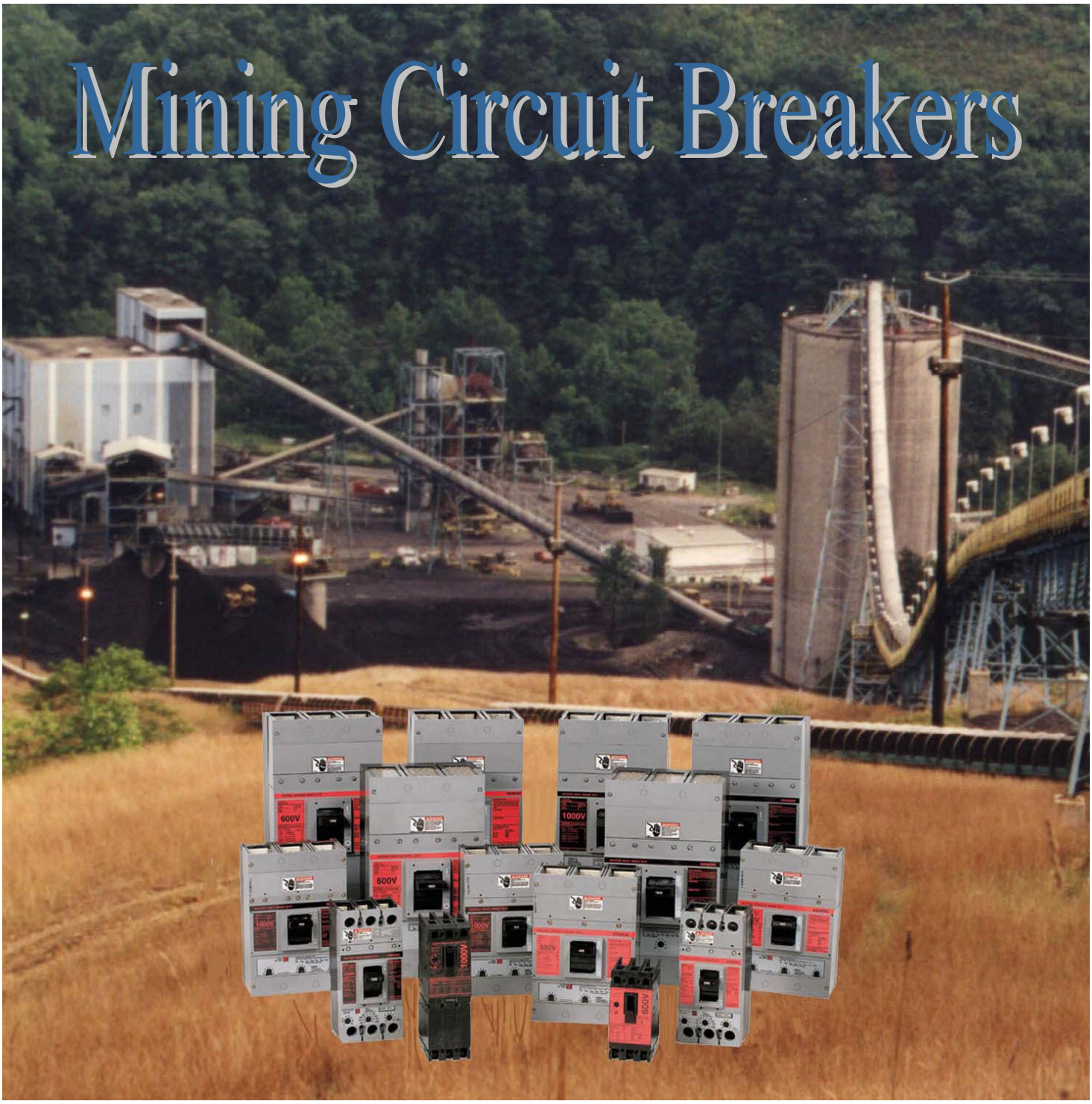
SIEMENS

Mining Circuit Breakers



Siemens is proud to offer the mining breaker of choice for the coal industry. Siemens is fully committed to the mining industry, with a complete family of mining duty breakers from 3 to 1600A. All frames are offered in 600V and 1000V versions, with standard and specialty trip units designed to MSHA standards for trailing cable applications. We have listened to your needs, and are proud to bring you the quality and features you have been waiting for.

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You asked for and we delivered…

Reliable and Rugged Design
Design features include large contacts, handle shields, inter-phase barriers, rugged handle materials, low power auxiliary switches for PLC application and more. Siemens did not stop at testing this rugged design for interruption capability and calibration, but also put the breakers through rigorous load endurance and on site testing. This Mining Breaker and UVR combination offers trip free operation, and will endure reset attempts when the UVR is not powered. With less than pick up voltage applied to the UVR, the breaker contacts will not touch when a closing operation is attempted.

Reduced Inventory
Siemens electronic trip mining breakers cover all trailing cable pickup settings in just one frame and two trip units. With the widest range of MSHA 30 CFR 75 pick up settings, and adjustable Amperage ratings, Siemens covers trailing cable applications using far fewer breakers than the competition. Electromechanical breakers also offer the most complete range of exact trailing cable settings, further reducing inventory. Both electronic and electromechanical trip units are interchangeable, and work in either 600 V or 1000 V frames.

Increased Interrupting Ratings
Siemens has matched or increased the interrupting ratings of our competitors, and offers series combination ratings at 480 V. Siemens Mining Breakers have extra high 480V interrupting capacity using 1000V construction, and offer 500 Vdc interrupting ratings from 15 to 1600A.

Easy Application
Siemens mining breakers have special trip units that are specifically designed for trailing cable application. All setting values are marked on the front of our trip units, with the trailing cable settings highlighted.

Electronic trip catalog numbers ending in the CA or CB include MSHA 30 CFR 75 settings as follows

CA:	50	75	150	200	300	500	600	800	1000	1250
CB:	200	300	500	600	800	1000	1250	1500	2000	2500

Electromechanical catalog numbers ending in C1, C2 or C3 include MSHA 30 CFR 75 settings as follows

C1:	50	75	150	200	C2:	300	500	600	800	1000	C3:	1250	1500	2000	2500

Lower Installed Cost
Siemens gives you the versatility to use either electromechanical or electronic trip breakers through 1600A. Because we developed trailing cable trip units in both versions, each having a wider range of exact MSHA 30 CFR 75 601-2 pick up settings, you will reduce your costs and inventory. In addition, our JM (400A) frame trip units have been designed to work in the LM (600A) frame, and our MM (800A) trip units are designed to work in the NM (1200A) frame.

Complete and Flexible Breaker Offering
Siemens offers mine proven breakers through 1600A at both 600V and 1000V, with one interchangeable trip unit for both frames. In addition, our 400A breaker trip units operate in the 600A frame, and our 800A trip units operate in the 1200A frames. Internal accessories are common for the 400 and 600A frames, as well as for the 800A, 1200A, and 1600A frames. A wide variety of external accessories are also available in every frame, including compression or mechanical lugs, plug in assemblies for quick change out, rear connectors, inter phase barriers and more.

Less Design Effort and Simplified Upgrades
Siemens offers common footprints and accessories for the 400A and 600A frames, as well as the 800A, 1200A and 1600A frames.

Repairable and Serviceable Breakers
Siemens mining breakers offer extended service, with the option for repair or refurbishment.

We're Siemens. We can do that.

SIEMENS

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The Siemens Advantage

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• http://www.sea.siemens.com/power/autocad/autocad.asp

SIEMENS

Mining Service Molded Case Circuit Breakers
Interrupting Capacities

Standard Mining Duty Interrupting Rating							
Frame:	**EM6**	**FM6**	**JM6**	**LM6**	**MM6**	**NM6**	**PM6**
Volts	**125A**	**250A**	**400A**	**600A**	**800A**	**1200A**	**1600A**
600 Vac	18KA	18KA	25KA	25KA	25KA	25KA	25KA
480Vac	25KA	35KA	35KA	35KA	50KA	50KA	50KA
240Vac	65KA	65KA	65KA	65KA	65KA	65KA	65KA
250Vdc*	30KA	30KA	30KA	30KA	30KA	30KA	30KA
500Vdc* **	18KA	18KA	25KA	25KA	25KA	25KA	25KA

* 250 Vdc Ratings use the outside 2 poles of a 3P breaker. 500Vdc breakers are 3P wired in Series.
** DC ratings do not apply to the mag only version of the 125A E frame or electronic trip units.

Heavy Mining Duty Interrupting Rating							
Frame:	**EMK**	**FMK**	**JMK**	**LMK**	**MMK**	**NMK**	**PMK**
Volts	**125A**	**250A**	**400A**	**600A**	**800A**	**1200A**	**1600A**
1000Y/577Vac	10KA	10KA	14KA	14KA	25KA	25KA	25KA
600 Vac	50KA	25KA	50KA	50KA	50KA	50KA	50KA
480Vac	100KA	100KA	100KA	100KA	65KA	65KA	65KA
500Vdc* **	50KA	50KA	-	-	50KA	50KA	50KA

* 250 Vdc Ratings use the outside 2 poles of a 3P breaker. 500Vdc breakers are 3P wired in Series.
** DC ratings do not apply to the mag only version of the 125A E frame or electronic trip units.

Note: Siemens Mine Duty Circuit Breakers are ideally suited, designed, and rigorously tested for mining duty application only. Contact Siemens for testing and certification before using in other applications.

Mining Breaker Replacement Chart

600V				**1000V**			
Classic	**Series C ®**	**E^2**	**Sentron Standard Mine Duty**	**Classic**	**Series C ®**	**E^2**	**Sentron Heavy Mine Duty**
FBM HFBM	FDBM FDM HFDM (Mag. Only)	E2F	**EM6**	HFM		E2FM	**EMK**
	JDM	E2J	**FM6**		JDCM	E2JM	**FMK**
KAM KAMH	KDM	E2K	**JM6**	HKAM	KDCM	E2KM	**JMK**
LAM LAMH LCM LCMH	LDM	E2L	**LM6**	HLAM HLCM	LDCM	E2LM	**LMK**
MAM MAMH MCM MCMH			**MM6**	HMAM HMCM			**MMK**
NBM NBMH NCM NCMH		E2N	**NM6**	HNBM HNCM HNBMH HLCLM		E2NM	**NMK**
		E2R	**PM6**	HPBM		E2RM	**PMK**

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Trailing Cable Fast Finder (Electronic Instantaneous Only Breakers)

Siemens Mining Breakers correspond exactly to all MSHA 30 CFR 75 trailing cable settings in just ONE frame and two trip units.

Trailing Cable Protection Setting per MSHA 30 CFR 75					
Conductor Size	**Max Amperes 75ºC Insulated Conductor**	**Maximum Inst. Setting**	**Siemens Frame**	**Trip Unit**	
14	15	50	JM	JMKT200X **CA**	
12	20	75			
10	30	150			
8	50	200			JMKT400X **CB**
6	65	300			
4	85	500			
3	100	600			
2	115	800			
1	130	1000			
1/O	150	1250			
2/O	175	1500			
3/O	200	2000			
4/O	230	2500			
250	255	2500			
300	285	2500			
350	310	2500			
400	335	2500			
500	380	2500			

CA, CB indicate that all these trip settings are available on Siemens catalog numbers with that suffix.

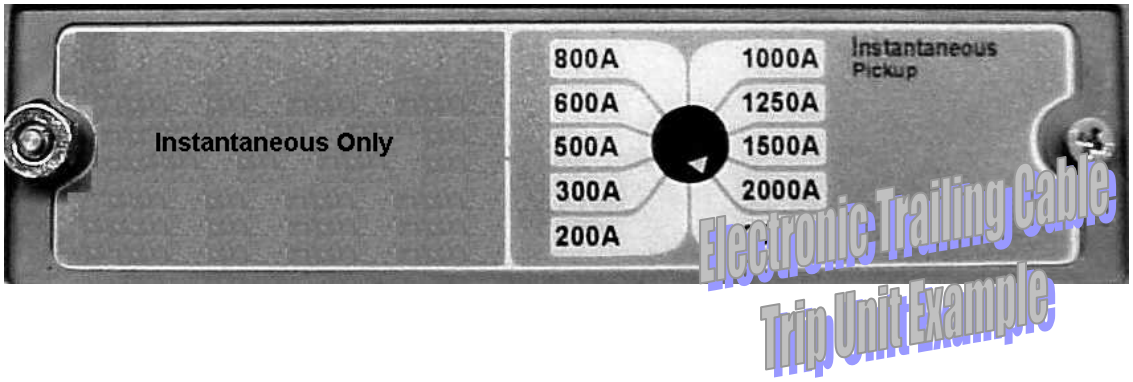
Electronic trip instantaneous only breakers

Breaker Type	Maximum Continuous Amperes	Nominal AC Adjustable Trip Setting										Instantaneous Only Complete Breaker	
		Low	2	3	4	5	6	7	8	9	High	600V Cat #	1000V Cat #
JM	**200**	**50**	**75**	**150**	**200**	**300**	**500**	**600**	**800**	**1000**	**1250**	JM6B200XCAW	JMKB200XCAW
	300	**200**	**300**	**500**	**600**	**800**	**1000**	**1250**	**1500**	**2000**	**2500**	JM6B300XCBW	JMKB300XCBW
	400*	**200**	**300**	**500**	**600**	**800**	**1000**	**1250**	**1500**	**2000**	**2500**	JM6B400XCBW	JMKB400XCBW
LM	**600**	**200**	**300**	**500**	**600**	**800**	**1000**	**1250**	**1500**	**2000**	**2500**	LM6B600XCBW	LMKB600XCBW

* Trip Unit will also work in the 600A LM frame.

