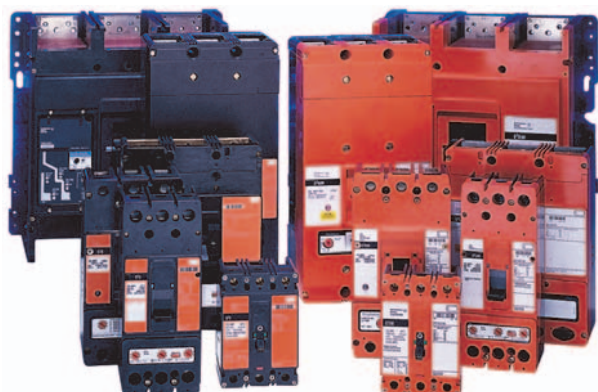


E² Mining Service Breakers



E² Mining Service Breakers

Product Overview

State-of-the-art E² mining service breakers incorporate the rigid specifications and testing procedures developed by a focus group led by engineers from several large coal companies and Eaton design engineers. Additionally, the performance of these breakers was proven and verified during hundreds of hours of field testing in harsh mine environments.

E² mining breakers are available in 600 Vac, 1000Y/577 Vac and 1200 Vac. Interchangeable trip units can be used on either 600 or 1000 Vac frames.

The E² mining breaker family is designed especially for trailing cable application per MSHA 30 CFR 75. Field interchangeable electronic rms sensing trip units are available from 150 to 2000 amperes with instantaneous pickup settings conforming to the code of Federal Regulations 30 CFR 75.601-2. Electromechanical trip units are also available with a wide range of magnetic pickup ranges.

E² electronic trip units are the first to provide the mining industry with true rms sensing, made possible by the custom ASIC microprocessor in each electronic trip unit.

E² breakers are designed to be physically and electrically interchangeable with Classic Mining Service Breakers and supersede Series C[®] Mining Service Breakers. The table to the right outlines direct replacements.

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PVGard Solar Circuit Breakers—600 Vdc Per-Pole and 1000 Vdc Poles-in-Series	V4-T2-358
E ² Mining Service Breakers	
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Add-On Ground Fault Protection—Type GFR	V4-T2-410

600 Vac Mining Breaker Replacement Chart

Classic	Series C	E ²
FBM	FDBM	E ² F
HFBM	FDM	E ² F
	HFDM (mag. only)	E ² F
—	JDM	E ² J
KAM	KDM	E ² K
KAMH	KDM	E ² K
LAM	LDM	E ² L
LAMH	LDM	E ² L
LCM	LDM	E ² L
LCMH	LDM	E ² L
MAM	—	E ² M
MAMH	—	E ² M
MCM	—	E ² M
MCMH	—	E ² M
NBM	—	E ² N
NBMH	—	E ² N
NCM	—	E ² N
NCMH	—	E ² N

1000 Vac Mining Breaker Replacement Chart

Classic	Series C	E ² M
HFM	—	E ² FM
—	JDCM	E ² JM
HKAM	KDCM	E ² KM
HLAM	LDCM	E ² LM
HLCM	LDCM	E ² LM
HMAM	—	E ² MM
HMCM	—	E ² MM
HNBM	—	E ² NM
HNBMH	—	E ² NM
HNCM	—	E ² NM
HLCLM	—	E ² NM
HPBM	—	E ² RM ①

Additional Information on Mining Breakers

Source	Description
TD01217001E	E ² Mining Circuit Breaker Dimensional Data
BR01217001E	E ² Mining Circuit Breaker Brochure
TC01217001E	E ² Mining Circuit Breaker Time Current Curves
www.eaton.com/mining	Mining and Metals

Note

① E²R/E²RM is a new frame physically different than the HPBM. See DS29-170MS.

Eaton's mining service circuit breakers provide short-circuit protection as specified in the code of Federal Regulations 30 CFR 75.601-2.

E² 225/400 A K frame and 400/600 A L frame electronic trip units feature specifically designed instantaneous pickup settings to conform exactly with the code of Federal Regulations 30 CFR 75.601-2. Electromechanical trip units are also available with a wide range of magnetic pickup ranges.

The tables below list the conductor size maximum allowable circuit breaker instantaneous setting and the E² breaker that meets that setting.

Interrupting Capacity Rating

Circuit Breaker Type	Interrupting Capacity (Symmetrical kA)					Vdc ^①
	Vac (50/60 Hz)					
	240	480	600	1000V/577	1200	
E ² F	65	25	18	—	—	10
E ² J	65	35	18	—	—	10
E ² K	65	35	25	—	—	10
E ² LME	100	65	35	—	—	42
E ² L	65	35	25	—	—	22
E ² M	65	35	25	—	—	22
E ² N	65	50	25	—	—	—
E ² R	125	65	50	—	—	—
E ² FM	65	25	18	10	—	10
E ² JM	65	35	18	10	—	22
E ² KM	65	35	25	14	—	10
E ² LMZ	100	65	35	10	—	42
E ² LM	—	35	25	18	—	22
E ² MM	—	35	25	18	—	22
E ² NM ^②	—	50	25	25	—	—
E ² RM	—	65	50	25	—	—
E ² KW	—	—	—	10	10	—
E ² LW	—	—	—	10	10	—
E ² MW	—	—	—	12	12	—

Trailing Cable Setting Per 30 CFR 75

Conductor Size	Maximum Breaker Instantaneous Setting	Maximum Ampere 75 °C Insulated Conductor	E ² /E ² M/E ² W Instantaneous Only	Setting
14	50	15	E ² K 150 A	A
12	75	20	E ² K 150 A	B
10	150	30	E ² K 150 A	C
8	200	50	E ² K 225 A	A
6	300	65	E ² K 225 A	B
4	500	85	E ² K 225 A / E2L 400 A	C/A
3	600	100	E ² K 225 A / E2L 400 A	D/B
2	800	115	E ² K 225 A / E2L 400 A	E/C
1	1000	130	E ² K 225 A / E2L 400 A	F/D
1/0	1250	150	E ² K 225 A / E2L 400 A	G/E
2/0	1500	175	E ² K 225 A / E2L 400 A	H/F
3/0	2000	200	E ² L 400 A	G
4/0	2500	230	E ² L 400 A	H
250	2500	255	E ² L 400 A	H
300	2500	285	E ² L 400 A	H
350	2500	310	E ² L 400 A	H
400	2500	335	E ² L 400 A	H
500	2500	380	E ² L 400 A	H

Auxiliary Switch Electrical Rating Data

Maximum Voltage	Frequency	Maximum Current Amperes
600	50/60 Hz	6.0
125	DC	0.5 (non-inductive load)
250	DC	0.25 (non-inductive load)

Alarm (Signal/Lockout Switch) Electrical Rating Data

Maximum Voltage	Frequency	Maximum Current Amperes
600	50/60 Hz	6.0
125	DC	0.5 (non-inductive load)
250	DC	0.25 (non-inductive load)

Notes

- ^① Two poles in series. DC rating applies to breakers with thermal-magnetic trip unit. Breakers with electronic trip units are not DC rated.
^② Series rated for application with Eaton's E²KM and E²LM breakers.

2.6

Molded Case Circuit Breakers

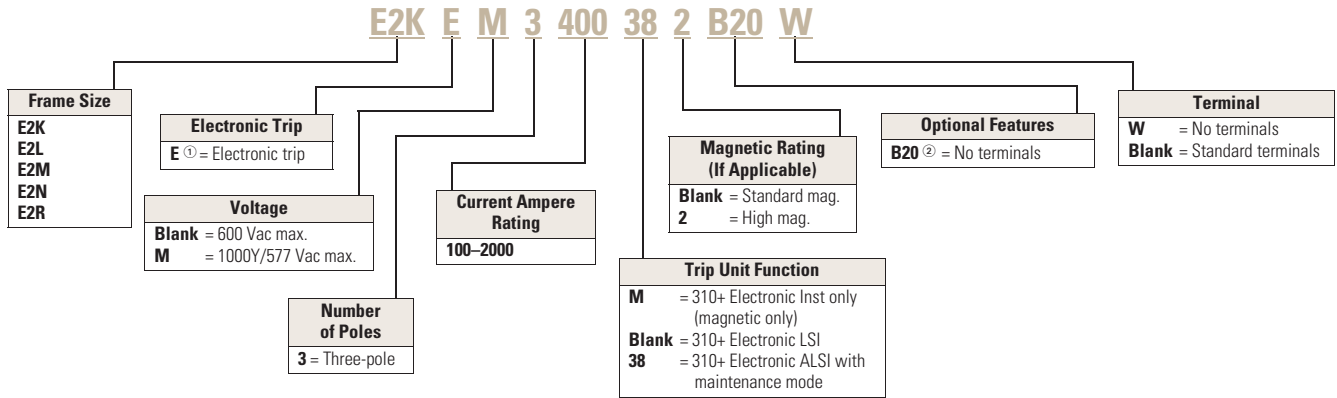
Specialty Breakers

Catalog Number Selection

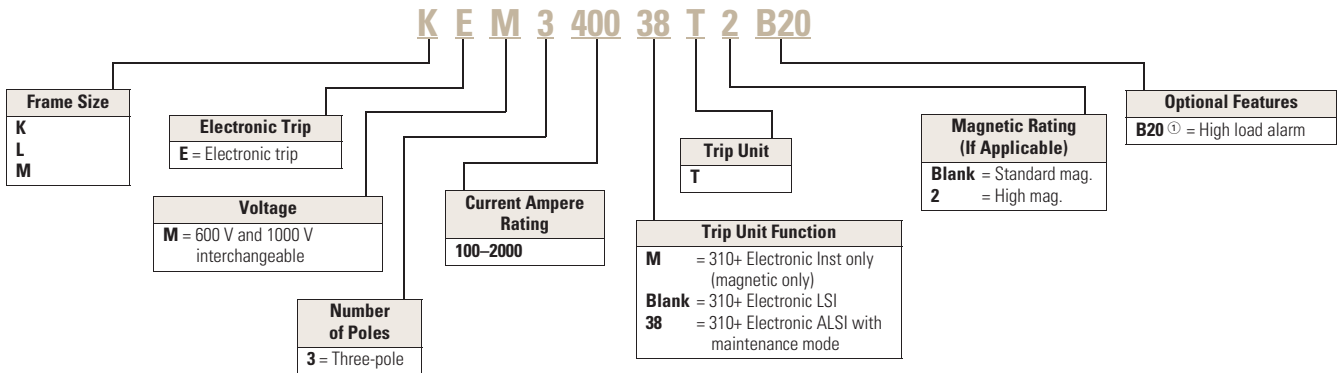
This information is presented only as an aid to understanding catalog numbers. It is not to be used to build catalog numbers for circuit breakers or trip units.

