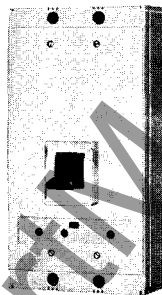
2, 3 Poles^②
 125-400 Amps
 @40°C

MARK 75® HMA



2, 3 Poles^②
 125-800 Amps
 @40°C

MARK 75® HNB



2, 3 Poles^②
 700-1200 Amps
 @40°C

Dimensions, Inches, 3 Pole Breakers

H	W	D	H	W	D	H	W	D	H	W	D
10 ¹ / ₈	5 ¹ / ₂	4 ¹ / ₁₆	10 ³ / ₄	8 ³ / ₄	4 ¹ / ₁₆	16	8 ³ / ₄	4 ¹ / ₁₆	16	8 ³ / ₄	5 ¹ / ₂

Ac Rating I. C. Ratings Shown 65,000 are Symmetrical ①; Ratings Shown 75,000 are Asymmetrical

600 Volts Max. Amps I. C.	600 Volts Max. Amps I. C.	600 Volts Max. Amps I. C.	600 Volts Max. Amps I. C.
240 Volts: 75,000 and 65,000	240 Volts: 75,000 and 65,000	240 Volts: 75,000 and 65,000	240 Volts: 75,000 and 65,000
480 Volts: 40,000 and 35,000	480 Volts: 40,000 and 35,000	480 Volts: 40,000 and 35,000	480 Volts: 40,000 and 35,000
600 Volts: 30,000 and 25,000	600 Volts: 30,000 and 25,000	600 Volts: 30,000 and 25,000	600 Volts: 30,000 and 25,000

Dc Ratings^①

250 Volts 20,000 Amps I. C. ③	250 Volts 20,000 Amps I. C. ③	250 Volts ^④ 20,000 Amps I. C. ③	250 Volts ^④ 20,000 Amps I. C. ③
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Accessories and Modifications, See Pages 49-58 for Description and Underwriters' Laboratories, Inc. Status

Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Center Studs Rear Connecting Studs Ground Current Limiter Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech. Parallel Connections Handle Lock Devices	Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Center Studs Rear Connecting Studs Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech. Parallel Connections Handle Lock Devices	Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Center Studs Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech.	Shunt Trip Undervoltage Trip Auxiliary Switch Alarm Switch Mechanical Interlock Center Studs Rear Connecting Studs Moisture-Fungus Treatment Motor Operator Enclosure Handle Mech.
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① Underwriters' Laboratories, Inc. listed.
 ② 2-pole unit supplied in 3-pole frame.
 ③ Ratings above 10,000 amps not UL Listed.
 ④ For ratings above 600 amps, Dc rating applies only to magnetic only breakers.



Guide to Quicklag® and Type BA Circuit Breaker Catalog Numbering System

Old System

Catalog Number: HQNP LA		1	070	B
Base	Variations	No. of Poles	Amp Rating	Modifications
HQNP: Type P, 10,000 Amps. I. C. QHP: Type P, 65,000 Amps. I. C. HQNB: Type B, 10,000 Amps. I. C. ① QHB: Type B, 65,000 Amps. I. C. ① HQC: Type C, 10,000 Amps. I.C. QHC: Type C, 65,000 Amps I.C.	L: 120/240 Volts A: Above 50 Amp. V: 50°C	1: 1 Pole 2: 2 Poles 3: 3 Poles	015=15 Amp. 025=25 Amp. 070=070 Amp. 100=100 Amp. Etc.	B: 2 Pole Sw. Neutral

New System

Catalog Number: HQP 1		070	V
Base	No. of Poles	Amp. Rating	Modifications
HQP: Type P 10,000 Amps. I. C. QPHW: Type P 22,000 Amps. I. C. QHPX: Type P 42,000 Amps. I. C. QHPW: Type P 65,000 Amps. I. C. BA: Type B 277 Volt or Switch Neutral Only, 10,000 Amps. I. C. BAB: Type B 10,000 Amps. I. C. QBHW: Type B 22,000 Amps. I. C. HBAX: Type B 42,000 Amps. I. C. HBAW: Type B 65,000 Amps. I. C. QC: Type C 10,000 Amps. I. C. QCHW: Type C 22,000 Amps. I. C. QHCX: Type C 42,000 Amps. I. C. QHCW: Type C 65,000 Amps. I. C.	1: 1 Pole 2: 2 Poles 3: 3 Poles	015: 15 Amps. 025: 25 Amps. 070: 70 Amps 100: 100 Amps Etc.	B: 277 Volt (1 Pole BA only) C: Sw. Neutral (2 Pole P and C only) C: Sw. Neutral (2 Pole BA only) H: 240 Volt (2, 3 Poles) V: 50°C

Guide to Breaker Catalog Numbering System (For Breakers other than Quicklag, Type BA and SELTRONIC®)

Catalog Number: EB 3		030	A
Breaker Type	No. of Poles	Trip Amp Rating	Modifications
CA DA EB EHB FB HFB etc.	1: 1 Pole 2: 2 Poles 3: 3 Poles 4: 4 Poles	Thermal Magnetic 030: 30 Amps. 100: 100 Amps. 1200: 1200 Amps. etc. Magnetic Only Use High Setting 022 045 110 190 270 480 etc.	A: Ambient Comp F: Frame Only L: Line and Load Lugs (EB, EHB, FB, HFB, FB, TRI-PAC®) M: Magnetic Only N: Molded Case Switch (Non-auto) P: TRI-PAC R: Used with P to indicate redesigned TRI-PAC (Types LA and PB) R: Used with FB magnetic only breakers and Type LFB current Limiters for FB breakers to indicate rejection feature. S: SAF-T-Vue® T: Trip Unit V: 50°C Calibration W: Without Terminals X: Load Terminals Only (except FB line listed under L above) Y: Line Terminals Only Z: Al/Cu Terminals

Note: Above information is for identification of Catalog Number only. Do not use to construct catalog number not listed in this catalog.

① Replaced by Types BAB or HBAW.



March, 1981
 Supersedes Technical Data 29-120,
 pages 11-12, dated June, 1980.
 Mailed to: E, D, C/1901, 1903, 1928/PL

Selection Guide
 Quicklag Types P, C, Standard
 and MARK 75® Breakers

AB DE-ION® Circuit Breakers

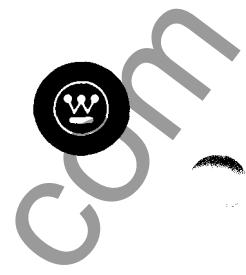
SELTRONIC™ Breaker Catalog Number System

Catalog Number: MC 3 800 F			
Frame Type	No. of Poles	Max. Frame Rating	Indicates Frame Only Without Rating Plug or Terminals
LC	2—2 Pole 3—3 Pole	800-800 Amps. 1200-1200 Amps. Etc.	NW Indicates Non Auto with dummy trip or straps and without terminals
MC			
NC			
PC			
PCF	Standard Breakers		
PCC			
PCCF			
HLC			
HMC			
HNC			
LCG		Breakers with Built in Ground Fault Protection and extra C.T. for neutral	
HLCG			
MCG			
HMCG			
NCG			
HNCG			
PCG			
PCFG			
PCCG			
PCCFG			

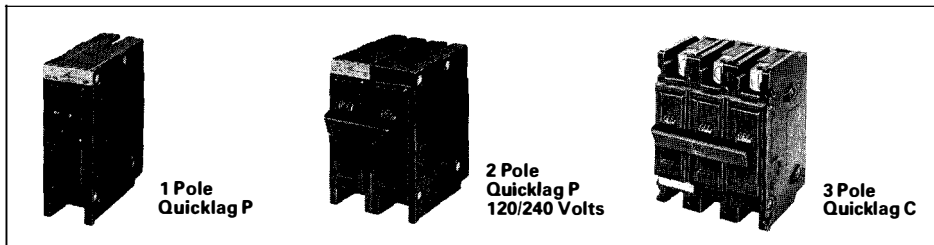
SELTRONIC™ Rating Plug Catalog Numbering System

Catalog Number: A 25 PC 2500						
Adjustable Plug	Max. Frame Rating (Amps)	Breaker Frame Type	Rating Plug Continuous Amp Rating			
Omit for standard plugs or for G.F. plugs.	1—150	LC (HLC)	75—75 Amp. 100—100 Amp. 600—600 Amp. 3000—3000 Amp. Etc.			
	3—300	MC (HMC)				
	6—600	NC (HNC)				
	8—800	PC (PCC)				
	12—1200	MCG (HMCG) NCG (HNCG) PCG (PCCG) LCG (HLCG)		Std.		
	20—2000					
	25—2500					
	30—3000					
						with Ground Fault

Note: Above information is for identification of Catalog Number only. Do not use to construct Catalog numbers not listed in this catalog.



Quicklag Type P, C Standard and MARK 75 Breakers
5-125 Amperes, 120/240 and 240 Volts Ac, 1, 2 and 3-Poles, 10,000 Ampere I. C.



Quicklag Type P and C breakers meet requirements of Federal Specification W-C-375b as follows.

Standard Breakers

1 Pole, 120/240 Volts: C1. 10a, 11a, 12a
2 Pole, 120/240 Volts: C1. 10a, 12a
2, 3 Poles, 240 Volts: C1. 10b, 11b, 12b

MARK 75 Breakers

1, 2 Poles, 120/240 Volts: C1. 15a
3 Poles, 240 Volts: C1. 15b

Selection Data Thermal Magnetic Breakers

Contin- uous Ampere Rating @40°C	Catalog Numbers		2 Pole ⁴		3 Pole ⁵	
	1 Pole ³		120/240 Volts Ac Max.		240 Volts Ac, Max.	
	Standard	MARK 75	Standard	MARK 75	Standard	MARK 75

Quicklag P Plug-in Breakers (Discount Symbol CB-1)

5 ² Ⓣ	HQP1005	.....	HQP2005	.....	HQP2010H ²	HQP3010H ²
10	HQP1010	.....	HQP2010	.....	HQP2015H	HQP3015H
15	HQP1015 ⁷	QHPW1015 ⁷	HQP2015 ⁸	QHPW2015	HQP2015H	HQP3015H
20	HQP1020 ⁷	QHPW1020 ⁷	HQP2020 ⁸	QHPW2020	HQP2020H	HQP3020H
25	HQP1025	.....	HQP2025 ⁸	.....	HQP2025H	HQP3025H
30	HQP1030	QHPW1030	HQP2030 ⁸	QHPW2030	HQP2030H	HQP3030H
35	HQP1035	.....	HQP2035 ⁸	.....	HQP2035H	HQP3035H
40	HQP1040	.....	HQP2040 ⁸	.....	HQP2040H	HQP3040H
45	HQP1045	.....	HQP2045 ⁸	.....	HQP2045H	HQP3045H
50	HQP1050	.....	HQP2050 ⁸	.....	HQP2050H	HQP3050H
55	HQP1055	.....	HQP2055 ⁸	.....	HQP2055H	HQP3055H
60	HQP1060	.....	HQP2060 ⁸	.....	HQP2060H	HQP3060H
70	HQP1070	.....	HQP2070	.....	HQP2070H	HQP3070H
80	.....	.....	HQP2080	.....	HQP2080H	HQP3080H
90	.....	.....	HQP2090	.....	HQP2090H	HQP3090H
100	.....	.....	HQP2100	.....	HQP2100H	HQP3100H
110	.....	.....	HQP2110	.....	.....	.....
125	.....	.....	HQP2125	.....	.....	.....

Quicklag C Bolt-on Breakers (Discount Symbol CB-2)

5 ² Ⓣ	QC1005	.....	QC2005	.....	.....	.....
10	QC1010	.....	QC2010	.....	QC2010H ²	QC3010H ²
15	QC1015 ⁷	QHCW1015 ⁷	QC2015 ⁸	QHCW2015	QC2015H	QC3015H
20	QC1020 ⁷	QHCW1020 ⁷	QC2020 ⁸	QHCW2020	QC2020H	QC3020H
25	QC1025	.....	QC2025 ⁸	.....	QC2025H	QC3025H
30	QC1030	QHCW1030	QC2030 ⁸	QHCW2030	QC2030H	QC3030H
35	QC1035	.....	QC2035 ⁸	.....	QC2035H	QC3035H
40	QC1040	.....	QC2040 ⁸	.....	QC2040H	QC3040H
45	QC1045	.....	QC2045 ⁸	.....	QC2045H	QC3045H
50	QC1050	.....	QC2050 ⁸	.....	QC2050H	QC3050H
55	QC1055	.....	QC2055 ⁸	.....	QC2055H	QC3055H
60	QC1060	.....	QC2060 ⁸	.....	QC2060H	QC3060H
70	QC1070	.....	QC2070	.....	QC2070H	QC3070H
80	.....	.....	QC2080	.....	QC2080H	QC3080H
90	.....	.....	QC2090	.....	QC2090H	QC3090H
100	.....	.....	QC2100	.....	QC2100H	QC3100H

Underwriters' Laboratories Inc. Listed Interrupting Ratings⁹:

Types P, C: 10,000 Amperes (Asym. or Sym.)
MARK 75 Types P, C: 75,000 Amps.
Asym., 65,000 Amps. Sym.

On all 3 phase Delta, Ground B phase applications, refer to Westinghouse.

Note: All two and three pole breakers are of the common trip type.

Special Purpose Breakers⁸

HID (High Intensity Discharge): Breakers designed specifically for use with high intensity discharge lighting (UL Listed as standard lighting breakers⁸).

Contin- uous Ampere Rating @ 40°C	Catalog Numbers	
	1 Pole 120/240 Volts Ac Max.	2 Pole 120/240 Volts Ac Max.

Quicklag P Plug-in Breakers (Discount Symbol CB-1)

15	HQP1015D ⁸	HQP2015D ⁸
20	HQP1020D ⁸	HQP2020D ⁸
25	HQP1025D ⁸	HQP2025D ⁸
30	HQP1030D ⁸	HQP2030D ⁸

Quicklag C Bolt-on Breakers (Discount Symbol CB-2)

15	QC1015D ⁸	QC2015D ⁸
20	QC1020D ⁸	QC2020D ⁸
25	QC1025D ⁸	QC2025D ⁸
30	QC1030D ⁸	QC2030D ⁸

HACR (Heating, Air Conditioning, Refrigeration):

Breakers for use on multi-motor loads as outlined in Article 430-53 of the N.E.C. (Used primarily on heating, air conditioning and refrigeration applications). The standard two pole breakers, 15 to 60 amp listed at left and marked ⁹, are UL Listed as suitable for this application. Special purpose QC, two pole 15-60 amp breakers with screw-type terminals listed on page 13 are also listed for this application.

List Prices: See Price List 29-020 Dis. CB-1, CB-2

- Ⓣ Changed since previous issue.
- Ⓢ Not listed with Underwriters' Laboratories, Inc.
- Ⓣ Packaged: 24 in single carton, 144 in master; approx. ship wt.: 7 lbs. and 46 lbs. respectively.
- Ⓣ Packaged: 12 in single carton, 72 in master; approx. ship wt.: 9 lbs. and 58 lbs. respectively.
- Ⓣ Packaged: 8 in single carton, 48 in master; approx. ship wt.: 9 lbs. and 58 lbs. respectively.
- Ⓢ Have reduced interrupting rating; refer to Westinghouse.
- Ⓢ Switching duty rated for 120 volt Ac fluorescent light applications only.
- Ⓢ Interrupting ratings do not apply to molded case switches.
- Ⓢ Suitable for "HACR" applications per N.E.C. 430-53. See Special Purpose Breakers.
- Ⓢ UL does not have a specific category for HID breakers.

Handwritten notes:
← 1500A, 100 @ 120V.
Quoted 9/15/04
22



March, 1981
 Supersedes Technical Data 29-120,
 pages 13-14, dated April, 1980.
 Mailed to: E, D, C/1901, 1903, 1928/PL

Quicklag® Breaker Types P, C 100 Amperes,
 MARK 75® Breakers 15-30 Amperes;
 Quicklag Breaker Types QPH, QBH, QCH
 15-125 Amperes, 22,000 Amperes I. C.

AB DE-ION® Circuit Breakers

3/20/84
code should be
68-18150 which
is of old style
RR

Quicklag® Type P, C Standard and MARK 75® Breakers, Continued

Special Quicklag Type P and C Breakers

See Application Data 29-160 or DB 29-150 for description and application.

Continuous Ampere Rating	Catalog/Style Numbers	
	Quicklag P CB-1 Disc.	Quicklag C CB-2 Disc.

Switching Neutral Breakersⓐ		
10	HQP2010Bⓐ	QC2010Bⓐ
15	HQP2015B	QC2015B
20	HQP2020B	QC2020B

Tungsten Lamp Load Breakers (1 Pole)
 Use standard QC or HQP 15 or 20 Amp Breakers

Shock Tested Quicklag C Breakers, 10,000 Amperes I.C.

Available in all standard rating Quicklag C and P 1, 2 and 3 pole breakers. Order "similar to" and add 30% to price of standard breaker.

Molded Case Switchesⓑ

Non-Auto Quicklag C Breakers - Dis. CB-2

No. of Poles	Ampere Rating	Max. Ac Volts	Catalog Number
1	50	120/240	QC1050N
1ⓐ	60	120/240	QC1060N
1	100	120/240	QC1100N
2	50	240	QC2050N
2ⓐ	60	240	QC2060N
2	100	240	QC2100N
3	50	240	QC3050N
3ⓐ	60	240	QC3060N
3	100	240	QC3100N

Non-Auto Quicklag P Breakers - Dis. CB-1

No. of Poles	Ampere Rating	Max. Ac Volts	Catalog Number
1	50	120/240	HQP1050N
1ⓐ	60	120/240	HQP1060N
1	100	120/240	HQP1100N
2	50	240	HQP2050N
2ⓐ	60	240	HQP2060N
2	100	240	HQP2100N
3	50	240	HQP3050N
3ⓐ	60	240	HQP3060N
3	100	240	HQP3100N

Panelboard Accessories

Description	Style Number
Number Tabs, 1-42, Gum-Backed	622B630H01
ON Button, Black on White	K-72641
OFF Button, Black on White	K-72642
Branch Breaker Connector Tube	K-82217

Breaker Accessoriesⓐ (See DB 29-150 for description.) Dis. CB-2

Description	Style Number
Dummy Breakers	
Quicklag P	2600D71G09
Quicklag C	2604D91G15
Moisture-Fungus Treatment	
1 Pole	
2 Pole	
3 Pole	
California Handle Tie (1 Pole Breakers only)	133A633G01
Lockdog (Non-Padlockable)	
1 Pole Breakers	1256C42G02
2, 3 Pole Breakers	1256C42G01
Padlock Device (Non-Removable per California Code)	
1, 2, 3 Pole Type P	1256C41G01
1, 2, 3 Pole Type C	750B211G01
Padlock Device (Removable)	
All 1 Pole Quicklag Breakers	208B831G02
Face Mounting Plate	
1 Pole Type C	1258C07G01
2 Pole Type C	1265C83G02
3 Pole Type C	1265C83G03
Base Mounting Clamp (Quicklag C - 2 required)	K82216
Base Mounting Plate (Quicklag C - 6 poles)	207B513G01

Special Calibrationⓐ

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hertz Ac circuits. See Application Data 29-160 for information regarding special conditions.

Type of Calibration	List Price Addition	
Identical Units	1-49	50 or More
	Identical Units	Identical Units
Thermal	Add 20% to	None
Magnetic	List Price of	None
Frequency	Complete Breaker	None

List Prices: See Price List 29-020, Dis. CB-1, CB-2

Special Breakers



Switching Neutral: For application in accordance with N. E. C. 514-5, 240-22 and 380-2. Availability: 2 poles 120 Volts Ac Max., 10,000 amps I.C.

Terminals

Terminals are Underwriters' Laboratories, Inc. listed as suitable for the wire type and size listed below. When used with aluminum conductors, use joint compound.

Type P: Terminals on load side only; line terminals are plug-in female clamps which clip on bus stab.

Type C: Terminals on line and load ends.

Breaker Amps	Terminal Type	Wire Range and Type
--------------	---------------	---------------------

Type P, 1, 2, 3 Pole		
10-30	Pressure Type	#14-#8 Cu/Al
35-50	Pressure Type	#14-#4 Cu/Al
55-125	Pressure Type	#8-1/0 Cu/Al

Type C, 1, 2, 3 Pole		
10-20	Binding Screw	#14-#10 Cu/Al
30	Pressure Type	#14-#8 Cu/Al
35-50	Pressure Type	#14-#4 Cu/Al
55-70	Pressure Type	#8-#2 Cu/Al
80-100	Pressure Type	#6-#1 Cu/Al

Type C Optional Terminalsⓐ

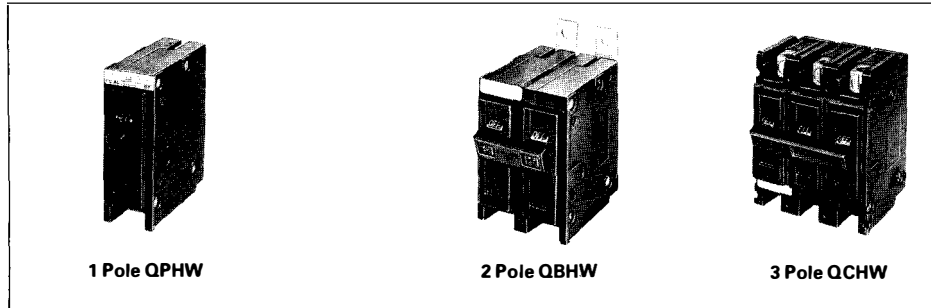
Special purpose breakers with screw-type terminals for ring type wire connectorsⓐ: 1 pole, 25 to 70 amp; 2, 3 pole, 25 to 100 amp

ⓐ Changed or added since previous issue.
 ⓑ Not Underwriters' Laboratories, Inc. listed.
 ⓐ I.C. ratings shown do not apply to molded case switches.
 ⓐ Order by description as similar to standard QC breakers at same price.



Type QPH, QBH and QCH Quicklag Breakers

15-125 Amperes, 120/240, 240 Volts Ac, 1, 2 and 3-Poles, 22,000 Ampere I. C.



These breakers meet requirements of Federal Specification W-C-375b as follows:
1, 2 Poles, 120/240 Volts: Class 14a
2, 3 Poles, 240 Volts: Not Defined

Underwriters' Laboratories, Inc. Listed Interrupting Ratings:
22,000 Sym., 25,000 Asym.

Listed with Underwriters' Laboratories, Inc. except as noted.

On all 3 phase Delta, Ground B phase applications, refer to Westinghouse.

Note: All two and three pole breakers are of the common trip type.

Continuous Amps. @ 40°C	Catalog Numbers		
	1 Pole ^③	2 Pole ^④	3 Pole ^⑤
	120/240 Volts Ac, Max.	120/240 Volts Ac, Max.	240 Volts Ac, Max.

Quicklag QPH Plug-in Breakers (Discount Symbol CB-1)

15	QPHW1015 ^⑥	QPHW2015	QPHW2015H	QPHW3015H
20	QPHW1020 ^⑥	QPHW2020	QPHW2020H	QPHW3020H
25	QPHW1025	QPHW2025	QPHW2025H	QPHW3025H
30	QPHW1030	QPHW2030	QPHW2030H	QPHW3030H
35	QPHW1035	QPHW2035	QPHW2035H	QPHW3035H
40	QPHW1040	QPHW2040	QPHW2040H	QPHW3040H
45	QPHW1045	QPHW2045	QPHW2045H	QPHW3045H
50	QPHW1050	QPHW2050	QPHW2050H	QPHW3050H
55	QPHW1055	QPHW2055	QPHW2055H	QPHW3055H
60	QPHW1060	QPHW2060	QPHW2060H	QPHW3060H
70	QPHW1070	QPHW2070	QPHW2070H	QPHW3070H
80	.....	QPHW2080	QPHW2080H	QPHW3080H
90	.....	QPHW2090	QPHW2090H	QPHW3090H
100	.....	QPHW2100	QPHW2100H	QPHW3100H
110	.....	QPHW2110	.....	.....
125	.....	QPHW2125	.....	.....

Terminals

Terminals are Underwriters' Laboratories, Inc. listed as suitable for the wire type and size listed below. When used with aluminum conductors, use joint compound.

QPH: Terminals on load side only; line terminals are plug-in female clamps which clip on bus stub.

QBH: Terminals on load side only; line terminals are extended tang which bolts directly to bus.

QCH: Terminals on line and load ends.

Quicklag QBH Bolt-on Breakers (Discount Symbol CB-2)

15	QBHW1015 ^⑥	QBHW2015	QBHW2015H	QBHW3015H
20	QBHW1020 ^⑥	QBHW2020	QBHW2020H	QBHW3020H
25	QBHW1025	QBHW2025	QBHW2025H	QBHW3025H
30	QBHW1030	QBHW2030	QBHW2030H	QBHW3030H
35	QBHW1035	QBHW2035	QBHW2035H	QBHW3035H
40	QBHW1040	QBHW2040	QBHW2040H	QBHW3040H
45	QBHW1045	QBHW2045	QBHW2045H	QBHW3045H
50	QBHW1050	QBHW2050	QBHW2050H	QBHW3050H
55	QBHW1055	QBHW2055	QBHW2055H	QBHW3055H
60	QBHW1060	QBHW2060	QBHW2060H	QBHW3060H
70	QBHW1070	QBHW2070	QBHW2070H	QBHW3070H
80	.....	QBHW2080	QBHW2080H	QBHW3080H
90	.....	QBHW2090	QBHW2090H	QBHW3090H
100	.....	QBHW2100	QBHW2100H	QBHW3100H
110	.....	QBHW2110	.....	.....
125	.....	QBHW2125	.....	.....

Breaker Amps	Terminal Type	Wire Range and Type
15-30	Pressure Type	#14-#8 Cu/Al
35-50	Pressure Type	#14-#4 Cu/Al
55-125	Pressure Type	#8-1/0 Cu/Al

Types QPHW and QBHW

15-30	Pressure Type	#14-#8 Cu/Al
35-50	Pressure Type	#14-#4 Cu/Al
55-125	Pressure Type	#8-1/0 Cu/Al

Type QCHW

10-20	Binding Screw	#14-#10 Cu/Al
30	Pressure Type	#14-#8 Cu/Al
35-50	Pressure Type	#14-#4 Cu/Al
55-70	Pressure Type	#8-#2 Cu/Al
80-100	Pressure Type	#6-#1 Cu/Al

Quicklag QCH Bolt-on Breakers (Discount Symbol CB-2)

15	QCHW1015 ^⑥	QCHW2015	QCHW2015H	QCHW3015H
20	QCHW1020 ^⑥	QCHW2020	QCHW2020H	QCHW3020H
25	QCHW1025	QCHW2025	QCHW2025H	QCHW3025H
30	QCHW1030	QCHW2030	QCHW2030H	QCHW3030H
35	QCHW1035	QCHW2035	QCHW2035H	QCHW3035H
40	QCHW1040	QCHW2040	QCHW2040H	QCHW3040H
45	QCHW1045	QCHW2045	QCHW2045H	QCHW3045H
50	QCHW1050	QCHW2050	QCHW2050H	QCHW3050H
55	QCHW1055	QCHW2055	QCHW2055H	QCHW3055H
60	QCHW1060	QCHW2060	QCHW2060H	QCHW3060H
70	QCHW1070	QCHW2070	QCHW2070H	QCHW3070H
80	.....	QCHW2080	QCHW2080H	QCHW3080H
90	.....	QCHW2090	QCHW2090H	QCHW3090H
100	.....	QCHW2100	QCHW2100H	QCHW3100H

For Special Calibrations and Accessories, see Page 16.

List Prices: See Price List 29-020, Dis. CB-1, CB-2

② Not listed with Underwriters' Laboratories, Inc.
③ Packaged: 24 in single carton, 144 in master; approx. ship wt.: 7 lbs. and 46 lbs. respectively.
④ Packaged: 12 in single carton, 72 in master; approx. ship wt.: 9 lbs. and 58 lbs. respectively.

⑤ Packaged: 8 in single carton, 48 in master; approx. ship wt.: 9 lbs. and 58 lbs. respectively.
⑥ Switching duty rated for 120 volt Ac fluorescent light applications only.



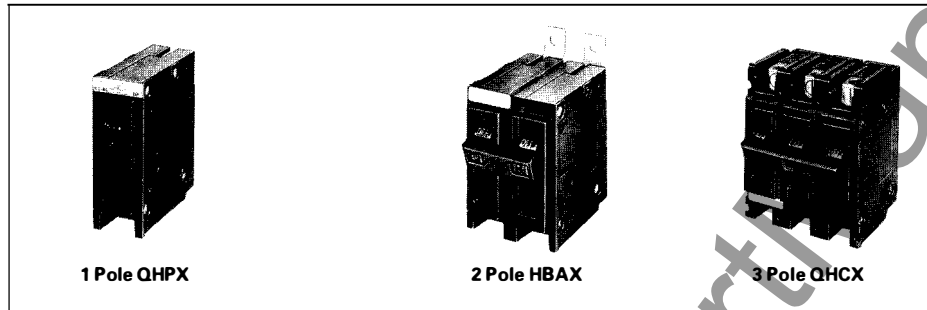
March, 1981
Supersedes Technical Data 29-120,
pages 15-16, dated April, 1980
Mailed to: E, D, C/1901, 1903, 1928/PL

Quicklag® Type QHPX, HBAX, QHCX,
100 Amperes, 42,000 Amperes I. C.
Quicklag Ground Fault Breakers,
Type P and B, 15-30 Amperes

AB DE-ION® Circuit Breakers

Type QHPX, HBAX, and QHCX Breakers

15-100 Amperes, 120/240, 240 Volts Ac, 1, 2 and 3-Poles, 42,000 Amperes I.C.



These breakers are not defined in Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings:
42,000 Sym.

Listed with Underwriters' Laboratories, Inc. except as noted.

On all 3 phase Delta, Ground B phase applications, refer to Westinghouse.

Note: All Two and Three pole breakers are of the common trip type.

Continuous Amps. @ 40°C	Catalog Numbers		
	1 Pole® 120/240 Volts Ac, Max.	2 Poles® 120/240 Volts Ac, Max.	3 Poles® 240 Volts Ac, Max.

Terminals

Terminals are Underwriters' Laboratories, Inc. listed as suitable for the wire type and size listed below. When used with aluminum conductors, use joint compound.

QHPX: Terminals on load side only; line terminals are plug-in female clamps which clip on bus stab.

HBAX: Terminals on load side only; line terminals are extended tang which bolts directly to bus.

QHCX: Terminals on line and load ends.