Factory installed Accessory: Add suffix …UN for a 120Vac UVR, and …SN for a 120Vac shunt trip.

MSHA 30 CFR 75.601-2 Pick up settings are highlighted and underlined.



Trailing Cable Fast Finder (Magnetic Only Breakers)

Siemens Electromechanical Mining Breaker settings correspond exactly to all MSHA 30 CFR 75 trailing cable settings.

Trailing Cable Protection Setting per MSHA 30 CFR 75

Conductor Size	Max Ampere 75ºC Insulated Conductor	Maximum Instantaneous Trip Setting	Breaker Options (Any one has all exact pick up settings within the range shown)
14	15	50	EM 50A
12	20	75	
10	30	150	
8	50	200	
6	65	300	EM 125A FM 250A JM 225A JM 400A LM 400A
4	85	500	
3	100	600	
2	115	800	
1	130	1000	
1/0	150	1250	FM 250A JM 225A JM 400A LM 600A MM 800A NM 1200A
2/0	175	1500	
3/0	200	2000	
4/0	230	2500	
250	255	2500	
300	285	2500	
350	310	2500	
400	335	2500	
500	380	2500	

C1 C2 C3

Watermarks C1, C2 and C3 indicate that all these trip settings are available on mag. only catalog numbers with this suffix.

Siemens also offers the option to meet each magnetic only pick up setting in the smallest frame possible or an oversized frame.

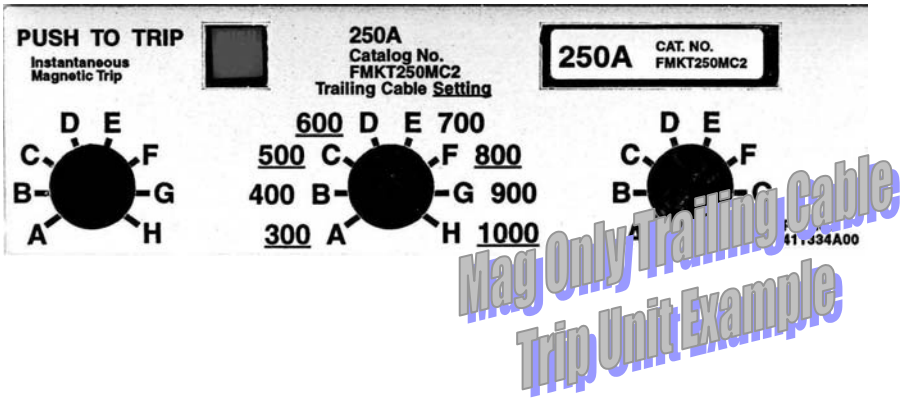
Breaker Type	Maximum Continuous Amperes	Nominal AC Adjustable Trip Setting								Magnetic Trip Only Complete Beaker	
		Low	2	3	4	5	6	7	High	600V Cat #	1000V Cat #
EM	**50**	**50**	**75**	100	**150**	**200**	-	-	**-**	**EM6B050MC1**	**EMKB050MC1**
	125	**300**	**500**	**600**	**800**	**1000**	-	-	**-**	**EM6B125MC2**	**EMKB125MC2**
FM	**250**	**300**	**375**	450	**500**	550	**600**	700	**800**	**FM6B250MC2W****	**FMKB250MC2W****
	250	**1000**	**1250**	1350	**1500**	1800	**2000**	2250	**2500**	**FM6B250MC3W**	**FMKB250MC3W**
JM	**225**	350	**400**	**500**	**600**	700	**800**	900	**1000**	**JM6B225MC2W**	**JMKB225MC2W**
	400	1100	**1250**	**1500**	1650	1800	**2000**	2250	**2500**	**JM6B400MC3W**	**JMKB400MC3W**
LM	**400***	**300**	**400**	**500**	**600**	700	**800**	900	**1000**	**LM6B400MC2W**	**LMKB400MC2W**
	600	1100	**1250**	**1500**	1650	1800	**2000**	2250	**2500**	**LM6B600MC3W**	**LMKB600MC3W**
MM	**800**	**1250**	**1500**	1650	1800	1900	**2000**	2250	**2500**	**MM6B800MC3W**	**MMKB800MC3W**
NM	**1200**	**1250**	**1500**	1650	1800	1900	**2000**	2250	**2500**	**NM6B1200MC3W**	**NMKB1200MC3W**

* TU also to work in 400A frame

** The 1000A setting is part of the C3 (not C2) range for this trip unit only.

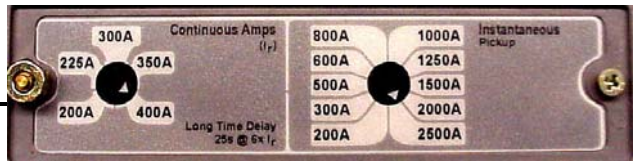
Factory installed Accessory: Add -UN for a 120Vac UVR, and -SN for a 120Vac shunt trip.

MSHA 30 CFR 75.601-2 Pick up settings are highlighted and underlined.



SIEMENS

Trailing Cable Fast Finder
(Electronic LI & Thermal Magnetic Breakers)



Electronic Trip Long Time & Instantaneous Breakers

Breaker Type	Maximum Continuous Amperes*	Nominal AC Adjustable Trip Setting										Complete Breaker with LI Trip Unit	
		Low	2	3	4	5	6	7	8	9	High	600V Cat #	1000V Cat #
JM-E	100 125 150 175 200	**50**	**75**	**150**	**250**	**300**	**500**	**600**	**800**	**1000**	**1250**	JM6B200ECAW	JMKB200ECAW
JM-E	150 175 200 225 300	**200**	**300**	**500**	**600**	**800**	**1000**	**1250**	**1500**	**2000**	**2500**	JM6B300ECBW**	JMKB300ECBW**
JM-E	200 225 300 350 400	**200**	**300**	**500**	**600**	**800**	**1000**	**1250**	**1500**	**2000**	**2500**	JM6B400ECBW**	JMKB400ECBW**
LM-E	300 350 400 500 600	**200**	**300**	**500**	**600**	**800**	**1000**	**1250**	**1500**	**2000**	**2500**	LM6B600ECBW	LMKB600ECBW

* In addition to adjustable trailing cable settings, Siemens now offers an independently adjustable amperage rating in the same unit. A sealable, clear plastic cover gives the option to limit access once the amperage rating is set. The trailing cable pick settings remain field adjustable.
** TU will also work in the LM frame

Thermal Magnetic Breakers

Breaker Type	Maximum Continuous Amperes	Nominal AC Adjustable Trip Setting								Complete Breaker with Thermal Magnetic Trip	
		Low	2	3	4	5	6	7	High	600V Cat #	1000V Cat #
FM	70	**300**	375	450	**500**	550	**600**	700	**800**	FM6B070TC2W	FMKB070TC2W
FM	90	**300**	375	450	**500**	550	**600**	700	**800**	FM6B090TC2W	FMKB090TC2W
FM	100	**300**	375	450	**500**	550	**600**	700	**800**	FM6B100TC2W	FMKB100TC2W
FM	125	**300**	375	450	**500**	550	**600**	700	**800**	FM6B125TC2W	FMKB125TC2W
FM	150	**300**	375	450	**500**	550	**600**	700	**800**	FM6B150TC2W	FMKB150TC2W
FM	150	**1000**	**1250**	1350	**1500**	1800	**2000**	2250	**2500**	FM6B150TC3W	FMKB150TC3W
FM	175	**300**	375	450	**500**	550	**600**	700	**800**	FM6B175TC2W	FMKB175TC2W
FM	175	**1000**	**1250**	1350	**1500**	1800	**2000**	2250	**2500**	FM6B175TC3W	FMKB175TC3W
FM	200	**1000**	**1250**	1350	**1500**	1800	**2000**	2250	**2500**	FM6B200TC3W	FMKB200TC3W
FM	225	**300**	**375**	450	**500**	550	**600**	700	**800**	FM6B225TC2W	FMKB225TC2W
FM	225	**1000**	**1250**	1350	**1500**	1800	**2000**	2250	**2500**	FM6B225TC3W	FMKB225TC3W
FM	250	**1000**	**1250**	1350	**1500**	1800	**2000**	2250	**2500**	FM6B250TC3W	FMKB250TC3W
JM	200	350	400	**500**	**600**	700	**800**	900	**1000**	JM6B200TC2W	JMKB200TC2W
JM	200	1100	**1250**	**1500**	1650	1800	**2000**	2250	**2500**	JM6B200TC3W	JMKB200TC3W
JM	225	350	400	**500**	**600**	700	**800**	900	**1000**	JM6B225TC2W	JMKB225TC2W
JM	225	1100	**1250**	**1500**	1650	1800	**2000**	2250	**2500**	JM6B225TC3W	JMKB225TC3W
JM	250	1100	**1250**	**1500**	1650	1800	**2000**	2250	**2500**	JM6B250TC3W	JMKB250TC3W
JM	300	350	**400**	**500**	**600**	700	**800**	900	**1000**	JM6B300TC2W	JMKB300TC2W
JM	300	1100	**1250**	**1500**	1650	1800	**2000**	2250	**2500**	JM6B300TC3W	JMKB300TC3W
JM	350	1100	**1250**	**1500**	1650	1800	**2000**	2250	**2500**	JM6B350TC3W	JMKB350TC3W
JM	400	1100	**1250**	**1500**	1650	1800	**2000**	2250	**2500**	JM6B400TC3W	JMKB400TC3W
LM	300	1100	**1250**	**1500**	1650	1800	**2000**	2250	**2500**	LM6B300TC3W	LMKB300TC3W
LM	350	1100	**1250**	**1500**	1650	1800	**2000**	2250	**2500**	LM6B350TC3W	LMKB350TC3W
LM	400	1100	**1250**	**1500**	1650	1800	**2000**	2250	**2500**	LM6B400TC3W	LMKB400TC3W
LM	450	1100	**1250**	**1500**	1650	1800	**2000**	2250	**2500**	LM6B450TC3W	LMKB450TC3W
LM	500	1100	**1250**	**1500**	1650	1800	**2000**	2250	**2500**	LM6B500TC3W	LMKB500TC3W
LM	600	1100	**1250**	**1500**	1650	1800	**2000**	2250	**2500**	LM6B600TC3W	LMKB600TC3W
MM	500	**1250**	**1500**	1650	1800	1900	**2000**	2250	**2500**	MM6B500TC3W	MMKB500TC3W
MM	600	**1250**	**1500**	1650	1800	1900	**2000**	2250	**2500**	MM6B600TC3W	MMKB600TC3W
MM	700	**1250**	**1500**	1650	1800	1900	**2000**	2250	**2500**	MM6B700TC3W	MMKB700TC3W
MM	800	**1250**	**1500**	1650	1800	1900	**2000**	2250	**2500**	MM6B800TC3W	MMKB800TC3W
NM	900	**1250**	**1500**	1650	1800	1900	**2000**	2250	**2500**	NM6B900TC3W	NMKB900TC3W
NM	1000	**1250**	**1500**	1650	1800	1900	**2000**	2250	**2500**	NM6B100TC3W	NMKB100TC3W
NM	1200	**1250**	**1500**	1650	1800	1900	**2000**	2250	**2500**	NM6B120TC3W	NMKB120TC3W

Factory installed Accessory: Add -UN for a 120Vac UVR, and -SN for a 120Vac shunt trip.

MSHA 30 CFR 75.601-2 Pick up settings are highlighted and underlined.