2

E² Mining Service Breaker with 310+ Electronic Trip Unit Technology



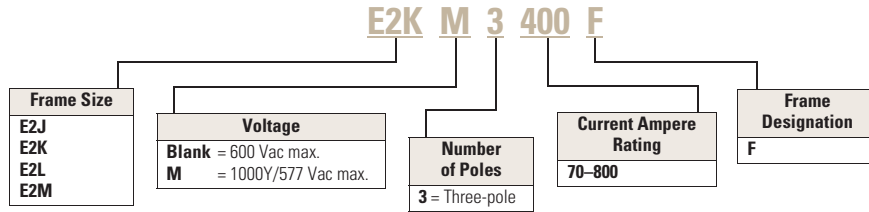
E² Mining Service 310+ Electronic Trip Unit



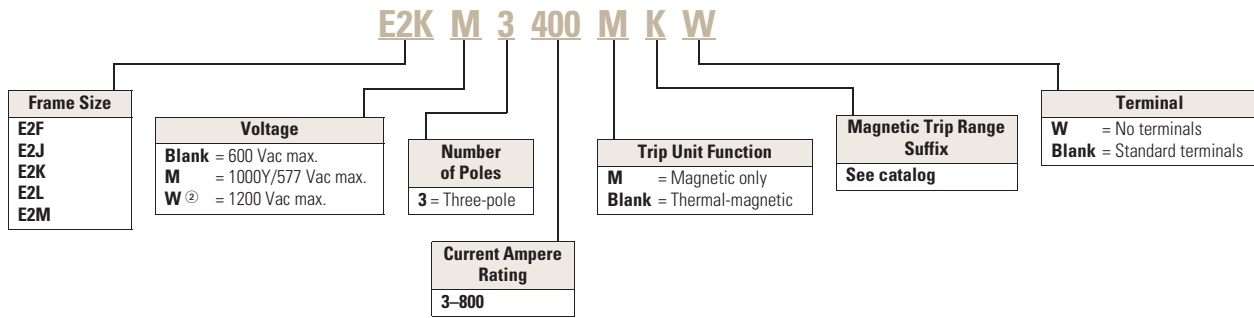
Notes

- ① All N- and R-Frame breakers equipped with 310+ Electronic Trip Unit. No "E" suffix required.
- ② Not available with instantaneous only.

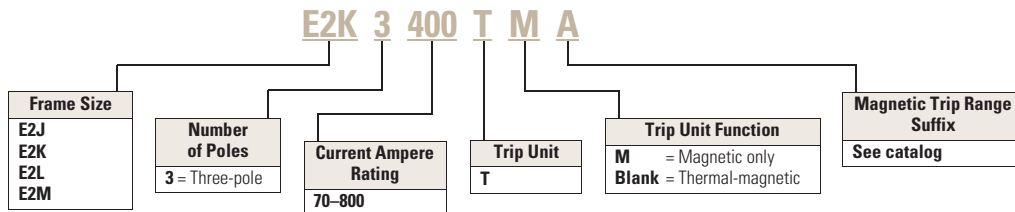
E² Mining Service Breaker Frame Only ①



E² Mining Service Breaker with Thermal-Magnetic Trip Unit ①



E² Mining Service Thermal-Magnetic Trip Unit ①



Notes

- ① Does not apply to E2LME/LMZ.
- ② Only available in K-, L- and M-Frames.

2.6

Molded Case Circuit Breakers

Specialty Breakers

Undervoltage Release Mechanism Electrical Rating Data

2

Breaker Type	Supply Voltage	Dropout Voltage		Pickup Voltage Maximum	VA
		Minimum	Maximum		
E ² F/E ² FM	110 Vac	44.5	77	93.5	1.3
	120 Vac				1.5
	127 Vac				1.7
	110 Vdc				1.5
	120 Vdc				1.7
	125 Vdc				1.9
E ² J/E ² JM	110 Vac	44.5	77	93.5	1.8
	120 Vac				2.1
	127 Vac				2.4
	110 Vdc				1.6
	120 Vdc				1.9
	125 Vdc				2.2
E ² K/E ² KM/E ² KW	110 Vac	44.5	77	93.5	1.8
	120 Vac				2.1
	127 Vac				2.4
	110 Vdc				1.6
	120 Vdc				1.9
	125 Vdc				2.2
E ² LME/E ² LMZ	110 Vac	44.5	77	93.5	0.96
	120 Vac				1.13
	127 Vac				1.25
	110 Vdc	43.8	77	93.5	0.94
	120 Vdc				1.12
	125 Vdc				1.21
E ² L/E ² LM/E ² LW/E ² M/ E ² MM/E ² MW	110 Vac	44.5	77	93.5	1.8
	120 Vac				2.1
	127 Vac				2.4
	110 Vdc				1.6
	120 Vdc				1.9
	125 Vdc				2.2
E ² N/E ² NM	110 Vac	44.5	77	93.5	1.8
	120 Vac				2.1
	127 Vac				2.4
	110 Vdc				1.6
	120 Vdc				1.9
	125 Vdc				2.2
E ² R/E ² RM	110 Vac	44.5	77	93.5	3.3
	120 Vac				3.6
	127 Vac				3.8
	110 Vdc	43.8	77	93.5	3.3
	120 Vdc				3.6
	125 Vdc				3.8

Shunt Trip Electrical Rating Data

Breaker Type	Supply Voltage	Operating Voltage		
		Minimum	VA	
E ² F/E ² FM	48 Vac	33.6	92	
	60 Vac		140	
	110 Vac		480	
	120 Vac		570	
	127 Vac		640	
	208 Vac	146	180	
	220 Vac		200	
	230 Vac		240	
	48 Vdc		33.6	100
	60 Vdc			160
	110 Vdc	77		55
	120 Vdc			66
	125 Vdc			71
	E ² J/E ² JM	110 Vac	60.5	66
		120 Vac		84
127 Vac		102		
110 Vdc		77	112	
120 Vdc			138	
125 Vdc			150	
E ² K/E ² KM/E ² KW	110 Vac	60	100	
	120 Vac		120	
	127 Vac		140	
	110 Vdc		77	110
	120 Vdc			130
	125 Vdc	140		
	24 Vac	41		
	48 Vac	18		139
	60 Vac		210	
	E ² LME/E ² LMZ	110 Vac	60	83
120 Vac		92		
127 Vac		117		
24 Vdc		120		
48 Vdc		18		475
60 Vdc			720	
110 Vdc			82	99
120 Vdc				120
125 Vdc				121

Breaker Type	Supply Voltage	Operating Voltage		
		Minimum	VA	
E ² L/E ² LM/E ² LW/E ² M/ E ² MM/E ² MW	48 Vac	34	830	
	60 Vac		1280	
	110 Vac		60	100
	120 Vac			120
	127 Vac			140
	48 Vdc	34	710	
	60 Vdc		1105	
	110 Vdc		77	110
	120 Vdc			130
	125 Vdc			140
E ² N/E ² NM	110 Vac	60	100	
	120 Vac		120	
	127 Vac		140	
	110 Vdc	77	110	
	120 Vdc		130	
E ² R/E ² RM	110 Vac	60.5	330	
	120 Vac		390	
	127 Vac		430	
	110 Vdc	77	370	
	120 Vdc		440	
125 Vdc	480			

Product Selection

3 A–150 A

E²F/E²FM

2

E²F/E²FM



Sealed Breakers with Non-Interchangeable Trip Unit—Include Line/Load Terminals, Non-Electronic Trip Units ^①

Maximum Continuous Ampere Rating at 40 °C	Magnetic Trip Range	Trip Unit Only Catalog Number	600 Vac Maximum 250 Vdc 25 kA at 480 Vac Three-Pole Complete Breaker Catalog Number	1000Y/ 577 Vac Maximum 250 Vdc 10 kA at 1000 Vac Three-Pole Complete Breaker Catalog Number
Thermal-Magnetic				
15	—	—	E2F3015	—
20	—	—	E2F3020	E2FM3020
25	—	—	E2F3025	E2FM3025
30	—	—	E2F3030	—
35	—	—	E2F3035	—
40	—	—	E2F3040	E2FM3040
45	—	—	E2F3045	—
50	—	—	E2F3050	E2FM3050
60	—	—	E2F3060	E2FM3060
70	—	—	E2F3070	E2FM3070
80	—	—	E2F3080	E2FM3080
90	—	—	E2F3090	E2FM3090
100	—	—	E2F3100	E2FM3100
125	—	—	E2F3125	E2FM3125
150	—	—	E2F3150	E2FM3150
Magnetic Only				
3	9–30	—	E2F003AM	—
7	21–70	—	E2F007CM	—
15	45–150	—	E2F015EM	—
30	90–300	—	E2F030HM	—
	50–150	—	E2F030EM	—
50	150–500	—	E2F050KM	E2FM050KM
	66–190	—	E2F050YM	E2FM050YM
70	210–700	—	E2F070MM	E2FM070MM
100	150–500	—	E2F100KM	E2FM100KM
	300–1000	—	E2F100RM	E2FM100RM
150	450–1500	—	E2F150TM	E2FM150TM
	750–2500	—	E2F150UM	E2FM150UM

Note

^① For two-pole application, use outer poles.

70 A–250 A

E²J/E²JM

2

E²J/E²JM

Circuit Breakers with Interchangeable Non-Electronic Trip Units

Maximum Continuous Ampere Rating at 40 °C	Magnetic Trip Range	Trip Unit Only Catalog Number	600 Vac Maximum 250 Vdc 25 kA at 480 Vac Three-Pole ^①	1000V/ 577 Vac Maximum 250 Vdc 10 kA at 1000 Vac Three-Pole ^②
			Complete Breaker Catalog Number	Complete Breaker Catalog Number
Thermal-Magnetic				
70	300–650	E2J3070T	E2J3070W	E2JM3070W
90	450–900	E2J3090T	E2J3090W	E2JM3090W
100	500–1000	E2J3100T	E2J3100W	E2JM3100W
125	625–1250	E2J3125T	E2J3125W	E2JM3125W
150	750–1500	E2J3150T	E2J3150W	E2JM3150W
175	875–1750	E2J3175T	E2J3175W	E2JM3175W
200	1000–2000	E2J3200T	E2J3200W	E2JM3200W
225	300–650	E2J3225TA	E2J3225AW	E2JM3225AW
	500–1000	E2J3225TD	E2J3225DW	E2JM3225DW
	1125–2250	E2J3225T	E2J3225W	E2JM3225W
250	1250–2500	E2J3250T	E2J3250W	E2JM3250W
Magnetic Only				
250	300–650	E2J3250TMA	E2J3250MAW	E2JM3250MAW
	450–900	E2J3250TMC	E2J3250MCW	E2JM250MCW
	500–1000	E2J3250TMD	E2J3250MDW	E2JM3250MDW
	625–1250	E2J3250TMF	E2J3250MFW	E2JM3250MFW
	750–1500	E2J3250TMG	E2J3250MGW	E2JM3250MGW
	875–1750	E2J3250TMJ	E2J3250MJW	E2JM3250MJW
	1000–2000	E2J3250TMK	E2J3250MKW	E2JM3250MKW
	1125–2250	E2J3250TML	E2J3250MLW	E2JM3250MLW
	1250–2500	E2J3250TM	E2J3250MW	E2JM3250MW

Notes

- ① Frame only: **E2J3250F**.
 ② Frame only: **E2JM3250F**.