Type QHPX Plug-in Breakers (Discount Symbol CB-1)

15	QHPX1015®	QHPX2015	.....
20	QHPX1020®	QHPX2020	.....
25	QHPX1025	QHPX2025	.....
30	QHPX1030	QHPX2030	.....
35	QHPX1035	QHPX2035	.....
40	QHPX1040	QHPX2040	.....
45	QHPX1045	QHPX2045	.....
50	QHPX1050	QHPX2050	.....
55	QHPX1055	QHPX2055	.....
60	QHPX1060	QHPX2060	.....
70	QHPX1070	QHPX2070	.....
80	.....	QHPX2080	.....
90	.....	QHPX2090	.....
100	.....	QHPX2100	.....

Type HBAX Bolt-on Breakers (Discount Symbol CB-2)

15	HBAX1015®	HBAX2015	.....
20	HBAX1020®	HBAX2020	.....
25	HBAX1025	HBAX2025	.....
30	HBAX1030	HBAX2030	.....
35	HBAX1035	HBAX2035	.....
40	HBAX1040	HBAX2040	.....
45	HBAX1045	HBAX2045	.....
50	HBAX1050	HBAX2050	.....
55	HBAX1055	HBAX2055	.....
60	HBAX1060	HBAX2060	.....
70	HBAX1070	HBAX2070	.....
80	.....	HBAX2080	.....
90	.....	HBAX2090	.....
100	.....	HBAX2100	.....

Type QHCX Bolt-on Breakers (Discount Symbol CB-2)

15	QHCX1015®	QHCX2015	.....
20	QHCX1020®	QHCX2020	.....
25	QHCX1025	QHCX2025	.....
30	QHCX1030	QHCX2030	.....
35	QHCX1035	QHCX2035	.....
40	QHCX1040	QHCX2040	.....
45	QHCX1045	QHCX2045	.....
50	QHCX1050	QHCX2050	.....
55	QHCX1055	QHCX2055	.....
60	QHCX1060	QHCX2060	.....
70	QHCX1070	QHCX2070	.....
80	.....	QHCX2080	.....
90	.....	QHCX2090	.....
100	.....	QHCX2100	.....

QHCX3015H
QHCX3020H
QHCX3025H
QHCX3030H
QHCX3035H
QHCX3040H
QHCX3045H
QHCX3050H
QHCX3055H
QHCX3060H
QHCX3070H
QHCX3080H
QHCX3090H
QHCX3100H

Breaker Amps	Terminal Type	Wire Range and Type
Types QHPX and HBAX		
5-30	Pressure Type	#14-#8 Cu/Al
35-70	Pressure Type	#14-#4 Cu/Al
90-100	Pressure Type	#8-1/0 Cu/Al
Type QHCX		
10-20	Binding Screw	#14-#10 Cu/Al
30	Pressure Type	#14-#8 Cu/Al
35-50	Pressure Type	#14-#4 Cu/Al
55-70	Pressure Type	#8-#2 Cu/Al
80-100	Pressure Type	#6-#1 Cu/Al

For Special Calibrations and Accessories, see Page 16.

List Prices: See Price List 29-020, Dis. CB-1, CB-2

- ② Not listed with Underwriters' Laboratories, Inc.
- ③ Packaged: 24 in single carton, 144 in master; approx. ship wt.: 7 lbs. and 46lbs. respectively.
- ④ Packaged: 12 in single carton, 72 in master; approx. ship wt.: 9 lbs. and 58 lbs. respectively.
- ⑤ Packaged: 8 in single carton, 48 in master; approx. ship wt.: 9 lbs. and 58 lbs. respectively.
- ⑥ Switching duty rated for 120 volt Ac fluorescent light applications only.

No longer available as of 4/22/86 - see Pg. 205



Type QHPX, HBAX, QHCX Breakers, Continued

Special Calibration (Also applies to QPH, QBH, QCH Breakers)

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hertz Ac circuits. See Application Data 29-160 for information regarding special conditions.

Type of Calibration	List Price Addition (CB-2 Disc.)	
	1-49 Identical Units	50 or More Identical Units
Thermal	Add 20% to List Price of Complete Breaker	None
Magnetic		None
Frequency		None

Breaker Accessories (See DB 29-150 for Description)
(Apply to QPH, QHPX, QBH, HBAX, QCH and QHCX Breakers.)

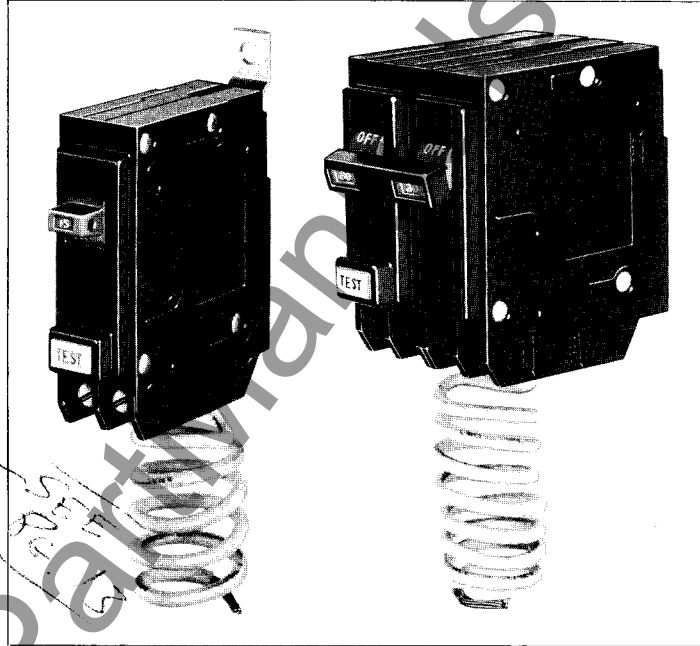
Description	Style Number
Dummy Breakers	
QPH, QHPX	2600D71G09
QBH, HBAX	2600D81G09
QCH, QHCX	2604D91G15
Moisture-Fungus Treatment - Refer to PL 29-020	
Handle Tie (1 Pole Only)	133A633G01
Lockdog (Non-Padlockable)	
1 Pole	1256C42G02
2, 3 Pole	1256C42G01
Padlock Attachment (Removable-1 pole Breakers Only)	208B831G02
Padlock Device (Non-removable per California Code)	
1, 2, 3 Pole Breakers - QPH, QBH, QHPX, HBAX	1256C41G01
1, 2, 3 Pole Breakers - QCH, QHCX	750B211G01
Face Mounting Plate (QCH, QHCX)	
1 Pole	1258C07G01
2 Poles	1265C83G02
3 Poles	1265C83G03
Base Mounting Clamp (QCH, QHCX - 2 Required)	K82216
Base Mounting Plate (QCH, QHCX - 6 Poles)	207B513G01

Panelboard Accessories

Description	Style Number
Number Tabs, 1-42, Gum-Backed	622B630H01
ON Button, Black on White	K-72641
OFF Button, Black on White	K-72642
Branch Breaker Connector Tube	K-82217

List Prices: See Price List 29-020, Dis. CB-2, CB-3

Quicklag Ground Fault Circuit Breakers,
Types P and B, 15-30 Amperes, 120 Volts Ac, 1 Pole;
15-30 Amperes, 120/240 Volts Ac, 2 Poles



Sensitivity: 5 Milliamps or greater.

Westinghouse Quicklag Ground Fault circuit breakers are UL listed as Class A, Group 1, ground fault circuit interrupters.

Quicklag Ground Fault circuit breakers are 1 or 2 pole, thermal magnetic circuit breakers, which incorporate a solid state ground fault sensing circuit to detect ground fault current. Available as plug-in (Type P) or bolt-on (Type B) design, they are interchangeable in load centers and panelboards with standard Westinghouse Type P plug-in, and Type B bolt-on Quicklag circuit breakers.

Quicklag Ground Fault circuit breakers are normally used in loadcenters or panelboards to protect small branch circuits in residential, commercial or industrial applications. They function to protect humans from ground faults of 5 milliamperes or greater, as well as normal circuit protection providing inverse time overload and instantaneous short circuit protection.

Typical applications include protection against ground fault hazards in circuits near swimming pools and outdoor receptacles for which the NEC requires protection of human life against ground faults. (Reference NEC articles 680-31, 680-20, 680-6, 555-3, and 210-8.)

Contin- uous Ampere Rating	Catalog Numbers		Catalog Numbers	
	1 Pole, 120 Volts		2 Poles, 120/240 Volts	
	Type P Plug-in	Type B Bolt-on	Type P Plug-in	Type B Bolt-on
10,000 Amperes I.C. (Discount Symbol CB-3)				
15	QPGF1015	QBGF1015	QPGF2015	QBGF2015
20	QPGF1020	QBGF1020	QPGF2020	QBGF2020
25	QPGF1025	QBGF1025	QPGF2025	QBGF2025
30	QPGF1030	QBGF1030	QPGF2030	QBGF2030
22,000 Amperes I.C. (Discount Symbol CB-3)				
15	QPHGF1015	QBHGF1015	.....	.....
20	QPHGF1020	QBHGF1020	.....	.....
25	QPHGF1025	QBHGF1025	.....	.....
30	QPHGF1030	QBHGF1030	.....	.....



June, 1987
 Supersedes Technical Data 29-120,
 pages 16.1-16.2, dated July, 1982
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

AB DE-ION[®] Circuit Breakers

Type GB and Type GHB Bolt-on Panelboard Circuit Breakers

15-100 Amperes, 120, 240, 277, 277/480
 Volts Ac, 1, 2, 3 Poles

These breakers meet the requirements of
 Federal Specification W-C-375b as follows:

- Types GB, GHB, 120 and 240 Volts:
 1 Pole: Class 11a
 2, 3 Poles: Classes 10b, 11b, 12b, 14b, 15b

Type GHB, 277 and 480Y/277 Volts

- 1 Pole: Classes 12c, 13a
 2, 3 Poles: Class 13b

Underwriters' Laboratories, Inc. Listed Interrupting Ratings

Type GB, GHB

- 1 Pole: 120 Volts Ac, 65,000 Amps. Sym.
 2, 3 Poles: 240 Volts Ac, 65,000 Amps.
 Sym.

Type GHB

- 1 Pole: 277 Volts Ac, 14,000 Amps. Sym.
 2, 3 Poles: 480Y/277 Volts Ac, 14,000
 Amps. Sym.

Listed with Underwriters' Laboratories, Inc.
 except as noted.

On all 3 phase Delta, Grounded B phase
 applications, refer to Westinghouse.

Note: All two and three pole breakers are of
 the common trip type.

Terminals

For load side only. Line side connection is
 extended tang which bolts directly to bus.
 Load terminals are U/L Listed as suitable for
 wire type and size listed below. When used
 with aluminum conductors, use joint com-
 pound.

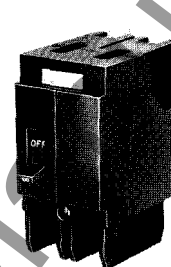
Breaker Amperes	Type Terminal	Wire Type	Wire Range
15-20	Clamp	Cu/Al	#14-#10
25-100	Pressure	Cu/Al	#10-1/0

List Prices: See Price List 29-020, Dis. CB-2

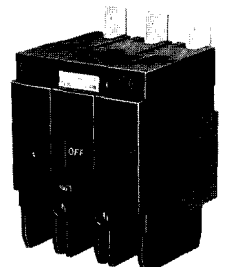
- ① 24 breakers in single carton; Approx. ship wt.:
 16 lbs.
 ② 12 breakers in single carton; Approx. ship wt.:
 16 lbs.
 ③ 8 breakers in single carton; Approx. ship wt.:
 16 lbs.
 ④ Switching duty rated for fluorescent light appli-
 cations only: GB, 120 volt Ac; GHB, 277 volt Ac.



1 Pole



2 Pole



3 Pole

Type GB Breakers

Contin- uous Ampere Rating @ 40°C	Catalog Numbers		
	1 Pole ^① 120 Volts Ac Max.	2 Pole ^② 240 Volts Ac Max.	3 Pole ^③ 240 Volts Ac Max.
15	GB1015 ^④	GB2015	GB3015
20	GB1020 ^④	GB2020	GB3020
25	GB1025	GB2025	GB3025
30	GB1030	GB2030	GB3030
35	GB1035	GB2035	GB3035
40	GB1040	GB2040	GB3040
50	GB1050	GB2050	GB3050
60	GB1060	GB2060	GB3060
70	GB1070	GB2070	GB3070
80	GB1080	GB2080	GB3080
90	GB1090	GB2090	GB3090
100	GB1100	GB2100	GB3100

Type GHB Breakers

Contin- uous Ampere Rating @ 40°C	Catalog Numbers		
	1 Pole ^① 277 Volts Ac Max.	2 Pole ^② 277/480 Volts Ac Max.	3 Pole ^③ 277/480 Volts Ac Max.
15	GHB1015 ^④	GHB2015	GHB3015
20	GHB1020 ^④	GHB2020	GHB3020
25	GHB1025	GHB2025	GHB3025
30	GHB1030	GHB2030	GHB3030
35	GHB1035	GHB2035	GHB3035
40	GHB1040	GHB2040	GHB3040
50	GHB1050	GHB2050	GHB3050
60	GHB1060	GHB2060	GHB3060
70	GHB1070	GHB2070	GHB3070
80	GHB1080	GHB2080	GHB3080
90	GHB1090	GHB2090	GHB3090
100	GHB1100	GHB2100	GHB3100



AB DE-ION® Circuit Breakers

Type GHBS Solenoid-Operated, Remote-Controlled Circuit Breaker, 1-Pole, 15-20 Amperes, 277 Volts, 50/60 Hz

Westinghouse Type GHBS, Solenoid-Operated Remote-Controllable, Molded Case Circuit Breakers provide local or remote switching and overcurrent protection in a single device. The circuit breaker is a thermal-magnetic, 1-Pole device available in 15 and 20A continuous current ratings. Bolt-on line side connections are provided for mounting in Panelboards similar to standard GB/GHB Circuit Breakers.

The circuit breaker is designed for normal remote operation using an integral solenoid to toggle the Circuit Breaker Moving Contact Arm. A trip-free, bi-stable mechanical linkage provides alternate on/off remote switching.

A handle is provided for local maintenance and emergency switching. For normal operation, the handle must be switched to the ON position to arm the circuit breaker before the remote control can function. Once armed, Remote Control Operation takes place by pulsing the solenoid with a 24 Vac source to switch the circuit breaker from the ON/OFF position. A bracket located on either side of the handle permits the handle to be sealed in the ON or OFF position.

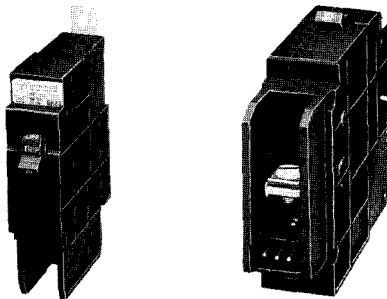
A mechanical target, visible through the face of the circuit breaker, provides positive local indication of the position of the contact arm. The handle also assumes a mid-point position for an automatic trip operation. An internally mounted auxiliary switch with one "a" contact is provided for remote circuit breaker open-closed status.

The solenoid and remote switching mechanism is capable of 30,000 operations which has been tested at a maximum rate of 6 operations per minute.

The Type GHBS Circuit Breaker is suitable for Switching Duty (SWD) application.

List Prices: See Price List 29-020, Dis. CB-2

Ⓢ 24 Breakers in single carton; Approx. shipping weight 16 lbs.



These circuit breakers meet the requirements of Federal Specification W-C-375B as follows:

- 1 Pole, 120 V., Class 11a
- 1 Pole, 277 V., Class 13a

Underwriters Laboratories, Inc. listed Interrupting Ratings

- Type GHBS, 1 Pole, 50/60 Hz.
- 120 V., 65,000 Amps Rms Sym.
- 277 V., 14,000 Amps Rms Sym.

Terminals

For load side only. Line side connection is extended tang which bolts directly to panelboard bus. Load terminals are UL listed as suitable for wire type and size listed below. When used with aluminum conductors, use appropriate joint compound.

Breaker Amps	Type Terminal	Wire Type	Wire Range
15-20	Clamp	CU/AL	#14-10 AWG

Type GHBS Circuit Breakers

Continuous Ampere Rating @ 40°C	Catalog Numbers
15	1-PoleⓈ 277 V. AC Max GHBS 1015
20	GHBS 1020

Westinghouse Electric Corporation
 Distribution and Control Business Unit
 Components Division
 Pittsburgh, Pennsylvania, U.S.A. 15220



September, 1987
 New Information
 Mailed to: E, D, C/29-100A, 31-400A,
 31-500A

AB DE-ION® Circuit Breakers

Type GC and Type GHC Circuit Breakers
 15-100 Amperes, 120, 240, 277, 480Y/277V.,
 50/60 Hz., 125, 125/250V, DC 1, 2 and 3
 Poles

These circuit breakers meet the require-
 ments of Federal Specification W-C-375b as
 follows:

Types GC, 120 and 240V:

- 1 Pole: Class 11a
- 2 and 3 Pole: Classes 10b, 11b, 12b, 14b,
 15b

Types GHC, 277 and 480Y/277V:

- 1 Pole: Classes 12c, 13a
- 2 and 3 Pole: Class 13b



1 Pole

2 Pole

3 Pole

**Underwriters' Laboratories, Inc. Listed
 Interrupting Capacity Ratings^①**

Type GC, GHC (50/60 Hz., RMS Sym. Amps)

- 1 Pole: 120 V., 65,000A.
- 2 and 3 Pole: 240V., 65,000A.

Type GHC (50/60 Hz., RMS Sym. Amps)

- 1 Pole: 277V., 14,000A.
- 2 and 3 Pole: 480Y/277V., 14,000A.

Type GC, GHC, DC Amps

- 1 Pole 15-70A.: 125V., 14,000A.
- 2 and 3 Pole 15-100A.: 125/250V., 14,000A.

Application Notes

- On all 3 phase Delta (240V) Grounded B
 phase applications, refer to Westing-
 house.
- 480Y/277V, circuit breakers (Type GHC)
 not suitable for 3 phase Delta (480V.)
 Grounded B phase applications.
- All two and three pole circuit breakers are
 of the common trip type.
- For available accessories, see TD 29-120,
 pages 16.5, 16.6.
- Single pole circuit breakers, 15 and 20A.
 Switching duty rated (SWD) for fluores-
 cent lighting applications (Type GC, 120V.
 Ac and Type GHC, 277V. Ac).
- Suitable for reverse feed applications.

Special Purpose Breakers (see page 16.4)

Terminals

Line and load side terminals are UL Listed
 as suitable for wire type and size as indi-
 cated below. When used with aluminum
 conductors, use appropriate joint com-
 pound.

Breaker Amperes	Type Terminal	Wire Type	Wire Range
15-20	Clamp	Cu/Al	#14-#10 AWG
25-100	Pressure	Cu/Al	#10-1/0 AWG

Type GC Circuit Breakers

Contin- uous Ampere Rating @ 40°C	Catalog Numbers		
	1 Pole ^② 120V. Ac Max. 125V. Dc Max. ^⑤	2 Poles ^③ 240V. Ac Max. 125/250V. Dc Max.	3 Poles ^④ 240V. Ac Max. 125/250V. Dc Max. ^⑦
15	GC1015 ^⑥	GC2015	GC3015
20	GC1020 ^⑥	GC2020	GC3020
25	GC1025	GC2025	GC3025
30	GC1030	GC2030	GC3030
35	GC1035	GC2035	GC3035
40	GC1040	GC2040	GC3040
45	GC1045	GC2045	GC3045
50	GC1050	GC2050	GC3050
60	GC1060	GC2060	GC3060
70	GC1070	GC2070	GC3070
80	GC1080	GC2080	GC3080
90	GC1090	GC2090	GC3090
100	GC1100	GC2100	GC3100

Type GHC Breakers

Contin- uous Ampere Rating @ 40°C	Catalog Numbers		
	1 Pole ^② 277V. Ac Max. 125V. Dc Max. ^⑤	2 Pole ^③ 480Y/277V. Ac Max. 125/250V. Dc Max.	3 Pole ^④ 480Y/277V. Ac Max. 125/250V. Dc Max. ^⑦
15	GHC1015 ^⑥	GHC2015	GHC3015
20	GHC1020 ^⑥	GHC2020	GHC3020
25	GHC1025	GHC2025	GHC3025
30	GHC1030	GHC2030	GHC3030
35	GHC1035	GHC2035	GHC3035
40	GHC1040	GHC2040	GHC3040
45	GHC1045	GHC2045	GHC3045
50	GHC1050	GHC2050	GHC3050
60	GHC1060	GHC2060	GHC3060
70	GHC1070	GHC2070	GHC3070
80	GHC1080	GHC2080	GHC3080
90	GHC1090	GHC2090	GHC3090
100	GHC1100	GHC2100	GHC3100

① For IEC-157-1 (P1) Ratings, refer to Westinghouse.
 ② 24 circuit breakers in single carton; approx. ship wt. 18 lbs.
 ③ 12 circuit breakers in single carton; approx. ship wt. 18 lbs.
 ④ 8 circuit breakers in single carton; approx. ship wt. 18 lbs.
 ⑤ SWD rated.
 ⑥ 15-70A. only.
 ⑦ Use (2) outside poles.

List Prices: See Price List 29-020, Discount
 CB-2



AB DE-ION® Circuit Breakers

Special Purpose Breakers

These are Type GC and GHC circuit breakers with binding head screw-type terminals on line and load side. These circuit breakers with screw-type terminals will be marked "Special purpose breaker not for general use". To order this special breaker, use the catalog numbers below.

Type GC Breakers

Continuous Ampere Rating @ 40°C	Catalog Numbers		
	1 Pole ^② 120V Ac Max 120V Dc Max	2 Pole ^③ 240V Ac Max 125/250V Dc Max	3 Pole ^④ 240V Ac Max 125/250V Dc Max ^⑦
25	GC1025D	GC2025D	GC3025D
30	GC1030D	GC2030D	GC3030D
35	GC1035D	GC2035D	GC3035D
40	GC1040D	GC2040D	GC3040D
45	GC1045D	GC2045D	GC3045D
50	GC1050D	GC2050D	GC3050D
55	GC1055D	GC2055D	GC3055D
60	GC1060D	GC2060D	GC3060D

Type GHC Breakers

Continuous Ampere Rating @ 40°C	Catalog Numbers		
	1 Pole ^② 277V Ac Max 125V Dc Max ^⑤	2 Pole ^③ 480Y/277V Ac Max 125/250V Dc Max	3 Pole ^④ 480Y/277V Ac Max 125/250V Dc Max ^⑦
25	GHC1025D	GHC2025D	GHC3025D
30	GHC1030D	GHC2030D	GHC3030D
35	GHC1035D	GHC2035D	GHC3035D
40	GHC1040D	GHC2040D	GHC3040D
45	GHC1045D	GHC2045D	GHC3045D
50	GHC1050D	GHC2050D	GHC3050D
55	GHC1055D	GHC2055D	GHC3055D
60	GHC1060D	GHC2060D	GHC3060D

② 24 circuit breakers in single carton; approx. ship wt. 18 lbs.

③ 12 circuit breakers in single carton; approx. ship wt. 18 lbs.

④ 8 circuit breakers in single carton; approx. ship wt. 18 lbs.

⑤ SWD rated.

⑥ 15-70A, only.

⑦ Use (2) outside poles.

Westinghouse Electric Corporation
Distribution and Control Business Unit
Electrical Components Division
Pittsburgh, PA 15220



September, 1987
New Information
Mailed to: E, D, C/29-100A, 31-400A,
31-500A

AB DE-ION® Circuit Breakers

Circuit Breaker Accessories

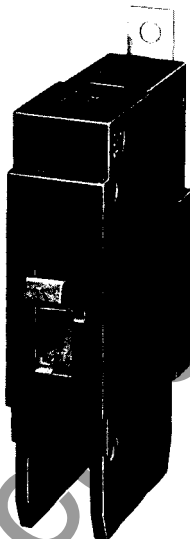
(Apply with GB, GHB, GC, GHC Circuit Breakers)

External Mounted Accessories

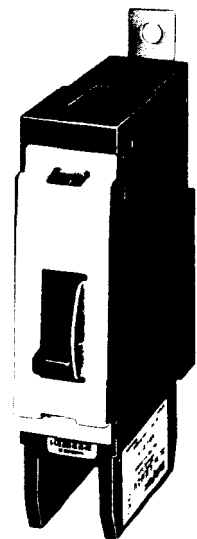
Description	Style Number	No. Units in Package
Lock Dog (Non-Padlockable)	1294C01H01	1
Padlockable Handle	1223C77G01	10
Mounting Hardware (GC/GHC)	624B375G23	1④
Din Rail Adaptor①② (GC/GHC)	1225C79G01	10
Base Mounting Plate③ (GC/GHC)	207B513G01	1



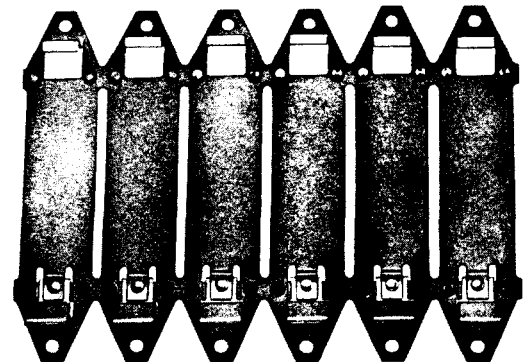
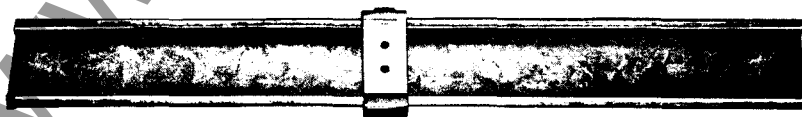
Lock Dog (Non-Padlockable)



Padlockable Handle



Din Rail Adapter



Base Mounting Plate



AB DE-ION® Circuit Breakers

Internally Mounted Accessories — (2) and (3) Pole Only®

Note
GB/GHB/GC/GHC circuit breakers are factory sealed. Underwriters' Laboratories, Inc., requires that internal accessories be installed at the factory.

Internal accessories are UL listed for factory installation under E7819.

Where local codes and standards permit and UL listing is not required, internal accessories can be field installed. Accessory installation should be done before the circuit breaker is mounted and connected.

Table 1 ②

Type Accessory	Electrical Ratings			Style Number ③ ④
	Volts	Freq.	Amps	
Shunt Trip	120	50/60 Hz	1.1	1373D62G01
Shunt Trip	240	50/60 Hz	2.1	1373D62G02
Shunt Trip	12	Dc	2.8	1373D62G15
Shunt Trip	24	Dc	5.7	1373D62G16
Undervoltage Release	120	50/60 Hz	0.05	1373D62G03
Undervoltage Release	24	50/60 Hz	0.22	1373D62G04
Undervoltage Release	48	50/60 Hz	0.11	1373D62G05
Undervoltage Release	60	50/60 Hz	0.10	1373D62G06
Undervoltage Release	110	50 Hz	0.049	1373D62G07
Undervoltage Release	208	60 Hz	0.026	1373D62G08
Undervoltage Release	220	50 Hz	0.025	1373D62G09
Undervoltage Release	240	50/60 Hz	0.024	1373D62G10
Undervoltage Release	380	50 Hz	0.015	1373D62G11
Undervoltage Release	415	50 Hz	0.013	1373D62G12
Undervoltage Release	440	50 Hz	0.012	1373D62G13
Undervoltage Release	480	60 Hz	0.01	1373D62G14

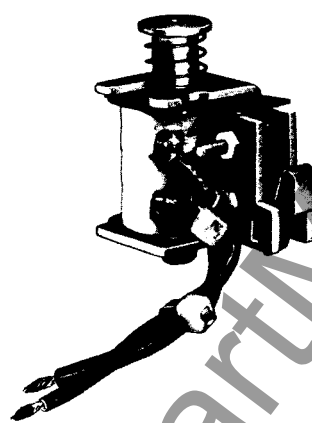
Table 2 ⑥

Type Accessory	Electrical Rating			Contact Arrangement ⑤ ⑥	Style Number ⑤ ⑥
	Volts	Freq.	Amps		
Auxiliary Switch	240	50/60 Hz	6	1a 1b	1288C74G03
Auxiliary Switch	240	50/60 Hz	6	2a 2b	1288C73G03
Alarm Switch	240	50/60 Hz	6	1 break	1288C75G02

Shunt Trip

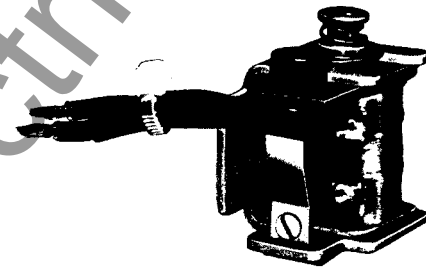
For tripping the circuit breaker from remote point. Solenoid device mounts within circuit breaker cover. Circuit breaker trips when coil is energized.

Since coil is intermittent rated only, a cut-off switch is included to interrupt the coil circuit when the circuit breaker opens.



Undervoltage Release

For undervoltage protection. Solenoid device mounts within circuit breaker cover. Trips circuit breaker within range of 35 to 70% of rated coil voltage. Picks up and seals in at 85% of rated coil voltage. The UVR is reset by the circuit breaker handle following an opening operation. The UVR is not designed for and should not be used as a circuit interlock.



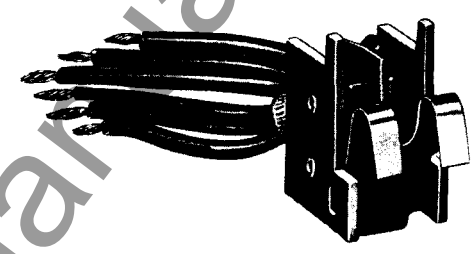
Typical internal accessory shipping weight
0.50 Lbs.

List Prices

See Price List 29-020, Dis. CB-2

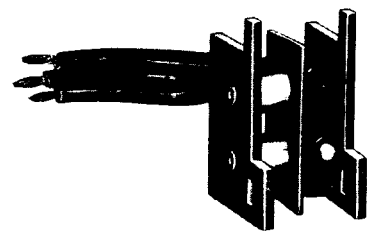
Auxiliary Switch

For auxiliary control circuits. Miniature switches mount within circuit breaker cover. Commonly used for remote indication of open/closed circuit breaker status as well as electrically interlocking circuitry. "a" contacts are open with the circuit breaker open. "b" contacts are closed with the circuit breaker open.



Alarm/Lockout Switch

For remote indication of automatic trip operation. Does not function with manual switching; however, it will operate when either a shunt trip or undervoltage release is operated. A "make" contact closes and a "break" contact opens when the alarm/lockout switch operates. The switch automatically resets when the circuit breaker is reset.



Either an auxiliary switch or an alarm/lockout switch may be mounted in a two pole circuit breaker. The two pole circuit breaker will not accept either the shunt trip or UVR.