Mining Circuit Breakers

Catalog Numbering System

JM 6 B 400 M C1 W UN

Mining Breaker Frame Identifier

E ---- Type EM
F ---- Type FM
J ---- Type JM
L ---- Type LM
M --- Type MM
N --- Type NM
P --- Type PM

Maximum Voltage

6 ------ 600 Vac - Standard Interrupting
K------- 1000 Vac - High Interrupting

Type

B------- Complete Breaker
F ------ Frame Only
T ------ Trip Unit Only

Maximum Continuous Current Rating

EM Frame — 015, 020, 025, 030, 035, 040, 045, 050, 060, 070, 080, 090, 100, 110, 125
FM Frame (150A) — 070, 080, 090, 100, 110, 125, 150
FM Frame (250A) — 070, 080, 090, 100, 110, 125, 150, 175, 200, 225, 250
JM Frame — 200, 225, 250, 300, 350, 400
LM Frame — 250, 300, 350, 400, 450, 500, 600
MM Frame — 500, 600, 700, 800
NM Frame — 900, 100 (1000A), 120 (1200A)
PM Frame — 120 (1200A), 140 (1400A), 160 (1600A)

Trip Type (Omit position for frame only)

T ------ Thermal magnetic trip
M ----- Magnetic only trip
E ------ Electronic long time and instantaneous trip (LI)
X ------ Electronic instantaneous only trip (I)

Pick up values (Omit position for frame only)

Omit -- Standard range (thermal-mag/ LI)
S1 ----- Standard low range (mag only)
S2 ----- Standard mid range (mag only)
S3 ---- Standard high range (mag only)
C1 ----- Trailing cable low range (settings 50 - 75 - 150 - 200)
C2 ----- Trailing cable mid range (settings 300 - 500 - 600 - 800 - 1000)
C3 ----- Trailing cable high range (settings 1250 - 1500 - 2000 - 2500)
CA----- Trailing cable Elect. range (settings 50 - 75 - 150 - 200 - 300 - 500 – 600 – 800 – 1000 - 1250)
CB----- Trailing cable Elect. range (settings 200 - 300 - 500 – 600 – 800 – 1000 – 1250 – 1500 – 2000 - 2500)

Suffix (Omit position for frame only)

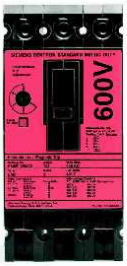
L ------- Indicates a complete breaker shipped line/load lugs installed
W------ Without Lugs

Accessory Designation

UN ---- 120Vac UVR Installed
SN----- 120Vac Shunt Trip Installed

SIEMENS

Mining Service Molded Case Circuit Breakers
EM Frame





INTERRUPTING CAPACITIES

Circuit Breaker Type	Interrupting Capacity (Symmetrical Amperes)			
	Volts ac (50/60 Hz)			Volts dc
	480	600	1000Y/577	250
EM6	25,000	18,000	**********	30,000
EMK	100,000	50,000	10,000	30,000

MAGNETIC ONLY CIRCUIT BREAKERS WITH NON-INTERCHANGEABLE TRIP UNIT

Maximum Continuous Ampere Rating at 40C	Pick Up	600 Vac Maximum, 25 kA at 480 Vac 3 Pole		1000Y/577 Vac Maximum 10 Ka at 1000 Vac 3 Pole	
		Catalog Numbers	List Price	Catalog Numbers	List Price
3	10 - 35	EM6B003MS2L	$752	*********	
5	16 - 54	EM6B005MS2L	$752	*********	
10	30 - 100	EM6B010MS2L	$752	*********	
25	40 -150	EM6B025MS1L	$752	*********	
25	55 - 180	EM6B025MS2L	$752	*********	
30	80 - 270	EM6B030MS2L	$752	*********	
40	115 - 375	EM6B040MS2L	$752	*********	
50	180 - 600	EM6B050MS2L	$752	EMKB050MS2L	$1,521
50	**50 - 200**	**EM6B050MC1L**	$752	**EMKB050MC1L**	$1,521
100	150-550	EM6B100MS1L	$907	EMKB100MS1L	$1,644
100	315 - 1000	EM6B100MS2L	$907	EMKB100MS2L	$1,644
125	**300 - 1000**	**EM6B125MC2L**	$1,014	**EMKB125MC2L**	$1,728
125	500 - 1250	EM6B125MS2L	$1,014	EMKB125MS2L	$1,728

THERMAL MAGNETIC CIRCUIT BREAKERS WITH NON-INTERCHANGEABLE TRIP

Maximum Continuous Ampere Rating at 40C	600 Vac Maximum, 500 Vdc, 25 kA at 480 Vac 3 Pole		1000Y/577 Vac Maximum 500 Vdc, 10 Ka at 1000 Vac 3 Pole	
	Catalog Numbers	List Price	Catalog Numbers	List Price
15	EM6B015TL	$1,000	*********	
20	EM6B020TL	$1,000	*********	
25	EM6B025TL	$1,000	*********	
30	EM6B030TL	$1,000	*********	
35	EM6B035TL	$1,000	*********	
40	EM6B040TL	$1,000	*********	
45	EM6B045TL	$1,000	*********	
50	EM6B050TL	$1,000	EMKB050TL	$1,521
60	EM6B060TL	$1,000	EMKB060TL	$1,521
70	EM6B070TL	$1,131	EMKB070TL	$1,723
80	EM6B080TL	$1,131	EMKB080TL	$1,723
90	EM6B090TL	$1,131	EMKB090TL	$1,723
100	EM6B100TL	$1,131	EMKB100TL	$1,723
125	EM6B125TL	$1,676	EMKB125TL	$2,303

Note: E frame breakers are shipped complete with line and load terminals.

Trip units in **BOLD TYPE** include all exact **TRAILING CABLE** settings within their trip range (C1, C2, C3).

Factory installed Accessory: Add suffix …UN for a 120Vac UVR, and …SN for a 120Vac shunt trip.

SIEMENS

Mining Service Molded Case Circuit Breakers
FM Frame

INTERRUPTING CAPACITIES

Circuit Breaker Type	Interrupting Capacity (Symmetrical Amperes)			
	Volts Ac (50/60 Hz)			Volts Dc
	480	600	1000Y/577	250
FM6	35,000	18,000	**********	30,000
FMK	100,000	25,000	10,000	30,000



CIRCUIT BREAKERS WITH INTERCHANGEABLE MAGNETIC ONLY TRIP UNIT

Max Cont. Ampere Rating at 40 C	Trip Unit	Trip Range	List Price	600 Vac Maximum, 500 Vdc 35 kA at 480Vac 3 Pole				1000Y/577 Vac Maximum, 500 Vdc 10 kA at 1000 Vac 3 pole			
				CATALOG NUMBERS				CATALOG NUMBERS			
				Frame	List Price	Complete Breaker	List Price	Frame	List Price	Complete Breaker	List Price
150	FMKT150MS1	400 - 820	$398	FM6F250	$1,241	FM6B150MS1W	$1,639	FMKF150*	$1,869	FMKB150MS1W	$2,267
150	FMKT150MS2	800 - 1500	$398			FM6B150MS2W	$1,639			FMKB150MS2W	$2,267
150	FMKT150MS3	1100 - 2500	$398			FM6B150MS3W	$1,639			FMKB150MS3W	$2,267
250	**FMKT250MC2**	**300 - 800**	$741	FM6F250	$1,241	FM6B250MC2W	$1,982	FMKF250	$3,632	FMKB250MC2W	$4,373
250	FMKT250MC3	1100 - 2500	$741			FM6B250MC3W	$1,982			FMKB250MC3W	$4,373

.

CIRCUIT BREAKERS WITH INTERCHANGEABLE THERMAL MAGNETIC TRIP UNIT

Max Cont. Ampere Rating at 40 C	Trip Unit	Trip Range	LIST PRICE	600 Vac Maximum, 500 Vdc 35 kA at 480Vac 3 Pole				1000Y/577 Vac Maximum, 500 Vdc 10 kA at 1000 Vac 3 pole			
				CATALOG NUMBERS				CATALOG NUMBERS			
				Frame	List Price	Complete Breaker	List Price	Frame	List Price	Complete Breaker	List Price
70	**FMKT070TC2**	**300 - 800**	$578	FM6F250	$1,241	**FM6B070TC2W**	$1,819	FMKF150*	$1,869	FMKB070TC2W	$2,447
70	FMKT070T	600 - 900	$578			**FM6B070TW**	$1,819			FMKB070TW	$2,447
80	FMKT080T	600 - 900	$578			**FM6B080TW**	$1,819			FMKB080TW	$2,447
90	**FMKT090TC2**	**300 - 800**	$578			**FM6B090TC2W**	$1,819			FMKB090TC2W	$2,447
90	FMKT090T	600 - 900	$578			**FM6B090TW**	$1,819			FMKB090TW	$2,447
100	**FMKT100TC2**	**300 - 800**	$578			**FM6B100TC2W**	$1,819			FMKB100TC2W	$2,447
100	FMKT100T	700 - 1200	$578			**FM6B100TW**	$1,819			FMKB100TW	$2,447
125	**FMKT125TC2**	**300 - 800**	$578			**FM6B125TC2W**	$1,819			FMKB125TC2W	$2,447
125	FMKT125T	800 - 1500	$578			**FM6B125TW**	$1,819			FMKB125TW	$2,447
150	**FMKT150TC2**	**300 - 800**	$578			**FM6B150TC2W**	$1,819			FMKB150TC2W	$2,447
150	**FMKT150TC3**	**1000 - 2500**	$578			**FM6B150TC3W**	$1,819			FMKB150TC3W	$2,447
150	FMKT150T	800 - 1500	$578			**FM6B150TW**	$1,819			FMKB150TW	$2,447
175	**FMKT175TC2**	**300 - 800**	$741	FM6F250	$1,241	**FM6B175TC2W**	$1,982	FMKF250	$3,632	FMKB175TC2W	$4,373
175	**FMKT175TC3**	**1000 - 2500**	$741			**FM6B175TC3W**	$1,982			FMKB175TC3W	$4,373
175	FMKT175T	900 - 2000	$741			**FM6B175TW**	$1,982			FMKB175TW	$4,373
200	**FMKT200TC3**	**1000 - 2500**	$741			**FM6B200TC3W**	$1,982			FMKB200TC3W	$4,373
200	FMKT200T	900 - 2000	$741			**FM6B200TW**	$1,982			FMKB200TW	$4,373
225	**FMKT225TC2**	**300 - 800**	$741			**FM6B225TC2W**	$1,982			FMKB225TC2W	$4,373
225	**FMKT225TC3**	**1000 - 2500**	$741			**FM6B225TC3W**	$1,982			FMKB225TC3W	$4,373
225	FMKT225T	1100 - 2500	$741			**FM6B225TW**	$1,982			FMKB225TW	$4,373
250	**FMKT250TC3**	**1000 - 2500**	$741			**FM6B250TC3W**	$1,982			FMKB250TC3W	$4,373
250	FMKT250T	1100 - 2500	$741			**FM6B250TW**	$1,982			FMKB250TW	$4,373

* Trip units from 70 - 150A will also work in the 1000V 250A frame (FMKF250).

Trip units in **BOLD TYPE** include all exact **TRAILING CABLE** settings within their trip range (C1, C2, C3).

Factory installed Accessory: Add suffix …UN for a 120Vac UVR, and …SN for a 120Vac shunt trip.

SIEMENS

Mining Service Molded Case Circuit Breakers
JM Frame

INTERRUPTING CAPACITIES

Circuit Breaker Type	Interrupting Capacity (Symmetrical Amperes)			
	Volts Ac (50/60 Hz)			Volts Dc
	480	600	1000Y/577	250
JM6	35,000	25,000	**********	30,000
JMK	100,000	50,000	14,000	-



CIRCUIT BREAKERS WITH INTERCHANGEABLE MAGNETIC ONLY TRIP UNIT

Max Cont. Ampere Rating at 40 C	Trip Unit	Trip Range	List Price	600 Vac Maximum, 500Vdc 35 kA at 480Vac 3 Pole				1000Y/577 Vac Maximum 14 kA at 1000 Vac 3 pole			
				CATALOG NUMBERS				CATALOG NUMBERS			
				Frame	List Price	Complete Breaker	List Price	Frame	List Price	Complete Breaker	List Price
225	**JMKT225MC2**	**350 - 1000**	$480	JM6F400	$2,847	JM6B225MC2W	$3,327	JMKF400	$4,251	JMKB225MC2W	$4,731
300	**JMKT300MC2**	**600 - 1000**	$480			JM6B300MC2W	$3,327			JMKB300MC2W	$4,731
400	**JMKT400MC2**	**600 - 1000**	$625			JM6B400MC2W	$3,472			JMKB400MC2W	$4,876
400	**JMKT400MC3**	**1100 - 2500**	$625			JM6B400MC3W	$3,472			JMKB400MC3W	$4,876
400	JMKT400MS3	2000 - 4000	$625			JM6B400MS3W	$3,472			JMKB400MS3W	$4,876

CIRCUIT BREAKERS WITH INTERCHANGEABLE THERMAL-MAGNETIC TRIP UNIT

Max Cont. Ampere Rating at 40 C	Trip Unit	Trip Range	List Price	600 Vac Maximum, 500Vdc 35 kA at 480Vac 3 Pole				1000Y/577 Vac Maximum 14 kA at 1000 Vac 3 pole			
				CATALOG NUMBERS				CATALOG NUMBERS			
				Frame	List Price	Complete Breaker	List Price	Frame	List Price	Complete Breaker	List Price
200	**JMKT200TC2**	**350 - 1000**	$505	JM6F400	$2,847	JM6B200TC2W	$3,352	JMKF400	$4,251	JMKB200TC2W	$4,756
200	**JMKT200TC3**	**1100 - 2500**	$505			JM6B200TC3W	$3,352			JMKB200TC3W	$4,756
225	**JMKT225TC2**	**350 - 1000**	$505			JM6B225TC2W	$3,352			JMKB225TC2W	$4,756
225	**JMKT225TC3**	**1100 - 2500**	$505			JM6B225TC3W	$3,352			JMKB225TC3W	$4,756
250	**JMKT250TC3**	**1100 - 2500**	$505			JM6B250TC3W	$3,352			JMKB250TC3W	$4,756
300	**JMKT300TC2**	**350 - 1000**	$505			JM6B300TC2W	$3,352			JMKB300TC2W	$4,756
300	**JMKT300TC3**	**1100 - 2500**	$505			JM6B300TC3W	$3,352			JMKB300TC3W	$4,756
350	**JMKT350TC3**	**1100 - 2500**	$784			JM6B350TC3W	$3,631			JMKB350TC3W	$5,035
350	JMKT350T	2000 - 4000	$784			JM6B350TW	$3,631			JMKB350TW	$5,035
400	**JMKT400TC3**	**1100 - 2500**	$784			JM6B400TC3W	$3,631			JMKB400TC3W	$5,035
400	JMKT400T	2000 - 4000	$784			JM6B400TW	$3,631			JMKB400TW	$5,035

CIRCUIT BREAKERS WITH INTERCHANGEABLE ELECTRONIC TRIP UNIT, INSTANTANEOUS ONLY*

Max Cont. Ampere Rating at 40 C	Trip Unit	Trip Range	List Price	600 Vac Maximum 35 kA at 480Vac 3 Pole				1000Y/577 Vac Maximum 14 kA at 1000 Vac 3 Pole			
				CATALOG NUMBERS				CATALOG NUMBERS			
				Frame	List Price	Complete Breaker	List Price	Frame	List Price	Complete Breaker	List Price
200	**JMKT200XCA**	**50 - 1250**	$ 691	JM6F400	$2,847	JM6B200XCAW	$3,538	JMKF400	$4,251	JMKB200XCAW	$4,942
300	**JMKT300XCB**	**200 - 2500**	$ 691			JM6B300XCBW	$3,538			JMKB300XCBW	$4,942
400	**JMKT400XCB**	**200 - 2500**	$ 1,266			JM6B400XCBW	$4,113			JMKB400XCBW	$5,517