2.6

Molded Case Circuit Breakers

Specialty Breakers

100 A–400 A

E²K/E²KM/E²KW

2

E²K/E²KM



Circuit Breakers with Interchangeable Non-Electronic Trip Units

Maximum Continuous Ampere Rating at 40 °C	Magnetic Trip Range	Trip Unit Only Catalog Number	Complete Breaker Catalog Number	1000Y/ 577 Vac Maximum 250 Vdc 14 kA at 1000 Vac Three-Pole ^②	1200 Vac Maximum 10 kA at 1200 Vac Three-Pole ^{③④}
Thermal-Magnetic					
100	500–1000	E2K3100T	E2K3100W	E2KM3100W	E2KW3100W
125	625–1250	E2K3125T	E2K3125W	E2KM3125W	E2KW3125W
150	750–1500	E2K3150T	E2K3150W	E2KM3150W	E2KW3150W
175	875–1750	E2K3175T	E2K3175W	E2KM3175W	E2KW3175W
200	1000–2000	E2K3200T	E2K3200W	E2KM3200W	E2KW3200W
225	300–650	E2K3225TA	E2K3225AW	E2KM3225AW	E2KW3225AW
	500–1000	E2K3225TD	E2K3225DW	E2KM3225DW	E2KW3225DW
	1125–2250	E2K3225T	E2K3225W	E2KM3225W	E2KW3225W
250	1250–2500	E2K3250T	E2K3250W	E2KM3250W	E2KW3250W
300	1500–3000	E2K3300T	E2K3300W	E2KM3300W	E2KW3300W
320	1600–3200	—	—	—	E2KW3320W
350	1750–3500	E2K3350T	E2K3350W	E2KM3350W	E2KW3350W
400	2000–4000	E2K3400T	E2K3400W	E2KM3400W	—
Magnetic Only					
400	300–650	E2K3400TMA	E2K3400MAW	E2KM3250MAW	E2KW3250MAW
	500–1000	E2K3400TMD	E2K3400MDW	E2KM3400MDW	E2KW3350MDW
	625–1250	E2K3400TMF	E2K3400MFW	E2KM3400MFW	E2KW3350MFW
	750–1500	E2K3400TMG	E2K3400MGW	E2KM3400MGW	E2KW3350MGW
	875–1750	E2K3400TMJ	E2K3400MJW	E2KM3400MJW	E2KW3350MJW
	1000–2000	E2K3400TMK	E2K3400MKW	E2KM3400MKW	E2KW3350MKW
	1125–2250	E2K3400TML	E2K3400MLW	E2KM3400MLW	E2KW3350MLW
	1250–2500	E2K3400TMW	E2K3400MWW	E2KM3400MWW	E2KW3350MWW
	1500–3000	E2K3400TMN	E2K3400MNW	E2KM3400MNW	E2KW3350MNW
	1600–3200	—	—	—	E2KW3350MVW
	1750–3500	E2K3400TMR	E2K3400MRW	E2KM3400MRW	E2KW3350MRW
	2000–4000	E2K3400TM	E2K3400MW	E2KM3400MW	—

Notes

- ① Frame only: **E2K3400F**.
- ② Frame only: **E2KM3400F**.
- ③ 1200 V breakers are sold as “complete breakers” only.
- ④ Maximum continuous ampere rating at 50 °C.

Please see TD01217001E for detailed dimensions.

100 A–400 A

E²KE/E²KEM

2

E²KM

Circuit Breakers with Interchangeable Electronic Trip Units

Maximum Continuous Ampere Rating at 40 °C	Magnetic Trip Range	Trip Unit Only Catalog Number	600 Vac Maximum 250 Vdc 35 kA at 480 Vac Three-Pole ^①	1000V/ 577 Vac Maximum 250 Vdc 14 kA at 1000 Vac Three-Pole ^②
			Complete Breaker Catalog Number	Complete Breaker Catalog Number
310+ Electronic Instantaneous Only				
150	50–800	KEM3150TM	E2KE3150MW	E2KEM3150MW
225	200–1500	KEM3225TM	E2KE3225MW	E2KEM3225MW
	500–2500	KEM3225TM2	E2KE3225M2W	E2KEM3225M2W
400	200–1500	KEM3400TM	E2KE3400MW	E2KEM3400MW
	500–2500	KEM3400TM2	E2KE3400M2W	E2KEM3400M2W
310+ Electronic LSI ^③				
100	50–800	KEM3100T	E2KE3100W	E2KEM3100W
125	50–800	KEM3125T	E2KE3125W	E2KEM3125W
150	50–800	KEM3150T	E2KE3150W	E2KEM3150W
200	200–1500	KEM3200T	E2KE3200W	E2KEM3200W
225	200–1500	KEM3225T	E2KE3225W	E2KEM3225
	500–2500	KEM3225T2	E2KE32252W	E2KEM32252W
400	200–1500	KEM3400T	E2KE3400W	E2KEM3400W
	500–2500	KEM3400T2	E2KE34002W	E2KEM34002W
310+ Electronic ALSI with Maintenance Mode ^③				
100	50–800	KEM310038T	E2KE310038W	E2KEM310038W
125	50–800	KEM312538T	E2KE312538W	E2KEM312538W
150	50–800	KEM315038T	E2KE315038W	E2KEM315038W
200	200–1500	KEM320038T	E2KE320038W	E2KEM320038W
225	200–1500	KEM322538T	E2KE322538W	E2KEM322538
	500–2500	KEM322538T2	E2KE3225238W	E2KEM3225238W
400	200–1500	KEM340038T	E2KE340038W	E2KEM340038W
	500–2500	KEM340038T2	E2KE3400238W	E2KEM3400238W

Notes① Frame only: **E2K3400F**.② Frame only: **E2KM3400F**.③ For High Load Alarm option (B20): **E2KE340038B20W, KEM3400TB20**.

Please see TD01217001E for detailed dimensions.

2.6

Molded Case Circuit Breakers

Specialty Breakers

160 A–400 A

E²LME/E²LMZ (Series G)

2

Circuit Breakers

Maximum Continuous Ampere Rating at 40 °C	Magnetic Trip Range	Trip Unit Only Catalog Number	600 Vac Maximum 250 Vdc 35 kA at 480 Vac Three-Pole ①	1000V/ 577 Vac Maximum 250 Vdc 14 kA at 1000 Vac Three-Pole ②
			Complete Breaker Catalog Number	Complete Breaker Catalog Number
Magnetic Only				
400	3600–4400	LT3400KM	E2LME3400KMW	E2LMZ3400KMW
Interchangeable Electronic Trip Unit				
160	320–1920	LT340031M	E2LME340031W	E2LMZ340031W
200	400–2400	LT340031M	E2LME340031W	E2LMZ340031W
225	450–2700	LT340031M	E2LME340031W	E2LMZ340031W
250	500–3000	LT340031M	E2LME340031W	E2LMZ340031W
300	600–3600	LT340031M	E2LME340031W	E2LMZ340031W
315	630–3780	LT340031M	E2LME340031W	E2LMZ340031W
350	700–4200	LT340031M	E2LME340031W	E2LMZ340031W
400	800–4800	LT340031M	E2LME340031W	E2LMZ340031W

Notes

① Frame only: **E2LME3400NN**.

② Frame only: **E2LMZ3400NN**.

Please see TD01217001E for detailed dimensions.

300 A–600 A

E²L/E²LM/E²LW

2

Circuit Breakers with Interchangeable Non-Electronic Trip Units

Maximum Continuous Ampere Rating at 40 °C	Magnetic Trip Range	Trip Unit Only Catalog Number	600 Vac Maximum 250 Vdc 35 kA at 480 Vac Three-Pole ^① Complete Breaker Catalog Number	1000Y/ 577 Vac Maximum 250 Vdc 18 kA at 1000 Vac Three-Pole ^② Complete Breaker Catalog Number	1200 Vac Maximum 10 kA at 1200 Vac Three-Pole ^③ Complete Breaker Catalog Number
Thermal-Magnetic					
300	1500–3000	E2L3300T	E2L3300W	E2LM3300W	E2LW3300W
320	2250–4500	E2L3450T	E2L3450W	E2LM3450W	E2LW3320W
350	1600–3200	—	—	—	E2LW3350W
400	1750–3500	E2L3350T	E2L3350W	E2LM3350W	E2LW3400W
450	2000–4000	E2L3400T	E2L3400W	E2LM3400W	E2LW3450W
500	2500–5000	E2L3500T	E2L3500W	E2LM3500W	—
600	3000–6000	E2L3600T	E2L3600W	E2LM3600W	—
	1125–2250	E2L3600TL ^④	—	—	—
Magnetic Only					
450	1600–3200	—	—	—	E2LW3450MVW
	1125–2250	—	—	—	E2LW3450MLW
	1500–3000	—	—	—	E2LW3450MNW
	1750–3500	—	—	—	E2LW3450MRW
	2000–4000	—	—	—	E2LW3450MXW
	2250–4500	—	—	—	E2LW3450MYW
600	1125–2250	E2L3600TML	E2L3600MLW	E2LM3600MLW	—
	1500–3000	E2L3600TMN	E2L3600MNW	E2LM3600MNW	—
	1750–3500	E2L3600TMR	E2L3600MRW	E2LM3600MRW	—
	2000–4000	E2L3600TMX	E2L3600MXW	E2LM3600MXW	—
	2250–4500	E2L3600TMY	E2L3600MYW	E2LM3600MYW	—
	2500–5000	E2L3600TMP	E2L3600MPW	E2LM3600MPW	—
	3000–6000	E2L3600TM	E2L3600MW	E2LM3600MW	—

Notes① Frame only: **E2L3600F**.② Frame only: **E2LM3600F**.

③ Maximum continuous ampere rating at 50 °C.

④ 600 A thermal 1125–2250 T.A.

Please see TD01217001E for detailed dimensions.

2.6

Molded Case Circuit Breakers

Specialty Breakers

300 A–600 A

E²LE/E²LEM

2

E²LM



Circuit Breakers with Interchangeable Electronic Trip Units

Maximum Continuous Ampere Rating at 40 °C	Magnetic Trip Range	Trip Unit Only Catalog Number	Complete Breaker Catalog Number	Complete Breaker Catalog Number
310+ Electronic Instantaneous Only				
400	500–2500	LEM3400TM	E2LE3400MW	E2LEM3400MW
	1000–4000	LEM3400TM2	E2LE3400M2W	E2LEM3400M2W
600	500–2500	LEM3600TM	E2LE3600MW	E2LEM3600MW
	2500–5000	LEM3600TM2	E2LE3600M2W	E2LEM3600M2W
310+ Electronic LSI ^③				
300	500–2500	LEM3300T	E2LE3300W	E2LEM3300W
350	500–2500	LEM3350T	E2LE3350W	E2LEM3350W
400	500–2500	LEM3400T	E2LE3400W	E2LEM3400W
	1000–4000	LEM3400T2	E2LE34002W	E2LEM34002W
600	500–2500	LEM3600T	E2LE3600W	E2LEM3600W
	2500–5000	LEM3600T2	E2LE36002W	E2LEM36002W
310+ Electronic ALSI with Maintenance Mode ^③				
300	500–2500	LEM330038T	E2LE330038W	E2LEM330038W
350	500–2500	LEM335038T	E2LE335038W	E2LEM335038W
400	500–2500	LEM340038T	E2LE340038W	E2LEM340038W
	1000–4000	LEM340038T2	E2LE3400238W	E2LEM3400238W
600	500–2500	LEM360038T	E2LE360038W	E2LEM360038W
	2500–5000	LEM360038T2	E2LE3600238W	E2LEM3600238W

Notes

- ① Frame only: **E2L3600F**.
- ② Frame only: **E2LM3600F**.
- ③ For High Load Alarm option (B20): **E2LE360038B20W, LEM3600TB20**.