- ① For use with standard 35mm Din Rail such as, 35 x 7.5 or 35 x 15mm per Din EN50022.
- ② Adaptor mounting screws included are for use with (2) and (3) pole circuit breakers. Adaptors for (1) pole circuit breakers clip into the base molding.
- ③ Suitable for mounting (6) single pole circuit breakers.
- ④ Suitable for mounting (1) two or three pole circuit breaker.
- ⑤ Includes 24 inch external pigtail leads, #18 AWG (16-.010).
- ⑥ A maximum of two internal accessories may be mounted in a three pole circuit breaker.
- ⑦ Suitable for mounting in left pole only of 3 pole breaker.
- ⑧ Suitable for mounting in right pole only of 2 or 3 pole breaker.



Westinghouse Electric Corporation
Low Voltage Breaker Division
Beaver, Pennsylvania 15009

Technical Data
29-120

Page 17

NOT FOR PANEL-BOARD USE.
NO CONNECTORS ARE AVAILABLE PER LUCA 12-781

March, 1981
Supersedes Technical Data 29-120,
pages 17-18, dated April, 1980
Mailed to: E, D, C/1901, 1903, 1928/PL

Type CA, CAH and HCA 225 Amperes,
Type DA 400 Amperes
Type BAB 125 Amperes
MARK 75® Type HBA 30 Amperes

AB DE-ION® Circuit Breakers

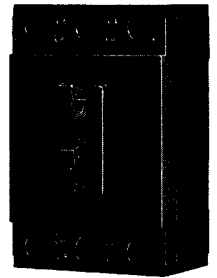
Type CA, CAH and HCA Breakers

125-225 Amperes, 240 Volts Ac, 2 and 3 Poles, Fixed Trip, Thermal Magnetic Breakers

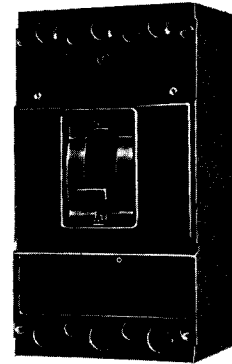
Cont. Ampere Range @ 40°C	2 Pole Breakers			3 Pole Breakers		
	Catalog Numbers			Catalog Numbers		
	10,000 Amps I.C.	22,000 Amps I.C.	42,000 Amps I.C.	10,000 Amps I.C.	22,000 Amps I.C.	42,000 Amps I.C.
Breakers With Line Terminals Only						
125	CA2125Y	CAH2125Y	HCA2125Y	CA3125Y	CAH3125Y	HCA3125Y
150	CA2150Y	CAH2150Y	HCA2150Y	CA3150Y	CAH3150Y	HCA3150Y
175	CA2175Y	CAH2175Y	HCA2175Y	CA3175Y	CAH3175Y	HCA3175Y
200	CA2200Y	CAH2200Y	HCA2200Y	CA3200Y	CAH3200Y	HCA3200Y
225	CA2225Y	CAH2225Y	HCA2225Y	CA3225Y	CAH3225Y	HCA3225Y
225 MCS®	CA2225NY			CA3225NY		
	Approx. Ship Wt.: 3½ Lbs.			Approx. Ship Wt.: 4½ Lbs.		
Breakers With Line and Load Terminals						
125	CA2125	CAH2125	HCA2125	CA3125	CAH3125	HCA3125
150	CA2150	CAH2150	HCA2150	CA3150	CAH3150	HCA3150
175	CA2175	CAH2175	HCA2175	CA3175	CAH3175	HCA3175
200	CA2200	CAH2200	HCA2200	CA3200	CAH3200	HCA3200
225	CA2225	CAH2225	HCA2225	CA3225	CAH3225	HCA3225
225 MCS®	CA2225N			CA3225N		
	Approx. Ship Wt.: 3½ Lbs.			Approx. Ship Wt.: 5 Lbs.		



Type CA 2 Pole



Type CA 3 Pole



Type DA 3 Pole

These breakers meet requirements of Federal Specification W-C-375b as follows: CA, Class 12b; CAH, Class 14b; HCA, not defined.

Underwriters' Laboratories, Inc. Listed

Interrupting Rating: (2-Pole CA and CAH listed for grounded B Phase applications).

240 Volts Ac	Amperes®
CA	10,000 Asym. and Sym.
CAH	25,000 Asym., 22,000 Sym.
HCA®	42,000 Sym.

Type DA Breakers

250-400 Amperes, 240 Volts Ac, 250 Volts Dc, 2 and 3 Poles, Fixed Trip Thermal Magnetic Breakers

Continuous Ampere Rating @ 40°C	Breakers With Line Terminals Only		Breakers With Line and Load Terminals	
	2 Pole®	3 Pole	2 Pole®	3 Pole
250	DA2250Y	DA3250Y	DA2250	DA3250
300	DA2300Y	DA3300Y	DA2300	DA3300
350	DA2350Y	DA3350Y	DA2350	DA3350
400	DA2400Y	DA3400Y	DA2400	DA3400
400 MCS®	DA2400NY	DA3400NY	DA2400N	DA3400N
	Approx. Ship. Wt. 13 Lbs.	Approx. Ship. Wt. 15 Lbs.	Approx. Ship. Wt. 13 Lbs.	Approx. Ship. Wt. 15 Lbs.

Type DA breakers meet requirements of Federal Specification W-C-375b: Class 14b.

Underwriters' Laboratories, Inc. Listed

Interrupting Ratings

Max. Volts	Amperes®
240 Ac	25,000 Asym., 22,000 Sym.
250 Dc	10,000

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

® 2-pole breakers are supplied in 3-pole frames.

® Not UL Listed.

® Terminal TA225CA2 will replace both TA175CA1 and TA225CA1 as their stock is depleted.

® Interrupting capacities shown do not apply to Molded Case Switches (MCS).

Terminals

Terminals are Underwriters' Laboratories, Inc. listed for the wire type and size listed below. When used with aluminum conductors, use joint compound.

Max. Amps.	Catalog Number	Wire Range and Type
175	TA175CA1	#1-4/0 Al/Cu
225	TA225CA1	2/0-300 MCM Al/Cu
225®	TA225CA2	#1-300 MCM Al/Cu

Terminals

Terminals are Underwriters' Laboratories, Inc. listed for the wire type and size listed below. When used with aluminum conductors, use joint compound. To order breaker with optional aluminum body terminals, add suffix Z to the breaker catalog number.

Max. Amps.	Catalog Number	Wire Range, Type No. of Cables
350	T350DA	1 250-500 MCM Cu
400	T400DA2	2 3/0-250 MCM Cu

Standard Terminals (for Copper cable)

350	T350DA	1 250-500 MCM Cu
400	T400DA1	2 3/0-250 MCM Al/Cu

Alternate Aluminum Body Terminals

350	TA350DA	1 250-500 MCM Al/Cu
400	TA400DA1	2 3/0-250 MCM Al/Cu

Listed with Underwriters' Laboratories, Inc. except as noted (for C.S.A., see page 48).

List Prices: See Price List 29-020, Dis. CB-2

Accessories and Modifications

Description: Pages 49-58

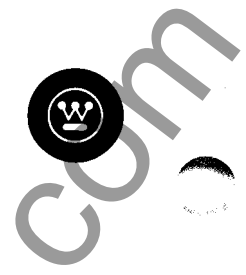
Special Calibrations®

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hertz Ac circuits. See Application Data 29-160 for information regarding special conditions. Maximum 400 Hz calibration: Type CA, HCA and CAH, 160 amps; Type DA, 300 amps.

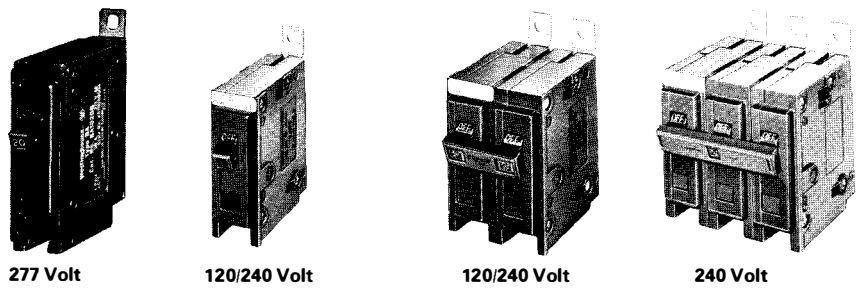
Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal Magnetic Frequency	Add 10% of List Price of Complete Breaker	None

50°C Calibration®

Add suffix "V" to catalog number for complete breaker when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.



Type BA and MARK 75® Type HBA Breakers
10-125 Amperes, 120/240, 240, and 277 Volts Ac, 1, 2 and 3-Pole



Continuous Amp Rating @ 40°C	1 Pole®		2 Pole®		3 Pole®	
	120/240 Volts Ac Max.	277 Volts Ac Max.	120/240 Volts Ac Max.	240 Volts Ac Max.	240 Volts Ac Max.	240 Volts Ac Max.
	Standard	MARK 75	Standard	MARK 75	Standard	MARK 75

15	BAB1010		BAB2010		BAB2010H®	BAB3010H®	
15	BAB1015®	HBAW1015®	BA1015B	HBAB1015B	BAB2015H	BAB3015H	HBAW3015H
20	BAB1020®	HBAW1020®	BA1020B	HBAB1020B	BAB2020H	BAB3020H	HBAW3020H
25	BAB1025	HBAW1025	BAB2025	HBAB2025	BAB2025H	BAB3025H	
30	BAB1030	HBAW1030	BA1030B	HBAB1030B	BAB2030H	BAB3030H	
35	BAB1035		BAB2035		BAB2035H	BAB3035H	
40	BAB1040		BAB2040		BAB2040H	BAB3040H	
45	BAB1045		BAB2045		BAB2045H	BAB3045H	
50	BAB1050		BAB2050		BAB2050H	BAB3050H	
55	BAB1055		BAB2055		BAB2055H	BAB3055H	
60	BAB1060		BAB2060		BAB2060H	BAB3060H	
70	BAB1070		BAB2070		BAB2070H	BAB3070H	
80			BAB2080		BAB2080H	BAB3080H	
90			BAB2090		BAB2090H	BAB3090H	
100			BAB2100		BAB2100H	BAB3100H	
110			BAB2110				
125			BAB2125				

Panelboard Accessories

Description	Style Number
Number Tabs, 1-42, Gum-Backed	622B630H01
ON Button, Black on White	K-72641
OFF Button, Black on White	K-72642

Breaker Accessories
(See DB 29-150 for description.)

Description	Style Number
Dummy Breaker	2600D81G09
Moisture-Fungus Treat.	
1-Pole	
2-Pole	
3-Pole	
California Handle Tie	
1 Pole Breakers Only	133A633G01
Lockdog (Non-padlock)	
1 Pole Only	1256C42G02
2, 3 Pole	1256C42G01
Padlock Attach., Removable	
1 Pole Only	208B831G02
Padlock Device (Non-Remove. per California Code)	
1, 2, 3 Poles	1256C41G01

Special Calibration®
Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hertz Ac circuits. See Application Data 29-160 for information regarding special conditions.

Type of Calibration	List Price Addition
1-49 Identical Units	50 or More Identical Units
Thermal	None
Magnetic	None
Frequency	None
	Add 20% to List Price of Complete Breaker

Type BA breakers meet the requirements of Federal Specification W-C-375b as follows: 1 pole, 120/240 volts Ac, Classes 10a, 11a, 12a; 2 pole, 120/240 volts Ac, Classes 10a, 12a; 2, 3 pole, 240 volts Ac, Classes 10b, 11b, 12b; 1 pole 277 volts Ac, Class 12c; MARK 75 Type HBA breakers, 1, 2 poles 120/240 volt Ac, Class 15a; 3 pole, 240 volt Ac, Class 15b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings

Type BA, BAB: 10,000 Amps. (Asym. or Sym.)
Type HBA: 75,000 Amps Asym.; 65,000 Amps. Sym.

Listed with Underwriters' Laboratories, Inc. except as noted.

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Note: All two and three pole breakers are of the common trip type.

Terminals

Load side only - line side connection is extended tang which bolts directly to bus. Load terminals are U/L listed as suitable for wire type and size listed below. When used with aluminum conductors, use joint compound.

Breaker Amperes	Type Terminal	Wire Type	Wire Range
-----------------	---------------	-----------	------------

277 Volt Breakers
15- 30 Pressure Cu #14 - #6, or Al #12 - #6

All Other Breakers
10- 30 Pressure Cu/Al #14 - #8
35- 50 Pressure Cu/Al #14 - #4
55-100 Pressure Cu/Al # 8 - 1/0

Special Breakers

Tungsten Lamplload: Use standard 1 pole 15 or 20 amp Type BAB.

Switching Neutral: For application in accordance with N.E.C. 514-5, 240-22 and 380-2. (2 pole breakers)

10 Amps: Cat. No. BAB2010C
15 Amps: Cat. No. BAB2015C
20 Amps: Cat. No. BAB2020C

HID (High Intensity Discharge)®: Breakers designed specifically for use with high intensity discharge lighting (UL Listed as standard lighting breakers®).

Continuous Ampere Rating @ 40°C	Catalog Numbers	
	1 Pole 120/240 Volts Ac Max.	2 Pole 120/240 Volts Ac Max.
15	BAB1015D	BAB2015D
20	BAB1020D	BAB2020D
25	BAB1025D	BAB2025D
30	BAB1030D	BAB2030D

List Prices: See Price List 29-020, Dis. CB-2

® Changed or added since previous issue.
 ® Not listed with Underwriters' Laboratories, Inc.
 ® 24 breakers in single carton, 144 in master carton. Approx. ship. wt.: 7 lbs. and 46 lbs. respectively.
 ® 12 breakers in single carton, 72 in master carton. Approx. ship. wt.: 9 lbs. and 58 lbs. respectively.
 ® 8 breakers in single carton, 48 in master carton. Approx. ship. wt.: 9 lbs. and 58 lbs. respectively.
 ® Switching duty rated for 120 volt Ac fluorescent light applications only.
 ® UL does not have a specific category for HID breakers.



Westinghouse Electric Corp.
Low Voltage Breaker Division
Beaver, PA 15009

Supp. to Technical Data
29-120

Page 18.1

November 1, 1983
New Information
E,D,C/1901,1903,1928/PL

AB DE-Ion^(R)
Circuit Breakers

Please refer to Technical Data 29-120, page 18, dated March, 1981:

With the introduction of the complete line of GB and GHB circuit breakers (see TD 29-120, page 16.1), the Type BA 277 volt, 1 pole breaker is obsolete and will no longer be available when existing shipping stock inventory is depleted. Catalog numbers of the obsoleted breakers are BA1015B, BA1020B, and BA1030B.

www.ElectricalPartManuals.com



September, 1986
Supersedes Technical Data 29-120,
pages 32.1-32.2, dated September, 1984
Mailed to: E, D, C/29-100A, 31-400A

Rating Plugs for SELTRONIC™ and
Type LCL Current Limit-R Circuit Breakers

Portable Test Kit and Remote Ground Fault
Trip Indicator

AB DE-ION® Circuit Breakers

Rating Plug Selection Data

Rating Plugs Listed Below Are For Both Standard Breakers and Breakers with Built-in Ground Fault Protection

Rating Plugs Only (For 2 or 3 Pole Frames)

Continuous Ampere Rating ^①	Magnetic Trip Setting, Amperes		Fixed Rating Plugs	Adjustable Rating Plugs ^{② ③}
	Low	High			Catalog Number	Catalog Number
For 150 Amp. Frames: LC, LCA, LCG, LCGA, HLC, HLCA, HLCG, HLCGA				
75	225	750	1LC75	.....
90	270	900	1LC90	.....
100	300	1000	1LC100	A1LC100 ^④
125	375	1250	1LC125	A1LC125
150	450	1500	1LC150	A1LC150 ^④

For 300 Amp. Frames: LC, LCA, LCG, LCGA, HLC, HLCA, HLCG, HLCGA

150	450	1500	3LC150	.....
175	525	1750	3LC175	.....
200	600	2000	3LC200	.....
225	675	2250	3LC225	A3LC225
250	750	2500	3LC250	A3LC250
275	825	2750	3LC275	A3LC275
300	900	3000	3LC300	A3LC300 ^④

For 400 Amp. Frames: LC, LCA, LCG, LCGA, HLC, HLCA, HLCG, HLCGA

200	600	2000	4LC200	.....
225	675	2250	4LC225	.....
250	750	2500	4LC250	.....
300	900	3000	4LC300	A4LC300
350	1050	3500	4LC350	A4LC350
400	1200	4000	4LC400	A4LC400 ^④

For 600 Amp. Frames: LC, LCA, LCG, LCGA, HLC, HLCA, HLCG, HLCGA

300	900	3000	6LC300	.....
350	1050	3500	6LC350	.....
400	1200	4000	6LC400	A6LC400 ^④
450	1350	4500	6LC450	A6LC450
500	1500	5000	6LC500	A6LC500
600	1800	6000	6LC600	A6LC600 ^④

For 800 Amp. Frames: MC, MCA, MCG, MCGA, HMC, HMCA, HMC, HMCA

400	1200	4000	8MC400	.....
500	1500	5000	8MC500	A8MC500 ^④
600	1800	6000	8MC600	A8MC600
700	2100	7000	8MC700	A8MC700
800	2400	8000	8MC800	A8MC800 ^④

For 1200 Amp. Frames: NC, NCA, NCG, NCGA, HNC, HNCA, HNC, HNCA

800	1600	6400	12NC800	A12NC800 ^④
900	1800	7200	12NC900	A12NC900
1000	2000	8000	12NC1000	A12NC1000
1200	2400	9600	12NC1200	A12NC1200 ^④

Rating Plugs Only (For 2 or 3 Pole Frames)

Continuous Ampere Rating ^①	Magnetic Trip Setting, Amperes		Fixed Rating Plugs	Adjustable Rating Plugs ^{② ③}
	Low	High			Catalog Number	Catalog Number
For 2000 Amp. Frames: PC, PCA, PCC, PCCA, PCG, PCGA, PCCG, PCCGA				
1000	2000	8000	20PC1000	.....
1200	2400	9600	20PC1200	.....
1400	2800	11200	20PC1400	.....
1600	3200	12800	20PC1600	A20PC1600
1800	3600	14400	20PC1800	A20PC1800
2000	4000	16000	20PC2000	A20PC2000 ^④

For 2500 Amp. Frames: PC, PCA, PCC, PCCA, PCG, PCGA, PCCG, PCCGA

1400	2800	11200	25PC1400	.....
1600	3200	12800	25PC1600	.....
1800	3600	14400	25PC1800	A25PC1800
2000	4000	16000	25PC2000	A25PC2000
2500	5000	20000	25PC2500	A25PC2500 ^④

For 3000 Amp. Frames: PC, PCA, PCC, PCCA, PCG, PCGA, PCCG, PCCGA

1600	3200	12800	30PC1600	.....
1800	3600	14400	30PC1800	.....
2000	4000	16000	30PC2000	.....
2500	5000	20000	30PC2500	A30PC2500
3000	6000	24000	30PC3000	A30PC3000 ^④

For 250 Amp. Frames: LCL, LCLA Current Limit-R

125	375	1125	2LCL125	.....
150	450	1350	2LCL150	.....
175	525	1575	2LCL175	A2LCL175 ^④
200	600	1800	2LCL200	A2LCL200
225	675	2025	2LCL225	A2LCL225
250	750	2250	2LCL250	A2LCL250 ^④

For 400 Amp. Frames: LCL, LCLA Current Limit-R

200	400	1600	4LCL200	.....
225	450	1800	4LCL225	.....
250	500	2000	4LCL250	.....
275	550	2200	4LCL275	.....
300	600	2400	4LCL300	A4LCL300 ^④
350	700	2800	4LCL350	A4LCL350
400	800	3200	4LCL400	A4LCL400 ^④

Note: Refer to Westinghouse for old style (three prong) Ground Fault Rating Plugs

Further Information

List Prices: See Price List 29-020, Dis. CB-2

① Ampere rating when used in magnetic only frames:

LC-150: 150 Amps MC-800: 800 Amps
LC-300: 300 Amps NC-1200: 1200 Amps
LC-400: 400 Amps PC-2000: 2000 Amps
LC-600: 600 Amps PC-2500: 2500 Amps

PC-3000: 3000 Amps
LCL-250: 250 Amps
LCL-400: 400 Amps

② Magnetic Trip range of adjustable rating plugs:

LC, HLC, MC, HMC: 3 to 10 times ampere setting
NC, HNC, PC, PCC, LCL-400: 2 to 8 times ampere setting
LCL-250: 3 to 9 times ampere setting

③ Adjustable 70 to 100% except as noted.

④ Adjustable 50 to 100%

⑤ Adjustable 75 to 100%.

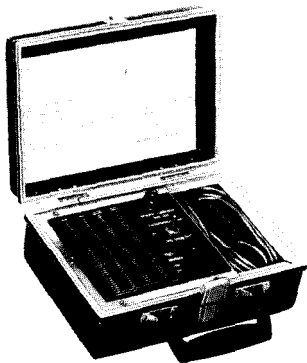
⑥ Adjustable 80 to 100%.

AB DE-ION Circuit Breakers

Accessories for SELTRONIC and Current Limit-R Circuit Breakers

Portable Test Kit

Provides verification of performance of all frame sizes of SELTRONIC breakers while devices are still in service under varying load and/or phase unbalance. The tester operates on 120 volt 50/60 Hz and includes complete instructions and test times for testing the long time, instantaneous operation and optional ground fault operation of the breaker.



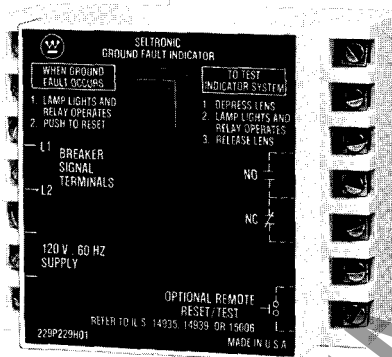
Style Number: 1287C56G02

Further Information

List Prices: See Price List 29-020, Dis. CB-2

Remote Ground Fault Trip Indicator[Ⓢ]

For use only with SELTRONIC Circuit Breakers (LCG, HLCG, MCG, HMCG, NCG, HNCG, PCG and PCCG) with built-in ground fault protection.

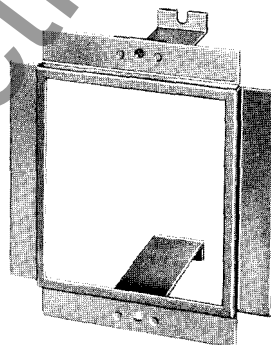


The Seltronic Ground Fault indicator is a remotely mounted device with a combination indicating light/reset/test button that will light when the breaker trips on a Ground Fault. Tripping from overloads or short circuits will not activate the device. A separate 120-50/60 power source is required to power the light and internal relay which has 1 N.O. and 1 N.C. contacts for customer connected alarm etc. Designed for panel mounting, it can be face-mounted by ordering the optional mounting bracket below.

Indicator Style Number: 1259C14G01

Face Mounting Bracket for Ground Fault Indicator

Style Number: 1264C67G01



[Ⓢ] UL Inc. listed as a recognized component.

Westinghouse Electric Corporation
Distribution and Control Business Unit
Components Division
Beaver, Pennsylvania 15009



September, 1984
Supersedes Technical Data 29-120
pages 33-34, dated April, 1980
Mailed to: E, D, C/29-100A, 31-400A

Type FCL Current Limit-R Breakers,
100 Amperes

Type LCL Current Limit-R Breakers,
400 Amperes

AB DE-ION® Circuit Breakers

Type FCL Current Limit-R Thermal Magnetic, High Interrupting Capacity Current Limiting Circuit Breakers

15 to 100 Amperes, 480 Volts Ac Non-Inter-changeable Trip, Line and Load Terminals included.

Continuous Ampere Rating @ 40°C	2 Poles ^② Catalog Number	3 Poles Catalog Number
15	FCL2015L	FCL3015L
20	FCL2020L	FCL3020L
25	FCL2025L	FCL3025L
30	FCL2030L	FCL3030L
35	FCL2035L	FCL3035L
40	FCL2040L	FCL3040L
45	FCL2045L	FCL3045L
50	FCL2050L	FCL3050L
60	FCL2060L	FCL3060L
70	FCL2070L	FCL3070L
80	FCL2080L	FCL3080L
90	FCL2090L	FCL3090L
100	FCL2100L	FCL3100L

Special Calibrations^③

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal	Add 10% to List Price of Complete breaker	None

50°C Calibration^③

Add suffix "V" to catalog number for complete breaker, listed above, when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

Terminals

Breakers listed include line and load terminals. Terminals are Underwriters' Laboratories, Inc. listed for wire sizes and types listed below. When used with aluminum cable, use joint compound. To order optional aluminum terminals, add suffix "Z" to breaker catalog number listed.

Max. Breaker Amps	Wire Type	Wire Range
Standard Pressure Terminals		
100	Al/Cu	#14-1/0
Optional Al/Cu Pressure Terminals		
50	Al/Cu	#14-#4
100	Al/Cu	#4-4/0

② 2-pole breakers are supplied in 3-pole frames with current carrying parts omitted from the center pole.

③ Not Underwriters' Laboratories, Inc. listed.



Listed with Underwriters' Laboratories, Inc. except as noted.

Type FCL breakers are not defined in Federal Specification W-C-375-b.

UL Listed Interrupting Ratings, Symmetrical Amperes

Volts, Ac	Interrupting Capacity
240	200,000
480	150,000

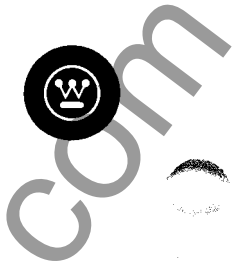
On all 3 phase Delta, Ground B phase applications, refer to Westinghouse.

Further Information

List Prices: See Price List 29-020, Dis. CB-2

Accessories and Modifications

Description: Pages 49-58



AB DE-ION Circuit Breaker

Type LCL, LCLA, LCLG, LCLGA Current Limit-R, High Interrupting Capacity Current Limiting Circuit Breakers

125 to 400 Amperes, 600 Volts Ac With Solid State Trip Units

Standard Breakers 600 Volts Ac, 50/60 Hz. Ⓞ

Complete Breaker Requires Frame, Rating Plug and Terminals.

Frame Only

Poles	Catalog Numbers		
●	Standard (Long Delay Magnetic Trip and Current Limiting)	Magnetic Only ^② and Current Limiting	Long Delay, Magnetic Trip and Adjustable Short Delay Time (.08-.28 seconds), and Current Limiting

Types LCL and LCLA 250 Ampere Frame (125-250 Amperes)

Poles	LCL2250F	LCL2250FM	LCLA2250F
2	LCL2250F	LCL2250FM	LCLA2250F
3	LCL3250F	LCL3250FM	LCLA3250F

Type LCL and LCLA 400 Ampere Frame (200-400 Amperes)

Poles	LCL2400F	LCL2400FM	LCLA2400F
2	LCL2400F	LCL2400FM	LCLA2400F
3	LCL3400F	LCL3400FM	LCLA3400F

Breakers With Built-in Ground Fault Protection Ⓞ

Complete Breaker Requires Frame, Rating Plug and Terminals – Extra Current Transformer Included for Neutral. See Page 32.2 for Optional Indicator Kit

Frame Only

Poles ^①	Catalog Numbers		
	Standard (Long Delay, Magnetic Trip, Current Limiting, and Ground Fault Trip)		Long Delay, Magnetic Trip and Adjustable Short Delay Time (.06-.22 seconds), Ground Fault Trip and Current Limiting

Type LCLG and LCLGA 250 Ampere Frame (125-250 Amperes)

Poles	LCLG2250F	LCLGA2250F
2	LCLG2250F	LCLGA2250F
3	LCLG3250F	LCLGA3250F

Type LCLG and LCLGA 400 Ampere Frame (200-400 Amperes)

Poles	LCLG2400F	LCLGA2400F
2	LCLG2400F	LCLGA2400F
3	LCLG3400F	LCLGA3400F

Field Attachments^②

Description	Style Number
Provision to trip flux transfer shunt trip from external 32 to 120 volt (Dc to 60 Hz) source ^③	1372D49G22
Provision to trip flux transfer shunt trip from external 240 to 600 Volts Ac 50/60 Hz source ^③	1372D49G32
Provision to trip flux transfer shunt trip from external 32 to 120 volt (Dc to 60 Hz) source, plus a 1A-1B auxiliary switch ^④	1372D49G15
Provision to trip flux transfer shunt trip from external 240 to 600 volts Ac 50/60 Hz source, plus a 1A-1B auxiliary switch ^④	1372D49G25
1A-1B Auxiliary Switch	1372D49G03
Provision to trip flux transfer shunt trip from 24 Volts Dc	1371D96G01

Ⓞ Changed or added since previous issue.

① Two pole breakers are supplied in three pole frames with current carrying parts omitted from center pole.

② Only one of these attachments may be mounted per breaker.

③ Terminals shipped separately from breaker.

④ Not Underwriters' Laboratories, Inc. listed.

⑤ Rated 48 volts minimum for ground fault applications.

⑥ Not for ground fault applications.

⑦ UL Inc. recognized component.

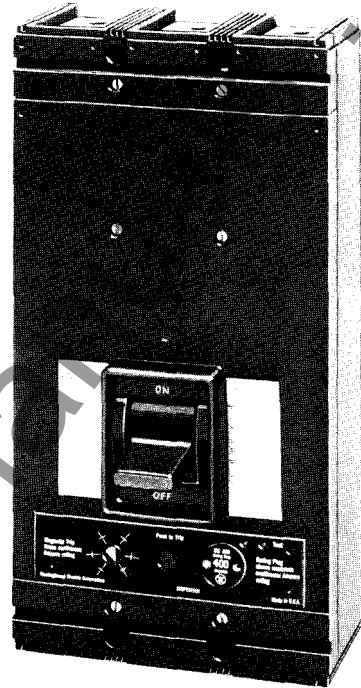
Terminals^③ (Order Separately)

Two terminals are required per pole. Terminals are Underwriters' Laboratories, Inc. listed for wire type and range listed below. When used with aluminum cable, use joint compound.

Max. Amps	Terminal Catalog Number	Wire Range, Type, No. of Cables
Standard Copper Pressure Terminals		
225	T225LA	1#6-350 MCM Cu
400	T401LA	1#4-250 MCM Cu, plus 1 3/0-600 MCM Cu
Optional Al/Cu Pressure Terminals		
225	TA225LA1	1#6-350 MCM Cu, or 1#4-350 MCM Al
400	TA400LA1	1#4-250 MCM Al/Cu, plus 1 3/0-600 MCM Al/Cu

Field Testing

Type LCL breakers can be functionally tested by use of the SELTRONIC test kit, style 1287C56G02, shown on page 32.2.