CIRCUIT BREAKERS WITH INTERCHANGEABLE ELECTRONIC TRIP UNIT, LONG/INSTANTANEOUS*

Max Cont. Ampere Rating at 40 C	Trip Unit	Trip Range	List Price	600 Vac Maximum 35 kA at 480Vac 3 Pole				1000Y/577 Vac Maximum 14 kA at 1000 Vac 3 Pole			
				CATALOG NUMBERS				CATALOG NUMBERS			
				Frame	List Price	Complete Breaker	List Price	Frame	List Price	Complete Breaker	List Price
100 125 150 175 200*	**JMKT200ECA**	**50 - 1250**	$691	JM6F400	$2,847	JM6B200ECAW	$3,538	JMKF400	$4,251	JMKB200ECAW	$4,942
150 175 200 225 300*	**JMKT300ECB**	**200 - 2500**	$691			JM6B300ECBW	$3,538			JMKB300ECBW	$4,942
200 225 300 350 400*	**JMKT400ECB**	**200 - 2500**	$1,266			JM6B400ECBW	$4,113			JMKB400ECBW	$5,517
200** 300** 400**		** ** **				JM6B200EW JM6B300EW JM6B400EW	$3,540 $3,540 $4,113				

* In addition to adjustable trailing cable settings, Siemens offers an independently adjustable amperage rating in the same unit.
** Non-interchangeable trip breaker. Ampere rating is adjustable from 20% to 100% without a rating plug.
A sealable clear plastic cover gives the option to limit access once the amperage rating is set. The trailing cable pick setting remain field adjustable.

Trip units in **BOLD TYPE** include all exact **TRAILING CABLE** settings within their trip range (C1, C2, C3).

Factory installed Accessory: Add suffix …UN for a 120Vac UVR, and …SN for a 120Vac shunt trip.

SIEMENS

Mining Service Molded Case Circuit Breakers
LM Frame

INTERRUPTING CAPACITIES

Circuit Breaker Type	Interrupting Capacity (Symmetrical Amperes)			
	Volts Ac (50/60 Hz)			Volts Dc
	480	600	1000Y/577	250
LM6	35,000	25,000	**********	30,000
LMK	100,000	50,000	14,000	-



CIRCUIT BREAKERS WITH INTERCHANGEABLE MAGNETIC ONLY TRIP UNIT

Max Cont. Ampere Rating at 40 C	Trip Unit	Trip Range	List Price	600 Vac Maximum, 500 Vdc 35 kA at 480Vac 3 Pole CATALOG NUMBERS				1000Y/577 Vac Maximum 14 kA at 1000 Vac 3 Pole CATALOG NUMBERS			
				Frame	List Price	Complete Breaker	List Price	Frame	List Price	Complete Breaker	List Price
300	**JMKT300MC2**	**350 - 1000**	$480	LM6F600	$3,079	LM6B300MC2W	$3,559	LMKF600	$5,899	LMKB300MC2W	$6,379
400	**JMKT400MC2**	**600 - 1000**	$625			LM6B400MC2W	$3,704			LMKB400MC2W	$6,524
600	**LMKT600MC3**	**1100 - 2500**	$1029			LM6B600MC3W	$4,108			LMKB600MC3W	$6,928
600	LMKT600MS1	2000 - 4000	$1029			LM6B600MS1W	$4,108			LMKB600MS1W	$6,928
600	LMKT600MS3	3000 - 6000	$1029			LM6B600MS3W	$4,108			LMKB600MS3W	$6,928

CIRCUIT BREAKERS WITH INTERCHANGEABLE THERMAL-MAGNETIC TRIP UNIT

Max Cont. Ampere Rating at 40 C	Trip Unit	Trip Range	List Price	600 Vac Maximum, 500 Vdc 35 kA at 480Vac 3 Pole CATALOG NUMBERS				1000Y/577 Vac Maximum 14 kA at 1000 Vac 3 Pole CATALOG NUMBERS			
				Frame	List Price	Complete Breaker	List Price	Frame	List Price	Complete Breaker	List Price
300	**JMKT300TC3**	**1100 - 2500**	$480	LM6F600	$3,079	LM6B300TC3W	$3,584	LMKF600	$5,899	LMKB300TC3W	$6,404
350	**JMKT350TC3**	**1100-2500**	$784			LM6B350TC3W	$3,863			LMKB350TC3W	$6,683
350	JMKT350T	2000 - 4000	$784			LM6B350TW	$3,863			LMKB350TW	$6,683
400	**JMKT400TC3**	**1100-2500**	$784			LM6B400TC3W	$3,863			LMKB400TC3W	$6,683
400	JMKT400T	2000 - 4000	$784			LM6B400TW	$3,863			LMKB400TW	$6,683
450	**LMKT450TC3**	**1100-2500**	$2,001			LM6B450TC3W	$5,080			LMKB450TC3W	$7,900
450	LMKT450T	2000 - 4000	$2,001			LM6B450TW	$5,080			LMKB450TW	$7,900
500	**LMKT500TC3**	**1100-2500**	$2,001			LM6B500TC3W	$5,080			LMKB500TC3W	$7,900
500	LMKT500T	3000 – 6000	$2,001			LM6B500TW	$5,080			LMKB500TW	$7,900
600	**LMKT600TC3**	**1100-2500**	$2,001			LM6B600TC3W	$5,080			LMKB600TC3W	$7,900
600	LMKT600T	3000 – 6000	$2,001			LM6B600TW	$5,080			LMKB600TW	$7,900
600	LMKT600TC3	**1100-2500**	$2,001			LM6B600TC3W	$5,080			LMKB600TC3W	$7,900

CIRCUIT BREAKERS WITH INTERCHANGEABLE ELECTRONIC TRIP UNIT, INSTANTANEOUS ONLY*

Max Cont. Ampere Rating at 40 C	Trip Unit	Trip Range	List Price	600 Vac Maximum 35 kA at 480Vac 3 Pole CATALOG NUMBERS				1000Y/577 Vac Maximum 14 kA at 1000 Vac 3 Pole CATALOG NUMBERS			
				Frame	List Price	Complete Breaker	List Price	Frame	List Price	Complete Breaker	List Price
400	**JMKT400XCB**	**200 - 2500**	$1,266	LM6F600	$3,079	LM6B400XCBW	$4,345	LMKF600	$5,899	LMKB400XCBW	$7,165
600	**LMKT600XCB**	**200 - 2500**	$2,253			LM6B600XCBW	$5,332			LMKB600XCBW	$8,152

CIRCUIT BREAKERS WITH INTERCHANGEABLE ELECTRONIC TRIP UNIT, LONG / INSTANTANEOUS*

Max Cont. Ampere Rating at 40 C	Trip Unit	Trip Range	List Price	600 Vac Maximum 35 kA at 480Vac 3 Pole CATALOG NUMBERS				1000Y/577 Vac Maximum 14 kA at 1000 Vac 3 Pole CATALOG NUMBERS			
				Frame	List Price	Complete Breaker	List Price	Frame	List Price	Complete Breaker	List Price
200 225 300 350 400*	**JMKT400ECB**	**200 - 2500**	$1,266	LM6F600	$3,079	LM6B400ECBW	$4,345	LMKF600	$5,899	LMKB400ECBW	$7,165
300 350 400 500 600*	**LMKT600ECB**	**200 - 2500**	$2,253			LM6B600ECBW	$5,332			LMKB600ECBW	$8,152
300**		**				LM6B300EW	$4,345				
400**		**				LM6B400EW	$4,345				
500**		**				LM6B500EW	$5,332				
600**		**				LM6B600EW	$5,332				

*In addition to adjustable trailing cable settings, Siemens offers an independently adjustable amperage rating in the same unit.
A sealable clear plastic cover gives the option to limit access once the amperage rating is set. The trailing cable pick setting remain field adjustable.
** Non-interchangeable trip breaker. Ampere rating is adjustable from 20% to 100% without a rating plug.

SIEMENS

Mining Service Molded Case Circuit Breakers
MM Frame

INTERRUPTING CAPACITIES

Circuit Breaker Type	Interrupting Capacity (Symmetrical Amperes)			
	Volts Ac (50/60 Hz)			Volts Dc
	480	600	1000Y/577	250
MM6	50,000	25,000	**********	30,000
MMK	65,000	50,000	25,000	30,000



CIRCUIT BREAKERS WITH INTERCHANGEABLE MAGNETIC ONLY TRIP UNIT

Max Cont. Ampere Rating at 40 C	Trip Unit	Trip Range	List Price	600 Vac Maximum, 500 Vdc 50 kA at 480Vac 3 Pole				1000Y/577 Vac Maximum, 500 Vdc 25 kA at 1000 Vac 3 Pole			
				CATALOG NUMBERS				CATALOG NUMBERS			
				Frame	List Price	Complete Breaker	List Price	Frame	List Price	Complete Breaker	List Price
800	**MMKT800MC3**	**1250 - 2500**	$2,234	MM6F800	$4,100	MM6B800MC3W	$6,334	MMKF800	$7,113	MMKB800MC3W	$9,347
800	MMKT800MS1	3000 - 6000	$2,234			MM6B800MS1W	$6,334			MMKB800MS1W	$9,347
800	MMKT800MS2	4000 - 8000	$2,234			MM6B800MS2W	$6,334			MMKB800MS2W	$9,347
800	MMKT800MS3	5000 - 10000	$2,234			MM6B800MS3W	$6,334			MMKB800MS3W	$9,347

CIRCUIT BREAKERS WITH INTERCHANGEABLE THERMAL-MAGNETIC TRIP UNIT

Max Cont. Ampere Rating at 40 C	Trip Unit	Trip Range	List Price	600 Vac Maximum, 500 Vdc 50 kA at 480Vac 3 Pole				1000Y/577 Vac Maximum, 500 Vdc 25 kA at 1000 Vac 3 Pole			
				CATALOG NUMBERS				CATALOG NUMBERS			
				Frame	List Price	Complete Breaker	List Price	Frame	List Price	Complete Breaker	List Price
500	**MMKT500TC3**	**1250 - 2500**	$2,234	MM6F800	$4,100	MM6B500TC3W	$6,334	MMKF800	$7,113	MMKB500TC3W	$9,347
500	MMKT500T	3000 - 6000	$2,234			MM6B500TW	$6,334			MMKB500TW	$9,347
600	**MMKT600TC3**	**1250 - 2500**	$2,234			MM6B600TC3W	$6,334			MMKB600TC3W	$9,347
600	MMKT600T	3000 - 6000	$2,234			MM6B600TW	$6,334			MMKB600TW	$9,347
700	**MMKT700TC3**	**1250 - 2500**	$2,234			MM6B700TC3W	$6,334			MMKB700TC3W	$9,347
700	MMKT700T	4000 - 8000	$2,234			MM6B700TW	$6,334			MMKB700TW	$9,347
800	**MMKT800TC3**	**1250 - 2500**	$2,234			MM6B800TC3W	$6,334			MMKB800TC3W	$9,347
800	MMKT800T	4000 – 8000	$2,234			MM6B800TW	$6,334			MMKB800TW	$9,347
800	MMKT800TC4	2500-5000	$2,234			MM6B800TC4W	$6,334			MMKB800TC4W	$9,347

CIRCUIT BREAKERS WITH INTERCHANGEABLE ELECTRONIC TRIP UNIT, LONG/INSTANTANEOUS

Max Cont. Ampere Rating at 40 C	Trip Unit	Trip Range	List Price	600 Vac Maximum 50 kA at 480Vac 3 Pole				1000Y/577 Vac Maximum 25 kA at 1000 Vac 3 Pole			
				CATALOG NUMBERS				CATALOG NUMBERS			
				Frame	List Price	Complete Breaker	List Price	Frame	List Price	Complete Breaker	List Price
600*		**				MM6B600EW	$7,039				
700*		**				MM6B700EW	$7,039				
800*		**				MM6B800EW	$7,039				

* Long time rating is adjustable from 20% to 100% of value shown.

** Inst. setting is 2 to 40 times the selected amperage rating (overrides at 10x frame rating)..

Trip units in **BOLD TYPE** include all exact **TRAILING CABLE** settings within their trip range (C1, C2, C3).

Factory installed Accessory: Add suffix …UN for a 120Vac UVR, and …SN for a 120Vac shunt trip.