Please see TD01217001E for detailed dimensions.

600 Vac Maximum
250 Vdc
35 kA at 480 Vac
Three-Pole ^①

1000V/ 577 Vac Maximum
250 Vdc
18 kA at 1000 Vac
Three-Pole ^②

Complete Breaker
Catalog Number

Complete Breaker
Catalog Number

300 A— 800 A

E²M/E²MM/E²MW

E²M/E²MM/E²MW



Circuit Breakers with Interchangeable Non-Electronic Trip Units

Maximum Continuous Ampere Rating at 40 °C	Magnetic Trip Range	Trip Unit Only Catalog Number	600 Vac Maximum 250 Vdc 35 kA at 480 Vac Three-Pole ^① Complete Breaker Catalog Number	1000V/ 577 Vac Maximum 250 Vdc 18 kA at 1000 Vac Three-Pole ^② Complete Breaker Catalog Number	1200 Vac Maximum 12 kA at 1200 Vac Three-Pole ^{③④} Complete Breaker Catalog Number
Thermal-Magnetic					
400	1000–2000	—	—	—	E2MW3400W
500	1250–2500	—	—	—	E2MW3500W
600	1500–3000	E2M3600TN	E2M3600W	E2MM3600W	E2MW3600W
630	1600–3200	—	—	—	E2MW3630W
800	2000–4000	E2M3800TX	E2M3800W	E2MM3800W	E2MW3800W
Magnetic Only					
800	1500–3000	E2M3800TMN	E2M3800MNW	E2MM3800MNW	E2MW3800MNW
	1600–3200	—	—	—	E2MW3800MVW
	2000–4000	E2M3800TMX	E2M3800MXW	E2MM3800MXW	E2MW3800MXW
	2500–5000	E2M3800TMP	E2M3800MPW	E2MM3800MPW	—
	3000–6000	E2M3800TMW	E2M3800MWW	E2MM3800MWW	—

Notes

- ① Frame only: **E2M3800F**.
- ② Frame only: **E2MM3800F**.
- ③ 1200 V breakers are sold as “complete breakers” only.
- ④ Maximum continuous ampere rating at 50 °C.

Please see TD01217001E for detailed dimensions.

2.6

Molded Case Circuit Breakers

Specialty Breakers

800 A

E²ME/E²MEM

2

E²MN



Circuit Breakers with Interchangeable Electronic Trip Units

Maximum Continuous Ampere Rating at 40 °C	Magnetic Trip Range	Trip Unit Only Catalog Number	600 Vac Maximum 250 Vdc 35 kA at 480 Vac Three-Pole ①	1000V/ 577 Vac Maximum 250 Vdc 18 kA at 1000 Vac Three-Pole ②
			Complete Breaker Catalog Number	Complete Breaker Catalog Number
310+ Electronic Instantaneous Only				
800	500–2500	MEM3800TM	E2ME3800MW	E2MEM3800MW
	1000–4000	MEM3800TM2	E2ME3800M2W	E2MEM3800M2W
310+ Electronic LSI ③				
800	500–2500	MEM3800T	E2ME3800W	E2MEM3800W
	1000–4000	MEM3800T2	E2ME38002W	E2MEM38002W
310+ Electronic ALSI with Maintenance Mode ③				
800	500–2500	MEM380038T	E2ME380038W	E2MEM380038W
	1000–4000	MEM380038T2	E2ME3800382W	E2MEM3800382W

Notes

- ① Frame only: **E2M3800F**.
- ② Frame only: **E2MM3800F**.
- ③ For High Load Alarm option (B20): **E2ME380038B20W, MEM3800TB20**.

Please see TD01217001E for detailed dimensions.

400 A–1200 A

E²N/E²NM

2

E²NM

Circuit Breakers with Interchangeable Electronic Trip Units

Maximum Continuous Ampere Rating at 40 °C	Magnetic Trip Range	Trip Unit Only Catalog Number	600 Vac Maximum 250 Vdc 35 kA at 480 Vac Three-Pole	1000Y/ 577 Vac Maximum 250 Vdc 18 kA at 1000 Vac Three-Pole
			Complete Breaker Catalog Number	Complete Breaker Catalog Number
310+ Electronic Instantaneous Only				
800	500–2500	—	E2N3800MW	E2NM3800MW
1200	1250–5000	—	E2N312MW	E2NM312MW
310+ Electronic LSI ^①				
400	500–2500	—	E2N3400W	E2NM3400W
500	500–2500	—	E2N3500W	E2NM3500W
600	500–2500	—	E2N3600W	E2NM3600W
700	500–2500	—	E2N3700W	E2NM3700W
800	500–2500	—	E2N3800W	E2NM3800W
900	1250–5000	—	E2N3900W	E2NM3900W
1000	1250–5000	—	E2N310W	E2NM310W
1200	1250–5000	—	E2N312W	E2NM312W
310+ Electronic ALSI with Maintenance Mode ^①				
400	500–2500	—	E2N340038W	E2NM340038W
500	500–2500	—	E2N350038W	E2NM350038W
600	500–2500	—	E2N360038W	E2NM360038W
700	500–2500	—	E2N370038W	E2NM370038W
800	500–2500	—	E2N380038W	E2NM380038W
900	1250–5000	—	E2N390038W	E2NM390038W
1000	1250–5000	—	E2N31038W	E2NM31038W
1200	1250–5000	—	E2N31238W	E2NM31238W

Notes

^① For High Load Alarm option (B20): **E2N380038B20W**.

Please see TD01217001E for detailed dimensions.

2.6

Molded Case Circuit Breakers

Specialty Breakers

1600 A–2000 A

E²R/E²RM

2

E²RM



Circuit Breakers with Electronic Trip Units

Maximum Continuous Ampere Rating at 40 °C	Magnetic Trip Range	Trip Unit Only Catalog Number	600 Vac Maximum 250 Vdc 35 kA at 480 Vac Three-Pole Complete Breaker Catalog Number	1000Y/ 577 Vac Maximum 250 Vdc 18 kA at 1000 Vac Three-Pole Complete Breaker Catalog Number
310+ Electronic LSI ^①				
1600	2–8 x I _n	—	E2R316W	E2RM316W
2000	2–8 x I _n	—	E2R320W	E2RM320W
310+ Electronic ALSI with Maintenance Mode ^①				
1600	2–8 x I _n	—	E2R316T38W	E2RM316T38W
2000	2–8 x I _n	—	E2R320T38W	E2RM320T38W

Notes

^① For High Load Alarm option (B20): **E2R1638B20W**.

Please see TD01217001E for detailed dimensions.

Accessories

Line and Load Terminals

Breaker Type	Maximum Breaker Amperes	Wire Type	AWG Wire Range (No. Conductors)	Catalog Number
E ² F/E ² FM	100	Cu/Al	#14–1/0 (1)	3T100FB (package of three)
	150	Cu	#4–4/0 (1)	3T150FB (package of three)
E ² J/E ² JM	250	Cu	#4–350 (1)	T250KB
E ² K/E ² KM/E ² KW	225	Cu	#3–350 (1)	T300K
	350	Cu	250–500 (1)	T350K
	400	Cu	2/0–250 (2)	3T400K (three-pole kit)
E ² LME/E ² LMZ	400	Cu/Al	500–750 (1)	3TA631LK
E ² L/E ² LM/E ² LW	400	Cu/Al	4/0–600 (1)	3TA401LDK (three-pole kit)
	600	Cu	250–350 (2)	T602LD
E ² M/E ² MM/E ² MW	600	Cu	(2) 2/0–500 kcmil	T600MA1
	600	Cu/Al	(2) 1–500 kcmil	TA700MA1
	800 std.	Cu/Al	(3) 3/0–400 kcmil	TA800MA2
	800	Cu/Al	(2) 500–750 kcmil	TA801MA
	800	Cu	(3) 3/0–300 kcmil	T800MA1
E ² N/E ² NM	700	Cu	2/0–500 (2)	T700NB1
	1000	Cu	3/0–500 (3)	T1000NB1
	1200	Cu	3/0–400 (4)	T1200NB3
	1600	Cu/Al	500–1000 (4)	TA1600RD
	2000	Cu/Al	2–600 (6)	TA2000RD

End Cap Terminals—For Use with Ring Type Terminals

Breaker Type	Maximum Breaker Amperes	Catalog Number	Metric Catalog Number	Imperial
E ² F/E ² FM	150	KPEK1	KPEMK1	—
E ² J/E ² JM	250	KPEK2	KPEMK2	—
E ² K/E ² KM/E ² KW	400	KPEK3	KPEMK3	—
E ² LME/E ² LMZ	400	—	L3RTWK	—
E ² L/E ² LM/E ² LW	600	KPEK4	KPEMK4	—

External Accessories

Padlockable Handle Lock Hasp

Breaker Type	Catalog Number
E ² F/E ² FM	PLK1
E ² J/E ² JM	PLK3
E ² K/E ² KM/E ² KW	PLK3
E ² LME/E ² LMZ	LPHL
E ² L/E ² LM/E ² LW	HLK4
E ² M/E ² MM/E ² MW	HLK4
E ² N/E ² NM	PLK5
E ² R/E ² RM	HLK6

Internal Accessories

Undervoltage Release ^①

Breaker Type	UVR Type	Voltage Rating	Mounting Location	Catalog Number	Factory Modification Code
E ² F/E ² FM	Handle reset	208–240 Vac	Left pole	UVH1LP11K (thermal/magnetic only) ^②	U18
	Handle reset	110–127 Vdc	Left pole	UVH1LP26K (thermal/magnetic only) ^②	U42
E ² J/E ² JM	Handle reset	110–127 Vac	Left pole	UVH2LP08K ^②	U18
	Handle reset	208–240 Vac	Left pole	UVH2LP11K ^②	U22
	Handle reset	110–125 Vdc	Left pole	UVH2LP26K ^②	T14
E ² K/E ² KM/E ² KW	120 volt handle reset with LED	120 Vac	Left pole	UVM3LP08K ^{②③}	U66
	120 volt handle reset with LED	120 Vac	Left pole	UVM3LP08KT ^{②④}	U68
	Handle reset	110–127 Vac	Left pole	UVH3LP08K ^②	U18
	Handle reset	208–240 Vac	Left pole	UVH3LP11K ^②	U22
	Handle reset	110–125 Vdc	Left pole	UVH3LP26K ^②	T14
E ² LME/E ² LMZ	Handle reset	110–127 Vac	Left pole	UVR120APK	U5
	Handle reset	110–125 Vdc	Left pole	UVR125DPK	U6
E ² L/E ² LM/E ² LW/E ² M/E ² MM/ E ² MW	120 volt handle reset with LED	120 Vac	Left pole	UVM4LP08K ^{②③}	U66
	120 volt handle reset with LED	120 Vac	Left pole	UVM4LP08KT ^{②④}	U68
	Handle reset	110–127 Vac	Left pole	UVH4LP08K ^②	U18
	Handle reset	208–240 Vac	Left pole	UVH4LP11K ^②	U22
	Handle reset	110–125 Vdc	Left pole	UVH4LP26K ^②	T14
E ² N/E ² NM	120 volt handle reset with LED	120 Vac	Left pole	UVM5LP08K ^③	U66
	120 volt handle reset with LED	120 Vac	Left pole	UVM5LT08K ^④	U68
	Handle reset	110–127 Vac	Left pole	UVH5LP08K ^②	U18
	Handle reset	208–240 Vac	Left pole	UVH5LP11K ^②	U22
	Handle reset	110–125 Vdc	Left pole	UVH5LP26K ^②	T14
E ² R/E ² RM	120 volt handle reset with LED	120 Vac	Right pole	UVM6RP08K ^{③⑤}	U58
	Handle reset	110–127 Vac	Right pole	UVH6RP08K ^⑤	U49
	Handle reset	208–240 Vac	Right pole	UVH6RP11K ^⑤	U53
	Handle reset	110–125 Vdc	Right pole	UVH6RP26K ^⑤	T33

Notes

- ① Contact Eaton for internal accessory voltage ratings not listed.
- ② LH (RH also available).
- ③ Pigtail leads.
- ④ Terminal blocks.
- ⑤ RH only.