Listed with Underwriters' Laboratories, Inc. except as noted.

Type LCL breakers are not defined in Federal Specifications W-C-375-b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings, Symmetrical Amperes Volts, Ac

Interrupting Capacity
240
480
600
200,000
200,000
100,000

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Further Information

List Prices: See Price List 29-020, Dis. CB-2

Factory Mounted and Other Accessories

and Modifications: Pages 49-58

Field Mountable Attachments: This Page

Rating Plugs: Page 32.1

Portable Test Kit: Page 32.2

Remote Ground Fault Indicator Kit:

Page 32.2

Westinghouse Electric Corporation
Commercial Division – Components
Beaver, Pennsylvania 15009



April, 1980
 Supersedes Technical Data 29-120 T WE A
 pages 31-32, dated January, 1976
 Mailed to: E, D, C/1901, 1903, 1928/PL

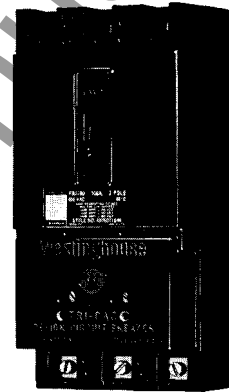
Type FB TRI-PAC® Breakers, 100 Amperes
 Type LA TRI-PAC Breakers, 400 Amperes

AB DE-ION® Circuit Breakers

Type FB TRI-PAC Thermal Magnetic/Current Limiting Breakers 15-100 Amperes, 600 Volts Ac, 250 Volts Dc Replaceable Current Limiters

Continuous Ampere Rating @ 40°C	Catalog Numbers (Current Limiters Include)	
	2-Poles ^②	3-Poles
15	FB2015PL	FB3015PL
20	FB2020PL	FB3020PL
30	FB2030PL	FB3030PL
40	FB2040PL	FB3040PL
50	FB2050PL	FB3050PL
60 ^③	FB2060PL	FB3060PL
70	FB2070PL	FB3070PL
90	FB2090PL	FB3090PL
100	FB2100PL	FB3100PL

Approx. Ship. Wt. 11½ Lbs.



Replacement Current Limiters and Housing Assembly

Current Limiters: One required per pole;

Catalog Number	Application
100FBP06	Supplied as standard in Type FB TRI-PAC breakers rated 15-100 amperes. Replaces 200FBP03 formerly supplied on 15-40 ampere ratings, and 500FBP07 formerly supplied on 50-100 ampere ratings.

Refer to Application Data 29-160 for complete application information.

Special Calibrations^③

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hertz Ac circuits. See application data 29-160 for information regarding special conditions.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal Magnetic Frequency	Add 10% to List Price of Complete breaker	None None None

Current Limiter housing Assembly, complete with current limiters.

Ampere Rating	Poles	Style Number
15-100	2	176C593G09
15-100	3	176C593G10

50°C Calibration^③

Add suffix "V" to catalog number for complete breaker, listed above, when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

TRI-PAC FB breakers meet the requirements for Class 16a, 16b, 17a and 26a circuit breakers as defined in Federal Specification W-C-375b.

Interrupting Ratings

Underwriters' Laboratories, Inc. Listed
 600 Volts Ac Max.: 200,000 Amperes Sym.

Based on NEMA Test Procedures
 250 Volt Dc Max.: 100,000 Amps

On all 3 phase Delta, Ground B phase applications, refer to Westinghouse.

Terminals

Breakers listed include line and load terminals. Terminals are Underwriters' Laboratories, Inc. listed for wire sizes and types listed below. When used with aluminum cable, use joint compound. To order optional aluminum terminals, add suffix "Z" to breaker catalog number listed.

Max. Breaker Amps	Wire Type	Wire Range
-------------------	-----------	------------

Standard Pressure Terminals		
100	Al/Cu	#14-1/0
Optional Al/Cu Pressure Terminals		
50	Al/Cu	#14-#4
100	Al/Cu	#4-4/0

Accessories and Modifications
 Description: Pages 49-58

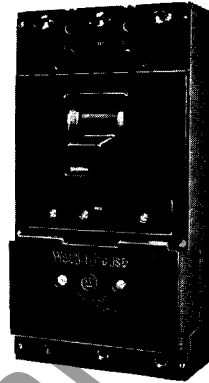
List Prices: See Price List 29-020, Dis. CB-2

① Changed or added since previous issue.
 ② 2 pole breakers are supplied in 3-pole frames with current carrying parts omitted from the center pole.
 ③ Not listed with Underwriters' Laboratories, Inc.



Type LA TRI-PAC® Thermal Magnetic Breakers
70-400 Amperes, 600 Volts Ac, 250 Volts Dc, 2, 3 Poles, Interchangeable Trip, Replaceable Current Limiters

Contin- uous Ampere Rating @40°C	Magnetic Trip Setting Amperes®		Complete Breaker	Shipped as Frame, Trip Units, Limiters and Terminals®		
	Low	High	Includes Pressure Type Copper Terminals®	Frame Only	Trip Unit Only	Current Limiters (1 Required per Pole)
			Catalog Number	Catalog Number	Catalog Number	Catalog Number
2 Poles, 600 Volts Ac, 250 Volts Dc®						
70	350	700	LA2070PR	LA2400PRF	LA2070PT	200LAP08
90	450	900	LA2090PR	LA2400PRF	LA2090PT	200LAP08
100	500	1000	LA2100PR	LA2400PRF	LA2100PT	200LAP08
125	625	1250	LA2125PR	LA2400PRF	LA2125PT	200LAP08
150	750	1500	LA2150PR	LA2400PRF	LA2150PT	200LAP08
175	875	1750	LA2175PR	LA2400PRF	LA2175PT	200LAP08
200	1000	2000	LA2200PR	LA2400PRF	LA2200PT	200LAP08
225	1125	2250	LA2225PR	LA2400PRF	LA2225PT	400LAP10
250	1250	2500	LA2250PR	LA2400PRF	LA2250PT	400LAP10
300	1500	3000	LA2300PR	LA2400PRF	LA2300PT	400LAP10
350	1750	3500	LA2350PR	LA2400PRF	LA2350PT	400LAP10
400	2000	4000	LA2400PR	LA2400PRF	LA2400PT	400LAP10
			Approx. Ship. Wt. 29½ Lbs.	Approx. Ship. Wt. 23¼ Lbs.	Approx. Ship. Wt. 2¼ Lbs.	
3-Poles, 600 Volts Ac Only						
70	350	700	LA3070PR	LA3400PRF	LA3070PT	200LAP08
90	450	900	LA3090PR	LA3400PRF	LA3090PT	200LAP08
100	500	1000	LA3100PR	LA3400PRF	LA3100PT	200LAP08
125	625	1250	LA3125PR	LA3400PRF	LA3125PT	200LAP08
150	750	1500	LA3150PR	LA3400PRF	LA3150PT	200LAP08
175	875	1750	LA3175PR	LA3400PRF	LA3175PT	200LAP08
200	1000	2000	LA3200PR	LA3400PRF	LA3200PT	200LAP08
225	1125	2250	LA3225PR	LA3400PRF	LA3225PT	400LAP10
250	1250	2500	LA3250PR	LA3400PRF	LA3250PT	400LAP10
300	1500	3000	LA3300PR	LA3400PRF	LA3300PT	400LAP10
350	1750	3500	LA3350PR	LA3400PRF	LA3350PT	400LAP10
400	2000	4000	LA3400PR	LA3400PRF	LA3400PT	400LAP10
			Approx. Ship. Wt. 34 Lbs.	Approx. Ship. Wt. 25 Lbs.	Approx. Ship. Wt. 3 Lbs.	



Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

TRI-PAC LA breakers meet the requirements for Class 16a, 16b, 17a and 26a circuit breakers as defined in Federal Specification W-C-375b.

Interrupting Ratings
Underwriters' Laboratories, Inc. Listed
600 Volts Ac, Max.: 200,000 Amperes Sym.

Based on NEMA Test Procedures
250 Volts Dc Max.: 100,000 Amps.

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Terminals®
Two terminals are required per pole. Terminals are Underwriters' Laboratories, Inc. listed for wire size and type listed below. When used with aluminum conductors, use joint compound. To order optional aluminum terminals, add suffix "Z" to complete breaker catalog number.

Max. Amps	Terminal Catalog Number	Wire Range, Type, No. of Cables
-----------	-------------------------	---------------------------------

Standard Copper Pressure Terminals		
225	T225LA	1 #6-350 MCM Cu
225 ^⑦	T225LBF	1 #6-250 MCM Cu
400	T401LA	1 #4-250 MCM Cu, plus 1 3/0-600 MCM Cu

Optional Al/Cu Pressure Terminals		
225	TA225LA1	1 #6-350 MCM Cu, or 1 #4-350 MCM Al
400	TA400LA1	1 #4-250 MCM Al/Cu, plus 1 3/0-600 MCM Al/Cu
400	TA401LA	1 600-750 MCM Al

Special Breakers
Magnetic only TRI-PAC breakers are available on request. Refer to AD 29-160 for available trip ranges.

Accessories and Modifications
Description: Pages 49-58

List Prices: See Price List 29-020, Dis. CB-2

Current Limiters®
Included with breaker, one required per pole.
Cat. No. Application

200LAP08	Supplied as standard on ratings through 200 amps.
400LAP10	Supplied as standard on 225 thru 400 amp ratings, optional on lower ratings when a higher "cross-over point" is desired. (Above two limiters replace 800LAP12 formerly supplied as standard on all ratings, 600LAP09 optional on ratings thru 300 amps, 300LAP05 optional on ratings thru 150 amp, and special rating limiter 1000LAP14.)
500LAP15 ② ④	Special rating where a higher "cross-over point" is desired on 200 amp and higher ratings (Replaces limiter 1500LAP20)

Refer to application data 29-160 for more complete application information.

- ② Not Underwriters' Laboratories, Inc. listed.
- ③ 2-pole breakers or trips are supplied in 3-pole frames with current carrying parts omitted from the center pole.
- ④ Protection based on 100,000 amp max. fault, 480 volts max.
- ⑤ Set on high side, adjustable to lower limits.
- ⑥ Terminals shipped separately from breakers.
- ⑦ Optional terminal.
- ⑧ New limiters suitable for replacement in existing breakers by using plug-in conductor from old limiter (instructions included with limiter).

Special Calibration®
Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hz Ac circuits. See Ad 29-160 for information regarding special conditions.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal Ambient Frequency	Add 30% to List Price of Trip Unit	None None None

50°C Calibration®
Add suffix "V" to catalog number for complete breaker, or trip unit only, when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.



April, 1980
 Supersedes Technical Data 29-120 T WE A
 pages 33-34, dated October, 1975
 Mailed to: E, D, C/1901, 1903, 1928/PL

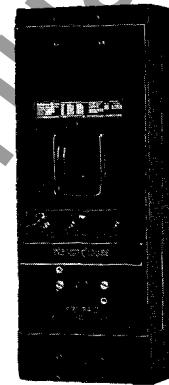
Type NB TRI-PAC® Breakers, 800 Amperes
 Type PB TRI-PAC Breakers, 1600 Amperes

AB DE-ION® Circuit Breakers

Type NB TRI-PAC® Thermal Magnetic Breakers

300-800 Amperes, 600 Volts Ac, 250 Volts Dc[Ⓞ], 2, 3 Poles, Interchangeable Trip, Replaceable Current Limiters

Contin- uous Ampere Rating @ 40°C	Magnetic Trip Setting, Amperes		Complete Breaker Includes Pressure Type Copper Terminals [Ⓢ]	Shipped as Frame, Trip Unit, Limiters and Terminals		Current Limiter 1 Required Per Pole
	Low	High		Frame Only	Trip Unit Only	
			Catalog Number	Catalog Number	Catalog Number	Catalog Number
2-Poles, 600 Volts Ac, 250 Volts Dc[Ⓢ] Ⓣ						
300	1500	3000	NB2300P	NB2800PF	NB2300PT	500NBP12
350	1750	3500	NB2350P	NB2800PF	NB2350PT	500NBP12
400 [Ⓢ]	2000	4000	NB2400P	NB2800PF	NB2400PT	500NBP12
500 [Ⓢ]	2500	5000	NB2500P	NB2800PF	NB2500PT	500NBP12
600 [Ⓢ]	3000	6000	NB2600P	NB2800PF	NB2600PT	800NBP20
700 [Ⓢ]	3000	6000	NB2700P	NB2800PF	NB2700PT	800NBP20
800 [Ⓢ]	3000	6000	NB2800P	NB2800PF	NB2800PT	800NBP20
3-Poles, 600 Volts Ac Only						
300	1500	3000	NB3300P	NB3800PF	NB3300PT	500NBP12
350	1750	3500	NB3350P	NB3800PF	NB3350PT	500NBP12
400 [Ⓢ]	2000	4000	NB3400P	NB3800PF	NB3400PT	500NBP12
500 [Ⓢ]	2500	5000	NB3500P	NB3800PF	NB3500PT	500NBP12
600 [Ⓢ]	3000	6000	NB3600P	NB3800PF	NB3600PT	800NBP20
700 [Ⓢ]	3000	6000	NB3700P	NB3800PF	NB3700PT	800NBP20
800 [Ⓢ]	3000	6000	NB3800P	NB3800PF	NB3800PT	800NBP20
			Approx. Ship. Wt. 75 Lbs.		Approx. Ship. Wt. 4 Lbs.	



Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

TRI-PAC NB breakers meet the requirements for Class 16b, 17a and 26a circuit breakers as defined in Federal Specification W-C-375b.

Interrupting Ratings

Underwriters' Laboratories, Inc. Listed
 600 Volts Ac Max.: 200,000 Amps. Sym.

Based on NEMA Test Procedures
 250 Volts Dc Max. [Ⓢ]: 100,000 Amps.

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Terminals[Ⓢ]

Two terminals are required per pole. Terminals are Underwriters' Laboratories, Inc. listed for wire size and type listed below. When used with aluminum conductors, use joint compound. To order optional aluminum terminals, add suffix "Z" to complete breaker catalog number.

Max. Ampere Rating	Terminal Catalog	Wire Range, Type No. of Cables
--------------------	------------------	--------------------------------

Standard Copper Pressure Terminals		
350	T350NB	1 # 1-600 MCM Cu
700	T700NB1	2 2/0-500 MCM Cu
800	T1000NB1	3 3/0-500 MCM Cu

Optional Al/Cu Pressure Terminals		
700	TA700NB1	2 # 1-500 MCM Al/Cu
800	TA1000NB1	3 3/0-400 MCM Al/Cu
800	TA1201NB1	3 500-750 MCM Al/Cu

Special Breakers

Magnetic only TRI-PAC breakers are available on request. Refer to AD 29-160 for available trip ranges.

Accessories and Modifications

Description: Pages 49-58

List Prices: See Price List 29-020, Dis. CB-2

Current Limiters

Included with breaker, one required per pole.

Catalog Number	Application
500NBP12	Supplied as standard on ratings thru 500 amps.
800NBP20	Supplied as standard on 600-800 amp ratings, or optional on lower ratings when a higher "cross-over point" is desired. Above two limiters replace 1000NBP14 formerly supplied on ratings up to 600 amps, 1500NBP20 supplied on 700 amp, and 2500NBP25 supplied on 800 amps.

Refer to AD 29-160 for more complete application information.

- Ⓢ 2-pole breakers or trips are supplied in 3-pole frames with current-carrying parts omitted from center pole.
- Ⓣ 60 Hertz Ac only.
- Ⓢ Frames, terminals, studs, mounting hardware, dimensions and shipping weights are same as standard thermal magnetic breakers.
- Ⓢ Shipped separately from breaker.
- Ⓢ Dc rating applies to 350 amperes maximum thermal or to magnetic only breakers.
- Ⓢ Not UL Listed.

Special Calibration[Ⓢ]

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C, or frequencies other than 60 Hertz Ac. (400-800 ampere ratings: 50 Hertz Ac minimum, 60 Hertz Ac maximum.) See AD 29-160 for additional information regarding special conditions.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal		
Magnetic	Add 15% to List Price of Trip Unit	None

50°C Calibration[Ⓢ]

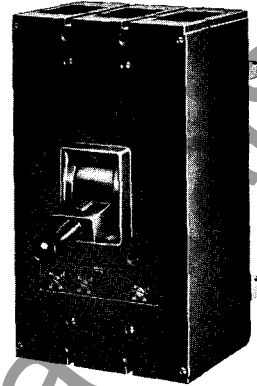
Add suffix "V" to catalog number for complete breaker or trip unit only when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.



Type PB TRI-PAC® Thermal Magnetic/Current Limiting Breakers

600-1600 Amperes, 600 Volts, 60 Hertz Ac®, 250 Volts Dc®, 2, 3 Poles Interchangeable Trip, Replaceable Current Limiters

Contin- uous Ampere Rating @ 40°C	Ac Magnetic Trip Setting (Set on High Side, Adjust- able to Lower Limits)		Complete Breaker Includes Rear "T" Connectors®	Shipped as Frame, Trip Unit Current Limiters and Connectors		
	Low	High	Catalog Number	Frame Only Catalog Number	Trip Unit Only Catalog Number	Current Limiters 1 Required Per Pole Catalog Number
2-Pole, 600 Volts Ac®						
600	1500	5000	PB2600PR	PB21600PRF	PB2600PRT	1000PBPR20
700	1500	5000	PB2700PR	PB21600PRF	PB2700PRT	1000PBPR20
800	1500	5000	PB2800PR	PB21600PRF	PB2800PRT	1000PBPR20
900	1500	5000	PB2900PR	PB21600PRF	PB2900PRT	1000PBPR20
1000	1500	5000	PB21000PR	PB21600PRF	PB21000PRT	1000PBPR20
1200	2000	6000	PB21200PR	PB21600PRF	PB21200PRT	1600PBPR30
1400	2500	7000	PB21400PR	PB21600PRF	PB21400PRT	1600PBPR30
1600	3000	8000	PB21600PR	PB21600PRF	PB21600PRT	1600PBPR30
	Approx. Ship. Wt.		148 lbs.	106 lbs.	18 lbs.	4 lbs.
3-Pole, 600 Volts Ac						
600	1500	5000	PB3600PR	PB31600PRF	PB3600PRT	1000PBPR20
700	1500	5000	PB3700PR	PB31600PRF	PB3700PRT	1000PBPR20
800	1500	5000	PB3800PR	PB31600PRF	PB3800PRT	1000PBPR20
900	1500	5000	PB3900PR	PB31600PRF	PB3900PRT	1000PBPR20
1000	1500	5000	PB31000PR	PB31600PRF	PB31000PRT	1000PBPR20
1200	2000	6000	PB31200PR	PB31600PRF	PB31200PRT	1600PBPR30
1400	2500	7000	PB31400PR	PB31600PRF	PB31400PRT	1600PBPR30
1600	3000	8000	PB31600PR	PB31600PRF	PB31600PRT	1600PBPR30
	Approx. Ship. Wt.		179 lbs.	120 lbs.	23 lbs.	4 lbs.



Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

TRI-PAC PB breakers meet the requirements for Class 17a and 26a circuit breakers as defined in Federal Specification W-C-375b.

Interrupting Ratings

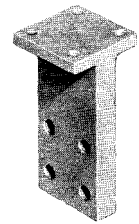
Underwriters' Laboratories, Inc. Listed
600 Volts Ac Max.: 200,000 Amps. Sym.

Based on NEMA Test Procedure
250 Volts Dc®: 100,000 Amps.

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Bus Bar Connectors®

"T" Connector for Cu/Al Bus
Two required per pole. For rear bus connection. Accepts up to four bus bolts. May be rotated 90°. Catalog Number BA2000PB.



Cable Connector (Optional)

For "T" Connector. Accepts four 600 MCM copper cables. Style Number 505C706G04.
Discount Symbol: CB-2®



Special Breakers®

Magnetic Only Type TRI-PACS: Available on request. Refer to Application Data 29-160 for available trip ranges.

List Prices: See Price List 29-020, Dis. CB-2

Current Limiters

Included with breaker, one required per pole.

Catalog Number	Application
1000PBPR20	Supplied as standard on ratings thru 1000 amps. (Replaces limiter 1500PBPR30 formerly supplied on 600 and 700 amp ratings, and 3000PBPR27 supplied on 800-1000 amp ratings.)
1600PBPR30	Supplied as standard on 1200-1600 amp ratings. Optional on lower ratings where a higher "cross-over point is desired. (Replaces limiter 4000PBPR30 formerly supplied on 1200-1400 amp ratings, and 5000PBPR42 supplied on 1600 amp ratings.

Refer to AD 29-160 for more complete application information.

- ® Higher frequency calibration not available Minimum of 50 Hertz calibration available on special order.
- ® 250 volts Dc rating applies only to magnetic only breakers.
- ® 2-pole breakers are supplied in 3-pole frames with current carrying parts omitted from center pole.
- ® Shipped separately from breaker.
- ® Not Underwriters' Laboratories, Inc. listed.
- ® Changed since previous issue.

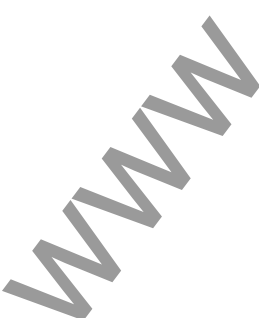
Special Calibrations®

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. See Application Data 29-160 for information regarding special conditions.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal Ambient	Add 15% of Trip Unit List Price	None

50°C Calibration®

Add suffix "V" to catalog number for complete breaker when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.





April, 1980
Supersedes Technical Data 29-120 T WE A
pages 35-36, dated October, 1975
Mailed to: E, D, C/1901, 1903, 1928/PL

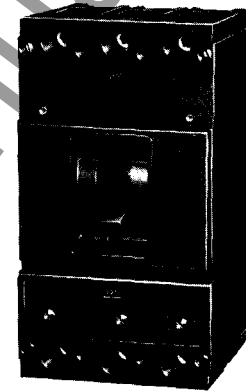
Replacement Breakers
Type JA 225 Amperes
Type KA 225 Amperes
MARK 75® Type HKA 225 Amperes

AB DE-ION® Circuit Breakers

Type JA Thermal Magnetic, Saf-T-Vue® Breakers

70-225 Amperes, 600 Volts Ac, 250 Volts Dc, 2 and 3 Poles, Fixed Trip

Contin- uous Ampere Rating @ 40°C	Magnetic Trip Setting, Amperes (Set on High Side, Adjustable to Lower Limits)		Complete Breaker Includes Pressure Type Copper Terminals®		Breaker Without Terminals	
	Low	High	Catalog Number Standard	Saf-T-Vue	Catalog Number Standard	Saf-T-Vue
2-Poles, 600 Volts Ac, 250 Volts Dc®						
70	350	700	JA2070	JA2070S	JA2070W	JA2070SW
90	450	900	JA2090	JA2090S	JA2090W	JA2090SW
100	500	1000	JA2100	JA2100S	JA2100W	JA2100SW
125	625	1250	JA2125	JA2125S	JA2125W	JA2125SW
150	750	1500	JA2150	JA2150S	JA2150W	JA2150SW
175	875	1750	JA2175	JA2175S	JA2175W	JA2175SW
200	1000	2000	JA2200	JA2200S	JA2200W	JA2200SW
225	1125	2250	JA2225	JA2225S	JA2225W	JA2225SW
225MCS®	Non-automatic		JA2225N	JA2225SN	JA2225NW	JA2225SNW
			Approx. Ship. Wt. 12 Lbs.		Approx. Ship. Wt. 12 Lbs.	
3-Poles, 600 Volts Ac Only						
70	350	700	JA3070	JA3070S	JA3070W	JA3070SW
90	450	900	JA3090	JA3090S	JA3090W	JA3090SW
100	500	1000	JA3100	JA3100S	JA3100W	JA3100SW
125	625	1250	JA3125	JA3125S	JA3125W	JA3125SW
150	750	1500	JA3150	JA3150S	JA3150W	JA3150SW
175	875	1750	JA3175	JA3175S	JA3175W	JA3175SW
200	1000	2000	JA3200	JA3200S	JA3200W	JA3200SW
225	1125	2250	JA3225	JA3225S	JA3225W	JA3225SW
225MCS®	Non-automatic		JA3225N	JA3225SN	JA3225NW	JA3225SNW
			Approx. Ship. Wt. 14 Lbs.		Approx. Ship. Wt. 12 Lbs.	



Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A. see page 48).

Type JA breakers meet requirements of Class 19a and 20a circuit breakers as defined by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings®

Max. Volts	Amperes
240 Ac	30,000 Asym., 25,000 Sym.
480 Ac	25,000 Asym., 22,000 Sym.
600 Ac	25,000 Asym., 22,000 Sym.
250 Dc	10,000

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Terminals®

Two terminals are required per pole.

Terminals are Underwriters' Laboratories, Inc. listed for wire type and range listed below. When used with aluminum conductors, use joint compound. To order optional aluminum copper terminals, add suffix "Z" to complete breaker catalog number.

Breaker Rating, Amps.	Catalog Number	Wire Range, Type No. of Cables
Standard Pressure Terminals (Copper Only)		
70-225	T225LA	1 #6-350 MCM
70-225®	T225LBF	1 #6-250 MCM
Optional Al/Cu Pressur Terminals		
70-225	TA225LA1	1 #6-350 MCM Cu, or 1 #4-350 MCM Al

Magnetic Only and Ambient Compensating Breakers

For description, refer to DB 29-150 and AD 29-160. To order, select catalog number from table at left.

Accessories and Modifications

Description: Pages 49-58

List Prices: See Price List 29-020, Dis. CB-2

For Panelboard and Switchboard applications where only line side or load side terminals are required, add suffix "X" to complete breaker catalog number.

Special Breakers®

Contin- uous Ampere Rating @ 40°C	Magnetic Trip Setting, Amperes (Set on High Side, Adjustable to Lower Limits)		Breaker Catalog Number		3-Poles	
	Low	High	Standard	Saf-T-Vue	Standard	Saf-T-Vue
Magnetic Only Breakers, Front Adjustable-Without Terminals®						
225	350	700	JA2700MW	JA2700SMW	JA3700MW	JA3700SMW
225	625	1250	JA21250MW	JA21250SMW	JA31250MW	JA31250SMW
225	750	1500	JA21500MW	JA21500SMW	JA31500MW	JA31500SMW
225	875	1750	JA21750MW	JA21750SMW	JA31750MW	JA31750SMW
225	1125	2250	JA22250MW	JA22250SMW	JA32250MW	JA32250SMW
Ambient Compensating Breakers						
70	350	700	JA2070A	.....	JA3070A	.....
100	500	1000	JA2100A	.....	JA3100A	.....
125	625	1250	JA2125A	.....	JA3125A	.....
150	750	1500	JA2150A	.....	JA3150A	.....
175	875	1750	JA2175A	.....	JA3175A	.....
200	1000	2000	JA2200A	.....	JA3200A	.....
225	1125	2250	JA2225A	.....	JA3225A	.....

Special Calibrations®

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also Price additions apply to specific calibrations for frequencies other than 0-60 Hertz Ac circuits. See AD 29-160 for information regarding special conditions.

- ® Not listed with Underwriters' Laboratories, Inc.
- ® 2-pole breakers are supplied in 3-pole frames with current carrying parts omitted from center pole.
- ® Terminals are shipped separately from breaker frame.
- ® Optional terminal.
- ® Select desired terminal from table and order as separate item.
- ® Interrupting capacities shown do not apply to molded case switches (MCS).

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal Magnetic Frequency	Add 10% to List Price of Complete Breaker	None None None

50°C Calibration®

Add suffix "V" to catalog number for complete breaker when ordering listed ampere ratings to be used in 50°C ambients. Same price as standard 40°C breakers.



W
com

Type KA Thermal Magnetic, Saf-T-Vue® and MARK® Breakers
70-225 Amperes, 600 Volts Ac, 250 Volts Dc, 2 and 3 Poles, Interchangeable Trip

Contin- uous Amper- e Rat- ing @ 40°C	Magnetic Trip Setting Amperes®		Complete Breaker				Shipped as Frame, Trip Unit and Terminals		
	Low	High	Includes Pressure Type Copper Terminals®		Frame Only			Trip Unit Only	
			Catalog Number		Catalog Number			Catalog Number	
			Standard Saf-T-Vue	MARK 75	Standard	Saf-T-Vue	MARK 75	Standard, MARK 75 or Saf-T-Vue	

2-Poles, 600 Volts Ac, 250 Volts Dc®

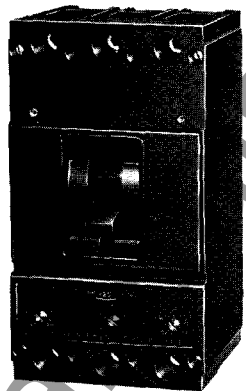
70	350	700	KA2070	KA2070S	HKA2070	KA2225F	KA2225FS	HKA2225F	HKA2070T
90	450	900	KA2090	KA2090S	HKA2090	KA2225F	KA2225FS	HKA2225F	HKA2090T
100	500	1000	KA2100	KA2100S	HKA2100	KA2225F	KA2225FS	HKA2225F	HKA2100T
125	625	1250	KA2125	KA2125S	HKA2125	KA2225F	KA2225FS	HKA2225F	HKA2125T
150	750	1500	KA2150	KA2150S	HKA2150	KA2225F	KA2225FS	HKA2225F	HKA2150T
175	875	1750	KA2175	KA2175S	HKA2175	KA2225F	KA2225FS	HKA2225F	HKA2175T
200	1000	2000	KA2200	KA2200S	HKA2200	KA2225F	KA2225FS	HKA2225F	HKA2200T
225	1125	2250	KA2225	KA2225S	HKA2225	KA2225F	KA2225FS	HKA2225F	HKA2225T
225	MCS®		KA2225N	KA2225SN	.....	KA2225NW	KA2225SNW	.....	Incl. in Frame Approx. Ship. Wt. 2 Lbs.

Approx. Ship. Wt. 12 Lbs.

3-Poles, 600 Volts Ac Only

70	350	700	KA3070	KA3070S	HKA3070	KA3225F	KA3225FS	HKA3225F	HKA3070T
90	450	900	KA3090	KA3090S	HKA3090	KA3225F	KA3225FS	HKA3225F	HKA3090T
100	500	1000	KA3100	KA3100S	HKA3100	KA3225F	KA3225FS	HKA3225F	HKA3100T
125	625	1250	KA3125	KA3125S	HKA3125	KA3225F	KA3225FS	HKA3225F	HKA3125T
150	750	1500	KA3150	KA3150S	HKA3150	KA3225F	KA3225FS	HKA3225F	HKA3150T
175	875	1750	KA3175	KA3175S	HKA3175	KA3225F	KA3225FS	HKA3225F	HKA3175T
200	1000	2000	KA3200	KA3200S	HKA3200	KA3225F	KA3225FS	HKA3225F	HKA3200T
225	1125	2250	KA3225	KA3225S	HKA3225	KA3225F	KA3225FS	HKA3225F	HKA3225T
225	MCS®		KA3225N	KA3225SN	.....	KA3225NW	KA3225SNW	.....	Incl. in Frame Approx. Ship. Wt. 2½ Lbs.