SIEMENS

Mining Service Molded Case Circuit Breakers
NM Frame



INTERRUPTING CAPACITIES

Circuit Breaker Type	Interrupting Capacity (Symmetrical Amperes)			
	Volts Ac (50/60 Hz)			Volts Dc
	480	600	1000Y/577	250
NM6	50,000	25,000	**********	30,000
NMK	65,000	50,000	25,000	30,000

CIRCUIT BREAKERS WITH INTERCHANGEABLE MAGNETIC ONLY TRIP UNIT

Max Cont. Ampere Rating at 40 C	Trip Unit	Trip Range	List Price	600 Vac Maximum, 500 Vdc 50 kA at 480Vac 3 Pole				1000Y/577 Vac Maximum, 500 Vdc 25 kA at 1000 Vac 3 Pole			
				CATALOG NUMBERS				CATALOG NUMBERS			
				Frame	List Price	Complete Breaker	List Price	Frame	List Price	Complete Breaker	List Price
1200	**NMKT120MC3**	**1250-2500**	$2,926	NM6F120	$8,130	NM6B120MC3W	$11,056	NMKF120	$12,576	NMKB120MC3W	$13,863
1200	**NMKT120MC4**	2500-5000	$2,926	NM6F120	$8,130	NM6B120MC4W	$11,056	NMKF120	$12,576	NMKB120MC4W	$13,863

CIRCUIT BREAKERS WITH INTERCHANGEABLE THERMAL-MAGNETIC TRIP UNIT

Max Cont. Ampere Rating at 40 C	Trip Unit	Trip Range	List Price	600 Vac Maximum, 500 Vdc 50 kA at 480Vac 3 Pole				1000Y/577 Vac Maximum, 500 Vdc 25 kA at 1000 Vac 3 Pole			
				CATALOG NUMBERS				CATALOG NUMBERS			
				Frame	List Price	Complete Breaker	List Price	Frame	List Price	Complete Breaker	List Price
900	**NMKT900TC3**	**1250 - 2500**	$2,926			NM6B900TC3W	$11,056			NMKB900TC3W	$15,502
900	NMKT900T	5000 - 10000	$2,926			NM6B900TW	$11,056			NMKB900TW	$15,502
1000	**NMKTI00TC3**	**1250 - 2500**	$2,926	NM6F120	$8,130	NM6BI00TC3W	$11,056	NMKF120	$12,576	NMKBI00TC3W	$15,502
1000	NMKT100T	5000 - 10000	$2,926			NM6B100TW	$11,056			NMKB100TW	$15,502
1200	**NMKT120TC3**	**1250 - 2500**	$2,926			NM6B120TC3W	$11,056			NMKB120TC3W	$15,502
1200	NMKT120T	5000 - 10000	$2,926			NM6B120TW	$11,056			NMKB120TW	$15,502

CIRCUIT BREAKERS WITH INTERCHANGEABLE ELECTRONIC TRIP UNIT, LONG/INSTANTANEOUS

Max Cont. Ampere Rating at 40 C	Trip Unit	Trip Range	List Price	600 Vac Maximum 50 kA at 480Vac 3 Pole				1000Y/577 Vac Maximum 25 kA at 1000 Vac 3 Pole			
				CATALOG NUMBERS				CATALOG NUMBERS			
				Frame	List Price	Complete Breaker	List Price	Frame	List Price	Complete Breaker	List Price
800*		**				NM6B800EW	$12,398				
1000*		**				NM6B100EW	$12,398				
1200*		**				NM6B120EW	$12,398				

* Long time rating is adjustable from 20% to 100% of value shown.
** Inst. setting is 2 to 40 times the selected amperage rating (overrides at 10x frame rating).

Trip units in **BOLD TYPE** include all exact **TRAILING CABLE** settings within their trip range (C1, C2, C3).

Factory installed Accessory: Add suffix …UN for a 120Vac UVR, and …SN for a 120Vac shunt trip.

SIEMENS

Mining Service Molded Case Circuit Breakers
PM Frame*



INTERRUPTING CAPACITIES

Circuit Breaker Type	Interrupting Capacity (Symmetrical Amperes)			
	Volts ac (50/60 Hz)			Volts dc
	480	600	1000Y/577	250
PM6	50,000	25,000	**********	30,000
PMK	65,000	50,000	25,000	30,000

CIRCUIT BREAKERS WITH INTERCHANGEABLE THERMAL-MAGNETIC TRIP UNIT

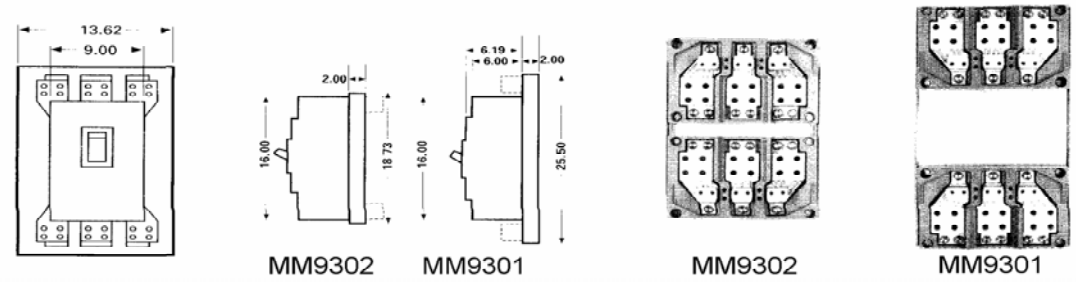
Max Cont. Ampere Rating at 40 C	Trip Unit	Trip Range	List Price	600 Vac Maximum, 500 Vdc 50 kA at 480Vac 3 Pole				1000Y/577 Vac Maximum, 500 Vdc 25 kA at 1000 Vac 3 Pole			
				CATALOG NUMBERS				CATALOG NUMBERS			
				Frame	List Price	Complete Breaker	List Price	Frame	List Price	Complete Breaker	List Price
1400	PMKT140T	5000 - 10000	$4,400	PM6F160	$10,323	PM6BI40TW	$14,723	PMKF160	$16,115	PMKBI40TW	$21,915
1600	PMKT160T	5000 - 10000	$4,400			PM6B160TW	$14,723			PMKB160TW	$21,915

CIRCUIT BREAKERS WITH INTERCHANGEABLE ELECTRONIC TRIP UNIT, LONG/INSTANTANEOUS

Max Cont. Ampere Rating at 40 C	Trip Unit	Trip Range	List Price	600 Vac Maximum 50 kA at 480Vac 3 Pole				1000Y/577 Vac Maximum 25 kA at 1000 Vac 3 Pole			
				CATALOG NUMBERS				CATALOG NUMBERS			
				Frame	List Price	Complete Breaker	List Price	Frame	List Price	Complete Breaker	List Price
1400*		**				PM6B140EW	$17,912				
1600*		**				PM6B160EW	$17,912				

* Long time rating is adjustable from 20% to 100% of value shown.
** Inst. setting is 2 to 40 times the selected amperage rating (overrides at 10x frame rating)..

Mounting Block (1 required for each frame or each complete breaker ordered).



Maximum Continuous Ampere Rating at 40 C	Mounting Block	Maximum Voltage	List Price
1600	MM9301 or MM9302	1000V	$1,400

Factory installed Accessory: Add suffix …UN for a 120Vac UVR, and …SN for a 120Vac shunt trip.

*** Contact Siemens for information on the TD 2000A, 2500A, and 3200A frames.**

Mining Service Molded Case Circuit Breakers
Accessories

Siemens offers a full line of internal accessories, including auxiliary and alarm switches, shunt trips and undervoltage releases. Siemens' mining duty UVRs are "kiss free", assuring that if an attempt is made to close the circuit breaker with the UVR de-energized the mechanism will trip open before the contacts can close, and the load will not be energized, even briefly.

Siemens offers a complete line of mechanical (wire compression via a binding screw) and compression lugs for its mining circuit breakers. Mechanical lugs are available in aluminum and copper bodies.

In addition to lugs, we offer plug in accessories, a variety of handle operators, padlocking attachments, interphase barriers and other accessories for every application. Many of these are cataloged on the following pages. Consult Siemens' product catalog, the SPEEDFAX™ or your Siemens representative for accessories not listed here.



EM family internal accessories mount to the side of the breaker and add 1" to its width



FD through PD family internal accessories are housed in robust plastic cases and mount inside the circuit breaker.



Plug in Breaker



Mechanical Lug



Rotary Handle



Flange Mounted Handle



Compression Lug



Interphase Barriers Installed

SIEMENS

EM Frame Internal Accessories

Shunt Trip Combinations

Control Voltage		1 Shunt Trip	1 Shunt Trip and 1 Auxiliary Switch	1 Shunt Trip 1 Auxiliary Switch and 1 Alarm Switch	1 Shunt Trip and 1 Alarm Switch	1 Shunt Trip and 2 Auxiliary Switches
AC	DC	Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
24V		S17ED60	----------	----------	----------	----------
48V		S18ED60	----------	----------	----------	----------
120V		S01ED60	S01ED62A	S01ED62AB	S01ED62B	S01ED62AA
208V		S02ED60	S02ED62A	S02ED62AB	S02ED62B	S02ED62AA
240V		S03ED60	S03ED62A	S03ED62AB	S0r3ED62B	S03ED62AA
277V		S15ED60	S15ED64A	S15ED64AB	S15ED64B	----------
480V		S04ED60	S04ED64A	S04ED64AB	S04ED64B	----------
	12V	S16ED60	----------	----------	----------	----------
	24V	S07ED60	S07ED62	S07ED62AB	S07ED62B	S07ED62AA
	48V	S09ED60	S09ED62A	S09ED62AB	S09ED62B	S09ED62AA
	125V	S11ED60	S11ED62A	S11ED62AB	S11ED62B	S11ED62AA
	250V	S13ED60	S13ED62A	S13ED62AB	S13ED62B	S13ED62AA
List Price $:		636.00	897.00	1157.00	897.00	1157.00

Undervoltage Trip Combinations

Control Voltage		1 Undervoltage Trip	1 Undervoltage Trip and 1 Auxiliary Switch
AC	DC	Catalog Number	Catalog Number
120V		U01EM60	U01EM62A
	125V	U10EM60	U10EM62A
List Price $:		636.00	897.00

UVRs are specifically designed for mining application. Contact Siemens for additional standard industrial UVR voltages.

Auxiliary Switch Combinations

Maximum Voltage		1 Auxiliary Switch	1 Alarm Switch and 1 Auxiliary Switch	2 Auxiliary Switches	1 Alarm Switch and 2 Auxiliary Switches
AC	DC	Catalog Number	Catalog Number	Catalog Number	Catalog Number
240V	250V	A01ED62	A01ED62B	A02ED62	A02ED62B
480V		A01ED64	A01ED64B	----------	----------
List Price $:		271.00	540.00	540.00	802.00

Alarm Switch Only

Maximum Voltage		1 Alarm Switch
AC	DC	Catalog Number
240V		B00ED62
480V	250V	B00ED64
List Price $:		271.00

Note: EM frame internal accessories are mounted to the side of the breaker, and require no cover removal.

FM Frame Internal Accessories

Shunt Trip Combinations

Control Voltage		1 Shunt Trip
AC	DC	Catalog Number
24V		S17FD60
120V		S01FD60
208V		S02FD60
240V		S03FD60
277V		S15FD60
480V		S04FD60
600V		S06FD60
	12V	S16FD60
	24V	S07FD60
	48V	S09FD60
	125V	S11FD60
	250V	S13FD60
List Price $:		636.00

Undervoltage Trip Combinations

Control Voltage		1 Undervoltage Trip	1 Undervoltage Trip and 1 Auxiliary Switch
AC	DC	Catalog Number	Catalog Number
120V		U01FM60	U01FM64
	125V	U10FM60	U10FM64
List Price $:		636.00	897.00

UVRs are specifically designed for mining application. Contact Siemens for additional standard industrial UVR voltages.

Auxiliary Switch Combinations

Maximum Voltage		1 Auxiliary Switch	1 Alarm Switch and 1 Auxiliary Switch	2 Auxiliary Switches
AC	DC	Catalog Number	Catalog Number	Catalog Number
240V	250V	A01FD62	C01FD62	A02FD62
480V		A01FD64	C01FD64	A02FD64
List Price $:		271.00	540.00	540.00

	12V	A01FDLV
List Price $:		342.00

Gold Plated Contacts for PLC use

Alarm Switch Combinations

Maximum Voltage		1 Alarm Switch	1 Alarm Switch and 1 Auxiliary Switch
AC	DC	Catalog Number	Catalog Number
480V	250V	B00FD64	C01FD64
List Price $:		271.00	5403.00

JM & LM Frame Internal Accessories

Shunt Trip Combinations636

Control Voltage		1 Shunt Trip	1 Shunt Trip and 1 Auxiliary Switch
AC	DC	Catalog Number	Catalog Number
24V		S17JLD6	----------
48V		S18JLD6	----------
120V		S01JLD6	S01JLD62A
208V		S02JLD6	S02JLD62A
240V		S03JLD6	S03JLD62A
277V		S15JLD6	S15JLD64A
480V		S04JLD6	S04JLD64A
600V		S06JLD6	----------
	12V	S16JLD6	S16JLD62A
	24V	S07JLD6	S07JLD62A
	48V	S09JLD6	S09JLD62A
	125V	S11JLD6	S11JLD62A
	250V	S13JLD6	S13JLD62A
List Price $:		636.00	897.00

Undervoltage Trip Combinations

Control Voltage		1 Undervoltage Trip	1 Undervoltage Trip and 1 Auxiliary Switch
AC	DC	Catalog Number	Catalog Number
120V		U01JLM6	U01JLM62A
	125V	U10JLM6	U10JLM62A
List Price $:		636.00	897.00

UVRs are specifically designed for mining application. Contact Siemens for additional standard industrial UVR voltages.