Shunt Trip ①

Breaker Type	Voltage Rating	Mounting Location	Catalog Number	Factory Modification Code
E ² F/E ² FM	48–127 Vac or 48–60 Vdc	Left pole	SNT1LP08K ②	S06
	208–230 Vac or 110–127 Vdc	Left pole	SNT1LP12K ②	S10
E ² J/E ² JM	110–240 Vac or 110–125 Vdc	Left pole	SNT2P11K ③	S10
E ² K/E ² KM/E ² KW	110–240 Vac or 110–125 Vdc	Left pole	SNT3P11K ③	S10
E ² LME/E ² LMZ	24–60 Vac/dc	Left pole	SNT060CPK	S1
	110–240 Vac/dc	Left pole	SNT120CPK	S2
E ² L/E ² LM/E ² LW/E ² M/ E ² MM/E ² MW	48–60 Vac	Left pole	SNT4LP05K ②	S06
	48–60 Vdc	Left pole	SNT4LP23K ②	S86
	110–240 Vac	Left pole	SNT4LP11K ②	S10
	110–125 Vdc	Left pole	SNT4LP26K ②	S42
E ² N/E ² NM	110–240 Vac	Left pole	SNT5LP11K ②	S10
	110–125 Vdc	Left pole	SNT5LP26K ②	S42
E ² R/E ² RM	110–240 Vac	Right pole	SNT6P11K ④	S29
	110–125 Vdc	Right pole	SNT6P26K ④	S45

Auxiliary Switch

Breaker Type	Number of Sets of Contacts (1A and 1B)	Mounting Location	Catalog Number	Factory Modification Code
E ² F/E ² FM	1	Right	A1X1PK	A06
	2	Right	A2X1RPK	A13
E ² J/E ² JM	1	Right	A1X2PK	A06
	2	Right	A2X2PK	A13
E ² K/E ² KM/E ² KW	1	Right	A1X3PK	A06
	2	Right	A2X3PK	A13
E ² LME/E ² LMZ	1	Right	AUX1A1BPK	A1
	2	Right	AUX2A2BPK	A2
E ² L/E ² LM/E ² LW/E ² M/ E ² MM/E ² MW	1	Right	A1X4PK	A06
	2	Right	A2X4PK	A13
E ² N/E ² NM	1	Right	A1X5PK	A06
	2	Right	A2X5PK	A13
E ² R/E ² RM	2	Right	A2X6RPK	A12
	4	Right	A4X6RPK	A19

Alarm (Signal/Lockout Switch)

Breaker Type	Number of Sets of Contacts (Make and Break)	Mounting Location	Catalog Number	Factory Modification Code
E ² F/E ² FM	1	Right	A1L1LPK/A1L1RPK	B06
	2	Right	A2L1LPK/A2L1RPK	B13
E ² J/E ² JM	1	Right	A1L2LPK/A1L2RPK	B06
E ² K/E ² KM/E ² KW	1	Right	A1L3LPK/A1L3RPK	B06
	2	Right	A2L3LPK/A2L3RPK	B13
E ² LME/E ² LMZ	1	Right	ALM1M1B1BPK	B1
	2	Right	ALM2M2B1BPK	B3
E ² L/E ² LM/E ² LW/E ² M/ E ² MM/E ² MW	1	Right	A1L4LPK/A1L4RPK	B06
	2	Right	A2L4LPK/A2L4RPK	B13
E ² N/E ² NM	1	Right	A1L5LPK/A1L5RPK	B06
	2	Right	A2L5LPK/A2L5RPK	B13
E ² R/E ² RM	1	Right	A1L6RPK	B05
	2	Right	A2L6RPK	B12

Notes

- ① Contact Eaton for internal accessory voltage ratings not listed.
- ② LH (RH also available).
- ③ LH or RH.
- ④ RH only.

2.6

Molded Case Circuit Breakers

Specialty Breakers

Dimensions

Approximate Dimensions in Inches (mm)

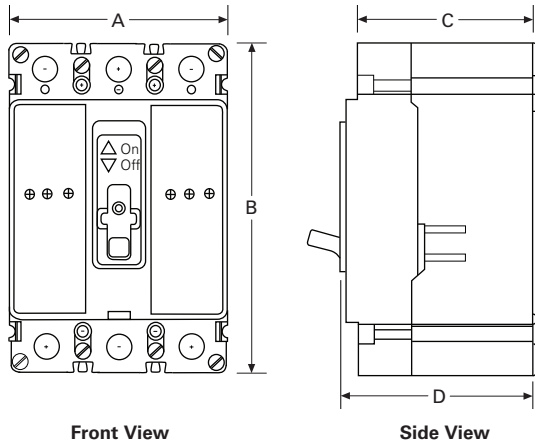
Please see TD01217001E for detailed dimensions.

2

3 A–150 A

E²F/E²FM

Sealed Breakers with Non-Interchangeable Trip Unit—
Include Line/Load Terminals Non-Electronic Trip Units

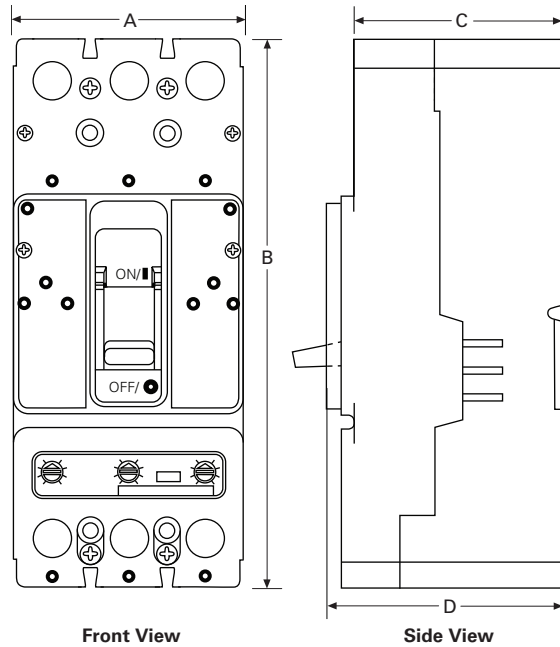


Description	Dimensions in Inches (mm)
A	4.13 (104.9)
B	6.00 (152.4)
C	3.38 (85.9)
D	3.50 (88.9)

70 A–250 A

E²J/E²JM

Circuit Breakers with Interchangeable Non-Electronic
Trip Units



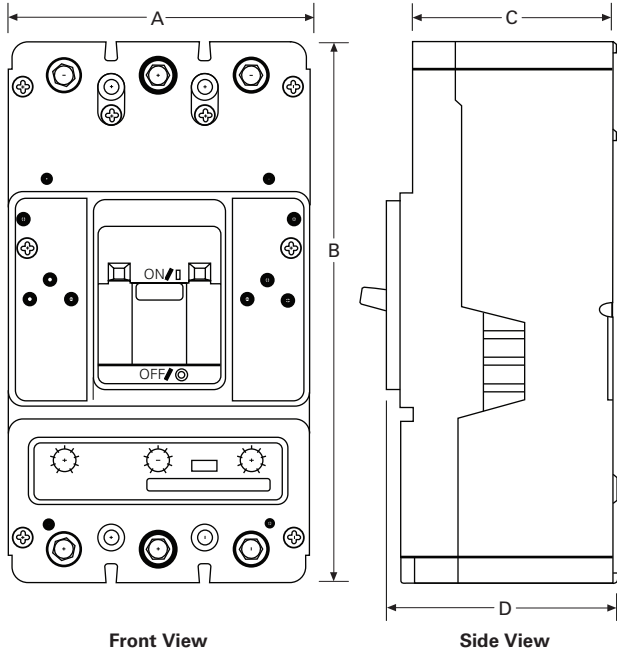
Description	Dimensions in Inches (mm)
A	4.13 (104.9)
B	10.00 (254.0)
C	4.06 (103.1)
D	4.31 (109.5)

Approximate Dimensions in Inches (mm)

Please see TD01217001E for detailed dimensions.

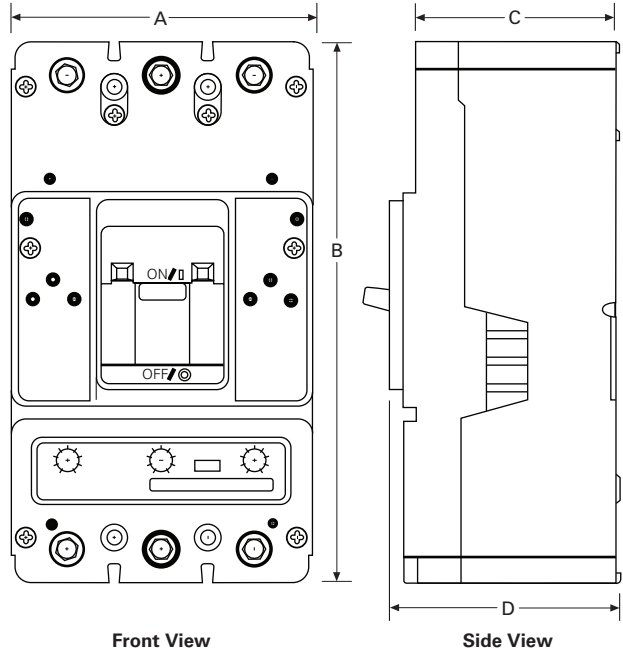
100 A–400 A

E²K/E²KM/E²KW
Circuit Breakers with Interchangeable Non-Electronic Trip Units



100 A–400 A

E²KE/E²KEM
Circuit Breakers with Interchangeable Electronic Trip Units



Description	Dimensions in Inches (mm)
A	5.49 (139.4)
B	10.13 (257.3)
C	4.06 (103.1)
D	4.31 (109.5)

Description	Dimensions in Inches (mm)
A	5.49 (139.4)
B	10.13 (257.3)
C	4.06 (103.1)
D	4.31 (109.5)

2.6

Molded Case Circuit Breakers

Specialty Breakers

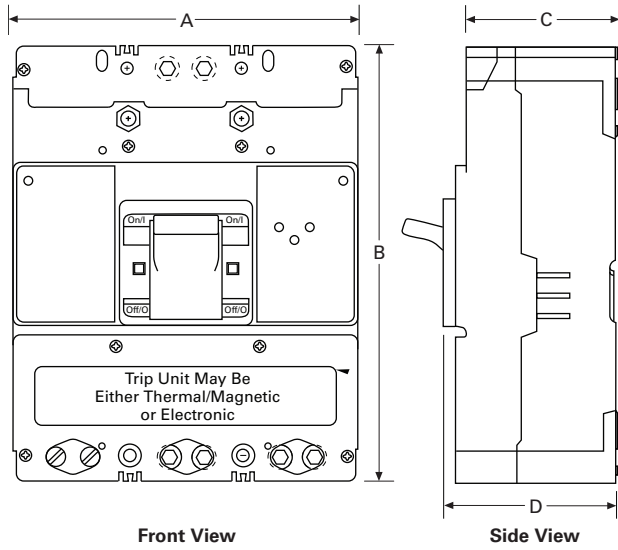
Approximate Dimensions in Inches (mm)

Please see TD01217001E for detailed dimensions.