Approx. Ship. Wt. 14 Lbs.



Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A. see page 48).

Type KA breakers meet the requirements for class 19a and 20a circuit breakers, and Type HKA meet requirements for class 23a as defined by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings®

Max. Volts	Amperes
Standard Breakers	
240 Ac	30,000 Asym., 25,000 Sym.
480 Ac	25,000 Asym., 22,000 Sym.
600 Ac	25,000 Asym., 22,000 Sym.
250 Dc	10,000

MARK 75 Breakers	
240 Ac	75,000 Asym., 65,000 Sym.
480 Ac	40,000 Asym., 35,000 Sym.
600 Ac	30,000 Asym., 25,000 Sym.
250 Dc	20,000®

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Magnetic Only and Ambient Compensating Breakers
For description, refer to DB 29-150 and AD 29-160. To order these breakers, select frame, trip unit and terminals.

Accessories and Modifications
Description: Pages 49-58

List Prices: See Price List 29-020, Dis. CB-2

For Panelboard and Switchboard applications where only line side or load side terminals are required, add suffix "X" to complete breaker catalog number.

Trip Units Only For Magnetic Only and Ambient Compensating Breakers®

Contin- uous Amper- e Rat- ing	Magnetic Trip Setting		Catalog Numbers	
	Low	High	2 Poles®	3 Poles

Magnetic Only, Front Adjustable Breakers

225	350	700	HKA2700TM	HKA3700TM
225	625	1250	HKA21250TM	HKA31250TM
225	750	1500	HKA21500TM	HKA31500TM
225	875	1750	HKA21750TM	HKA31750TM
225	1125	2250	HKA22250TM	HKA32250TM

Ambient Compensating Breakers

70	350	700	HKA2070TA	HKA3070TA
100	500	1000	HKA2100TA	HKA3100TA
125	625	1250	HKA2125TA	HKA3125TA
150	750	1500	HKA2150TA	HKA3150TA
175	875	1750	HKA2175TA	HKA3175TA
200	1000	2000	HKA2200TA	HKA3200TA
225	1125	2250	HKA2225TA	HKA3225TA

Special Calibration®
Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C, also price additions apply to specific calibrations for frequencies other than 0-60 Hertz ac circuits. See AD 29-160 for information regarding special conditions.

Type	1-24 Identical Units	25 or More Identical Units
Thermal	Add 30% to List Price of Trip Unit	None
Magnetic		None
Frequency		None

50°C Calibration®
Add suffix "V" to catalog number for complete breaker, listed above, when ordering listed ampere ratings to be used in 50°C ambients. Same price as standard 40°C breakers.

Terminals®
Two terminals are required per pole. Terminals are Underwriters' Laboratories, Inc. listed for wire type and range listed below. When used with aluminum conductors, use joint compound. To order optional aluminum-copper terminals, add suffix "Z" to complete breaker catalog number.

Max. Amps	Catalog Number	Wire Range, Type No. of Cables
-----------	----------------	--------------------------------

Standard Copper Pressure Terminals

225	T225LA	1 #6-350 MCM Cu
225®	T225LBF	1 #6-250 MCM Cu

Optional Al/Cu Pressure Terminals

225	TA225LA1	1 #6-350 MCM Cu or 1 #4-350 MCM Al
-----	----------	---------------------------------------

- ® Not listed with Underwriters' Laboratories, Inc.
- ® 2-pole breakers are supplied in 3-pole frames with current carrying parts omitted from center pole.
- ® Terminals shipped separately from breaker frame.
- ® Set on high side, adjustable to lower limit.
- ® Optional terminal.
- ® Ratings above 10,000 amps not UL Listed.
- ® Interrupting capacities shown do not apply to molded case switches (MCS).

Printed in USA

2/15/79 - Luca
All "DA" bgs will also
fit "SA", but not UL approved. BSA



April, 1980
Supersedes Technical Data 29-120 T WE A
pages 37-38, dated October, 1975
Mailed to: E, D, C/1901, 1903, 1928/PL

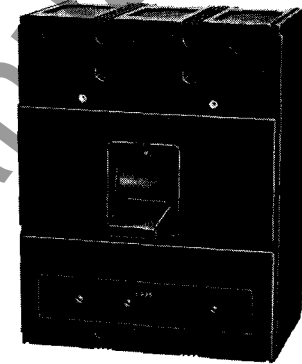
Replacement Breakers
Type LAB400 Amperes
Type LA400 Amperes
Mark 75 Type HLA 400 Amperes

AB DE-ION® Circuit Breakers

Type LAB Thermal Magnetic, Saf-T-Vue® Breakers

125-400 Amperes, 600 Volts Ac, 250 Volts Dc, 2, 3 Poles, Fixed Trip

Contin- uous Ampere Rating @ 40°C	Magnetic Trip Setting, Amperes ②		Complete Breaker Includes Pressure Type Copper Terminals④		Breaker Without Terminals	
	Low	High	Catalog Number		Catalog Number	
			Standard	Saf-T-Vue	Standard	Saf-T-Vue
2-Poles, 600 Volts Ac, 250 Volts Dc③						
125	625	1250	LAB2125	LAB2125S	LAB2125W	LAB2125SW
150	750	1500	LAB2150	LAB2150S	LAB2150W	LAB2150SW
175	875	1750	LAB2175	LAB2175S	LAB2175W	LAB2175SW
200	1000	2000	LAB2200	LAB2200S	LAB2200W	LAB2200SW
225	1125	2250	LAB2225	LAB2225S	LAB2225W	LAB2225SW
250	1250	2500	LAB2250	LAB2250S	LAB2250W	LAB2250SW
300	1500	3000	LAB2300	LAB2300S	LAB2300W	LAB2300SW
350	1750	3500	LAB2350	LAB2350S	LAB2350W	LAB2350SW
400	2000	4000	LAB2400	LAB2400S	LAB2400W	LAB2400SW
400 MCS⑤	Non-Automatic		LAB2400N	LAB2400SN	LAB2400NW	LAB2400SNW
			Approx. Ship. Wt. 22 Lbs.		Approx. Ship. Wt. 22 Lbs.	
3-Poles, 600 Volts Ac Only						
125	625	1250	LAB3125	LAB3125S	LAB3125W	LAB3125SW
150	750	1500	LAB3150	LAB3150S	LAB3150W	LAB3150SW
175	875	1750	LAB3175	LAB3175S	LAB3175W	LAB3175SW
200	1000	2000	LAB3200	LAB3200S	LAB3200W	LAB3200SW
225	1125	2250	LAB3225	LAB3225S	LAB3225W	LAB3225SW
250	1250	2500	LAB3250	LAB3250S	LAB3250W	LAB3250SW
300	1500	3000	LAB3300	LAB3300S	LAB3300W	LAB3300SW
350	1750	3500	LAB3350	LAB3350S	LAB3350W	LAB3350SW
400	2000	4000	LAB3400	LAB3400S	LAB3400W	LAB3400SW
400 MCS⑤	Non-automatic		LAB3400N	LAB3400SN	LAB3400NW	LAB3400SNW
			Approx. Ship. Wt. 24½ Lbs.		Approx. Ship. Wt. 24½ Lbs.	



Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

Type LAB breakers meet requirements for class 21a circuit breakers, as defined by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings⑥

Max. Volts	Amperes
240 Ac	50,000 Asym., 42,000 Sym.
480 Ac	35,000 Asym., 30,000 Sym.
600 Ac	25,000 Asym., 22,000 Sym.
250 Dc	20,000⑥

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Terminals④

Two required per pole. Select from table on page 42.

Magnetic Only and Ambient Compensating Breakers

For description, refer to DB 29-150 and AD 29-160. To order, select catalog number from table at left.

Accessories and Modifications

Description: Pages 49-58

List Prices: See Price List 29-020, Dis. CB-2

For panelboard or switchboard applications where only line side or load side terminals are required, add suffix "X" to complete breaker catalog number.

Special Breakers②

Contin- uous Ampere Rating	Magnetic Trip Setting, Amperes②		Breaker Catalog Number			
	Low	High	2-Poles③ Standard		3-Poles Standard	Saf-T-Vue
Magnetic Only Breakers, Front Adjustable-Without Terminals②						
400	350	700	LAB2700MW	LAB2700SMW	LAB3700MW	LAB3700SMW
400	625	1250	LAB21250MW	LAB21250SMW	LAB31250MW	LAB31250SMW
400	750	1500	LAB21500MW	LAB21500SMW	LAB31500MW	LAB31500SMW
400	875	1750	LAB21750MW	LAB21750SMW	LAB31750MW	LAB31750SMW
400	1125	2250	LAB22250MW	LAB22250SMW	LAB32250MW	LAB32250SMW
400	1500	3000	LAB23000MW	LAB23000SMW	LAB33000MW	LAB33000SMW
400	2000	4000	LAB24000MW	LAB24000SMW	LAB34000MW	LAB34000SMW
Ambient Compensating Breakers-Includes Terminals						
125	625	1250	LAB2125A	.....	LAB3125A	.....
150	750	1500	LAB2150A	.....	LAB3150A	.....
175	875	1750	LAB2175A	.....	LAB3175A	.....
200	1000	2000	LAB2200A	.....	LAB3200A	.....
225	1125	2250	LAB2225A	.....	LAB3225A	.....
250	1250	2500	LAB2250A	.....	LAB3250A	.....
300	1500	3000	LAB2300A	.....	LAB3300A	.....
350	1750	3500	LAB2350A	.....	LAB3350A	.....
400	2000	4000	LAB2400A	.....	LAB3400A	.....

Special Calibrations②

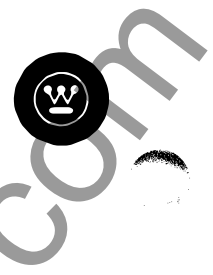
Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hertz Ac circuits. See AD 29-160 for information regarding special conditions. Maximum calibration for 400 Hz is 300 amps.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal	Add 10% to List Price of Complete Breaker	None
Magnetic		None
Frequency		None

50°C Calibration②

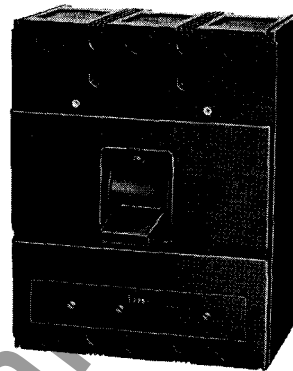
Add suffix "V" to catalog number for complete breaker when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

- ② Not listed with Underwriters' Laboratories, Inc.
- ③ 2-Pole breakers or trips are supplied in 3-pole frames with current carrying parts omitted from center pole.
- ④ Terminals shipped separately from breaker.
- ⑤ Set on high side, adjustable to lower limits.
- ⑥ Optional terminal.
- ⑦ Select desired terminals from page 36 and order as separate item.
- ⑧ Ratings above 10,000 amps not UL listed.
- ⑨ Interrupting capacities shown do not apply to molded case switches (MCS).



Type LA and MARK 75 Type HLA
70-400 Amperes, 600 Volts Ac, 250 Volts Dc, 2, 3 Poles, Interchangeable Trip

Contin- uous Am- pere Rat- ing @ 40°C	Magnetic Trip Setting Amperes [Ⓞ]		Complete Breaker		Shipped as Frame, Trip Unit and Terminals			
	Low	High	Includes Pressure Type Copper Terminals [Ⓡ]		Frame Only			
			Catalog Number		Catalog Number			
			Standard	Saf-T-Vue	MARK 75	Standard	Saf-T-Vue	MARK 75
						Trip Unit Only		
						Catalog Number		
						Standard, MARK 75 or Saf-T-Vue		



Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

400 Ampere Frame Breakers[Ⓞ]

2-Poles, 600 Volts Ac, 250 Volts Dc [Ⓞ]									
70 [Ⓞ]	350	700	LA2070	LA2070S	.....	LA2400F	LA2400FS	.....	HLA2070T
90 [Ⓞ]	450	900	LA2090	LA2090S	.....	LA2400F	LA2400FS	.....	HLA2090T
100 [Ⓞ]	500	1000	LA2100	LA2100S	.....	LA2400F	LA2400FS	.....	HLA2100T
125	625	1250	LA2125	LA2125S	HLA2125	LA2400F	LA2400FS	HLA2400F	HLA2125T
150	750	1500	LA2150	LA2150S	HLA2150	LA2400F	LA2400FS	HLA2400F	HLA2150T
175	875	1750	LA2175	LA2175S	HLA2175	LA2400F	LA2400FS	HLA2400F	HLA2175T
200	1000	2000	LA2200	LA2200S	HLA2200	LA2400F	LA2400FS	HLA2400F	HLA2200T
225	1125	2250	LA2225	LA2225S	HLA2225	LA2400F	LA2400FS	HLA2400F	HLA2225T
250	1250	2500	LA2250	LA2250S	HLA2250	LA2400F	LA2400FS	HLA2400F	HLA2250T
300	1500	3000	LA2300	LA2300S	HLA2300	LA2400F	LA2400FS	HLA2400F	HLA2300T
350	1750	3500	LA2350	LA2350S	HLA2350	LA2400F	LA2400FS	HLA2400F	HLA2350T
400	2000	4000	LA2400	LA2400S	HLA2400	LA2400F	LA2400FS	HLA2400F	HLA2400T
400	MCS [Ⓢ]		LA2400N	LA2400SN	.....	LA2400NW	LA2400SNW	.....	Incl. in Frame Approx. Ship. Wt. 2 1/4 Lbs.

Type LA breakers meet requirements for class 21a circuit breakers, and Type HLA meet requirements for class 23a as defined by Federal Specification W-C-375b.

3 Poles, 600 Volts Ac Only

70 [Ⓞ]	350	700	LA3070	LA3070S	.....	LA3400F	LA3400FS	.....	HLA3070T
90 [Ⓞ]	450	900	LA3090	LA3090S	.....	LA3400F	LA3400FS	.....	HLA3090T
100 [Ⓞ]	500	1000	LA3100	LA3100S	.....	LA3400F	LA3400FS	.....	HLA3100T
125	625	1250	LA3125	LA3125S	HLA3125	LA3400F	LA3400FS	HLA3400F	HLA3125T
150	750	1500	LA3150	LA3150S	HLA3150	LA3400F	LA3400FS	HLA3400F	HLA3150T
175	875	1750	LA3175	LA3175S	HLA3175	LA3400F	LA3400FS	HLA3400F	HLA3175T
200	1000	2000	LA3200	LA3200S	HLA3200	LA3400F	LA3400FS	HLA3400F	HLA3200T
225	1125	2250	LA3225	LA3225S	HLA3225	LA3400F	LA3400FS	HLA3400F	HLA3225T
250	1250	2500	LA3250	LA3250S	HLA3250	LA3400F	LA3400FS	HLA3400F	HLA3250T
300	1500	3000	LA3300	LA3300S	HLA3300	LA3400F	LA3400FS	HLA3400F	HLA3300T
350	1750	3500	LA3350	LA3350S	HLA3350	LA3400F	LA3400FS	HLA3400F	HLA3350T
400	2000	4000	LA3400	LA3400S	HLA3400	LA3400F	LA3400FS	HLA3400F	HLA3400T
400	MCS [Ⓢ]		LA3400N	LA3400SN	.....	LA3400NW	LA3400SNW	.....	Incl. in Frame Approx. Ship. Wt. 3 Lbs.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings[Ⓢ]

Volts Max.	Amperes
240 Ac	50,000 Asym., 42,000 Sym.
480 Ac	35,000 Asym., 30,000 Sym.
600 Ac	25,000 Asym., 22,000 Sym.
250 Dc	20,000 [Ⓢ]

MARK 75 Breakers

240 Ac	75,000 Asym., 65,000 Sym.
480 Ac	40,000 Asym., 35,000 Sym.
600 Ac	30,000 Asym., 25,000 Sym.
250 Dc	20,000 [Ⓢ]

For Panelboard and switchboard applications where only line side or load side terminals are required, add suffix "X" to complete breaker catalog number.

Terminals[Ⓡ]

Two terminals are required per pole. Terminals are Underwriters' Laboratories, Inc. listed for wire type and range listed below. When used with aluminum cable, use joint compound. To order optional aluminum-copper terminals, add suffix "Z" to complete breaker catalog number.

Max. Amps	Terminal Catalog Number	Wire Range, Type, No. of Cables
-----------	-------------------------	---------------------------------

Standard Copper Pressure Terminals

225 [Ⓞ]	T225LA	1 #6-350 MCM Cu
225 [Ⓞ]	T225LBF	1 #6-250 MCM Cu
400 [Ⓞ]	T401LA	1 #4-250 MCM Cu, plus 1 3/0-600 MCM Cu

Optional Al/Cu Pressure Terminals

225 [Ⓞ]	TA225LA1	1 #6-350 MCM Cu, or 1 #4-350 MCM Al
400 [Ⓞ]	TA400LA1	1 #4-250 MCM Al/Cu, plus 1 3/0-600 MCM Al/Cu
400 [Ⓞ]	TA401LA	1 600-750 MCM Al

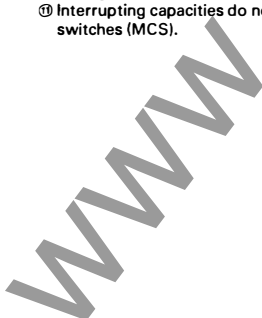
- Ⓞ Not listed with Underwriters' Laboratories, Inc.
- Ⓞ 2-pole breakers or trips are supplied in 3-pole frames with current carrying parts omitted from center pole.
- Ⓞ These ratings have interrupting capacities reduced to 25,000 amps sym. at 240 volts, 20,000 amps sym. at 480 volts, and 15,000 amps sym. at 600 volts.
- Ⓞ Terminals, trip units and accessories are not interchangeable between 400 and 600 ampere frames.
- Ⓞ Set on high side, adjustable to lower limits.
- Ⓞ Terminals shipped separately from breaker.
- Ⓞ 400 amp frame only.
- Ⓞ Optional terminal.
- Ⓞ Ratings above 10,000 amps not UL Listed.
- Ⓞ Interrupting capacities do not apply to molded case switches (MCS).

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Accessories and Modifications

Descriptions: Pages 49-58

List Prices: See Price List 29-020, Dis. CB-2





April, 1980
 Supersedes Technical Data 29-120 T WE A
 pages 39-40, dated October, 1975
 Mailed to: E, D, C/1901, 1903, 1928/PL

Type LA400 Amperes
 Type MA800 Amperes

AB DE-ION® Circuit Breakers

Type LA Breakers

70-400 Amperes, 600 Volts Ac, 250 Volts Dc, 2, 3 Poles, Interchangeable Trip

Special Breakers® Trip Units Only

Contin- uous Amper- Rating	Magnetic Trip Setting, Amperes®		Catalog Number	
	Low	High	2-Poles®	3-Poles

Magnetic Only Breakers, Front Adjustable 400 Ampere Frame Breakers®

400	350	700	HLA2700TM	HLA3700TM
400	625	1250	HLA21250TM	HLA31250TM
400	750	1500	HLA21500TM	HLA31500TM
400	875	1750	HLA21750TM	HLA31750TM
400	1125	2250	HLA22250TM	HLA32250TM
400	1500	3000	HLA23000TM	HLA33000TM
400	2000	4000	HLA24000TM	HLA34000TM

Ambient Compensating Breakers 400 Ampere Frame Breakers Only®

70®	350	700	HLA2070TA	HLA3070TA
90®	450	900	HLA2090TA	HLA3090TA
100®	500	1000	HLA2100TA	HLA3100TA
125	625	1250	HLA2125TA	HLA3125TA
150	750	1500	HLA2150TA	HLA3150TA
175	875	1750	HLA2175TA	HLA3175TA
200	1000	2000	HLA2200TA	HLA3200TA
225	1125	2250	HLA2225TA	HLA3225TA
250	1250	2500	HLA2250TA	HLA3250TA
300	1500	3000	HLA2300TA	HLA3300TA
350	1750	3500	HLA2350TA	HLA3350TA
400	2000	4000	HLA2400TA	HLA3400TA

Magnetic Only and Ambient Compensating Breakers®

For description, refer to DB 29-150 and AD 29-160. To order, select trip unit from table at left, frame and terminals from page 42.

Special Calibrations®

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. Also price additions apply to specific calibrations for frequencies other than 0-60 Hertz Ac circuits. See Application Data 29-160 for information regarding special conditions. Maximum 400 Hz calibration: 400 amp frame, 300 amps.

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal Ambient Frequency	Add 30% of List Price of Trip Unit	None None None

50°C Calibration®

Add suffix "V" to catalog number for complete breaker or trip unit only, when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

List Prices: See Price List 29-020, Dis. CB-2

- ® Two-pole breakers or trips are supplied in 3-pole frames with current carrying parts omitted from center pole.
- ® These ratings have lower interrupting capacities. See note 4, page 42.
- ® Terminals, trip units and accessories are not interchangeable between 400 and 600 amp frames.
- ® Not listed with Underwriters' Laboratories, Inc.
- ® Set on high side, adjustable to lower limits.

www.ElectricalManuals.com



Type MA Breakers

125-800 Amperes, 600 Volts Ac, 250 Volts Dc®, 2, 3 Poles, Interchangeable Trip

Contin- uous Am- pere Rat- ing @ 40°C	Magnetic Trip Setting, Amperes ®		Complete Breaker			Shipped as Frame, Trip Unit and Terminals®			
	Low	High	Includes Pressure Type Copper Terminals®			Frame Only			Trip Unit Only
			Catalog Number			Catalog Number			Catalog Number
			Standard	Saf-T-Vue	MARK 75	Standard	Saf-T-Vue	MARK 75	Standard Saf-T-Vue, MARK 75

2-Poles, 600 Volts Ac, 250 Volts Dc®

125	625	1250	MA2125	MA2125S	HMA2125	MA2800F	MA2800FS	HMA2800F	HMA2125T
150	750	1500	MA2150	MA2150S	HMA2150	MA2800F	MA2800FS	HMA2800F	HMA2150T
175	875	1750	MA2175	MA2175S	HMA2175	MA2800F	MA2800FS	HMA2800F	HMA2175T
200	1000	2000	MA2200	MA2200S	HMA2200	MA2800F	MA2800FS	HMA2800F	HMA2200T
225	1125	2250	MA2225	MA2225S	HMA2225	MA2800F	MA2800FS	HMA2800F	HMA2225T
250	1250	2500	MA2250	MA2250S	HMA2250	MA2800F	MA2800FS	HMA2800F	HMA2250T
300	1500	3000	MA2300	MA2300S	HMA2300	MA2800F	MA2800FS	HMA2800F	HMA2300T
350	1750	3500	MA2350	MA2350S	HMA2350	MA2800F	MA2800FS	HMA2800F	HMA2350T
400	2000	4000	MA2400	MA2400S	HMA2400	MA2800F	MA2800FS	HMA2800F	HMA2400T
500	2500	5000	MA2500	MA2500S	HMA2500	MA2800F	MA2800FS	HMA2800F	HMA2500T
600	3000	6000	MA2600	MA2600S	HMA2600	MA2800F	MA2800FS	HMA2800F	HMA2600T
700	3000	6000	MA2700®	MA2700S	HMA2700	MA2800F	MA2800FS	HMA2800F	HMA2700T®
800	3000	6000	MA2800®	MA2800S	HMA2800	MA2800F	MA2800FS	HMA2800F	HMA2800T®
800	MCS®		MA2800N	MA2800SN	.....	MA2800NW	MA2800SNW	.....	Incl. in Frame Approx. Ship. Wt. 3½ Lbs.

3 Poles, 600 Volts Ac Only

125	625	1250	MA3125	MA3125S	HMA3125	MA3800F	MA3800FS	HMA3800F	HMA3125T
150	750	1500	MA3150	MA3150S	HMA3150	MA3800F	MA3800FS	HMA3800F	HMA3150T
175	875	1750	MA3175	MA3175S	HMA3175	MA3800F	MA3800FS	HMA3800F	HMA3175T
200	1000	2000	MA3200	MA3200S	HMA3200	MA3800F	MA3800FS	HMA3800F	HMA3200T
225	1125	2250	MA3225	MA3225S	HMA3225	MA3800F	MA3800FS	HMA3800F	HMA3225T
250	1250	2500	MA3250	MA3250S	HMA3250	MA3800F	MA3800FS	HMA3800F	HMA3250T
300	1500	3000	MA3300	MA3300S	HMA3300	MA3800F	MA3800FS	HMA3800F	HMA3300T
350	1750	3500	MA3350	MA3350S	HMA3350	MA3800F	MA3800FS	HMA3800F	HMA3350T
400	2000	4000	MA3400	MA3400S	HMA3400	MA3800F	MA3800FS	HMA3800F	HMA3400T
500	2500	5000	MA3500	MA3500S	HMA3500	MA3800F	MA3800FS	HMA3800F	HMA3500T
600	3000	6000	MA3600	MA3600S	HMA3600	MA3800F	MA3800FS	HMA3800F	HMA3600T
700	3000	6000	MA3700®	MA3700S	HMA3700	MA3800F	MA3800FS	HMA3800F	HMA3700T®
800	3000	6000	MA3800®	MA3800S	HMA3800	MA3800F	MA3800FS	HMA3800F	HMA3800T®
800	MCS®		MA3800N	MA3800SN	.....	MA3800NW	MA3800SNW	.....	Incl. in Frame Approx. Ship. Wt. 4 Lbs.

Magnetic Only Breakers, Front Adj.®

Contin- uous Am- pere Rating	Magnetic Trip Range		Cat. Number, Trip Unit Only	
	Low	High	2 Poles®	
			3 Poles	
800	625	1250	HMA21250TM	HMA31250TM
800	1000	2000	HMA22000TM	HMA32000TM
800	1500	3000	HMA23000TM	HMA33000TM
800	2000	4000	HMA24000TM	HMA34000TM
800	3000	6000	HMA26000TM	HMA36000TM
800	4000	8000	HMA28000TM	HMA38000TM

- ® Not listed with Underwriters' Laboratories, Inc.
- ® 2-pole breakers supplied in 3-pole frames with current carrying parts omitted from center pole.
- ® 60 Hertz Ac only.
- ® Set on high side, adjustable to lower limit.
- ® Terminals shipped separate from breaker.
- ® Fits only breakers with three piece covers manufactured after late 1973.
- ® Above 600 amps., Dc rating applies to magnetic only breakers.
- ® Ratings above 10,000 amps not UL Listed.
- ® Interrupting capacities shown do not apply to molded case switches (MCS).

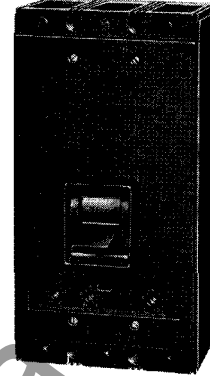
Ambient Compensating Breakers®

Contin- uous Ampere Rating	Magnetic Trip Range		Cat. Number Trip Unit Only	
	Low	High	2-Poles	
			3-Poles	
125	625	1250	HMA2125TA	HMA3125TA
150	750	1500	HMA2150TA	HMA3150TA
175	875	1750	HMA2175TA	HMA3175TA
200	1000	2000	HMA2200TA	HMA3200TA
225	1125	2250	HMA2225TA	HMA3225TA
250	1250	2500	HMA2250TA	HMA3250TA
300	1500	3000	HMA2300TA	HMA3300TA
350	1750	3500	HMA2350TA	HMA3350TA
400	2000	4000	HMA2400TA	HMA3400TA
500	2500	5000	HMA2500TA	HMA3500TA
600	3000	6000	HMA2600TA	HMA3600TA
700	3000	6000	HMA2700TA	HMA3700TA
800	3000	6000	HMA2800TA	HMA3800TA

Special Calibrations: See Page 45

Accessories and Modifications
Description: Pages 49-58

List Prices: See Price List 29-020, Dis. CB-2



Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A. see page 48.)

Type MA breakers meet requirements for class 21a circuit breakers, and Type HMA meet requirements for class 23a, as defined by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings®

Max. Volts	Amperes
Standard Breakers	
240 Ac	50,000 Asym., 42,000 Sym.
480 Ac	35,000 Asym., 30,000 Sym.
600 Ac	25,000 Asym., 22,000 Sym.
250 Dc®	20,000®
Mark 75 Breakers	
240 Ac	75,000 Asym., 65,000 Sym.
480 Ac	40,000 Asym., 35,000 Sym.
600 Ac	30,000 Asym., 25,000 Sym.
250 Dc®	20,000®

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Terminals®

Two terminals are required per pole. Terminals are Underwriters' Laboratories, Inc. listed for wire type and range listed below. When used with aluminum conductors, use joint compound. To order optional aluminum-copper terminals, add suffix "Z" to complete breaker catalog number.

Max. Amps.	Terminal Cat. No.	Wire Range, Type No. of Cables
Standard Copper Pressure Terminals		
350	T350MA	1 1#-600 MCM Cu
600	T600MA1	2 2/0-500 MCM Cu
800	T800MA1	3 3/0-300 MCM Cu
Optional Al/Cu Pressure Terminals		
600	TA700MA1	2 #1-500 MCM Al/Cu
800	TA800MA2	3 3/0-400 MCM Al/Cu
800®	TA801MA	2 500-750 MCM Al/Cu

Magnetic Only and Ambient Compensating Breakers

For description, refer to DB 29-150 or AD 29-160. To order a complete breaker, select trip unit plus frame and terminals.