Auxiliary Switch Combinations

Maximum Voltage		1 Form C Aux Switch	2 Form C Aux Switch
AC	DC	Catalog Number	Catalog Number
480V	250V	A01JLD64	A02JLD64
List Price $:		271.00	540.00

	12V	A01JLDLV	Gold Plated Contacts for PLC use
List Price $:		342.00	

Alarm Switch Combinations

Maximum Voltage		1 Alarm Switch	1 Alarm Switch and 1 Auxiliary Switch
AC	DC	Catalog Number	Catalog Number
480V	250V	B01JLD64	A01JLD64B
List Price $:		271.00	540.00

MM, NM & PM Frame Internal Accessories

Shunt Trip Combinations

Control Voltage		1 Shunt Trip	1 Shunt Trip and 1 Auxiliary Switch
AC	DC	Catalog Number	Catalog Number
120V		S01MN6	S01MN64A
208V		S02MN6	S02MN64A
240V		S03MN6	S03MN64A
277V		S15MN6	S15MN64A
480V		S04MN6	S04MN64A
600V		S06MN6	----------
	12V	S16MN6	S16MN64A
	24V	S07MN6	S07MN64A
	48V	S09MN6	----------
	125V	S11MN6	S11MN64A
	250V	S13MN6	S13MN64A
List Price $:		636.00	897.00

Undervoltage Trip Combinations

Control Voltage		1 Undervoltage Trip	1 Undervoltage Trip and 1 Auxiliary Switch
AC	DC	Catalog Number	Catalog Number
120V		U01MNM6	U01MNM64A
	125V	U11MNM6	U11MNM64A
List Price $:		636.00	897.00

UVRs are specifically designed for mining application.
Contact Siemens for additional standard industrial UVR voltages.

Auxiliary Switch Combinations

Maximum Voltage		1 Form C Aux Switch	2 Form C Aux Switch
AC	DC	Catalog Number	Catalog Number
480V	250V	A01MN64	A02MN64
List Price $:		271.00	540.00

	12V	A01MNDLV	Gold Plated Contacts for PLC use
List Price $:		342.00	

Alarm Switch Combinations

Maximum Voltage		1 Alarm Switch	1 Alarm Switch and 1 Auxiliary Switch	1 Alarm Switch and 2 Auxiliary Switches
AC	DC	Catalog Number	Catalog Number	Catalog Number
480V	250V	B00MN64	A01MN64B	A02MN64B
List Price $:		271.00	540.00	802.00

SIEMENS

Mining Service Molded Case Circuit Breaker Connection Accessories

EM6 Frame Mechanical Lugs (600V)

Amp Rating	Location	Cat #	Wire Range	List Each $
15 - 25A	Line/ Load	SA1E025	#14 - #10 CU #12 - #10 AL	No Charge (Supplied with Breaker)
30 - 100A	Line/ Load	LN1E100	#10 - 1/0 CU/AL	
110 - 125A	Line/ Load	TA1E6126	#3 - 3/0 CU #1 - 2/0 AL	
30 - 125A (Cu Body)	Line/ Load	TC1ED6150	#10 - 1/0 Cu Only	$33.50

EMK Frame Mechanical Lugs (1000V)

Amp Rating	Location	Cat #	Wire Range	List Each $
15 - 25A	Line/ Load	SA1E025	#14 - #10 CU #12 - #10 AL	No Charge (Supplied with Breaker)
30 - 100A	Line	LN1E100	#10 - 1/0 CU/AL	
30 - 60A	Load	LD1E060	#10 - #4 CU/AL	
70 - 100A	Load	LD1E100	#6 - 1/0 CU/AL	
110 - 125A	Line/ Load	TA1E6126	#3 - 3/0 CU #1 - 2/0 AL	
30 - 125A (Cu Body)	Line/ Load	TC1ED6150	#10 - 1/0 Cu Only	$33.50

EM6 & EMK Compression Lugs

Amp Rating	Location	Cat #	Lugs Per Kit	Wire Range	List Each $
15 - 125A	Line/ Load	CCE125	1	#14 - 2/0	$27.00

FM Frame Mechanical Lugs

Amp Rating	Location	Cat #	Wire Range	List Each $
250A	Line/ Load	TA1FD350A	#6 - 350 Kcmil Cu #4 - 350 Kcmil Al	$22.00
250A	Line/ Load	TC1FD350	#6 - 350 Kcmil Cu	$34.50

FM Frame Compression Lugs

Amp Rating	Line/ Load	Cat #	Lugs Per Kit	Wire Range	List Each $
250A	Line/ Load	CCF250	1	#6 - 350 Kcmil Cu/ Al	$51.00

Mining Service Molded Case Circuit Breaker
Connection Accessories (continued)

JM/ LM Frame Mechanical Lugs

Amp Rating	Cat #	Cables Per Lug	Wire Range	List Each $
400/ 600A	TA2J6500	1,2 2 1	#3/0 - 500 Kcmil Cu #4/0 - 500 Kcmil Al #250 - 500 Kcmil Al	$31.50
400/ 600A	TA1L6750	1 1	#500 - 750 Kcmil Al #500 - 600 Kcmil Cu	$76.00
400/ 600A	TC1J6600	1	#3/0 - 600 Kcmil Cu	$77.00
400/ 600A	TC2J6500	1,2	#3/0 - 500 Kcmil Cu	$76.00

JM/ LM Frame Compression Lugs

Amp Rating	Cat #	Cables Per Lug	Lugs Per Kit	Wire Range	List Each $
400/ 600A	CCL600	1	1	#1/0 - 500 Kcmil Cu/ Al	$150.00

MM/ NM Frame Mechanical Lugs

Amp Rating	Catalog Number	Cables per Lug	Lugs per Kit	Wire Range	List Each $
800/ 1200A	TA2K500	1-2	1	# 1 - 500 kcmil Cu/Al	$71.00
800/ 1200A	TA3K500	1-3	1	1/0 - 500 kcmil Cu/Al	$98.00
800/ 1200A	TC2K500	1-2	1	# 1 - 500 kcmil Cu	$120.00
800/ 1200A	TC3K350	1-3	1	# 1 - 350 kcmil Cu	$151.00
800/ 1200A	3TA2N8750	1-2	3	600 - 750 kcmil Cu/Al	$513.00
800/ 1200A	3TA3N8750	1-3	3	500 - 750 kcmil Cu/Al	$832.00
800/ 1200A	3TA4N8500	1-4	3	250 - 500 kcmil Cu/Al	$853.00
800/ 1200A	3TA4P8500	1-4	3	250 - 500 kcmil Cu/Al	$843.00

MM/ NM Frame Compression Lugs

Amp Rating	Cat #	Cables Per Lug	Lugs Per Kit	Wire Range	List Each $
800A	CCM800K3	1	9	#2 - 500 Kcmil	$1,056.00
1200A	CCN1200K3	1	12	#2 - 500 Kcmil	$1,393.00

PM Frame Mechanical Lugs

Amp Rating	Cat #	Cables Per Lug	Wire Range	List Each $
1600A	TA5P600	1 - 5	300 - 600 kcmil Cu/Al	$320.00
1600A	TC5R600	1 - 5	300 - 600 kcmil Cu Only	$426.00
1600A	TA4P750	1 - 4	500 - 750 kcmil Cu/Al	$254.00
1600A	TA6R600	1 - 6	300 - 600 kcmil Cu/Al	$338.00

SIEMENS

Mining Service Molded Case Circuit Breaker
External Accessories

Replacement Mounting Screws (Included with breaker shipment)

Frame	Cat #	List Price	# Required Per Breaker
EM	MSE6	$4.40	1
EMK	MSE6	$4.40	2
FM	MSF6	$4.40	1
JM/LM	MSJ6	$14.20	1
MM/NM	MSMN	$24.00	1
PM	MSPR6	$57.00	1

Replacement Handle Extensions (600V & 1000V) (Included with breaker shipment)

Frame	Cat #	List Price
MM/NM/PM	EX11	$109.00

Padlocking Device (600V & 1000V)

Frame	Cat #	List Price
EM	ED2HPL	$16.00
FM	FD6PL1	$15.00
JM/LM	JD6HPL	$24.00
MM/NM/PM	MN6PLD	$62.00

Plug-in Mounting Assemblies (600V)

Frame	Line Side	List Price	Load Side	List Price	Mounting Plate*
EM6	PC2657	$176.00	PC2658	$176.00	PL2616
FM6	PC4754	$345.00	PC4754	$345.00	PL4762
JM6	PC5778	$589.00	PC5778	$589.00	PL5796
LM6	PC5661	$933.00	PC5661	$933.00	PL5796
MM6	PC5663	$1,499.00	PC5663	$1,499.00	PL9698
NM6	PC5666	$1,955.00	PC5666	$1,955.00	PL9699

* Furnished at no change when ordered with plug in mounting assembly.

Plug-in Mounting Assemblies (1000V)

Frame	Line Side	List Price	Load Side	List Price	Mounting Plate*
EMK	PM2657	$219.00	PM2658	$219.00	PL2617
FMK	PM4754	$429.00	PM4754	$429.00	PL4762
JMK	PM5778	$736.00	PM5778	$736.00	PL5796
LMK	PM5661	$1,167.00	PM5661	$1,167.00	PL5796
MMK	PM5663	$1,873.00	PM5663	$1,873.00	PL9698
NMK	PM5666	$2,443.00	PM5666	$2,443.00	PL9699

* Furnished at no change when ordered with plug in mounting assembly.

Inter Phase Barriers

Note: Included with 1000V frames through 600A (EMK, FMK, JMK, LMK). For optional use on other frames.

Frame (Amps)	Catalog #	List Price $ (1 Line or Load kit)
EM (100A)	ETS	$27.00
FM (250A)	FTS	$34.50
JM/ LM (600A)	LTS	$36.00
MM/NM/PM (1600A)	NDTS	$75.00

Contact Siemens for information on other external accessories (rear connecting studs, handle operators, motor operators, etc.)

Mining Service Molded Case Circuit Breakers
Series Ratings

480 Volt MCCB Series Ratings

Series Connected Ratings (A)	Thermal Magnetic Main Breaker	Max Amps	Thermal Magnetic Branch Breaker	Max Amps
50,000	MM6, MMK NM6, NMK	1200A	FM6	250A
			JM6	400A
			LM6	600A
	PM6, PMK	1600A	FM6	250A
			JM6	400A
			LM6	600A
65,000	FMK	250A	EM6	125A
	MMK	800A	FM6	250A
			JM6	400A
			LM6	600A
	NMK	1200A	FM6	250A
			JM6	400A
			LM6	600A
			MM6	800A
	PMK	1600A	FM6	250A
100,000	EMK	125A	EM6	125A

480 Volt Fuse Series Ratings

Series Connected Ratings (A)	Main Type	Amperes	Thermal Magnetic Branch Breaker	Amperes
100,000	T, J	70 - 600A	FM6	70-250A
	T, J, R	200-600A	JM6	200-400A
			LM6	300-600A
	T	70-1200A	FM6	70-250A
	T, L	601-1200A	JM6	200-400A
			LM6	300-600A
	L	601-6000A	FM6	70-250A
			MM6, MMK	500-800A
			NM6, NMK	800-1200A

The following pages present dimensioned drawings for the Siemens Mining Breaker Product Line, from EM through PM frames.

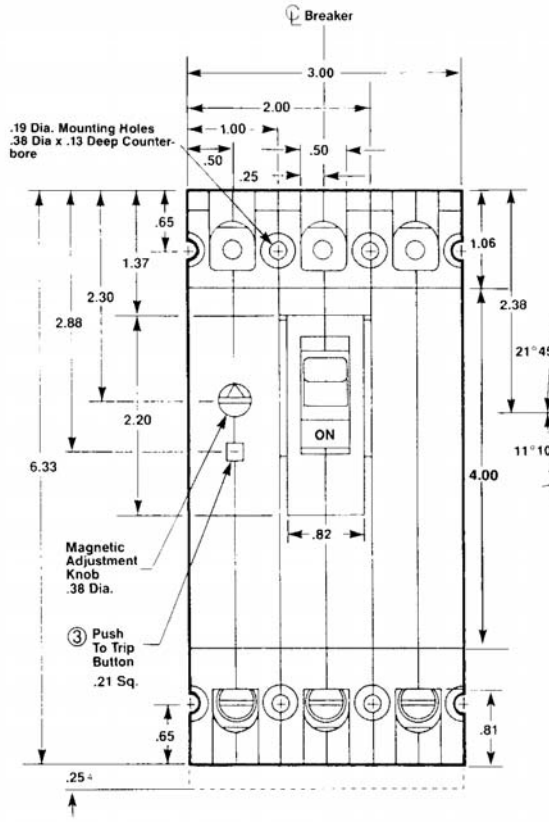
To obtain Autocad® format files, please logon to

http://www.sea.siemens.com/power/autocad/autocad.asp

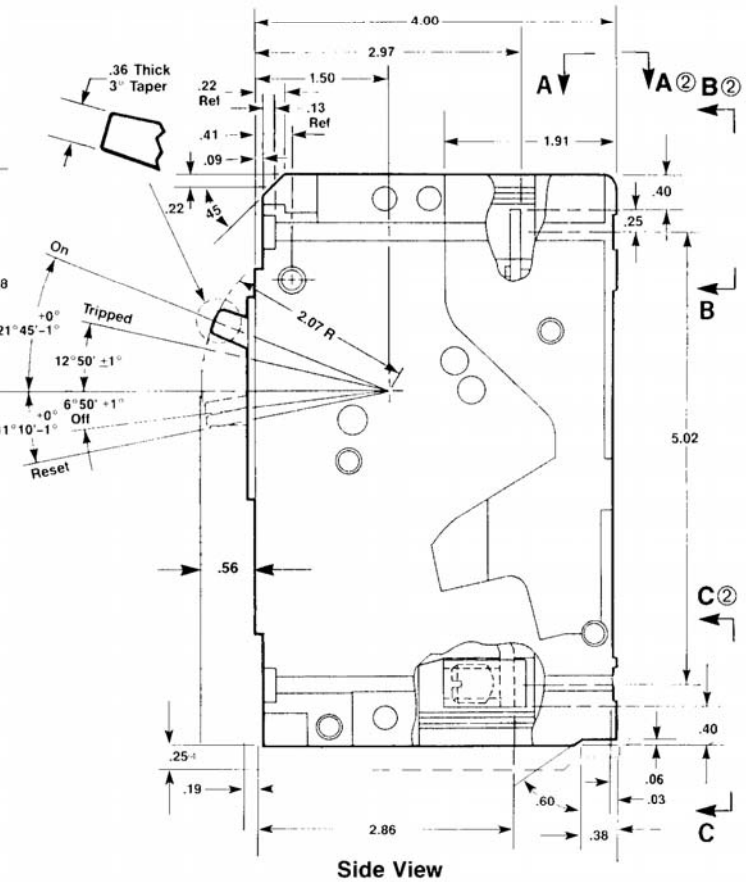
Here you will find .dwg and .dxf drawings not only for our mining breakers, but also for the rest of Siemens' comprehensive line of low Voltage circuit breakers.