2

160 A–400 A

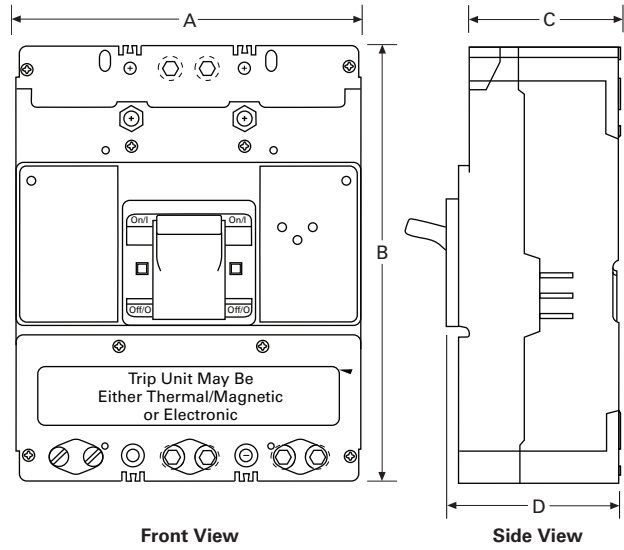
E²LME/E²LMZ Circuit Breakers



Description	Dimensions in Inches (mm)
A	5.48 (139.2)
B	10.13 (257.3)
C	4.00 (101.6)
D	4.22 (107.1)

300 A–600 A

E²L/E²LM/E²LW Circuit Breakers with Interchangeable Electronic Trip Units



Description	Dimensions in Inches (mm)
A	8.25 (209.6)
B	10.75 (273.1)
C	4.06 (103.1)
D	4.38 (111.3)

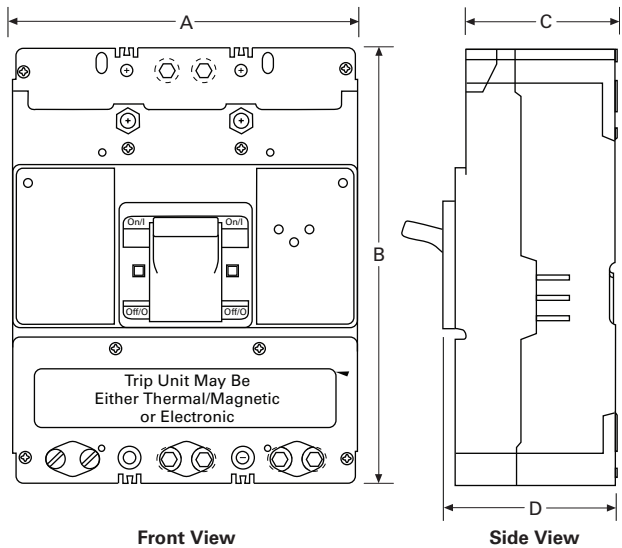
Approximate Dimensions in Inches (mm)

Please see TD01217001E for detailed dimensions.

300 A–600 A

E²LE/E²LEM

Circuit Breakers with Interchangeable Electronic Trip Units

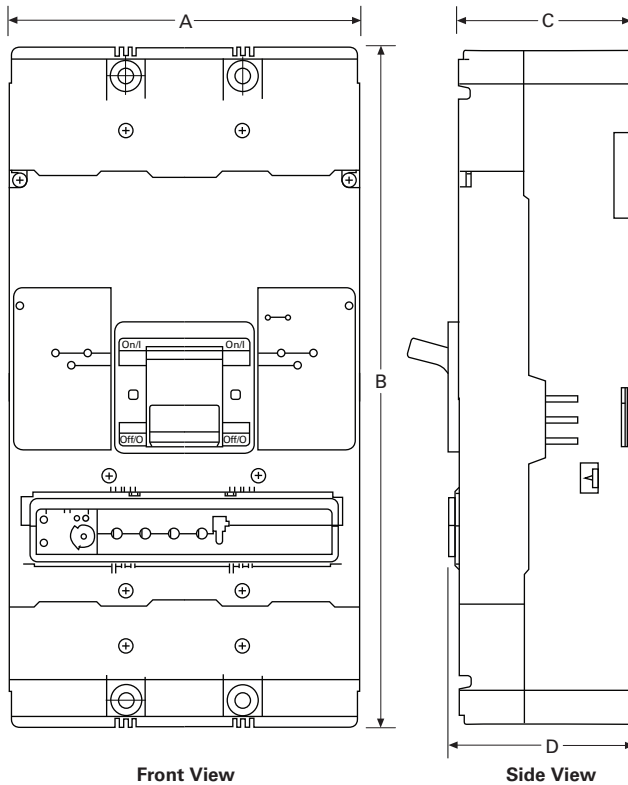


Description	Dimensions in Inches (mm)
A	8.25 (209.6)
B	10.75 (273.1)
C	4.06 (103.1)
D	4.38 (111.3)

300 A–800 A

E²M/E²MM/E²MW

Circuit Breakers with Interchangeable Non-Electronic Trip Units



Description	Dimensions in Inches (mm)
A	8.25 (209.6)
B	16.00 (406.4)
C	4.06 (103.1)
D	4.38 (111.3)

2.6

Molded Case Circuit Breakers

Specialty Breakers

Approximate Dimensions in Inches (mm)

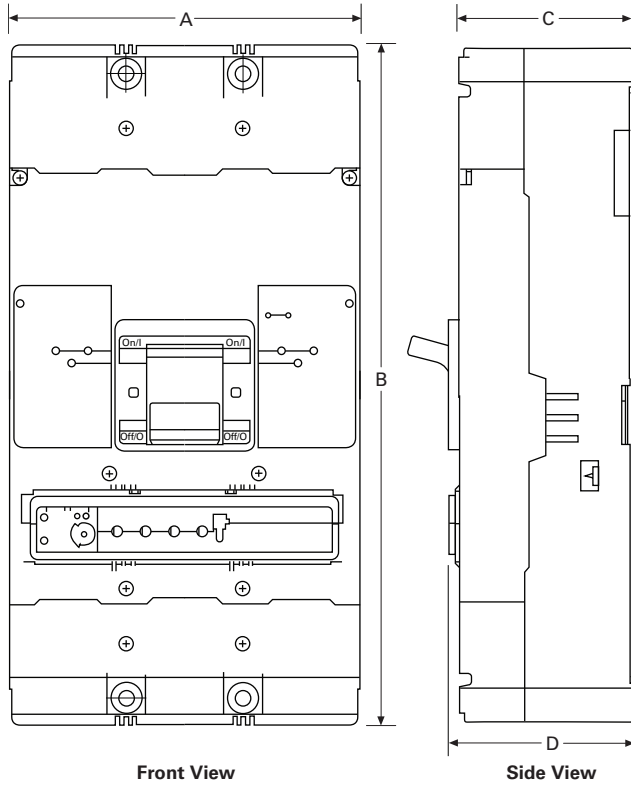
Please see TD01217001E for detailed dimensions.

2

800 A

E²ME/E²MEM

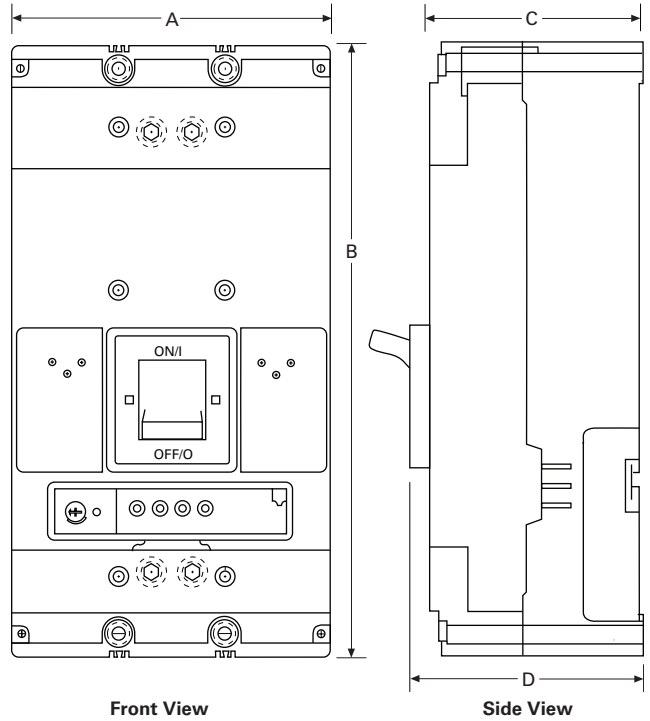
Circuit Breakers with Interchangeable Electronic Trip Units



400 A–1200 A

E²N/E²NM

Circuit Breakers with Interchangeable Electronic Trip Units



Description	Dimensions in Inches (mm)
A	8.25 (209.6)
B	16.00 (406.4)
C	4.06 (103.1)
D	4.38 (111.3)

Description	Dimensions in Inches (mm)
A	8.25 (209.6)
B	16.00 (406.4)
C	5.50 (139.7)
D	6.00 (152.4)

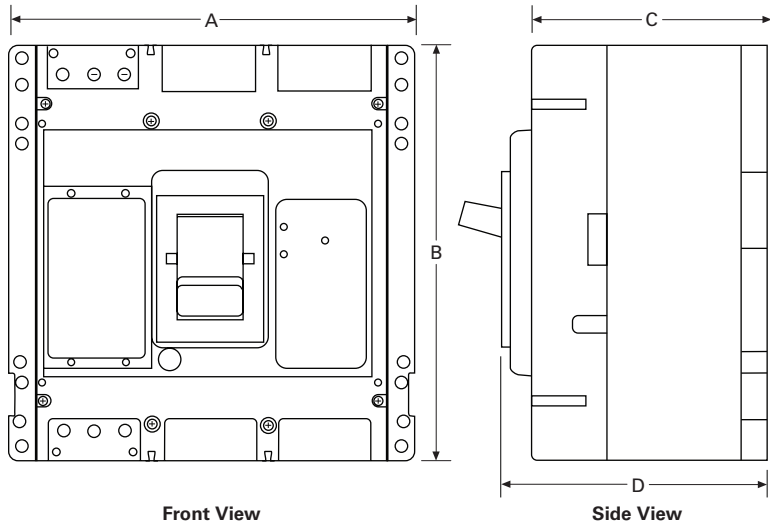
Approximate Dimensions in Inches (mm)

Please see TD01217001E for detailed dimensions.

