

MOLDED CASE CIRCUIT BREAKERS

Replacement Circuit Breakers



REPLACEMENT CAPABILITIES, *Continued*

Type MA 125-800 Amperes, 600 Volts AC, 250 Volts DC, 2- and 3-Poles, Interchangeable Trip

Continuous Ampere Rating at 40°C	Magnetic Trip Setting Amperes ^②		Complete Breaker Includes Pressure Type Copper Terminals ^③			Shipped as Frame, Trip Unit and Terminals ^④ Frame Only			Trip Unit Only
	Low	High	Standard	Saf-T-Vue [®]	MARK 75 [®]	Standard	Saf-T-Vue [®]	MARK 75 [®]	Standard Saf-T-Vue [®] , MARK 75 [®]
			Catalog Numbers						
2-Poles, 600 Volts AC, 250 Volts DC^{⑤⑥}									
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 ^⑦	MA2700S	HMA2700	MA2800F	MA2800FS	HMA2800F	HMA2700T ^⑦
800	3000	6000	MA2800 ^⑦	MA2800S	HMA2800	MA2800F	MA2800FS	HMA2800F	HMA2800T ^⑦
800	MCS ^⑧	.....	MA2800WK	MA2800WSK	.....	.....	.....	.....	Incl. in Frame
			Approx. ship. wt. 37 lbs.			Approx. ship. wt. 24 lbs.			Approx. ship. wt. 3-1/2 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 ^⑦	MA3700S	HMA3700	MA3800F	MA3800FS	HMA3800F	HMA3700T ^⑦
800	3000	6000	MA3800 ^⑦	MA3800S	HMA3800	MA3800F	MA3800FS	HMA3800F	HMA3800T ^⑦
800	MCS ^⑧	.....	MA3800WK	MA3800WSK	.....	.....	.....	.....	Incl. in Frame
			Approx. ship. wt. 44 lbs.			Approx. ship. wt. 28 lbs.			Approx. ship. wt. 4 lbs.



MA, 600 Volts AC; 250 Volts DC

Magnetic Only Breakers, Front Adj.^⑨

Continuous Ampere Rating	Magnetic Trip Range ^②		Trip Unit Only	
	Low	High	2-Poles ^④	3-Poles
			Catalog Number	
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

Ambient Compensating Breakers^⑩

Continuous Ampere Rating	Magnetic Trip Range ^②		Trip Unit Only	
	Low	High	2-Poles	3-Poles
			Catalog Number	
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

- ① Above 600 amperes, DC rating applies to magnetic only breakers.
- ② Set on high side, adjustable to lower limits.
- ③ Terminals are shipped separately from breaker.
- ④ 2-pole breakers are supplied in 3-pole frames with current carrying parts omitted from center pole.
- ⑤ 60 Hz AC only.
- ⑥ Interrupting capacities shown do not apply to high magnetic molded case switches.
- ⑦ Not listed with Underwriters' Laboratories, Inc.



MOLDED CASE CIRCUIT BREAKERS

Replacement Circuit Breakers

A

REPLACEMENT CAPABILITIES, *Continued*

Type MA Accessories and Modifications

For CSA, see page 41.

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 Hz AC (50 Hz AC minimum – 60 Hz AC maximum) refer to Cutler-Hammer. See Application Data 29-160 for additional information regarding special conditions.

50°C Calibration^②

Add suffix "V" to catalog number for complete breaker or trip unit only, when ordering breakers to be used in 50°C ambients.

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^③

Max. Volts	Amperes
Standard Breakers	
240 VAC	50,000 Asym., 42,000 Sym.
480 VAC	35,000 Asym., 30,000 Sym.
600 VAC	25,000 Asym., 22,000 Sym.
250 VDC ^④	20,000 ^⑤
MARK 75® Breakers	
240 VAC	75,000 Asym., 65,000 Sym.
480 VAC	40,000 Asym., 35,000 Sym.
600 VAC	30,000 Asym., 25,000 Sym.
250 VDC ^④	20,000 ^⑤

For all 3-phase Delta, grounded B phase applications, contact your local Cutler-Hammer Field Sales Office.

Terminals^⑥

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	Catalog Number	No. of Cables, Wire Range, Type
Standard Al/Cu Pressure Terminals		
600	TA700MA1	(2) #1-500 MCM Al/Cu
800 (Std.)	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 Application Data 29-160. To order a complete breaker, select trip unit plus frame and terminals.

Type MAY 600-800 Amperes, 240 Volts AC, 3-Poles, Interchangeable Trip

Continuous Ampere Rating at 40°C	Magnetic Trip Setting, Amperes ^⑧		Complete Breaker	Shipped as Frame, Trip Unit and Terminals ^⑨	
	Low	High	Includes Pressure Type Aluminum Terminals ^⑩	Frame Only	Trip Unit Only
3-Poles, 240 Volts AC Only					
600	3000	6000	MAY3600	MAY3800F	HMA3600T
700 ^⑪	3000	6000	MAY3700	MAY3800F	HMA3700T
800 ^⑪	3000	6000	MAY3800	MAY3800F	HMA3800T

Accessories and Modifications

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 Hz AC (50 Hz AC minimum – 60 Hz AC maximum), refer to Cutler-Hammer. See Application Data 29-160 for additional information regarding special conditions.

50°C Calibration^②

Add suffix "V" to catalog number for complete breaker or trip unit only, when ordering breakers to be used in 50°C ambients.

For CSA, see page 41.

Type MAY breakers are not defined by Federal Specification W-C-375b.

Underwriters' Laboratories, Inc. listed Interrupting Ratings

Volts Max.	Amperes
240 VAC	115,000 Asym., 100,000 Sym.

For all 3-phase Delta, grounded B phase applications, contact your local Cutler-Hammer Field Sales Office.