If you are not web connected, or have difficulty downloading these files, please contact your Siemens representative to obtain these drawings on CD ROM.

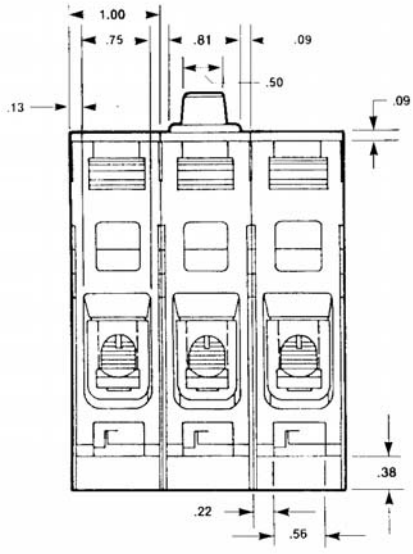
EM Frame 600V Mine Duty Breakers



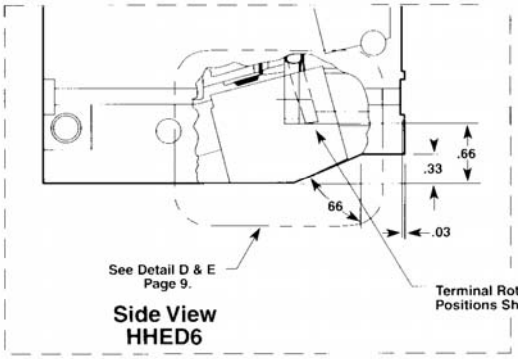
Front View



Side View



End View

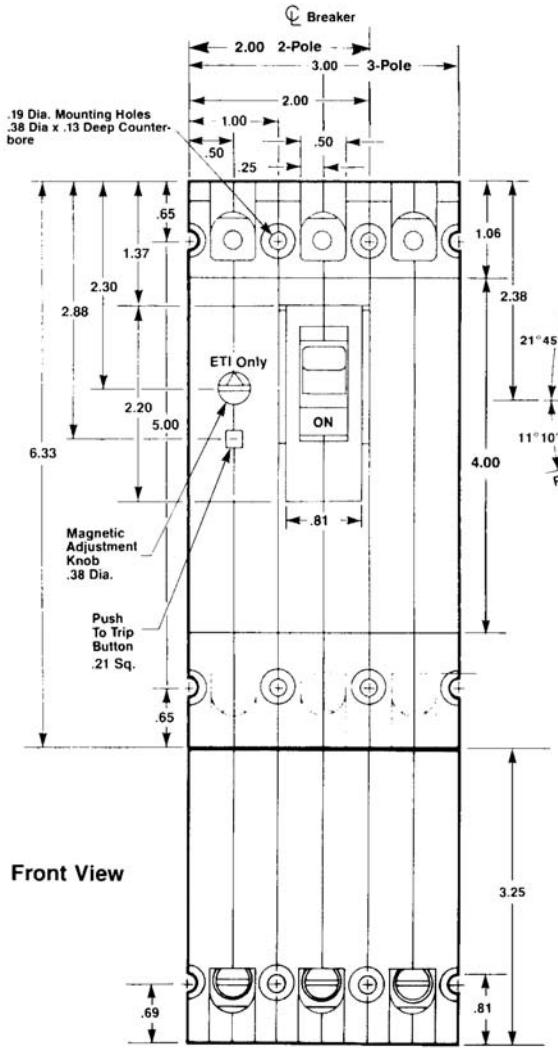


Side View
HHED6

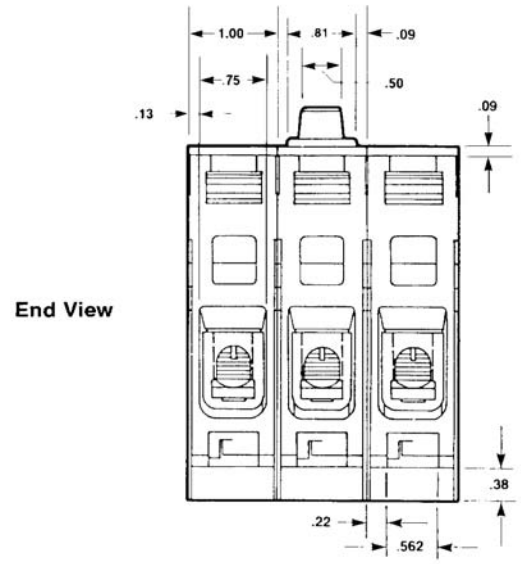
Handle Operating Forces

Operation	lb.
OFF to ON	8-10
ON to OFF	8-10
TRIPPED to RESET	14

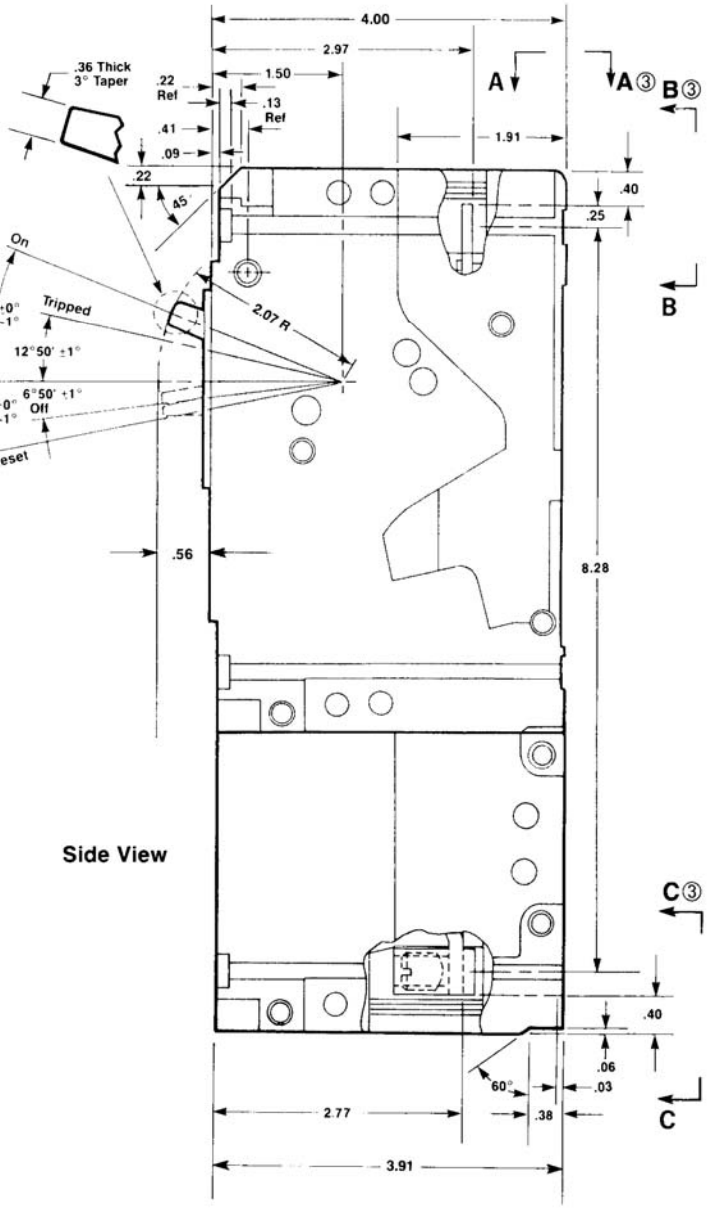
(1) All drawing dimensions are shown in inches.
(2) See detail drawings on page 9.
(3) Switch does not have push to trip button.
(4) HHED6 is .25 in. longer.



Front View



End View



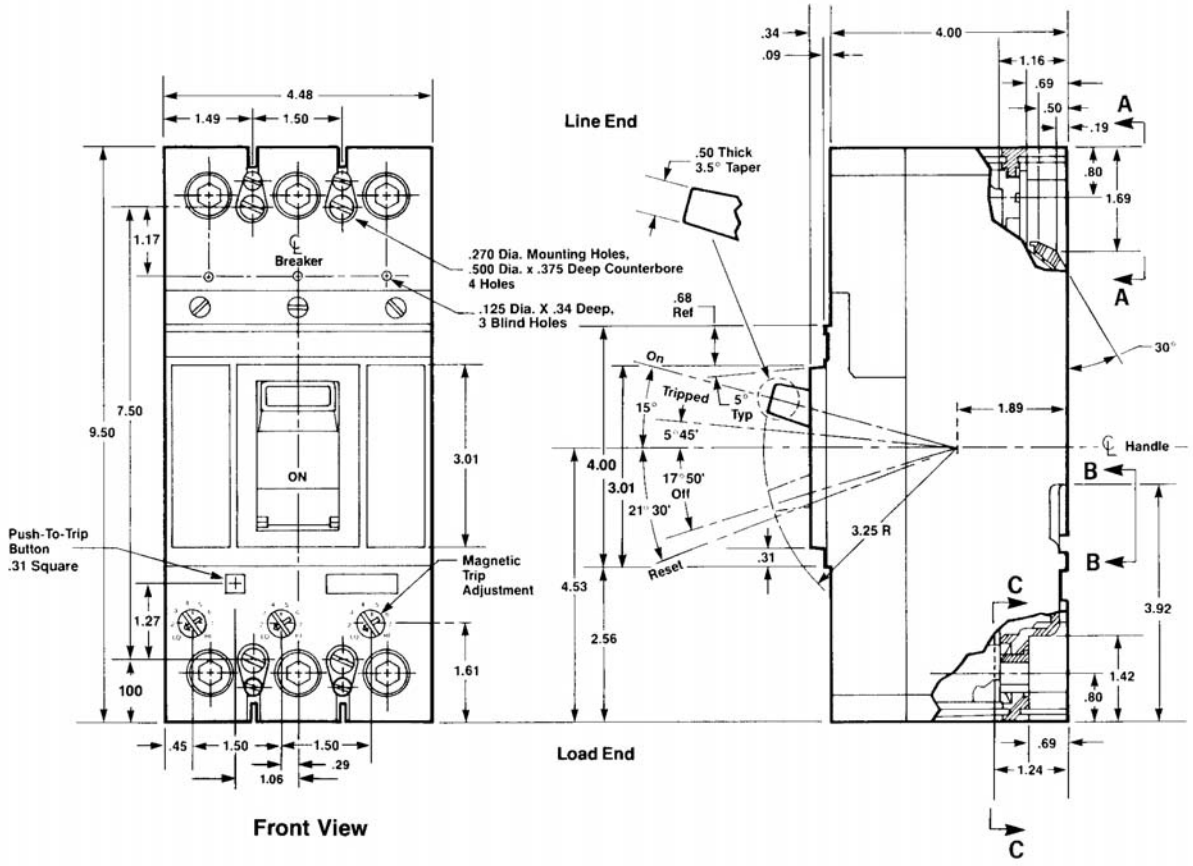
Side View

Handle Operating Forces

Operation	lb.
OFF to ON	8-10
ON to OFF	8-10
TRIPPED to RESET	14

①All drawing dimensions are shown in inches.