1600 A–2000 A

E²R/ E²RM

Circuit Breakers with Electronic Trip Units



Description	Dimensions in Inches (mm)
A	15.50 (393.7)
B	16.00 (406.4)
C	9.00 (228.6)
D	10.00 (254.0)

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Classic Mining Breakers

Product Overview

Classic mining service circuit breakers continue to be manufactured and are primarily applied to achieve an exact physical and electronic replacement of previously Cutler-Hammer

installed Westinghouse equipment. To upgrade to the current offering of E² mining circuit breakers, consult the cross reference information on **Page V4-T2-405**.

AC Interrupting Capacity, Symmetrical Amperes

60 Hz AC Volts	Breaker Type				All Other 1000 Volt Breakers ^②
	KAM	LAM, MAM, NBM	HKAM	HLAM ^②	
240	25,000	42,000	—	—	—
480	22,000	30,000	—	—	—
600	22,000	22,000	—	—	—
1000 ^①	—	—	10,000	12,000	14,000

Special DC Interrupting Capacity

Breaker Type	Maximum Ampere Rating	Interrupting Capacity (Amperes) at 300–330 Vdc			
		Single-Pole		Two Poles in Series ^④	
		0.0–0.15 mH Inductance ^③	0.15–0.5 mH Inductance	0.5–0.9 mH Inductance	2.4 mH Inductance
KAM	225	15,000	10,000	15,000	5000
LAM	400/600	15,000	10,000	15,000	5000
MAM	800	15,000	10,000	15,000	5000
NBM	1200	15,000	10,000	15,000	5000

Notes

- ① Based on circuit power factor of 50% or greater.
- ② HLAM must be rear stud connected. If front connected, interrupting capacity rating is 10,000 amperes.
- ③ Resistive circuit.
- ④ Two poles in electrical series in ungrounded leg of circuit.

Classic Circuit Breakers For Mining Service**Undervoltage Release Data**

Undervoltage releases are calibrated to pick up at 72 to 85% of rated voltage dropout between 35 to 70% of rated voltage.

Breaker Type	Volts	Line Amperes	Series Resistors ^①	Total VA
KAM, HKAM ^①	480/60	0.021	10,000	10.1
	240/60	0.019	—	4.6
	120/60	0.021	—	2.5
	120/60 ^②	0.13	—	15.6
LAM, HLAM, MAM, HMAM, NBM, HNB M ^①	480/60	0.033	12,000 ^③	15.9
	240/60	0.028	6,000	6.7
	120/60	0.029	—	3.5
	120/60 ^②	0.13	—	15.6

Shunt Trip Coil Data

Breaker Type	Volts	Amperes	VA
KAM, HKAM, LAM, HLAM, MAM, HMAM, NBM, HNB M	480/60	0.085	40.8
	240/60	1.7	408
	120/60	0.88	105.6
	48 DC	8.0	384

Notes

- ① Supplied for external customer mounting.
- ② New design electrical reset UVR.
- ③ 16,000 for Type MAM and HMAM.

Product Selection

For reference only. Replace these frames with E2 Series. See Cross-Reference information beginning on **Page V4-T2-405**.

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Classic Mining Service Circuit Breakers

Breaker Type	Frame Style Numbers ^{①②}	Poles	Amperes	Trip Type	Accessories (Included in Frame)	Magnetic Trip Range, Amperes ^③
KAM	2609D60G64	2	180	M	None	200–400
	1291C26G07	2	180	M	UVR ^④	200–400
	2609D60G66	2	180	M	Standard shunt trip ^③	200–400
	1291C26G01	2	225	TM	UVR ^④	300–700
	1291C26G02	2	225	TM	UVR ^④	500–1000
	2609D60G67	3	180	M	None	200–400
	1291C26G08	3	180	M	UVR ^④	200–400
	2609D60G69	3	180	M	Standard shunt trip ^③	200–400
	5685D48G75	3	225	TM	None	300–700
	5685D48G74	3	225	TM	None	500–1000
	1291C26G03	3	225	TM	UVR ^④	300–700
	1291C26G04	3	225	TM	UVR ^④	500–1000
	2609D60G01	3	225	TM	Standard shunt trip ^③	300–700
	2609D60G02	3	225	TM	Standard shunt trip ^③	500–1000
	2609D60G40	3	225	M	None	300–700
	2609D60G41	3	225	M	None	500–700
	1291C26G05	3	225	M	UVR ^④	300–700
	1291C26G06	3	225	M	UVR ^④	500–1000
LAM	1291C32G01	2	400	TM	UVR ^④	500–1000
	2609D60G61	2	400	M	Shunt trip (48 Vdc)	750–1500
	1291C32G03	3	400	TM	UVR ^④	500–1000
	5685D48G73	3	400	TM	None	800–1600
	1291C32G02	3	400	TM	UVR ^④	800–1600
	2609D60G03	3	400	TM	Standard shunt trip ^③	800–1600
	2609D60G44	3	400	M	None	800–1600
	1291C32G04	3	400	M	UVR ^④	800–1600

Notes

- ① Terminals not included in style number.
- ② All breakers listed are complete with accessories indicated.
- ③ Rated 120 volts/60 Hz; undervoltage release is handle reset type.
- ④ UVR is auto-reset type, 120 Vac.

M = magnetic only; TM = thermal-magnetic.

For reference only. Replace these frames with E2 Series. See Cross-Reference information beginning on **Page V4-T2-405**.

Classic Mining Service Circuit Breakers, continued




Breaker Type	Frame Style Numbers ^{①②}	Poles	Amperes	Trip Type	Accessories (Included in Frame)	Magnetic Trip Range, Amperes ^③
MAM	2609D60G17	2	600	TM	UVR ^③	750–1500
	2609D60G18	2	800	TM	UVR ^③	1000–2000
	2609D60G63	3	400	TM	UVR ^③	2000–4000
	5685D48G72	3	600	TM	None	1500–3000
	2609D60G19	3	600	TM	UVR ^③	1500–3000
	2609D60G04	3	600	TM	Standard shunt trip ^③	1500–3000
	2609D60G05	3	800	TM	Standard shunt trip ^③	2000–4000
	5685D48G71	3	800	TM	None	2000–4000
	2609D60G20	3	800	TM	UVR ^③	2000–4000
	2609D60G46	3	800	M	None	1500–3000
	2609D60G47	3	800	M	UVR ^③	1500–3000
	2609D60G48	3	800	M	None	2000–4000
	2609D60G49	3	800	M	UVR ^③	2000–4000
NBM	1229C37G13	2	1000	TM	UVR ^④	1500–3000
	1229C37G14	2	1200	TM	UVR ^④	2000–4000
	1227C36G10	3	1000	TM	None	2500–5000
	1229C37G15	3	1000	TM	UVR ^④	2500–5000
	1227C36G13	3	1000	TM	Standard shunt trip ^③	2500–5000
	1227C36G14	3	1200	TM	Standard shunt trip ^③	2500–5000
	1227C36G09	3	1200	TM	None	2500–5000
	1229C37G16	3	1200	TM	UVR ^④	2500–5000
	1227C36G19	3	1200	M	None	2500–5000
	1229C37G17	3	1200	M	UVR ^④	2500–5000

Notes

- ① Terminals not included in style number.
- ② All breakers listed are complete with accessories indicated.
- ③ Rated 120 volts/60 Hz: undervoltage release is handle reset type.
- ④ UVR is auto-reset type, 120 Vac.

M = magnetic only; TM = thermal-magnetic.

1000 Volt Classic Mining Service Circuit Breakers

Breaker Type	Frame Style Numbers	Poles	Amperes	Trip Type	Accessories (Included in Frame)	Magnetic Trip Range, Amperes ^①	
HKAM 	HKAM	2609D60G70	3	180	M	None	200–400
		1291C26G16	3	180	M	UVR ^②	200–400
		5685D48G87	3	225	TM	None	300–700
		1291C26G12	3	225	TM	UVR ^②	300–700
		5685D48G86	3	225	TM	None	500–1000
		1291C26G13	3	225	TM	UVR ^②	500–1000
		1291C26G14	3	225	M	UVR ^②	300–700
		1291C26G15	3	225	M	UVR ^②	500–1000
HLAM 	HLAM	5685D48G85	3	400	TM	None	800–1600
		1291C32G07	3	400	TM	UVR ^②	800–1600
		1291C32G09	3	400	M	UVR ^②	800–1600
HMAM 	HMAM	5685D48G84	3	600	TM	None	1500–3000
		2609D60G28	3	600	TM	UVR ^③	1500–3000
		5685D48G83	3	800	TM	None	2000–4000
		2609D60G29	3	800	TM	UVR ^③	2000–4000
		2609D60G57	3	800	M	UVR ^③	1500–3000
		2609D60G58	3	800	M	UVR ^③	2000–4000
HNAM 	HNBM	1227C36G12	3	1000	TM	None	2500–5000
		1229C37G19	3	1000	TM	UVR ^②	2500–5000
		1227C36G11	3	1200	TM	None	2500–5000
		1229C37G20	3	1200	TM	UVR ^②	2500–5000
		1229C37G18	3	1200	M	UVR ^②	2500–5000

Notes

- ① The magnetic trip range does not change when rating plug is changed.
 ② 120 volt, 60 Hz electrical reset type.
 ③ Rated 120 volts, 60 Hz; undervoltage release is handle reset type.
 M = magnetic only; TM = thermal-magnetic.

Classic Mining Service Breaker Frames Only

Breaker Type	Frame Size, Amperes	Number of Poles	Style Numbers
KAM ^①	225	2	2602D86G11
	225	3	2602D86G12
KAMH ^①	225	2	2602D86G13
	225	3	2602D86G14
HKAM ^①	225	3	1264C99G05
LAM ^②	400	2	2602D99G05
	400	3	2602D99G06
LAMH ^②	400	2	2602D99G07
	400	3	2602D99G08
HLAM ^②	400	3	1264C99G02
LAM3600F	600	3	2603D48G07
LAMH3600F	600	3	2603D48G08
HLAM3600F	600	3	2603D48G09

Breaker Type	Frame Size, Amperes	Number of Poles	Style Numbers
MAM ^②	800	2	2600D43G11
	800	3	2600D43G12
MAMH ^②	800	2	2600D43G13
	800	3	2600D43G14
HMAM ^②	800	3	1264C99G03
NBM ^②	1200	2	2610D64G07
	1200	3	2610D64G08
NBMH ^②	1200	2	2610D64G09
	1200	3	2610D64G10
HNBM ^②	1200	3	2610D64G13

Trip Units for Classic Mining Circuit Breakers

Breaker Type	Conductor Size	Magnetic Trip Range, Amperes	Maximum Continuous Amperes	Thermal-Magnetic Three-Pole ^③ Style Numbers	Magnetic Only Three-Pole Style Numbers
HKAM	#6	150–400	180	—	2609D99G22
	#4–#3	300–700	225	5685D48G40	2611D75G01
	#4–#1	500–1000	225	5685D48G34	2611D75G02
HLAM	#4–#1	750–1500	400	5685D48G97	2609D99G21
	#2–#2/0	800–1600	400	5685D48G28	2611D75G03
HLAM600	#2–2/0	750–1500	600	2609D99G20	—
	2/0–500 kcmil	1500–3000	600	2609D99G19	—
HMAM	#2–#2/0	750–1500	600	—	—
	2/0–500 kcmil	1500–3000	600	5685D48G22	2611D75G04 ^④
	#1–3/0	1000–2000	800	—	—
	3/0–500 kcmil	2000–4000	800	5685D48G16	2611D75G05
HNBM	2/0–500 kcmil	1500–3000	1000	—	—
	4/0–500 kcmil	2500–5000	1000	5685D48G10	—
	3/0–500 kcmil	2000–4000	1200	—	—
	4/0–500 kcmil	2500–5000	1200	5685D48G04	2611D75G07

Notes

- ① Frame modified for left-hand mounting of UVR attachment.
 ② Frame modified for right-hand mounting of UVR attachment.
 ③ Three-pole trip units only are suitable for replacement in 1000 volt mining service circuit breakers.
 ④ 800 amperes.