Terminals^⑥

Two terminals are required per pole.

Terminals are Underwriters' Laboratories, Inc. listed for wire type and range listed right. When used with aluminum cable, use joint compound.

Max. Amps	Catalog Number	No. of Cables, Wire Range, Type
Standard Al/Cu Pressure Terminals		
600	TA700MA1	(2) #1-500 MCM Al/Cu
800 (Std.)	TA800MA2	(3) 3/0-400 MCM Al/Cu
800	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

Additional Accessories and Modifications

Refer to pages 58-68.

- ① Not listed with Underwriters' Laboratories, Inc.
- ② Interrupting capacities shown do not apply to high magnetic molded case switches.
- ③ Above 600 amperes, DC rating applies to magnetic only breakers.
- ④ Ratings above 10,000 amperes not UL listed.
- ⑤ Terminals are shipped separately from breaker.
- ⑥ Set on high side, adjustable to lower limits.
- ⑦ 60 Hz AC only.



MOLDED CASE CIRCUIT BREAKERS

Replacement Circuit Breakers

REPLACEMENT CAPABILITIES, *Continued*

Type PB and PBF Accessories and Modifications

Special Breakers^① Magnetic Only, Front Adjustable^② Trip Unit Only

Contin- uous Ampere Rating	Magnetic Trip Range, Amperes ^③		2-Poles ^④	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

Magnetic Only Breakers^⑤

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

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 ^⑥	75,000 Amperes ^⑥

For all 3-phase Delta, grounded B phase applications, contact your local Cutler-Hammer Field Sales Office.

Special Calibrations^⑦

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 Hz AC, refer to Cutler-Hammer. See Application Data 29-160 for information regarding special conditions.

50°C Calibration^⑧

Add suffix "V" to catalog number for complete breaker or trip unit only, when ordering breakers to be used in 50°C ambients.

For CSA, see information below.

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.

Bus Bar Connections^⑦



Bus Bar Connections^⑦ "T" Connector (For Cu/Al Bus)

Two required per pole. For rear bus connection of breakers thru 2000 amperes. 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 ampere breakers.

Breaker Amperes	Catalog Number
2500	BA2500PB



Cable Connector

Fits "T" Connector and 2000 ampere front connected breakers. Accepts four 400-600 MCM copper cables.

Catalog Number
505C706G04

- ① Not listed with Underwriters' Laboratories, Inc.
- ② Frames, connectors, dimensions and shipping weights are same as thermal magnetic breakers.
- ③ Set on high side, adjustable to lower limits.
- ④ 2-pole breakers are supplied in 3-pole frames with current carrying parts omitted from center pole.
- ⑤ Based on NEMA test procedure.
- ⑥ 50°C or higher calibration not available for 2500 ampere trip units.
- ⑦ Shipped separately from breaker.



REPLACEMENT CAPABILITIES

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.

Molded Case Switches with High Magnetic Trip (Fixed Trip Setting)

Switch Catalog Number ^①	No. of Poles	Max. Volts	Max. Amperes	Switch Catalog Number ^①	No. of Poles	Max. Volts	Max. Amperes
DA2400WK	2	240	400	JB2250WK	2	600	250
DA3400WK	3	240	400	JB2250WSK	2	600	250
EB1100LK	1	120	100	JB3250WK	3	600	250
EB2100LK	2	240	100	JB3250WSK	3	600	250
EB3100LK	3	240	100	KA2225WK	2	600	225
EB3100SLK	3	240	100	KA2225WSK	2	600	225
EHB1100LK	1	277	100	KA3225WK	3	600	225
EHB2100LK	2	480	100	KA3225WSK	3	600	225
EHB3100LK	3	480	100	KB2250WK	2	600	250
EHB3100SLK	3	480	100	KB2250WSK	2	600	250
FB2100LK	2	600	100	KB3250WK	3	600	250
FB2150LK	2	600	150	KB3250WSK	3	600	250
FB3100LK	3	600	100	LB2400WK	2	600	400
FB3150LK	3	600	150	LB2400WSK	2	600	400
FB3150SLK	3	600	150	LB3400WK	3	600	400
FB4100LK	4	277/480	100	LB3400WSK	3	600	400
FB4150LK	4	277/480	150	LBB2400WK	2	600	400
JA2225WK	2	600	225	LBB2400WSK	2	600	400
JA2225WSK	2	600	225	LBB3400WK	3	600	400
JA3225WK	3	600	225	LBB3400WSK	3	600	400
JA3225WSK	3	600	225				

Molded Case Switch Terminal Data

MCS Type	Max. Switch Amperes	Standard Terminals				Optional Terminals			
		Terminal Type or Cat. Number	Wire Type	No. of Wires	Wire Range	Terminal Type or Cat. Number	Wire Type	No. of Wires	Wire Range
DA, LB, LBB	400	T400DA2	Cu only	2	3/0-250 MCM	.....	....	..	.....
EB, EHB, FB	100 150	Pressure Pressure	Cu Cu/Al	1	#14-1/0 #4-4/0	Pressure	Cu/Al	1 ..	#4-4/0
JA, KA	225	TA225LA1	Cu/Al	1	#4-350 MCM	T225LA	Cu	1	#6-350 MCM
JB, KB	250	TA250KB	Cu/Al	1	#4-350 MCM	T250KB	Cu	1	#4-350 MCM

Molded Case Switches with High Magnetic Trip – Trip Setting and Tolerance

Frame	Rating	Trip Setting (Amperes)	Tolerance (%)
EB	100	1000	±20
EHB/FB	100	1200	±20
FB	150	1500	±20
DA/LB/LBB	400	4000	+10 - 0
JA/KA	225	2250	+10 - 0
JB/KB	250	2500	+10 - 0

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 29-171.