FM6 & FMK Frame Mine Duty Breakers



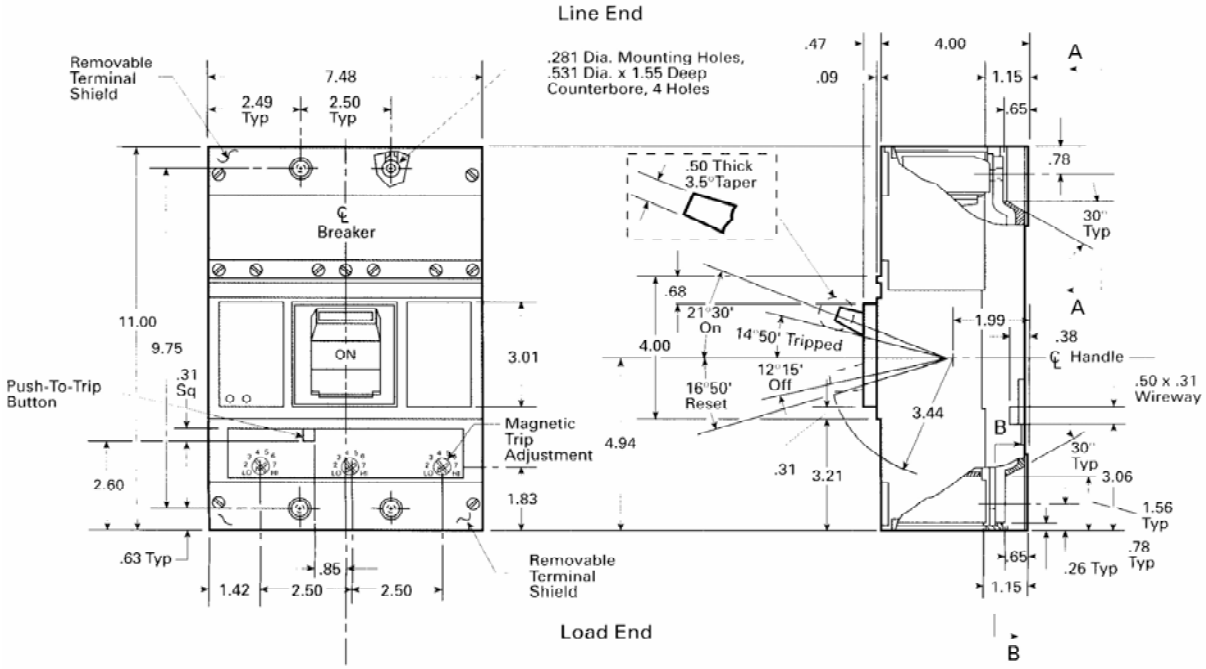
Handle Operating Forces

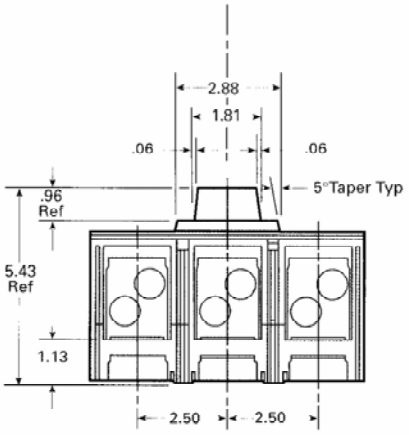
Operation	lb.
OFF to ON	18
ON to OFF	20
TRIPPED to RESET	28

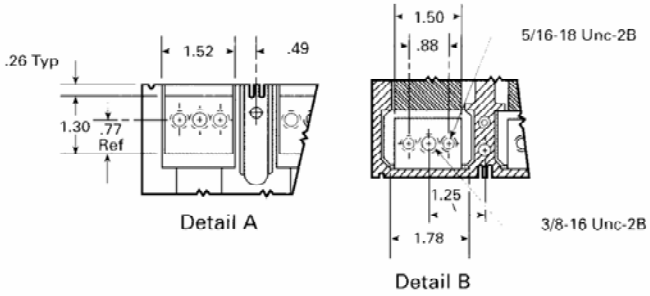
① All drawing dimensions are shown in inches.

② Two and 3-pole breakers are the same physical size. Current carrying parts are omitted from the center pole in 2-pole breakers.

JM & LM Frame 600V & 1000V Mine Duty Breakers





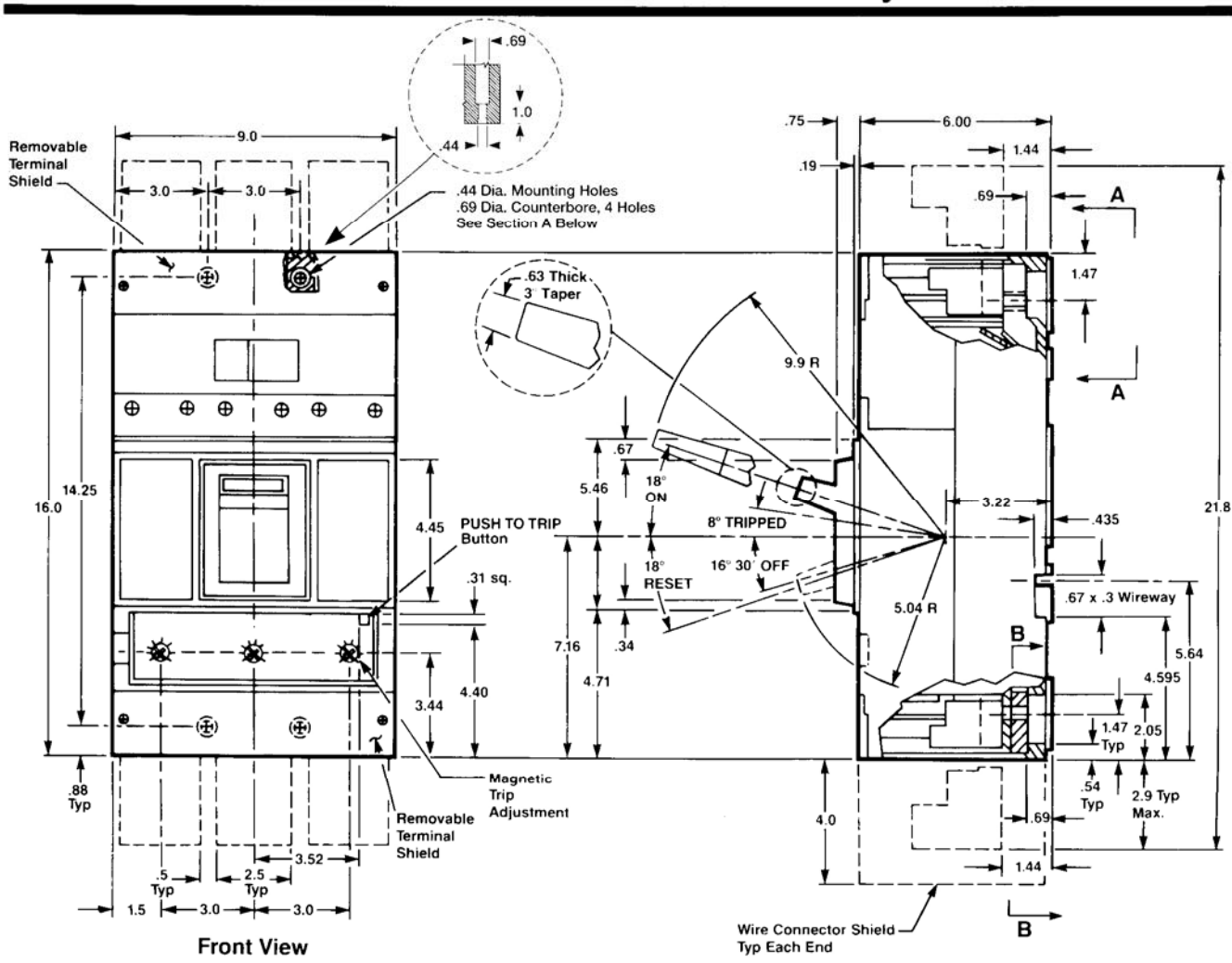


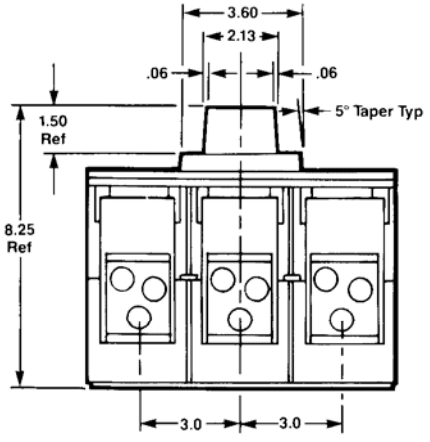
Handle Operating Forces

Operation	JD-Frame (lb.)	LD-Frame (lb.)
OFF to ON	44	44
ON to OFF	50	44
TRIPPED to RESET	60	60

① All drawing dimensions are shown in inches.
② Two and 3-pole breakers are the same physical size.

MM & NM Frame 600V & 1000V Mine Duty Breakers

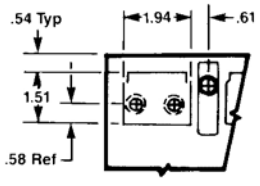




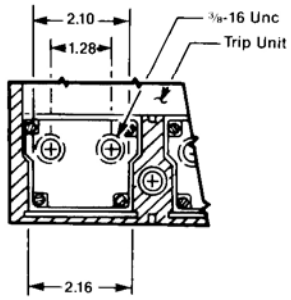
Handle Operating Forces

Operation	Lb. wo/Ext.	Lb. w/Ext.
OFF to ON	75	40
ON to OFF	85	46
TRIPPED to RESET	130	70

① All drawing dimensions are shown in inches.
② Two and 3-pole breakers are the same physical size.

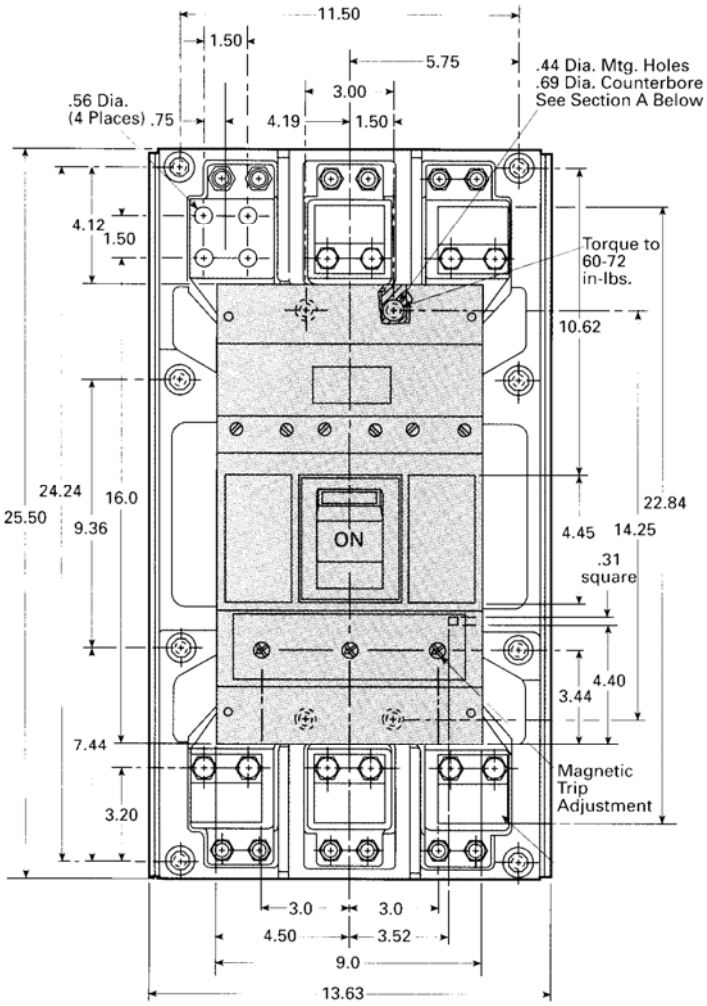


Detail A

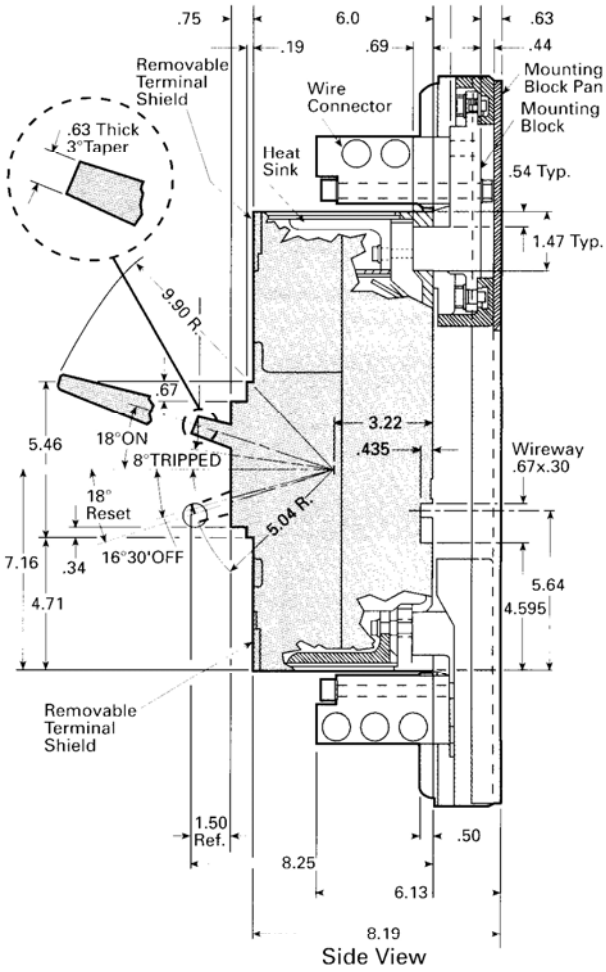


Detail B

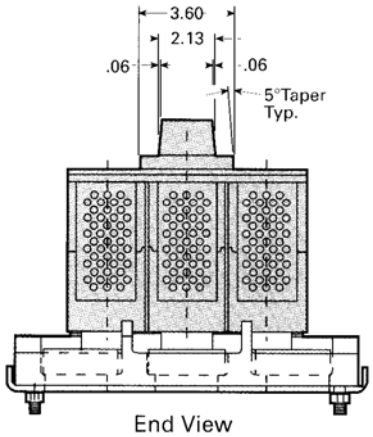
PM Frame 600 & 1000V Mine Duty Breakers



Front View



Side View

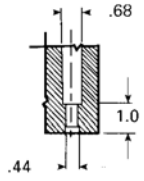


End View

Handle Operating Forces

Operation	Lb. wo/Ext.	Lb. w/Ext.
OFF to ON	75	40
ON to OFF	85	46
TRIPPED to RESET	130	70

① All drawing dimensions are shown in inches.



Section A

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