*7/1/85 - 1/2" Gauge Gutter
Thermal magnetic, 800A, now available
for 250V. DC, 21,000A. IC
but must be specified
- std price: B/D*



April, 1980
 Supersedes Technical Data 29-120 T WE A
 pages 41-42, dated October, 1975, and
 Supplement to Technical Data 29-120
 page 42.1, dated May 14, 1979.
 Mailed to: E, D, C/1901, 1903, 1928/PL

Replacement Breakers
 Type NB 1200 Amperes

AB DE-ION® Circuit Breakers

Type NB Breakers

700-1200 Amperes, 600 Volts, 60 Hertz Ac^②, 250 Volts Dc^④, 2, 3 Poles, Interchangeable Trip

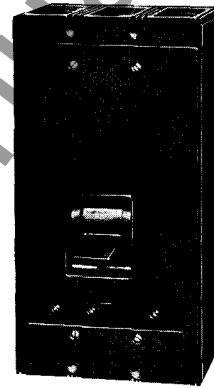
Contin- uous Am- pere Rat- ing @ 40°C	Magnetic Trip Setting, Amperes ⑦		Complete Breaker			Shipped as Frame, Trip Unit and Terminals ^⑥			
	Low	High	Includes Pressure Type Copper Terminals ^⑧			Frame Only			Trip Unit Only
			Catalog Number			Catalog Number			Catalog Number
			Standard	Saf-T-Vue	MARK 75	Standard	Saf-T-Vue	MARK 75	Standard Saf-T-Vue, MARK 75

2 Poles, 600 Volts Ac, 250 Volts Dc^④

Rating	Low	High	Standard	Saf-T-Vue	MARK 75	Standard	Saf-T-Vue	MARK 75	Standard	Saf-T-Vue	MARK 75
700	3000	6000	NB2700	NB2700S	HNB2700	NB21200F	NB21200FS	HNB21200F	NB2700T		
800	3000	6000	NB2800	NB2800S	HNB2800	NB21200F	NB21200FS	HNB21200F	NB2800T		
900	4000	8000	NB2900	NB2900S	HNB2900	NB21200F	NB21200FS	HNB21200F	NB2900T		
1000	4000	8000	NB21000	NB21000S	HNB21000	NB21200F	NB21200FS	HNB21200F	NB21000T		
1200	4000	8000	NB21200	NB21200S	HNB21200	NB21200F	NB21200FS	HNB21200F	NB21200T		
1200	MCS ^⑩		NB21200N	NB21200SN	.....	NB21200F	NB21200FS	.....	NB21200TN	Approx. Ship. Wt. 3½ Lbs.	

3-Poles, 600 Volts Ac Only

Rating	Low	High	Standard	Saf-T-Vue	MARK 75	Standard	Saf-T-Vue	MARK 75	Standard	Saf-T-Vue	MARK 75
700	3000	6000	NB3700	NB3700S	HNB3700	NB31200F	NB31200FS	HNB31200F	NB3700T		
800	3000	6000	NB3800	NB3800S	HNB3800	NB31200F	NB31200FS	HNB31200F	NB3800T		
900	4000	8000	NB3900	NB3900S	HNB3900	NB31200F	NB31200FS	HNB31200F	NB3900T		
1000	4000	8000	NB31000	NB31000S	HNB31000	NB31200F	NB31200FS	HNB31200F	NB31000T		
1200	4000	8000	NB31200	NB31200S	HNB31200	NB31200F	NB31200FS	HNB31200F	NB31200T		
1200	MCS ^⑩		NB31200N	NB31200SN	.....	NB31200F	NB31200FS	.....	NB31200TN	Approx. Ship. Wt. 4 Lbs.	



Listed with Underwriters' Laboratories, Inc.
 except as noted. (For C.S.A., see page 48.)

Type NB breakers meet requirements for
 class 21a circuit breakers, and Type HNB
 meet requirements for class 23a, as defined
 by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. listed Interrupting Ratings: ⑧

Max. Volts	Amperes
Standard Breakers	
240 Ac	50,000 Asym., 42,000 Sym.
480 Ac	35,000 Asym., 30,000 Sym.
600 Ac	25,000 Asym., 22,000 Sym.
250 Dc ^④	20,000 ^⑥
Mark 75 Breakers	
240 Ac	75,000 Asym., 65,000 Sym.
480 Ac	40,000 Asym., 35,000 Sym.
600 Ac	30,000 Asym., 25,000 Sym.
250 Dc ^④	20,000 ^⑥

On all 3 phase Delta, Grounded B phase
 applications, refer to Westinghouse.

Terminals^⑨

Two terminals are required per pole.
 Terminals are Underwriters' Laboratories,
 Inc. listed for wire type and range listed
 below. When used with aluminum
 conductors, use joint compound. To order
 optional aluminum-copper terminals, add
 suffix "Z" to complete breaker catalog
 number.

Max. Ampere Ratings	Terminal Catalog Number	Wire Range, Type, No. of Cables
1000	T1000NB1	3 3/0-500 MCM Cu
1200	T1200NB1	4 3/0-400 MCM Cu

Standard Copper Pressure Terminals		
1000	T1000NB1	3 3/0-400 MCM Cu
1200	T1200NB1	4 3/0-400 MCM Cu

Alternate Al/Cu Pressure Terminals		
1000	TA1000NB1	3 3/0-400 MCM Al/Cu
1200	TA1200NB1	4 4/0-500 MCM Al/Cu
1200	TA1201NB1	3 500-750 MCM Al/Cu

Magnetic Only Breakers, Front Adjustable^⑤ ⑥

Contin- uous Am- pere Rating	Magnetic Trip Range ^⑦		Trip Unit Only	
	Low	High	2-Poles ^②	
			Catalog Number	Catalog Number
1200	3000	6000	HNB2600TM	HNB3600TM
1200	4000	8000	HNB2800TM	HNB3800TM
1200	5000	10000	HNB21000TM	HNB31000TM
1200	6000	12000	HNB21200TM	HNB31200TM

Magnetic Only Breakers^⑤

For description, refer to DB 29-150 or AD
 29-160. To order a complete breaker, select
 trip unit, plus frame and terminals.

- ⑤ Higher frequency calibration not available. Minimum of 50 cycle calibration available on special order.
- ⑥ 2-pole breakers supplied in 3-pole frames with current carrying parts omitted from center pole.
- ⑦ 250 volt Dc rating applied only to magnetic only type breakers.
- ⑧ Frames, terminals, studs, mounting hardware, dimensions and shipping weights are same as standard thermal magnetic breakers.
- ⑨ Terminals shipped separately from breaker.
- ⑩ Set on high side, adjustable to lower limits.
- ⑪ Not listed with Underwriters' Laboratories, Inc.
- ⑫ Ratings above 10,000 amps not UL Listed.
- ⑬ Interrupting capacities shown do not apply to molded case switches (MCS).
- ⑭ NB molded case switches requiring a UL label must be specified and supplied as complete factory assembled units.

Special Calibrations^⑤

Special calibration price additions apply to
 ampere ratings not listed as standard,
 ambients other than 40°C or 50°C. or
 frequencies other than 60 Hertz Ac (50 Hertz
 Ac minimum - 60 Hertz Ac maximum for
 ratings of 700 amps and above). See AD
 29-160 for additional information regarding
 special conditions. Maximum 400 Hz
 calibration for type MA is 475 amps.

Type of Calibration	1-24 Identical Units		25 or More Ident. Units
	Type MA, HMA	Type NB, HNB	
Thermal Ambient Frequency	Add 20% of Trip Unit List Price	Add 15% of Trip Unit List Price	None None None

50°C Calibration^⑤

Add suffix "V" to catalog number for
 complete breaker or trip unit only, when
 ordering listed ampere ratings for breakers to
 be used in 50°C ambients. Same price as
 standard 40°C breakers.

Accessories and Modifications

Description: Pages 49-58

List Prices: See Price List 29-020 Dis. CB-2

Handwritten note:
 7/11/85 - 1000A thermal magnetic
 for 250V DC - in 1980 2 C
 (Signature)



www.ElectricalPartManuals.com



February, 1984
New Information
Mailed to: E, D, C/29-100A, 31-400A

Molded Case Switches
Standard Type (No Overcurrent Protection)
High Magnetic Trip Type (Fixed Trip Setting)

AB DE-ION® Circuit Breakers

Molded Case Switches

Molded Case Switches are Underwriters' Laboratories, Inc. listed devices and are available as standard type with no overcurrent protection, and high magnetic trip type with fixed trip setting.

For application information and UL Inc. listed withstand ratings, refer to Application Data 29-160, pages 75-76.

Further Information

List Prices: Price List 29-020
Terminals: Page 46.2

Standard Molded Case Switches (No Overcurrent Protection)

Switch Catalog Number ^{① ② ③}	No. of Poles	Max. Volts	Max. Amps.	Switch Catalog Number ^{① ② ③}	No. of Poles	Max. Volts	Max. Amps.
CA2225N	2	240	225	MA2800NW	2	600	800
CA2225NY	2	240	225	MA3800NW	3	600	800
CA3225N	3	240	225	MC2800NW	2	600	800
CA3225NY	3	240	225	MC3800NW	3	600	800
DA2400N	2	240	400	NB21200N	2	600	1200
DA2400NY	2	240	400	NB31200N	3	600	1200
DA3400N	3	240	400	NC21200NW	2	600	1200
DA3400NY	3	240	400	NC31200NW	3	600	1200
EB1100N	1	120	100	PBF22000N	2	600	2000
EB2100N	2	240	100	PBF32000N	3	600	2000
EB3100N	3	240	100	PB22000N	2	600	2000
EHB1100N	1	277	100	PB32000N	3	600	2000
EHB2100N	2	480	100	PB22500N	2	600	2500
EHB3100N	3	480	100	PB32500N	3	600	2500
FB2100N	2	600	100	PCF22000N	2	600	2000
FB3100N	3	600	100	PCF32000N	3	600	2000
FB4100N	4	277/480	100	PCF22500N	2	600	2500
FB2150N	2	600	150	PCF32500N	3	600	2500
FB3150N	3	600	150	PC22000NW	2	600	2000
FB4150N	4	277/480	150	PC32000NW	3	600	2000
JA2225NW	2	600	225	PC22500NW	2	600	2500
JA3225NW	3	600	225	PC32500NW	3	600	2500
JB2250NW	2	600	250	PC23000N	2	600	3000
JB3250NW	3	600	250	PC33000N	3	600	3000
KA2225NW	2	600	225	LAB2400NW	2	600	400
KA3225NW	3	600	225	LAB3400NW	3	600	400
KB2250NW	2	600	250	LA2400NW	2	600	400
KB3250NW	3	600	250	LA2600NW	2	600	400
LAB2400NW	2	600	400	LA3400NW	3	600	400
LAB3400NW	3	600	400	LA3600NW	3	600	400
LA2400NW	2	600	400	LBB2400NW	2	600	400
LA2600NW	2	600	400	LBB3400NW	3	600	400
LA3400NW	3	600	400	LB2400NW	2	600	400
LA3600NW	3	600	400	LB3400NW	3	600	400
LBB2400NW	2	600	400	LC2600NW	2	600	600
LBB3400NW	3	600	400	LC3600NW	3	600	600
LB2400NW	2	600	400				
LB3400NW	3	600	400				

① Catalog number suffix letter identification:
N = Molded Case Switch (No overcurrent protection)
Y = Terminals on line end only
W = No terminals

② Molded case switch dimensions are the same as the equivalent type thermal magnetic breaker. Refer to Dimension Sheet 29-170.

③ Most three pole units up to 1200 amps (except CA and DA) are available with a Saf-T-Vue® cover.

www.ElectricalPartMaterials.com



Molded Case Switches With High Magnetic Trip (Fixed Trip Setting)

Switch Catalog Number ①②	No. of Poles	Max. Volts	Max. Amps.	Switch Catalog Number ①②	No. of Poles	Max. Volts	Max. Amps.	Switch Catalog Number ①②	No. of Poles	Max. Volts	Max. Amps.
CA2225WK	2	240	225	LA2400WK	2	600	400	PB22000WK	2	600	2000
CA3225WK	3	240	225	LA2400WSK	2	600	400	PB22500WK	2	600	2500
DA2400WK	2	240	400	LA2600WK	2	600	600	PB32000WK	3	600	2000
DA3400WK	3	240	400	LA2600WSK	2	600	600	PB32500WK	3	600	2500
EB1100LK	1	120	100	LA3400WK	3	600	400	PBF22000K	2	600	2000
EB2100LK	2	240	100	LA3400WSK	3	600	400	PBF32000K	3	600	2000
EB3100LK	3	240	100	LA3600WK	3	600	600	PC22000WK	2	600	2000
EB3100SLK	3	240	100	LA3600WSK	3	600	600	PC22500WK	2	600	2500
EHB1100LK	1	277	100	LAB2400WK	2	600	400	PC23000K	2	600	3000
EHB2100LK	2	480	100	LAB2400WSK	2	600	400	PC32000WK	3	600	2000
EHB3100LK	3	480	100	LAB3400WK	3	600	400	PC32500WK	3	600	2500
EHB3100SLK	3	480	100	LAB3400WSK	3	600	400	PC33000K	3	600	3000
FB2100LK	2	600	100	LB2400WK	2	600	400	PCC22000WK	2	600	2000
FB2150LK	2	600	150	LB2400WSK	2	600	400	PCC22500WK	2	600	2500
FB3100LK	3	600	100	LB3400WK	3	600	400	PCC23000K	2	600	3000
FB3150LK	3	600	150	LB3400WSK	3	600	400	PCC32000WK	3	600	2000
FB3100SLK	3	600	150	LBB2400WK	2	600	400	PCC32500WK	3	600	2500
FB4100LK	4	277/480	100	LBB2400WSK	2	600	400	PCC33000K	3	600	3000
FB4150LK	4	277/480	150	LBB3400WK	3	600	400	PCF22000K	2	600	2000
FB4100SLK	4	277/480	150	LBB3400WSK	3	600	400	PCF32000K	3	600	2000
JA2225WK	2	600	225	LC2600WK	2	600	600				
JA2225WSK	2	600	225	LC3600WK	3	600	600				
JA3225WK	3	600	225	MA2800WK	2	600	800				
JA3225WSK	3	600	225	MA2800WSK	2	600	800				
JB2250WK	2	600	250	MA3800WK	3	600	800				
JB2250WSK	2	600	250	MA3800WSK	3	600	800				
JB3250WK	3	600	250	MC2800WK	2	600	800				
JB3250WSK	3	600	250	MC3800WK	3	600	800				
KA2225WK	2	600	225	NB21200WK	2	600	1200				
KA2225WSK	2	600	225	NB21200WSK	2	600	1200				
KA3225WK	3	600	225	NB31200WK	3	600	1200				
KA3225WSK	3	600	225	NB31200WSK	3	600	1200				
KB2250WK	2	600	250	NC21200WK	2	600	1200				
KB2250WSK	2	600	250	NC31200WK	3	600	1200				
KB3250WK	3	600	250								
KB3250WSK	3	600	250								

① Catalog number suffix identification:
 K = Molded Case Switch with High Magnetic Trip (Fixed Trip Setting)
 S = Saf-T-Vue cover
 L = With Line and Load Terminals
 W = No terminals

② Molded case switch dimensions are the same as the equivalent thermal magnetic breaker. Refer to Dimension Sheet 29-170.

Molded Case Switch Terminal Data

MCS Type	Max. Switch Amps.	Standard Terminals				Optional Terminals (Aluminum Body)			
		Terminal Type or Cat. No.	Wire Type	No. of Wires	Wire Range	Terminal Type or Cat. No.	Wire Type	No. of Wires	Wire Range
CA	225	TA225CA2	Cu/Al	1	#3-300 MCM	.....	.....	..	.....
DA, LB, LBB	400	T400DA2	Cu	2	3/0-250 MCM	TA400DA1	Cu/Al	2	3/0-250 MCM
EB, EHB, FB	100	Pressure	Cu	1	#14-1/0	Pressure	Cu/Al	1	#4-4/0
FB	150	Pressure	Cu/Al	1	#4-4/0	.....	.....	..	.....
JA, KA	225	T225LA	Cu	1	#6-350 MCM	TA225LA1	Cu/Al	1	#4-350 MCM
JB, KB	250	T250KB	Cu	1	#4-350 MCM	TA250KB	Cu/Al	1	#4-350 MCM
LA400, LAB	400	T401LA	Cu	1	#4-250 MCM, plus	TA400LA1	Cu/Al	1	#4-250 MCM, plus
				1	3/0-600 MCM			1	3/0-600 MCM
LA400, LAB	400	.....	.....	..	.....	TA401LA	Al	1	600-750 MCM
LA600, LC600	600	T600LA	Cu	2	250/500 MCM	TA600LA	Cu/Al	2	250/500 MCM
MC, MA	800	T800MA1	Cu	3	3/0-300 MCM	TA800MA2	Cu/Al	3	3/0-400 MCM
NC, NB	1200	T1200NB1	Cu	4	3/0-400 MCM	TA1200NB1	Cu/Al	4	4/0-500 MCM
NC, NB	1200	.....	.....	..	.....	TA1201NB1	Cu/Al	3	500-750 MCM
PC2000, PCC2000	2000	BA2000PB Rear Bus Connector							
PC2500, PCC2500	2500	Style 315C910G03 Rear Bus Connector							
PC3000, PCC3000	3000	Rear Bus Connector Included in Frame							

Westinghouse Electric Corporation
 Low Voltage Division
 Beaver, Pennsylvania 15009

Printed in USA



October, 1981
Supersedes Technical Data 29-120 T WE A
pages 43-44, dated April, 1980
Mailed to: E, D, C/1901, 1903, 1928/PL

Replacement Breakers
Type PB 2500 Amperes^②

3000A - use PC

AB DE-ION[®] Circuit Breakers

Type PB Breakers^①

600-2500 Amperes, 600 Volts, 60 Cycle Ac^⑤, 250 Volts Dc^⑦, 2, 3 Poles, Interchangeable Trip

Continuous Ampere Rating (at 40°C)	Magnetic Trip Setting, Amperes ⑥⑧		Complete Breaker Includes Bus Bar Connectors ^⑨	Shipped as Frame, Trip Unit and Terminals	
	Low	High	Catalog Number	Frame Only Catalog Number	Trip Unit Only Catalog Number

2-Poles, 600 Volts Ac Only^④

600	1500	5000	PB2600	PB22500F	PB2600T
700	1500	5000	PB2700	PB22500F	PB2700T
800	1500	5000	PB2800	PB22500F	PB2800T
900	1500	5000	PB2900	PB22500F	PB2900T
1000	1500	5000	PB21000	PB22500F	PB21000T
1200	2000	6000	PB21200	PB22500F	PB21200T
1400	2500	7000	PB21400	PB22500F	PB21400T
1600	3000	8000	PB21600	PB22500F	PB21600T
1800	3000	8000	PB21800	PB22500F	PB21800T
2000	3000	8000	PB22000	PB22500F	PB22000T
2000 MCS ^{⑩⑪}	Non-automatic		PB22000N	PB22500F	PB22000TN
	Approx. Ship. Wt.		132 Lbs.	98 Lbs.	18 Lbs.
2500	3000	8000	PB22500	PB22500F	PB22500T
2500 MCS ^{⑩⑪}	Non-automatic		PB22500N	PB22500F	PB22500TN
	Approx. Ship. Wt.		144 Lbs.	98 Lbs.	18 Lbs.

3-Poles, 600 Volts Ac Only

600	1500	5000	PB3600	PB32500F	PB3600T
700	1500	5000	PB3700	PB32500F	PB3700T
800	1500	5000	PB3800	PB32500F	PB3800T
900	1500	5000	PB3900	PB32500F	PB3900T
1000	1500	5000	PB31000	PB32500F	PB31000T
1200	2000	6000	PB31200	PB32500F	PB31200T
1400	2500	7000	PB31400	PB32500F	PB31400T
1600	3000	8000	PB31600	PB32500F	PB31600T
1800	3000	8000	PB31800	PB32500F	PB31800T
2000	3000	8000	PB32000	PB32500F	PB32000T
2000 MCS ^{⑩⑪}	Non-automatic		PB32000N	PB32500F	PB32000TN
	Approx. Ship. Wt.		155 Lbs.	108 Lbs.	23 Lbs.
2500	3000	8000	PB32500	PB32500F	PB32500T
2500 MCS ^{⑩⑪}	Non-automatic		PB32500N	PB32500F	PB32500TN
	Approx. Ship. Wt.		173 Lbs.	108 Lbs.	23 Lbs.

Special Breakers^② (See page 48 also)

Magnetic Only Breakers, Front Adjustable^③

Contin- uous Ampere Rating	Magnetic Trip Range, Amperes ^⑥	2-Poles ^④		3-Poles	
		Catalog Number	Catalog Number	Catalog Number	Catalog Number

For Rear Connected Type PB Breakers

2000	1500	5000	PB25000TM	PB35000TM
2000	2000	6000	PB26000TM	PB36000TM
2000	2500	7000	PB27000TM	PB37000TM
2000	3000	8000	PB28000TM	PB38000TM
2000	3500	10000	PB210000TM	PB310000TM
2000	4000	12000	PB212000TM	PB312000TM
2500	4000	12000	373D488G08	373D488G09

For Front Connected Type PBF Breakers

2000	1500	5000	PBF25000TM	PBF35000TM
2000	2000	6000	PBF26000TM	PBF36000TM
2000	2500	7000	PBF27000TM	PBF37000TM
2000	3000	8000	PBF28000TM	PBF38000TM
2000	3500	10000	PBF210000TM	PBF310000TM
2000	4000	12000	PBF212000TM	PBF312000TM

Special Calibration^⑫

See Page 48.

Magnetic Only Breakers^②

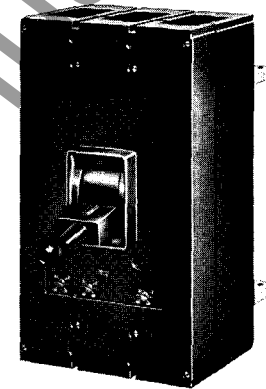
For description, refer to DB 29-150 and AD 29-160. To order a complete breaker, select trip unit, plus frame and connectors.

Accessories and Modifications

Description: Pages 49-58

List Prices: See Price List 29-020, Dis. CB-2

- ① Changed since previous issue.
- ② Not listed with Underwriters' Laboratories, Inc.
- ③ Frames, connectors, dimensions and shipping weights are same as thermal magnetic breakers.
- ④ 2-pole breakers are supplied in 3-pole frames with current carrying parts omitted from center pole.
- ⑤ Higher frequency calibration not available. Minimum of 50 Hertz calibration available on special order.
- ⑥ Higher magnetic trip settings are available as special calibration. Refer to magnetic only breakers for specific trip ranges.
- ⑦ Available only on magnetic only breakers.
- ⑧ Based on NEMA test procedure.
- ⑨ Set on high side, adjustable to lower limits.
- ⑩ Shipped separately from breaker.
- ⑪ Interrupting capacities shown do not apply to molded case switches (MCS).
- ⑫ PB molded case switches requiring UL label must be specified and supplied as complete factory assembled units.



Rear Connected
PB Breaker

Listed with Underwriters' Laboratories, Inc. except as noted. (For C.S.A., see page 48.)

Type PB breakers meet the requirements for class 25a circuit breakers as defined by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. Listed Interrupting Ratings^⑪

Max. Volts	Amperes
240 Ac	150,000 Asym., 125,000 Sym.
480 Ac	115,000 Asym., 100,000 Sym.
600 Ac	115,000 Asym., 100,000 Sym.
250 Dc ^⑦	75,000 Amperes ^⑥

On all 3 phase Delta, Grounded B phase applications, refer to Westinghouse.

Bus Bar Connections^⑫

"T" Connector (For Cu/Al Bus)

Two required per pole. For rear bus connection of breakers thru 2000 amps. Accepts up to four bus bolts. May be rotated 90°.

Catalog Number BA2000PB

"C" Connector^⑬ (For Cu/Al Bus)

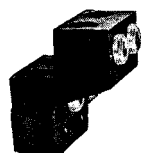
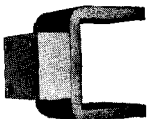
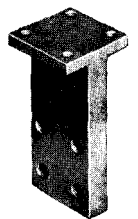
Two required per pole. For rear bus connection of 2500 amp breakers.

Breaker Amps.	Cat. No.
2500	BA2500PB

Cable Connector

Fits "T" Connector and 2000 amp front connected breakers. Accepts four 600 MCM copper cables.

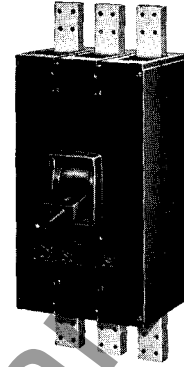
Style Number 505C706G04
Discount Symbol CB-2





Type PB Breakers, Continued
Type PBF Front Connected Breakers

Continuous Ampere Rating (@ 40°C)	Magnetic Trip Setting, Amperes (Set on High Side, Adjustable to Lower Limits)		Complete Breaker Includes Bus Bar Connectors ^⑤ Catalog Number	Shipped As:	
	Low	High		Frame Only Includes Bus Bar Connectors ^⑤ Catalog Number	Trip Unit Only Catalog Number
2-Pole, 600 Volts Ac^③					
600	1500	5000	PBF2600	PBF22000F	PBF2600T
700	1500	5000	PBF2700	PBF22000F	PBF2700T
800	1500	5000	PBF2800	PBF22000F	PBF2800T
900	1500	5000	PBF2900	PBF22000F	PBF2900T
1000	1500	5000	PBF21000	PBF22000F	PBF21000T
1200	2000	6000	PBF21200	PBF22000F	PBF21200T
1400	2500	7000	PBF21400	PBF22000F	PBF21400T
1600	3000	8000	PBF21600	PBF22000F	PBF21600T
1800	3000	8000	PBF21800	PBF22000F	PBF21800T
2000	3000	8000	PBF22000	PBF22000F	PBF22000T
2000MCS ^⑦ ⑤	Non-automatic		PBF22000N	PBF22000F	PB22000TN ^⑥
3-Pole, 600 Volts Ac					
600	1500	5000	PBF3600	PBF32000F	PBF3600T
700	1500	5000	PBF3700	PBF32000F	PBF3700T
800	1500	5000	PBF3800	PBF32000F	PBF3800T
900	1500	5000	PBF3900	PBF32000F	PBF3900T
1000	1500	5000	PBF31000	PBF32000F	PBF31000T
1200	2000	6000	PBF31200	PBF32000F	PBF31200T
1400	2500	7000	PBF31400	PBF32000F	PBF31400T
1600	3000	8000	PBF31600	PBF32000F	PBF31600T
1800	3000	8000	PBF31800	PBF32000F	PBF31800T
2000	3000	8000	PBF32000	PBF32000F	PBF32000T
2000MCS ^⑦ ⑤	Non-automatic		PBF32000N	PBF32000F	PB32000TN ^⑥



PBF Front Connected

Canadian Standards Association (CSA) Listing

Most standard thermal magnetic molded case circuit breakers listed with Underwriters' Laboratories, Inc., and having a UL label are also listed with CSA and may be marked with the CSA monogram, except FCL and LCL Current Limit-R breakers.

Special Calibrations^②

Special calibration price additions apply to ampere ratings not listed as standard, or for ambients other than 40°C or 50°C. See AD 29-160 for information regarding special conditions.

List Prices: See Price List 29-020, Dis. CB-2

Type of Calibration	1-24 Identical Units	25 or More Identical Units
Thermal ^③ Magnetic	{ Add 15% to List Price of Trip Unit	None None

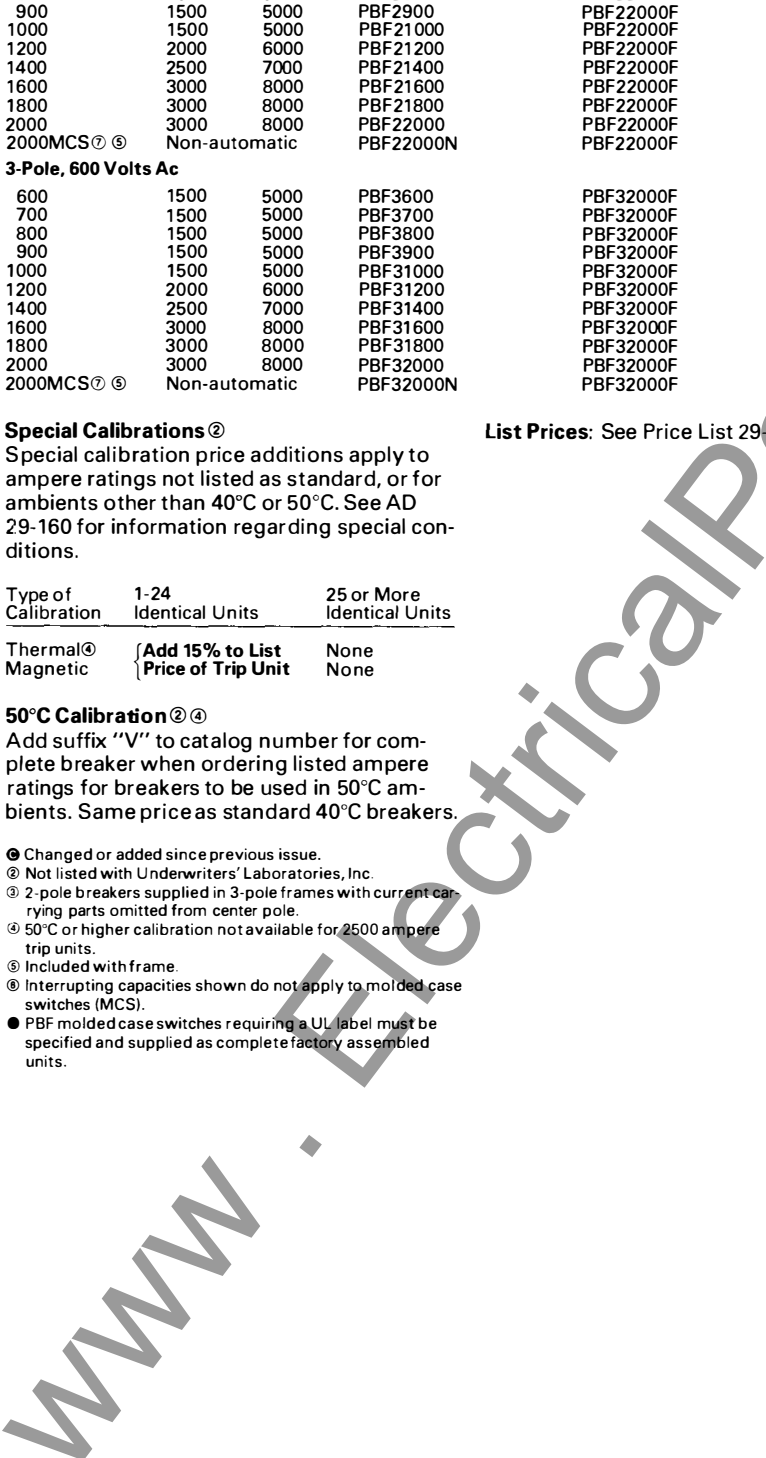
50°C Calibration^④

Add suffix "V" to catalog number for complete breaker when ordering listed ampere ratings for breakers to be used in 50°C ambients. Same price as standard 40°C breakers.

- ③ Changed or added since previous issue.
- ④ Not listed with Underwriters' Laboratories, Inc.
- ⑤ 2-pole breakers supplied in 3-pole frames with current carrying parts omitted from center pole.
- ⑥ 50°C or higher calibration not available for 2500 ampere trip units.
- ⑦ Included with frame.
- ⑧ Interrupting capacities shown do not apply to molded case switches (MCS).
- PBF molded case switches requiring a UL label must be specified and supplied as complete factory assembled units.

Molded case switches (non-automatic) types KB, LB, LA, MA, NB, and PB are also CSA listed.

The above breakers and switches with Saf-T-Vue covers (where available) can also be supplied with the CSA label. Refer to factory for availability and ordering instructions.





April, 1980
Supersedes Technical Data 29-120 T WE A
pages 45-46, dated October, 1975
Mailed to: E,D,C/1901, 1903, 1928/PL

Accessories

AB DE-ION®
Circuit Breakers

Accessories

List Prices: See Price List 29-020, Dis. CB-2

Reader Connected Studs®

For DA, EB, EHB, FB, JA, KA, JB, KB, LAB, LA, LB, LBB, MA, HFB, HKA, HKB, HLA, HLB, HMA, HNB, TRI-PAC® FB, TRI-PAC LA and TRI-PAC NB Breakers

For complete stud assembly, order a stud and appropriate tube based on thickness of customer's mounting panel. A short stud must be assembled adjacent to a long stud to maintain clearances required by Underwriters' Laboratories, Inc.®. Two studs are required per pole. Refer to DS 29-170 for stud sizes and extensions behind breaker.

For DA, EB, EHB, FB, FCL, JA, KA, JB, KB, LB, LBB, HFB, HKA, HKB, HLB, TRI-PAC FB Breakers

Mounting Panel Thickness, Inches	Stud		Tube®	
	Length	Style Number	Length	Style Number
DA, LB, LBB, HLB Breakers				
3/4 - 1	Short	656D565G03	27 ^{3/32}	313C909H17
	Long	656D565G04	32 ^{5/32}	313C909H20
1/2 - 3/4	Short	656D565G03	19 ^{3/32}	313C909H18
	Long	656D565G04	41 ^{3/32}	313C909H21
1/4 - 1/2	Short	656D565G03	11 ^{1/32}	313C909H19
	Long	656D565G04	49 ^{3/32}	313C909H22

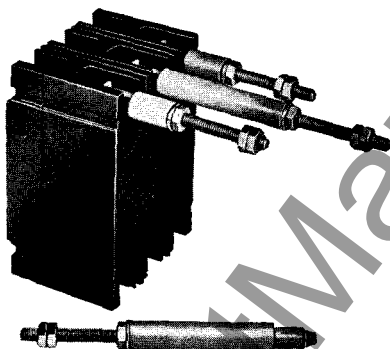
EB, EHB, FB, HFB, FCL, TRI-PAC FB (100 Amp Max.)				
1	Short	451D874G01	11 ^{1/16}	32B9446H20
	Long	451D874G02	37 ^{1/16}	32B9446H24
1 1/16 - 1 5/16	Short	451D874G01	19 ^{3/16}	32B9446H21
	Long	451D874G02	37 ^{3/16}	32B9446H25
3/8 - 5/8	Short	451D874G01	11 ^{1/16}	32B9446H22
	Long	451D874G02	41 ^{1/16}	32B9446H26
1/4 - 5/16	Short	451D874G01	2	32B9446H23
	Long	451D874G02	47 ^{3/16}	32B9446H27

FB, HFB 150 Amp Breakers				
1	Short	374D883G01	11 ^{1/16}	374D883H06
	Long	374D883G02	45 ^{1/16}	374D883H10
1 1/16 - 1 5/16	Short	374D883G01	13 ^{1/16}	374D883H07
	Long	374D883G02	45 ^{1/16}	374D883H11
3/8 - 5/8	Short	374D883G01	11 ^{1/16}	374D883H08
	Long	374D883G02	41 ^{1/16}	374D883H12
1/4 - 5/16	Short	374D883G01	2	374D883H09
	Long	374D883G02	51 ^{1/16}	374D883H13

JA, KA, HKA Breakers				
3/4 - 1	Short	656D565G01	27 ^{3/32}	456D983H05
	Long	656D565G02	32 ^{5/32}	456D983H08
1/2 - 3/4	Short	656D565G01	19 ^{3/32}	456D983H06
	Long	656D565G02	41 ^{3/32}	456D983H09
1/4 - 1/2	Short	656D565G01	11 ^{1/32}	456D983H07
	Long	656D565G02	49 ^{3/32}	456D983H10

JB, KB, HKB Breakers				
3/4 - 1	Short	5010D23G01	27 ^{3/32}	456D983H05
	Long	5010D23G02	37 ^{3/32}	5010D23H06
1/2 - 3/4	Short	5010D23G01	19 ^{3/32}	456D983H06
	Long	5010D23G02	41 ^{3/32}	5010D23H06
1/4 - 1/2	Short	5010D23G01	11 ^{1/32}	456D983H07
	Long	5010D23G02	47 ^{3/32}	5010D23H07

® Changed or added since previous issue.



For LAB, LA, MA, HLA, HMA, HNB, TRI-PAC LA and TRI-PAC NB Breakers
For insulated panels only; 2 required per pole.

Stud Ampere Rating	Diameter, Inches and Thread	Extension Back of Breaker, Inches	Stud Style Number
LAB, LA, HLA, LC, HLC, LCL, TRI-PAC LA Breakers			
225®	1/2-13	37 ^{3/32}	1241 345
225®	1/2-13	69 ^{3/32}	1241 346
225®	1/2-13	43 ^{1/32}	1241 392
400®	3/4-16	51 ^{5/32}	05B7383G15
400®	3/4-16	73 ^{1/32}	05B7383G16
400®	3/4-16	101 ^{5/32}	05B7383G17
600®	1 - 12	529 ^{3/32}	314C960G07
600®	1 - 12	813 ^{3/32}	314C960G08
600®	1 - 12	1029 ^{3/32}	314C960G09

MA, HMA, MC, HMC Breakers			
225	1/2-13	321 ^{3/32}	314C960G01
400	3/4-16	529 ^{3/32}	314C960G04
400	3/4-16	813 ^{3/32}	314C960G05
400	3/4-16	1029 ^{3/32}	314C960G06
600	1 - 12	529 ^{3/32}	314C960G07
600	1 - 12	813 ^{3/32}	314C960G08
600	1 - 12	1029 ^{3/32}	314C960G09
800	1 1/4-12	529 ^{3/32}	314C960G10
800	1 1/4-12	813 ^{3/32}	314C960G11
800	1 1/4-12	1029 ^{3/32}	314C960G12

NB, HNB, NC, HNC Breakers			
800	1 1/4-12	5 1/2	623B222G01
800	1 1/4-12	8	623B222G02
800	1 1/4-12	10 1/2	623B222G03
1200	1 1/4-12	5 1/2	373B375G04
1200	1 1/4-12	10 1/2	373B375G03

TRI-PAC NB Breakers			
450	1 1/4-12	5 1/2	623B222G01
450	1 1/4-12	8	623B222G02
450	1 1/4-12	10 1/2	623B222G03
800	1 1/4-12	5 1/2	373B375G04
800	1 1/4-12	10 1/2	373B375G03

® This is a special stud which includes six contact nuts for use where bus contact nuts must be used.
® 150, 250, 300 and 400 amp frames only.
® 400 ampere LA studs of the same length have sufficient clearance; however, customer connections may make it necessary to use a short stud adjacent to a long stud.
® Not Underwriters' Laboratories, Inc. listed.
® Included at No Charge when ordered with stud.
® 600 ampere frames only.

Panelboard Connecting Straps®

For connecting line end of breakers to panelboard bus.



Ampere Rating	Connector Type	Style Number
CA Breaker Power Panelboards (Convertible)		
Bus Spacing 3 1/2"		
225	Center	1253C74G01
225	Outside	1253C74G02
3-Pole Mounting Bracket		624B624H01
2-Pole Mounting Bracket		624B624H02

EB, EHB, FB, HFB, TRI-PAC FB, FCL® Breakers		
Narrow Distribution Panelboards		
Bus Spacing 2 1/4" in Box 5 3/4" Deep (240 Volts Max.)		
50	Center	673B142G07
50	Outside	673B142G08
Bus Spacing 2 3/4" in Box 5 3/4" Deep (600 Volts Max.)		
50	Center	673B142G02
50	Outside	®673B142G09
100	Center	673B142G02
100	Outside	®673B142G10
150	Center	673B142G04
150	Outside	673B142G03

Power Panelboards (Convertible)		
Bus Spacing 3 1/2"		
50	Center	1253C72G01
50	Outside	1253C72G02
100	Center	1253C73G03
100	Outside	1253C73G04
150	Center	1253C73G01
150	Outside	1253C73G02
3-Pole Mounting Bracket		624B600H01
2-Pole Mounting Bracket		624B600H02

DA, LB, LBB, HLB Breaker Bus Spacing 3 1/2"		
400	Center	314C940G04
400	Outside	505C680G01
Mtg. Bracket (1 Req'd)		208B264H01

JA, KA, HKA Breakers Bus Spacing 3 1/2"		
225	Center	314C940G03
225	Outside	180C074G01
Mtg. Bracket (1 Req'd)		208B264H01

JB, KB, HKB Breakers Bus Spacing 3 1/2"		
250	Center	2600D26G01
250	Outside	2600D26G02
Mtg. Bracket (1 Req'd)		1576 707

LAB, LA, HLA, LC, HLC 150, 300, 400 Amp Frames		
Bus Spacing 3 1/2"		
400	Center	32B4570G02
400	Outside	314C541G01
Mtg. Bracket (2 Req'd)		208B297H01

®LA, HLA, LC, HLC 600 Amp Frames		
Bus Spacing 3 1/2"		
600	Center	624B609G01
600	Outside	506C052G01
Mtg. Bracket (2 Req'd)		208B297H01

MA, HMA, MC, HMC Breakers Bus Spacing 3 1/2"		
800	Short	314C996G01
800	Medium	314C996G02
800	Long	314C996G03
Mtg. Bracket (4 Req'd)		315C270H01

NB, HNB, NC, HNC Breakers Bus Spacing 3 1/2"		
1200	Short	505C606G04
1200	Medium	505C606G05
1200	Long	505C606G06
Mtg. Bracket (4 Req'd)		315C270H01

®LCL Breakers Bus Spacing 3 1/2"		
400	Short	1275C85G01
400	Medium	1275C85G02
400	Long	1275C85G03
Mtg. Bracket Kit (1 Req'd)		751B044G01

#176G214G03
#176G214G04

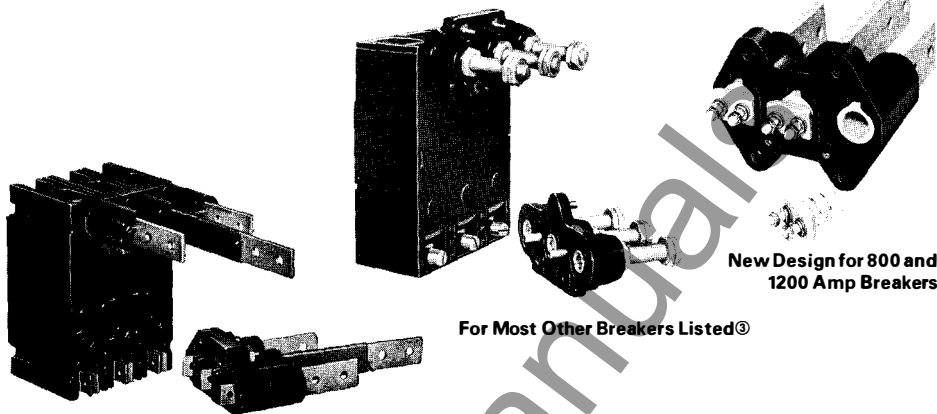


Accessories, Continued

Plug-in Adapter Kits ①

For rear connected applications such as switchboards. Facilitates ease of installation and front removal of breaker. Includes conductor for mounting on breaker, plug-in mounting blocks with matching conductor, rear studs and mounting hardware ②. Order 2 mounting blocks style number when line and load are required; order 1 mounting block style number when either line or load is required.

List Prices: See Price List 29-020, Dis. CB-2



New Design for 800 and 1200 Amp Breakers

For Most Other Breakers Listed ③

For EB, EHB, FB and HFB

Description	Style Number
DA LB, LBB, HLB Breakers ④	
2 Mounting Blocks, Line and Load	
2-Pole	313C644G45
3-Pole	313C644G46
1 Mounting Block, Line or Load	
2-Pole	314C932G03
3-Pole	314C932G04
EB, EHB, FB Thermal Magnetic Breakers ④	
1 Mounting Block, Line or Load	
2-Pole, 100 Ampere	507C036G01
2-Pole, 150 Ampere	507C036G02
3-Pole, 100 Ampere	507C036G03
3-Pole, 150 Ampere	507C036G04
FB and HFB Magnetic Only, HFB Thermal Magnetic, FB TRI-PAC and FCL ④ Breakers ⑤	
1 Mounting Block, Line or Load	
2-Pole, 100 Ampere	507C036G05
2-Pole, 150 Ampere	507C036G06
3-Pole, 100 Ampere	507C036G03
3-Pole, 150 Ampere	507C036G04
JA, KA, HKA Breakers ④	
2 Mounting Blocks, Line and Load	
2-Pole	313C644G29
3-Pole	313C644G30
1 Mounting Block, Line or Load	
2-Pole	314C932G01
3-Pole	314C932G02
LAB, LA, HLA, LC, HLC, LCL (150, 250, 300 and 400 Amp Frames) ④	
2 Mounting Blocks, Line and Load	
2-Pole	313C644G25
3-Pole	313C644G26
1 Mounting Block, Line or Load	
2-Pole	450D010G15
3-Pole	450D010G16
LA, HLA, LC, HLC (600 Ampere Frames) ④	
2 Mounting Blocks, Line and Load	
2-Pole	313C644G50
3-Pole	313C644G51
1 Mounting Block, Line or Load	
2-Pole	506C059G01
3-Pole	506C059G02

Description	Style Number
JB, KB, HKB Breakers ④	
2 Mounting Blocks, Line and Load	
2-Pole	506C144G17
3-Pole	506C144G18
1 Mounting Block, Line Only	
2-Pole	1260C86G01
3-Pole	1260C86G02
1 Mounting Block, Load Only	
2-Pole	1260C86G03
3-Pole	1260C86G04
MA, HMA, MC, HMC Breakers ④	
2 Mounting Blocks, Line and Load	
2-Pole, 125-600 Ampere	313C644G27
2-Pole, 700-800 Ampere	176C544G01 ②
3-Pole, 125-600 Ampere	313C644G28
3-Pole, 700-800 Ampere	176C544G02 ②
1 Mounting Block, Line or Load	
2-Pole, 125-600 Ampere	313C370G03
2-Pole, 700-800 Ampere	507C049G01 ②
3-Pole, 125-600 Ampere	313C370G04
3-Pole, 700-800 Ampere	507C049G02 ②
MA, HMA, MC, HMC, NB, HNB, NC, HNC, NB-TRI-PAC Breakers ④ (New Design)	
1 Mounting Block, Line or Load	
MA, HMA, MC, HMC 2-Poles	2614D53G05
MA, HMA, MC, HMC 3-Poles	2614D53G06
NB, HNB, NC, HNC, NB TRI-PAC, 2-Poles	2614D53G03
NB, HNB, NC, HNC, NB TRI-PAC, 3-Poles	2614D53G04
TRI-PAC LA Breakers ④	
2 Mounting Blocks, Line and Load	
2-Pole	313C644G41
3-Pole	313C644G42
1 Mounting Block, Line Only	
2-Pole	450D010G17
3-Pole	450D010G19
1 Mounting Block, Load Only	
2-Pole	450D010G18
3-Pole	450D010G20

Mounting Block for Type NB, HNB, NC, HNC and NB TRI-PAC Breakers ③

An insulated base having front-removable bolted connections for mounting and connecting the breaker and bus connectors extending from the rear of the base. One block required per breaker. (See DS 29-170).

Ampere Rating	No. of Poles	Style Number
NB, HNB, NC, HNC Breakers		
1200	2	4990D16G02
1200	3	4990D16G01
NB TRI-PAC		
800	2	4990D16G04
800	3	4990D16G03

① Changed or added since previous issue.

② 700-800 amp adapter kit is front removable, bolt-on design — not plug-in type.

③ Not Underwriters' Laboratories, Inc. listed.

④ These plug-in adapter kits are UL Listed as recognized components.

⑤ EB, EHB, FB, HFB, KB, JB, HKB, NB and new design MA, MC, NB and NC have flat bus rear connectors. Others have threaded studs.

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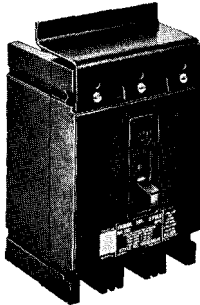
*(Also see Pg. 51)
dated 7/27/87*

January, 1985
Supersedes Technical Data 29-120
pages 51-52, dated April, 1980
Mailed to: E, D, C/29-100A

Accessories, Modifications

**AB DE-ION®
Circuit Breakers**

**Accessories, Continued
Extended Line Terminal Shields®**



For shielding line side terminal connections. One shield required per breaker. Order separately when needed. Sold only in lots of 10, including hardware.

Breaker Frame	Style Number
DA	314C420G06
JA, KA, LB, LBB (Saf-T-Vue)	314C420G04
JA, KA, HKA, LB, LBB, HLB (Standard Breaker)	314C420G06
LAB, LA, HLA, LC, HLC, TRI-PAC LA	314C420G05
LAB, LA, (Saf-T-Vue)	314C420G02
MA, HMA, MC, HMC	208B966G01
NB, HNB, TRI-PAC® NB, NC, HNC	208B966G02
EB, EHB, FB, HFB, TRI-PAC FB, FCL	625B229G01
JB, KB, HKB	1266C07G01

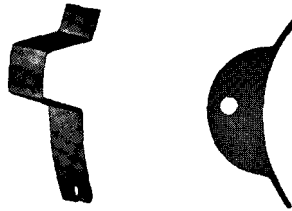
Base Mounting Hardware®
No charge when ordered with breaker. Order separately when needed.

Breaker Frame	Style Number
1-Pole Breakers	
EB, EHB, FB, HFB®	624B375G01
EB, EHB, FB, HFB®	624B375G02
2-Pole Breakers	
CA	21C6782G28
2- and 3-Pole Breakers	
DA, JA, KA, HKA, LB, LBB, HLB	21C6782G22
EB, EHB, FB, HFB, TRI-PAC FB, FCL	21C6782G18
LAB, LA, HLA, LC, HLC, TRI-PAC LA, LCL	1614 613
MA, NB, HMA, HNB, TRI-PAC NB, MC, HMC, NC, HNC	1091 716
PB, TRI-PAC PB, PC, PCC	624B375G22
JB, KB, HKB	673B125G12
3-Pole Breakers	
CA	21C6782G29

Non-Automatic Lock
For KA, KB, LA400, LA600, LB and MA breakers.

Breaker Frame	Style Numbers	
	2-Poles	3-Poles
KB	4974D52G25	4974D52G26
KA	177C981G05	177C981G06
LA 400	505C709G03	505C709G04
LA 600	505C709G05	505C709G06
MA	504C500G01	504C500G02
LB	177C981G09	177C981G10

Handle Locks®



Typical Photos

Non-Padlockable
For prevention of unintentional operation of breaker. Fits over breaker handle and may be removed.

Padlockable®
For prevention of unauthorized operation of breaker. Is non-removable once installed on breaker. Meets Underwriters' Laboratories, Inc. and California Code requirements. Note: All breakers are trip free and will trip with handle locks attached. Cannot be used when handle extension is used.

Breaker Frame	Style Number
Non-Padlockable	
EB, EHB, FB, HFB, TRI-PAC FB, CA	1720 360
DA, JA, KA, HKA, LB, LBB, HLB	29B2721H04
LAB, LA, LC, HLC, MA, NB, HLA, HMA, HNB, TRI-PAC LA, TRI-PAC NB, MC, HMC, NC, HNC	1720 101
GB, GC, GHB, GHC®	1294C01H01

Breaker Frame	Style Number
Padlockable	
CA®	506C438G01
EB, EHB, FB, HFB, TRI-PAC FB, CA	765A754G01
DA, JA, KA, LB, LBB, HKA, HLB	673B796G02
LA, LAB, HLA, LC, HLC, TRI-PAC LA	373B591G02
JB, KB, HKB	673B796G01
GB, GC, GHB, GHC®	1223C77G01

Handle Extension®
For use in convertible power panelboards. Must be ordered separately. Style number 372B399G01 for LAB, LA, HLA breakers; no charge when ordered with breaker.

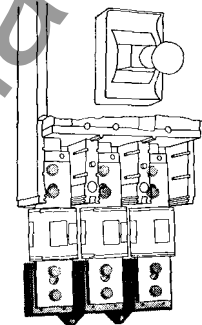
Molded Type Handle Extension®
For MA, HMA, MC, HMC breakers. Style Number 1251C65G01

For NB, HNB, NC, HNC and TRI-PAC NB Breakers
Style Number 1251C65G01, included with frame at no charge if ordered separately. See Price List 29-020.

For PB, PC, PCC, TRI-PAC PB Breakers
Style Number 315C882G01
Included with frame at no charge; if ordered separately. See Price List 29-020.

List Prices: See Price List 29-020, Dis. CB-2

Fuse Mounting Base for PB Breakers®
For 2000 amp non-automatic breakers only.



Catalog Number: FMB2000PB

For use with non-automatic, 3-pole circuit breaker. Includes fuse mounting base and hardware to mount standard class L current limiting fuses, 801 to 2000 amps (fuses not included).®

- For complete installation, order:
1. Front connected, non-automatic PB breaker. (Order similar to standard front connected, except omit load conductor extensions)
 2. Fuse mounting base.
 3. Fuses (from distributor).

Cable Connectors
The fuse mounting base will accept the following terminals for front cable connection (omit "T" connectors from rear connected breakers).

Style Number	Wire Range, Type No. of Cables
672B655G01	3 3/0-400 MCM Cu
180C046G03	4 400-500 MCM Cu

Single Phase Protector®
An attachment for use with non-automatic PB breakers and fuse mounting block that will trip the breaker when a fuse blows preventing single phasing.

Mounting	AC Volts	Style Number
Right-Hand	240	177C576G01
Right-Hand	480-600	177C576G02
Left-Hand	240	177C576G03
Left-Hand	480-600	177C576G04

® Not Underwriters' Laboratories, Inc. listed.
 ® Individually mounted.
 ® Group mounted.
 ® Designed for use with load centers.
 ® Interrupters used with fuse mounting base will accept all standard PB accessories. See DS 29-170 for mounting details.
 ® Changed or added since previous issue.



Modifications^①

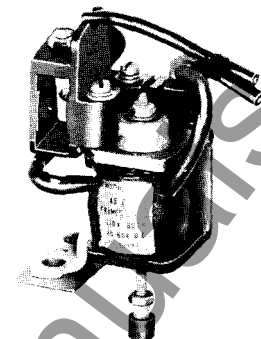
List Prices: See Price List 29-020 Dis. CB-2 Only two internally mounted modifications – shunt trip, under voltage release, auxiliary switch, alarm switch – may be mounted in DA, JA thru PB, HKA thru HNB and thermal magnetic EB, EHB, FB and HFB breakers. Only one of these modifications may be mounted in FB or HFB magnetic only, 2 pole EB, EHB, FB and FB TRI-PAC[®] and SEL-TRONIC[®] breakers. None are available in 1-pole breakers except alarm switch in EB, EHB and HFB. Refer to Westinghouse for possible special combinations of the following modifications not in tabulations.

Shunt Trip

For tripping breaker from a remote point. A solenoid device mounts within breaker case. Breaker trips when coil is energized.

Shunt trips should not be used as circuit interlocks using maintained contact pilot devices.

A cut-off switch breaks the circuit to the momentary rated coil when breaker opens (except CA). Available for control voltages up to 250 volts Dc or 600 volts Ac. Voltage and frequency must be specified. Standard leads extend 18" outside of breaker. Longer leads may be specified.



Shunt Trip for Field Mounting^{⑤⑥⑧}

Voltage/ Hertz	Breaker Type								
	EB, EHB, FB, HFB ^③ (Thermal Magnetic only)	FCL	JB, KB, HKB	JA, KA, HKA, DA, LB, LBB, HLB	LA, LAB, HLA	MA, HMA	NB, HNB, NB TRI-PAC	PB, PB TRI-PAC	
Right Hand Mounting									
600/50-60 Hz	2609D39G15	1369D80G15	2609D42G15	2605D15G15	2606D56G15	2606D57G15	2606D58G15	2606D59G15	
480/50-60 Hz	2609D39G16	1369D80G16	2609D42G16	2605D15G16	2606D56G16	2606D57G16	2606D58G16	2606D59G16	
240/50-60 Hz	2609D39G17	1369D80G17	2609D42G17	2605D15G17	2606D56G17	2606D57G17	2606D58G17	2606D59G17	
208/50-60 Hz	2609D39G18	1369D80G18	2609D42G18	2605D15G18	2606D56G18	2606D57G18	2606D58G18	2606D59G18	
120/50-60 Hz	2609D39G19	1369D80G19	2609D42G19	2605D15G19	2606D56G19	2606D57G19	2606D58G19	2606D59G19	
60/50-60 Hz	2609D39G20	1369D80G20	2609D42G20	2605D15G20	2606D56G20	2606D57G20	2606D58G20	2606D59G20	
48/50-60 Hz	2609D39G21	1369D80G21	2609D42G21	2605D15G21	2606D56G21	2606D57G21	2606D58G21	2606D59G21	
24/50-60 Hz	2609D39G22	1369D80G22	2609D42G22	2605D15G22	2606D56G22	2606D57G22	2606D58G22	2606D59G22	
250 Dc	2609D39G23	1369D80G23	2609D42G23	2605D15G23	2606D56G23	2606D57G23	2606D58G23	2606D59G23	
125 Dc	2609D39G24	1369D80G24	2609D42G24	2605D15G24	2606D56G24	2606D57G24	2606D58G24	2606D59G24	
60 Dc	2609D39G25	1369D80G25	2609D42G25	2605D15G25	2606D56G25	2606D57G25	2606D58G25	2606D59G25	
48 Dc	2609D39G26	1369D80G26	2609D42G26	2605D15G26	2606D56G26	2606D57G26	2606D58G26	2606D59G26	
24 Dc	2609D39G27	1369D80G27	2609D42G27	2605D15G27	2606D56G27	2606D57G27	2606D58G27	2606D59G27	
12 Dc	2609D39G28	1369D80G28	2609D42G28	2605D15G28	2606D56G28	2606D57G28	2606D58G28	2606D59G28	
Left Hand Mounting									
600/50-60 Hz	2609D39G01	1369D80G01	2609D42G01	2605D15G01	2606D56G01	2606D57G01	2606D58G01	2606D59G01	
480/50-60 Hz	2609D39G02	1369D80G02	2609D42G02	2605D15G02	2606D56G02	2606D57G02	2606D58G02	2606D59G02	
240/50-60 Hz	2609D39G03	1369D80G03	2609D42G03	2605D15G03	2606D56G03	2606D57G03	2606D58G03	2606D59G03	
208/50-60 Hz	2609D39G04	1369D80G04	2609D42G04	2605D15G04	2606D56G04	2606D57G04	2606D58G04	2606D59G04	
120/50-60 Hz	2609D39G05	1369D80G05	2609D42G05	2605D15G05	2606D56G05	2606D57G05	2606D58G05	2606D59G05	
60/50-60 Hz	2609D39G06	1369D80G06	2609D42G06	2605D15G06	2606D56G06	2606D57G06	2606D58G06	2606D59G06	
48/50-60 Hz	2609D39G07	1369D80G07	2609D42G07	2605D15G07	2606D56G07	2606D57G07	2606D58G07	2606D59G07	
24/50-60 Hz	2609D39G08	1369D80G08	2609D42G08	2605D15G08	2606D56G08	2606D57G08	2606D58G08	2606D59G08	
250 Dc	2609D39G09	1369D80G09	2609D42G09	2605D15G09	2606D56G09	2606D57G09	2606D58G09	2606D59G09	
125 Dc	2609D39G10	1369D80G10	2609D42G10	2605D15G10	2606D56G10	2606D57G10	2606D58G10	2606D59G10	
60 Dc	2609D39G11	1369D80G11	2609D42G11	2605D15G11	2606D56G11	2606D57G11	2606D58G11	2606D59G11	
48 Dc	2609D39G12	1369D80G12	2609D42G12	2605D15G12	2606D56G12	2606D57G12	2606D58G12	2606D59G12	
24 Dc	2609D39G13	1369D80G13	2609D42G13	2605D15G13	2606D56G13	2606D57G13	2606D58G13	2606D59G13	
12 Dc	2609D39G14	1369D80G14	2609D42G14	2605D15G14	2606D56G14	2606D57G14	2606D58G14	2606D59G14	

Factory Mounted Shunt Trips^{①⑤}

All of the above shunt trips can be specified for factory mounting at the same price as listed for the kit. These shunt trips have the leads out the side and are UL listed when factory mounted, unless other non-UL Listed modifications are used.

Factory mounted shunt trips only can be supplied for the following breakers:

- CA^{④⑦}, FB magnetic only ^{②④}, HFB magnetic only^{②④}, FB Tri-Pac^{②④}, LA TRI-PAC and non-auto breakers (MCS)^⑥

Price same as similar kit except price CA from accessory section of 29-020.

① Righthand mounting considered standard unless specified otherwise.
 ② Righthand mounting only.
 ③ Available similar to this except "Leads out the load end – (not UL listed). Order by description.
 ④ Not UL listed.
 ⑤ 120 volt Ac ratings suitable for 55% pickup for ground fault applications.
 ⑥ Not field mountable on non-automatic breakers (MCS).
 ⑦ CA shunt trip supplied without cut-off switch.
 ⑧ Field mounting voids breakers' UL listing except on KB, HKB, KA, HKA, LB, HLB, LA, HLA, MA, HMA, NB, HNB, NB TRI-PAC, PB, PB TRI-PAC and SELTRONIC breakers.

Printed in USA



Westinghouse Electric Corp.
Distribution & Control Bs. Unit
Electrical Components Division
Pittsburgh, PA 15220

Supp. to Technical Data
29-120

Page 51.1

July 22, 1987
New Information
Mailed to: E,D,C/29-100A,
31-400A, 31-500A

AB DE-Ion
Circuit Breakers

Please refer to Technical Data 29-120,
page 51, dated January, 1985:

Terminal Shield Style 625B229G01 for
EB/FB/FB TRI-PAC is being replaced by
Style 625B229G08. This new style is for
a package of 10, and will be priced per
each package. Please mark this change.

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April, 1980

Supersedes Technical Data 29-120 T WE A
 pages 49-50, dated October, 1975

Mailed to: E, D, C/1901, 1903, 1928/PL

Modifications

AB DE-ION® Circuit Breakers

Left Hand Mounting Kits for SELTRONIC and Type LCL Current Limiting Breakers ③

Provision to trip flux transfer shunt trip from external 32 to 120 volt (Dc to 60 Hz) source. ① ④

{	MC, HMC	Style 2609D10G10
{	NC, HNC	Style 2609D11G10
{	PC, PCC	Style 2609D12G10
{	LC, HLC	Style 1371D11G22
{	LCL ③	Style 1372D49G22

Provision to trip flux transfer shunt trip from external 240 to 600 volt Ac, 50/60 Hz source. ② ④

{	MC, HMC	Style 2609D10G30
{	NC, HNC	Style 2609D11G30
{	PC, PCC	Style 2609D12G30
{	LC, HLC	Style 1371D11G32
{	LCL ③	Style 1372D49G32

Shunt Trip Coil Data

Shunt Trip Voltage Rating	For All Breakers Listed Above Except CA and SELTRONIC Coil Inrush		Type CA		SELTRONIC and LCL	
	Amperes	Volt-Amperes	Coil Inrush		Coil Inrush	
			Amperes	Volt-Amperes	Amperes	Volt-Amperes
600 AC	0.105	63.0	..	..	..	..
480 AC	0.085	40.8	..	..	..	..
240 AC	1.7	408.0	.73	175.	..	..
208 AC	1.4	291.2	..	..	..	..
120 AC	0.88	105.6	1.66	189.	.15	18
60 AC	9.10	546.0	..	..	..	..
48 AC	7.50	360.0	..	..	..	..
24AC	3.95	94.8	..	..	..	..
250 DC	0.10	25.0	.26	65.	..	..
125 DC	0.975	121.9	.54	67.	..	..
60 DC	0.525	31.5	1.02	61.	..	..
48 DC	8.	384.	1.28	48.	..	..
24 DC	8.	192.	2.63	63.	..	..
12 DC	6.	72.	6.52	78.	..	..

List Prices: See Price List 29-020, Dis. CB-2

③ Changed since previous issue.

① Rated 48 volts minimum for ground fault applications.

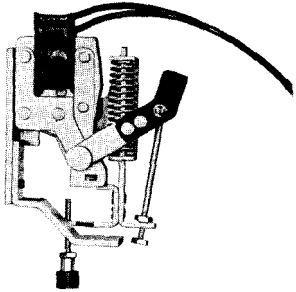
② Not for ground fault.

③ UL listing pending. Refer to Westinghouse.

④ Also available factory mounted for 24 volt Dc. Order by description.



Standard Undervoltage Release®



For undervoltage protection. A solenoid device mounts within breaker case. Coil must be energized before closing breaker. Trips breaker when voltage drops below 40 to 60% of coil rating. Picks up and seals in at 80% of coil rating. For line voltages up to 250 volts Dc or 600 volts Ac. Externally mounted resistors are supplied for certain ratings. Standard leads extend 18" outside of breaker. Longer leads may be specified. **Note:** U.V.R. attachments are not designed for, and should not be used as, circuit interlocks. For further information, refer to Westinghouse.

Factory Mounted Undervoltage Releases®

All of the above undervoltage releases can be specified for factory mounting at the same price as listed for the kit. These attachments have the leads out the side and are U L listed when factory mounted unless other non-U L listed modifications are used.

Factory mounted undervoltage releases only can be supplied for the following breakers: EB®, EHB®, FB®, HFB®, FB TRI-PAC®, FB® and HFB magnetic only ①®, JB, KB, HKB, LA TRI-PAC and FCL; LCL 120 Volts Ac only®.

SELTRONIC BREAKERS (120 V Ac 60 Hz only standard), MC, HMC®, NC, HNC®, PC, PCC, LC, HLC.

SELTRONIC Breakers With Remote Trip Provisions: MC, HMC® ⑦, NC, HNC® ⑦, PC, PCC®, LC, HLC®.

Price same as similar kits except SELTRONIC attachments are priced from attachment section of Price List 29-020.

- ® Changed or added since previous issue.
- ① Righthand mounting only.
- ② Not U L listed.
- ③ Righthand mounting considered standard unless specified otherwise except JA, KA, DA, HKA, LB, LBB, HLB and seltronic available for lefthand only, and JB, KB, HKB lefthand is standard (LC is righthand).
- ④ Not available on ambient compensating breakers.
- ⑤ Not field mountable on non automatic breakers. (Molded case switches)
- ⑥ Cannot be used with other attachments except a small 1A-1B auxiliary switch rated 250 volts can be supplied in righthand pole.
- ⑦ Provided with two leads (total of 4) for use with a remote normally open contact (pushbutton etc.) to trip the breaker. No external power required.
- ⑧ Field mounting voids UL listing of breaker except on KA, HKA, LB, HLB, LA, HLA, MA, HMA, NB, HNB, NB TRI-PAC, PB or PB TRI-PAC.
- ⑨ UL listing pending.

Undervoltage release Attachment Kits for Field Mounting®

Attachment Voltage, Hertz	Breaker Type					
	JA, KA, DA, HKA, LB, LBB, HLB	LA, LAB, HLA	MA, HMA	NB, HNB, NB TRI-PAC	PB, PB TRI-PAC	
For Right Hand Mounting						
24 60	60A9355G17	.....	.....	.....	.....
48 60	60A9355G08	.....	.....	.....	5674D29G16
120 60	1318529	457D727G01	373D632G01	.....	5674D29G09
208 60	1318530	457D727G19	373D632G19	.....	5674D29G10
240 60	1318531	457D727G02	373D632G02	.....	5674D29G11
480 60	1318533	457D727G03	373D632G03	.....	5674D29G13
600 60	1318534	457D727G04	373D632G04	.....	5674D29G14
12 DC	458D020G01	457D727G09	372D032G01	.....	4976D85G01
24 DC	458D020G02	457D727G10	372D032G02	.....	4976D85G02
48 DC	458D020G03	457D727G11	372D032G03	.....	4976D85G03
60 DC	458D020G04	457D727G21	.....	.....	4976D85G04
125 DC	458D020G07	457D727G12	372D032G04	.....	4976D85G07
250 DC	458D020G08	457D727G13	372D032G05	.....	4976D85G08

For Left Hand Mounting

48 60	.....	60A9355G16	.....	.....	.....	5674D29G08
120 60	458D070G01	60A9355G09	457D727G05	373D632G05	.....	5674D29G01
208 60	458D070G05	60A9355G10	457D727G20	373D632G20	.....	5674D29G02
240 60	458D070G02	60A9355G11	457D727G06	373D632G06	.....	5674D29G03
480 60	458D070G03	60A9355G13	457D727G07	373D632G07	.....	5674D29G05
600 60	458D070G04	60A9355G14	457D727G08	373D632G08	.....	5674D29G06
12 DC	458D070G09	458D020G11	457D727G14	372D032G06	.....	4976D85G11
24 DC	458D070G10	458D020G12	457D727G15	372D032G07	.....	4976D85G12
48 DC	458D070G11	458D020G13	457D727G16	372D032G08	.....	4976D85G13
60 DC	.....	458D020G14	457D727G22	.....	.....	4976D85G14
125 DC	458D070G12	458D020G17	457D727G17	372D032G09	.....	4976D85G17
250 DC	458D070G13	458D020G18	457D727G18	372D032G10	.....	4976D85G18

Undervoltage Release Coil Data®

Voltage Rating, Hertz	Breaker Type								
	EB, EHB, FB, FB TRI-PAC, HFB, JB, KB and HKB			JA, KA, HKA, DA, LB, LBB, HLB, MA and HMA			MC, HMC, NC, HNC, PC, PCC LC®, HLC®, LCL®		
	Coil Amperes	Series Resistance (Ohms)	Total VA	Coil Amperes	External Series Resistance (Ohms)	Total VA	Coil Amperes	Total VA	
600 AC	0.020	25,000	12.0	0.012	50,000	7.2	..	..
480 AC	0.016	25,000	7.7	0.013	30,000	6.3	..	..
240 AC	0.021	6,000	5.1	0.013	.....	3.2	..	..
208 AC	0.019	6,000	4.0	0.018	.....	3.8	..	..
120 AC	0.023	.....	2.8	0.023	.....	2.8	.05	6	
60 AC	0.203	250	12.2	.....	.....	..	..	..
48 AC	0.245	150	11.8	.....	.....	..	..	..
24 AC	0.250	50	6.0	.....	.....	..	..	..
250 DC	0.026	5,000	6.5	0.013	16,500	3.3	.....	.....
125 DC	0.026	.....	3.3	0.013	6,500	1.7	.....	.....
60 DC	0.248	200	14.9	0.013	1,500	0.8	.....	.....
48 DC	0.260	150	12.5	0.012	600	0.6	.....	.....
24 DC	0.141	.....	3.4	0.023	.....	0.6	.....	.....
12 DC	0.286	.....	3.5	0.048	.....	0.6	.....	.....

Voltage Rating, Hertz	Breaker Type								
	LA, LAB, HLA, LA TRI-PAC, PB, PB TRI-PAC			NB, HNB and NB TRI-PAC					
	Coil Amperes	External Series Resistance (Ohms)	Total VA	Coil Amperes	External Series Resistance (Ohms)	Total VA	Coil Amperes	External Series Resistance (Ohms)	Total VA
600 AC	0.029	20,000	17.4	0.016	35,000	9.6	.....	.....	.....
480 AC	0.014	.....	6.8	0.013	30,000	6.3	.....	.....	.....
240 AC	0.036	.....	8.7	0.013	.....	3.2	.....	.....	.....
208 AC	0.036	.....	7.5	0.018	.....	3.8	.....	.....	.....
120 AC	0.073	.....	8.8	0.023	.....	2.8	.....	.....	.....
48 AC	0.152	.....	7.3	.....	.....	..	.....	.....	.....
250 DC	0.035	5,000	8.8	0.013	16,500	3.3	.....	.....	.....
125 DC	0.039	1,500	4.9	0.013	6,500	1.7	.....	.....	.....
60 DC	0.034	.....	2.1	.....	.....	..	.....	.....	.....
48 DC	0.040	.....	2.0	0.012	600	0.6	.....	.....	.....
24 DC	0.069	.....	1.7	0.023	.....	0.6	.....	.....	.....
12 DC	0.136	.....	1.7	0.048	.....	0.6	.....	.....	.....

List Prices: See Price List 29-020 Dis. CB-2.



April, 1980
Supersedes Technical Data 29-120 T WE A
pages 51-52, dated August, 1978
Mailed to: E, D, C/1901, 1903, 1928/PL

Modifications

AB DE-ION® Circuit Breakers

Alarm Switchⓐ

Availability: DA thru HNB, TRI-PAC NB, TRI-PAC PB Frames. For light or alarm indication when breaker trips. Does not function with manual operation. Automatically resets when breaker is re-latched. Standard leads extend 18" out side of breaker. Longer leads may be specified. Not field mountable.

Breaker Frame	Normal Pole Mtg.	Contact Operation (Specify Type Desired)
DA	Left	Make or Break
EB, EHB, FB, HFBⓐⓑ	Mechanism	Make or Break
FCLⓐⓑ	Center	Make or Break
JA, KA, LAB, LA, LB, LBB, MA, NB, HKA, HLA, HLB, HMA HNB, TRI-PAC LA, TRI-PAC NB	Left	Make or Break
JB, KB, HKB	Left	Make or Break
PB, TRI-PAC PB	Left	Make or Break
MC, HMC	Left onlyⓐ	Make or Break
NC, HNC	Left onlyⓐ	Make or Break
PC, PCC	Leftⓐⓑ	Make or Break
LC, HLC	Leftⓐ	Make or Break
LCLⓐⓑ	Leftⓐ	Make or Break

Alarm Switch Contact Rating (Non Inductive)

EB, EHB, FB, HFB:

5 amp, 120 volt Ac.

MC, HMC, LA, LAB, HLA, LC, HLC, LA Tri-Pac:
10 amps, 120 volt Ac; 5A, 240 volt Ac.

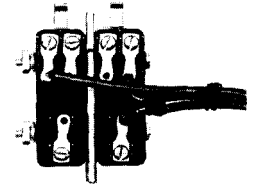
All other breakers:

10 amps, 120-240 volt Ac.

List Prices: See Price List 29-020 Dis. CB-2.

Auxiliary Switchⓐⓑ

For auxiliary control circuits. Miniature switches mount within breaker. Commonly used for remote indication of open or closed breaker and electrically interlocking component control circuits. "A" contacts are closed when breaker is closed. "B" contacts are open when breaker is closed. Standard leads extend 18" out side of breaker. Longer leads may be specified.



Auxiliary Switch Attachment Kits for Field Mountingⓐⓑⓓ

Breaker Type	For Right Hand Mounting		For Left Hand Mounting		Max Ac Voltage Rating ⓐ	Max. Non-Inductive Amps.
	1A-1B	2A-2B	1A-1B	2A-2B		
EB, EHB, FB, HFBⓐ	4979D06G03	4979D06G08	4979D06G03	4979D06G09	240	5
FCLⓐ	1369D79G03	.....	1369D79G03	.....	240	5
JA, KA, DA, HKA, LB, LBB, HLB	458D067G08	.....	458D067G03	.....	480	10
LA, LAB, HLA	.....	656D527G09ⓐ	.....	656D527G01ⓐ	240	5
MA, HMA	655D555G05	655D555G06	655D555G12	655D555G13	480	10
NB, HNB, NB TRI-PAC	458D013G05	458D013G06	458D013G12	458D013G13	480	10
PB, PB TRI-PAC	4980D16G05	4980D16G06	4980D16G12	4980D16G13	480	10
JB, KB, HKB	2602D32G14	2602D32G15	2602D32G11	2602D32G12	480	10
JB, KB, HKB	2600D97G08	.....	2600D97G03	.....	480	10
MC, HMC, MCG, HMC	.....	2609D45G08ⓐ	.....	2609D45G03ⓐ	240	5
NC, HNC, NCG, HNC	.....	.....	2609D10G03	2609D10G06	480	6(10ⓐ240)ⓑ
PC, PCC, PCG, PCCG	.....	.....	2609D11G03	2609D11G06	480	6(10ⓐ240)ⓑ
LC, HLC, LCG, HLCG	.....	.....	2609D12G03	2609D12G06	480	6(10ⓐ240)ⓑ
LCLⓐⓑ	.....	.....	1371D11G03ⓑ	1371D11G06ⓑ	480	6(10ⓐ240)ⓑ
	.....	.....	1372D49G03	1372D49G06	480	6(10ⓐ240)ⓑ

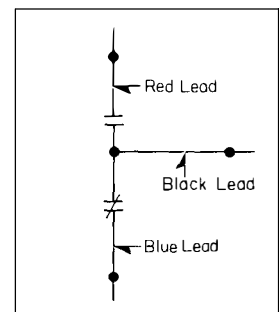
Factory Mounted Auxiliary Switchesⓐ

All of the above auxiliary switches can be specified for factory mounting at the same price as listed for the kit. These attachments have the leads out the side of the breaker and are U L listed when factory mounted unless other non U L listed modifications are used (except as noted).

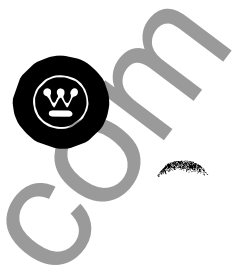
Factory mounted switches only can be supplied for the following breakers:

- CAⓐ, FBⓐⓑ and HFB magnetic onlyⓐⓑ, FB Tri-Pacⓐ, LA Tri-Pac.

Price same as a similar kit except price CA from accessory section of PL 29-020.

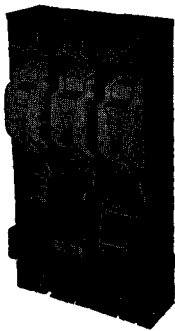


- ⓐ Changed or added since previous issue.
- ⓑ Not for use on non-automatic breakers. (Molded case switches).
- ⓓ Righthand mounting standard for CA, EB, EHB, FB, HFB, JB, KB, HKB. All others are lefthand mounting as standard unless otherwise specified.
- ⓔ Not UL listed.
- ⓕ For Dc applications refer to factory.
- ⓖ Thermal magnetic only.
- ⓗ Righthand mounting only.
- ⓓ All switches are multiples of 1A-1B with a common electrical connection (See diagram below).
- ⓓ Except when other attachments are used, must be mounted in right pole.
- ⓓ When alarm switch is used in conjunction with auxiliary switch, the auxiliary switch is rated 250 volts max., 5 amps. max.
- ⓓ Not available for Magnetic Only, Ambient Compensating, breakers with Undervoltage Release, or TRI-PAC breakers.
- ⓓ Field mounting voids UL listing of breaker except on KB, HKB, KA, HKA, LB, HLB, LA, HLA, MA, HMA, NB, HNB, NB TRI-PAC, PB, PB TRI-PAC and SELTRONIC breakers.
- ⓓ Underwriters' Laboratories, Inc. listing pending.



**Modifications, Continued
Ground Current Limiter^①**

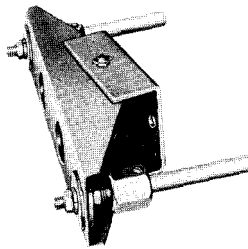
Availability: DA, JA, KA, JB, KB, HKA Instantaneous magnetic type for use in Dc systems only. For mining applications. Trips breaker when ground currents become excessive. Standard leads extend 18" out side of breaker; longer leads or leads out rear of base may be specified.



Mechanical Interlocks^①

For mechanically interlocking a pair of breakers so that only one may be closed at on time, but both may be open simultaneously.

Walking Beam Type^{①②④⑤}



Availability: DA thru TRI-PAC[®] PB^② except current limiting breakers

Mounts on panel (not included) at rear of breaker. Standard breaker spacing: DA, JA, KA, HKA, LB, LBB, HLB: 5³/₄" center to center; LAB, LA, LC, HLC, MA, MC, NB, NC, HLA, HMA, HMC, HNB, HNC, TRI-PAC LA, TRI-PAC NB: 8¹/₂" center to center; EB, EHB, FB, JB, KB, HFB, HKB, TRI-PAC FB: 4³/₈" center to center; PB, PC, PCC, TRI-PAC PB: 12¹/₄" center to center. Order as a set of two special factory drilled breakers and 1 walking beam interlock. Specify breaker type, panel thickness and center-to-center dimension of breakers.

Sliding Bar Type (Field Mountable)^{①③}



Availability: DA thru TRI-PAC NB

Mounts on panel (not included) fitting over front of breakers. Standard breaker spacing: DA, JA, KA, HKA, LB, LBB, HLB: 5³/₄" center to center; LAB, LA, LC, HLC, MA, MC, NB, NC, HLA, HMA, HMC, HNB, HNC, TRI-PAC LA, TRI-PAC NB: 8¹/₂"; EB, EHB, FB, HFB, TRI-PAC FB: 4³/₁₆" center to center; JB, KB, HKB: 4³/₈" center to center.

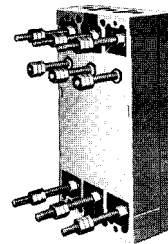
Kirk Key Interlock^③



Availability: 100 Amp Frames (EB) thru 3000 Amp Frames except FCL, LCL and CA.

Permits interlocking of two breakers or one breaker with other devices. Before breaker can be closed, key must be inserted and turned in breaker interlock. Breaker must be opened before key can be removed. It can then be inserted in interlock or other devices to permit their closure. Requests and orders should completely outline interlocking scheme, ultimate user and his address.

Center Studs^①



Availability: 100 Amp Frames (EB) thru 1200 Amp Frames except SELTRONIC and current limiting breakers

Provides connections for dual voltage generators, so that same trip unit can be used for protection at both voltages. At higher voltage, the trip unit carries full load current. At lower voltage, half the current by-passes the trip unit through the center studs. Trip rating cannot exceed 50% of frame rating.

Breaker Frame	Amp. Ratings Available	Normal Pole Mtg.
DA, JA, KA, HKA	5, 10, 20	Left
JB, KB, HKB	5, 10, 20	Left

Paralleling Straps^①

Availability: CA thru LB, HFB through HLB (thermal magnetic breakers, 400 Amps. Max.) To parallel 2-pole breakers for high current single pole operation. Consists of straps at both line and load ends, as well as inside ahead of trip unit to equalize current division. Review paralleling applications with Westinghouse. (Except FCL and LCL)

Moisture-Fungus-Corrosion Treatment^①

Availability: CA thru TRI-PAC[®] PB Treatment can be provided to meet customer's specific atmospheric conditions. Moisture-fungus treating material used meets JAN-T-152; treatment meets MIL-V-173a. Requests and orders should specify government specifications or conditions to be met.

Field Discharge Breakers, 250 Volts Dc, 400 Amps. Max.^①

Field discharge breakers are composed of 3-pole frames having two outside, non-automatic poles and a center pole field discharge contact arranged to close as the outside contacts open and vice versa. The discharge contact is not designed for load interruption. If automatic tripping for outside poles is desired, specify and give rating; no extra charge.

Breaker Frame	Ampere Rating
FB	100
FB	150
KA	225
KB	250
LA	400

① Not UL Listed.
② 2000 amp maximum for PB breaker.
③ Not available on motor operated breakers.
④ Not available on draw-out breakers.
⑤ Not available for FCL or LCL breakers.



April, 1980
 New Information
 Mailed to: E, D, C/1901, 1903, 1928/PL

Motor Operators
 Drawout Frames

AB DE-ION® Circuit Breakers

*PCC motor weight
 is 50# - Inca 8/29/79*

Accessories, Continued Motor Operators®

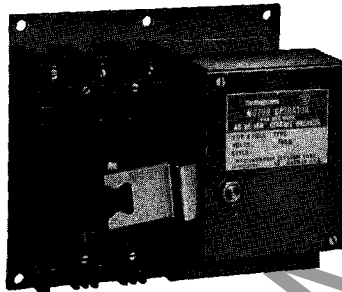
Motor operators provide complete remote control by means of a pushbutton or similar pilot device. Positive switching action is accomplished by use of an operating arm engaging the breaker handle. The unit is energized momentarily to actuate the lever arm moving it to either the "ON" or "OFF" position. The control is broken by an internal cutoff switch. Means for emergency manual operation is provided.

Motor operators are available with motors rated 120 volts Ac, 208 volts Ac, and 240 volts Ac. ④

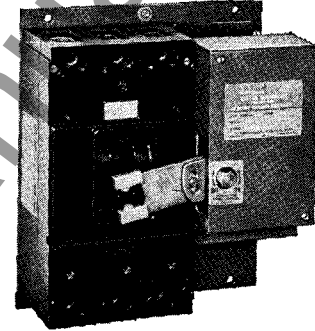
The 480 volt operators utilize a 120 volt Ac motor in conjunction with a 480/240 to 120 volt dual voltage transformer. (On LA and larger operators, the transformer is supplied for separate mounting by the customer.)

Note: The motor operator is intended only for infrequent operation in line with Underwriters' Laboratories, Inc. endurance standards for AB molded case breakers.

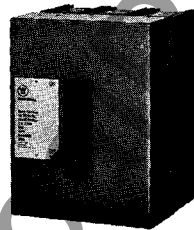
List Prices: See Price List 29-020, Dis. CB-2



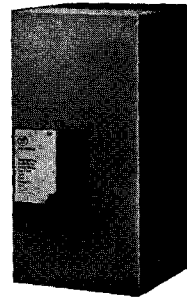
For EB, EHB, FB, HFB and
 FB TRI-PAC Breakers



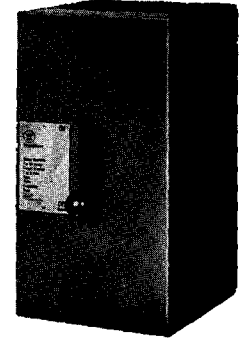
For DA, JA, KA, JB, LB, LBB, HKA,
 HKB and HLB Breakers



For LAB, LA, HLA
 Breakers



For MA, HMA, NB,
 HNB Breakers



For PB Breakers

Motor Operator Selection®

Type Breaker	Ac Voltage				Dc Voltage	
	120	208	240	480	125	24
	Style Number	Style Number	Style Number	Style Number	Style Number	Style Number
EB, EHB, FB, HFB, FB TRI-PAC	656D148G01	656D148G04	656D148G02	656D148G03	.....	.....
FCL ④	656D148G07	656D148G10	656D148G08	656D148G09	.....	.....
DA, JA, KA, HKA	657D819G07	657D819G10	657D819G08	657D819G09	.....	.....
LB, LBB, HLB	657D819G13	657D819G16	657D819G14	657D819G15	.....	.....
JB, KB, HKB	2600D28G01	2600D28G04	2600D28G02	2600D28G03	.....	.....
LAB, LA, HLA, LC, HLC	2607D97G11 ④	2607D97G14 ④	2607D97G12 ④	2607D97G13 ④	2607D97G15 ④	2607D97G16 ④
MA, HMA, MC, HMC	5664D54G25 ④	5664D54G28 ④	5664D54G26 ④	5664D54G27 ④	5664D54G30 ④	5664D54G31 ④
NB, HNB, NC, HNC	5664D54G21 ④	5664D54G24 ④	5664D54G22 ④	5664D54G23 ④	5664D54G29 ④	5664D54G32 ④
PB, PC, FCC, PB, TRI-PAC	5661D52G01	5661D52G04	5661D52G02	5661D52G03	5661D52G14	.....
LA TRI-PAC	626B900G01	626B900G02	626B900G03	626B900G04	626B900G09	.....
NB TRI-PAC	626B900G05	626B900G06	626B900G07	626B900G08	626B900G10	.....

Back Mounting Plates

Type Breaker	120, 208, 240, 480 Volts Ac
	Style Number
EB, EHB, FB, HFB	503C707G01
DA, JA, KA, LB	503C981G01
JB, KB, HKB	1250C26G01
FCL ④	1282C01G01

Motor Data

Type Breaker	Motor Type	Hp.	Inrush Current, Ampere (Peak)			Continuous Current (RMS)			Operating Time, Open or Close
			120 Volts	208 Volts	240 Volts	120 Volts	208 Volts	240 Volts	
EB, EHB, FB, HFB, TRI-PAC FB	Split Phase	1/75	10	4	5	2.3	1.17	1.65	1.5 Seconds
DA, JA, KA, JB, KB, LB, LBB, HKB, HLB	Split Phase	1/50	14	6	7	3.5	1.6	1.75	1.5 Seconds
LAB, LA, HLA	Reversing	...	8	5	4	..	..	..	12 Cycles
MA, HMA, NB, HNB	Reversing	...	11	7	6	..	..	..	12 Cycles
---	Reversing	...	20	12	11	..	..	..	10 Cycles

Local On-Off/Reset Pushbutton

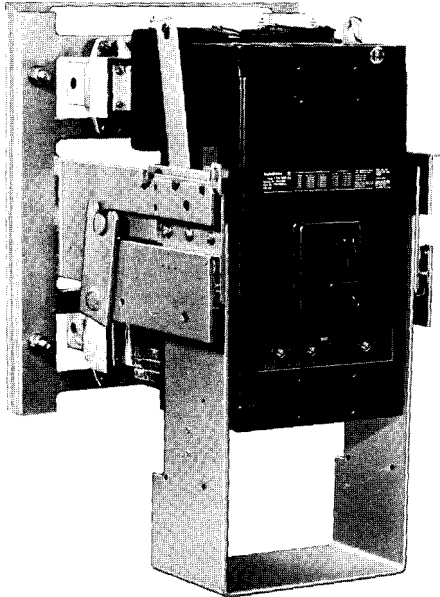
Available LA, MA, NB and PB only, must be factory installed.

Dimensions: DS 29-170

- ④ Changed or added since previous issue.
- ② Ac voltage rated operators are UL listed as recognized components.
- ③ The pilot device must be maintained contact type for EB, EHB, FB, HFB, FB TRI-PAC, FCL, DA, JA, KA, JB, KB, HKB and LB mechanisms; momentary contact type for all others.
- ④ LA and larger available for 125 volts Dc. LA, MA and NB also available for 24 volts Dc.



Drawout Frame^②



These drawout frames are for use with standard 3-pole Westinghouse molded case circuit breakers. They consist of two separate parts: stationary mounting frame and movable carrier frame. Slide rails are drawer-type, and a screw mechanism is used to engage or withdraw the movable carrier frame.

The drawout frames have three positions: connected, test and disconnected. The frames do not include a safety tripping interlock, or secondary contacts. These are optional items and may be ordered at additional cost.

Breakers mounted in the drawout frames can be equipped with standard breaker accessories including shunt trip, undervoltage release, auxiliary switch, alarm switch and motor operator.

Selection Data^{①③}

Breaker Type	Stationary Mounting Frame Style Number ^①	Movable Carrier Frame Style Number ^①
LA600, HLA600, LC600, HLC600	2603D84G01	2608D35G06
MA, HMA, MC, HMC	2603D85G01	2608D34G10
NB, HNB, NC, HNC	2603D85G01	2608D34G08
NB TRI-PAC	2603D85G09	2608D34G12 ^①

Ordering Information^③

Standard Installation

Order one stationary mounting frame and one movable carrier frame.

Order breakers without terminals or rear connectors.

Order any attachments desired (shunt trip, undervoltage release, etc.)

Order secondary contacts as required:

- a shunt trip, undervoltage release or alarm switch requires two contacts;
- a 1A-1B auxiliary switch requires three contacts;
- a motor operator requires a maximum of four contacts;
- others as required.

With Safety Interlock

Order stationary mounting frame and movable carrier frame as directed under Optional Features.

Optional Features

Safety Interlock^①

This feature trips the breaker as the movable carrier frame is withdrawn, and must be factory installed. Order as follows.

For LA, MA and NB breakers. ^①

Order standard stationary mounting frame. Order breaker and movable carrier frame assembled with safety interlock.

Secondary Contacts

These are used to disconnect auxiliary circuits when attachments such as shunt trip or motor operator are used. Available in multiples of four contacts with a maximum of 24 contacts for the LA 600 or 32 contacts for the MA and NB. They must be factory mounted. Order by description as similar to stationary or moving frame and specify number of contacts required. Price from accessory section of Price List 29-020.

Racking Crank

A special crank to engage or withdraw the moving portion of the drawout. A standard 1/2 inch hex socket with extension can be used for this purpose.

Style Number: 765A767G01

Cell Switches Mounted on Draw-out Frames, All Ratings

Up to four switches can be provided. Order by description.

Each switch provides NO and NC contact that transfers before reaching the test position when being withdrawn, and after the test position when being racked in.

List Prices: See Price List 29-020, Dis. CB-2

^① Safety interlock not available on NB TRI-PAC, MC, NC, HMC, HNC, LC, HLC.

^② These units are UL listed.

^③ SELTRONIC™ circuit breakers with built-in ground fault require a special breaker frame with leads out the side in place of standard terminal block. Order by description the breaker frame and carrier as one assembly.