2.6

Molded Case Circuit Breakers

Specialty Breakers

Terminals For Classic Mining Service Breakers

Terminals are UL listed for wire type and range listed below. When used with aluminum conductors, use joint compound.

2

Breaker Type	Terminal Type	Maximum Amperes	Package of 3 Line Terminals Style Number	Wire Range, Type
FBM, HFBM	Style pressure type terminals	100	624B100G02	#14–1/0 Al/Cu
	Optional Al/Cu pressure terminals	50	624B100G10	#14–#4 Al/Cu
		100	624B100G17	#4–4/0 Al/Cu

Terminals For Mining Service Breakers

Breaker Type	Terminal Type	Maximum Amperes	Terminal Catalog Number	Wire Range, Type Number of Cables
KAM, HKAM	Standard pressure terminals (copper only)	225	T225LA	(1) #6–350 kcmil
	Optional Al/Cu pressure terminals	225	TA225LA1	(1) #6–350 kcmil Cu, or (1) #4–350 kcmil Al
LAM	Standard copper pressure terminals	225	T225LA	(1) #6–350 kcmil Cu
		400	T401LA	(1) #4–250 kcmil Cu plus (1) 3/0–600 kcmil Cu
	Optional Al/Cu pressure terminals	225	TA225LA1	(1) #6–350 kcmil Cu, or (1) #4–350 kcmil Al
		400	TA400LA1	(1) #4–250 kcmil Al/Cu, plus (1) 3/0–600 kcmil Al/Cu
		400	TA401LA	(1) 600–750 kcmil Al
LAM-600, LAMH-600, HLAM-600	Standard copper pressure terminals	600	T600LA	(2) 250–500 kcmil Cu
	Optional Al/Cu pressure terminals	600	TA600LA	(2) 250–500 kcmil Al/Cu
MAM, HMAM, MAMH	Standard copper pressure terminals	350	T350MA	(1) #1–600 kcmil Cu
		600	T600MA1	(2) 2/0–500 kcmil Cu
		800	T800MA1	(3) 3/0–300 kcmil Cu
	Optional Al/Cu pressure terminals	600	TA700MA1	(2) #1–500 kcmil Al/Cu
		800	TA800MA2	(3) 3/0–400 kcmil Al/Cu
		800	TA801MA	(2) 500–750 kcmil Al/Cu
NBM, HNBM, NBMH	Standard copper pressure terminals	1000	T1000NB1	(3) 3/0–500 kcmil Cu
		1200	T1200NB1	(4) 3/0–400 kcmil Cu
	Optional Al/Cu pressure terminals	1000	TA1000NB1	(3) 3/0–400 kcmil Al/Cu
		1200	TA1200NB1	(4) 4/0–500 kcmil Al/Cu
		1200	TA1201NB1	(3) 500–750 kcmil Al/Cu

Accessories

Classic Mining Circuit Breakers

Rear Connected Studs ^①

For complete stud assembly, order a stud and 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.^② Two studs required per pole. For List Prices, see Eaton's Price and Availability Digest.

Mounting Panel Thickness In Inches (mm)	Stud		Tube Length In Inches (mm)	Style Numbers
	Length	Style Numbers		
KAM, HKAM Breakers				
0.75 (19.1)–1.00 (25.4)	Short	656D565G01	0.84 (21.3)	456D983H05
	Long	656D565G02	3.78 (96.0)	456D983H08
0.50 (12.7)–0.75 (19.1)	Short	656D565G01	1.09 (27.7)	456D983H06
	Long	656D565G02	4.03 (102.4)	456D983H09
0.25 (6.4)–0.50 (12.7)	Short	656D565G01	1.34 (34.0)	456D983H07
	Long	656D565G02	4.28 (108.7)	456D983H10

Rear Connected Studs For Insulated Panels Only: Two Per Pole

Stud Ampere Number	Diameter, In Inches (mm) and Thread	Extension Back of Breaker In Inches (mm)	Stud Style Numbers
LAM, HLAM Breakers			
225 ^③	0.50 (12.7)–13	3.22 (81.8)	1241 345
	0.50 (12.7)–13	6.28 (159.5)	1241 346
	0.50 (12.7)–13	4.97 (126.2)	1241 392
400 ^③	0.75 (19.1)–16	5.47 (138.9)	05B7383G22
	0.75 (19.1)–16	7.97 (202.4)	05B7383G23
600	0.75 (19.1)–16	10.47 (265.9)	05B7383G24
	1.00 (25.4)–12	5.91 (150.1)	314C960G16
	1.00 (25.4)–12	8.41 (213.6)	314C960G17
600	1.00 (25.4)–12	10.91 (277.1)	314C960G18
	1.00 (25.4)–12	10.91 (277.1)	314C960G18
MAM, HMAM, MAMH Breakers			
225	0.50 (12.7)–13	3.66 (93.0)	314C960G01
400	0.75 (19.1)–16	5.91 (150.1)	314C960G04
	0.75 (19.1)–16	8.41 (213.6)	314C960G05
	0.75 (19.1)–16	10.91 (277.1)	314C960G06
600	1.00 (25.4)–12	5.91 (150.1)	314C960G07
	1.00 (25.4)–12	8.41 (213.6)	314C960G08
	1.00 (25.4)–12	10.91 (277.1)	314C960G09
800	1.13 (28.7)–12	4.91 (124.7)	314C960G10
	1.13 (28.7)–12	8.41 (213.6)	314C960G11
	1.13 (28.7)–12	10.91 (277.1)	314C960G12
NBM, HNB, NBMH Breakers			
800	1.13 (28.7)–12	5.50 (139.7)	623B222G01
	1.13 (28.7)–12	8.00 (203.2)	623B222G02
	1.13 (28.7)–12	10.50 (266.7)	623B222G03
1200	1.25 (31.8)–12	5.50 (139.7)	373B375G04
	1.25 (31.8)–12	10.50 (266.7)	373B375G03

Line and Load Terminal Shields ^⑤

Breaker Type	Description	Style Numbers
KAM	Line terminals	1261C93G01
	Load terminals	1262C46G01
LAM-400	Line terminals	1261C95G01
	Load terminals	1262C48G01
MAM	Line terminals	1261C97G01
	Load terminals	1261C97G02

Notes

- ① Not UL listed.
- ② 400 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.
- ③ 150, 300 and 400 ampere frames only.
- ④ This is a special stud that includes six contact nuts for use where bus contact nuts must be used.
- ⑤ For breakers used with terminals and cable connections. Sold in packages of 10.

Standard Handle Reset Undervoltage Release

For Classic breakers field mountable on special frames listed on **Page V4-T2-405**, or replacement on breakers originally equipped with this type UVR.

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 72 to 85% of coil rating. For line voltages up to 250 Vdc or 600 Vac. Externally mounted resistors are supplied for certain ratings. Standard leads extend 18.00 inches (457.2 mm) outside of breaker. Longer leads may be specified.

Breaker Type	Volts	Style Numbers
Right-Hand Mounting		
LAM, HLAM	120 Vac	4995D12G11
	120 Vac ^①	1228C76G03
	240 Vac	4995D12G13
	480 Vac	4995D12G14
	125 Vdc	4995D12G09
MAM, HMAM, MAMH	120 Vac	5672D69G11
	120 Vac ^①	—
	240 Vac	5672D69G13
NBM, HNBM, NBMH	480 Vac	5672D69G14
	120 Vac	4995D11G11
	120 Vac ^①	1229C35G03
	240 Vac	4995D11G13
	480 Vac	4995D11G14
	Left-Hand Mounting	
KAM, HKAM	120 Vac	4995D10G01
	120 Vac ^①	1228C76G03
	240 Vac	4995D10G03
	480 Vac	4995D10G04

Shunt Trips

For tripping breaker from a remote point. A solenoid device mounts within breaker case. Breaker trips when coil is energized. A cutoff switch breaks the circuit to the momentary rated coil when breaker opens. Available for

control voltages up to 250 Vdc or 600 Vac. Voltage and frequency must be specified. Standard leads extend 18.00 inches (457.2 mm) outside of breaker. Longer leads may be specified.

Breaker Type	Volts (50–60 Hz)	Style Numbers
Right-Hand Mounting		
KAM, HKAM	480 Vac	2605D15G16
	240 Vac	2605D15G17
	120 Vac	2605D15G19
LAM, HLAM	480 Vac	2606D56G16
	240 Vac	2606D56G17
	120 Vac	2606D56G19
	48 Vdc	2606D56G07
MAM, HMAM, MAMH	480 Vac	2606D57G16
	240 Vac	2606D57G17
	120 Vac	2606D57G19
NBM, HNBM, NBMH	480 Vac	2606D58G16
	240 Vac	2606D58G17
	120 Vac	2606D58G19
Left-Hand Mounting		
KAM, HKAM	480 Vac	2605D15G02
	240 Vac	2605D15G03
	120 Vac	2605D15G05
LAM, HLAM	480 Vac	2606D56G02
	240 Vac	2606D56G03
	120 Vac	2606D56G05
MAM, HMAM, MAMH	480 Vac	2606D57G02
	240 Vac	2606D57G03
	120 Vac	2606D57G05
NBM, HNBM, NBMH	480 Vac	2606D58G02
	240 Vac	2606D58G03
	120 Vac	2606D58G05

Notes

- ① Electrical reset UVR.
- ② Auto reset type.

Reference Information

E² Cross-Reference

Series C Mining	Superseded by E ² Mining
1491D72G31	E2J3070T
1491D72G32	E2J3090T
1491D72G33	E2J3100T
1491D72G37	E2J3200T
6622C87G27	E2K3225AWU66
6622C87G28	E2K3225DWU66
6622C87G32	E2K3400GWU66
E2KM3100	E2KEM3100W
E2KM3100U66	E2KEM3100WU66
E2KM3125	E2KEM3125W
E2KM3125U66	E2KEM3125WU66
E2KM3150	E2KEM3150W
E2KM3150MU66	E2KEM3150WU66
E2KM3150TM	E2KEM3150MW
E2KM3150U66	E2KEM3150MWU66
E2KM3200	E2KEM3200W
E2KM3200U66	E2KEM3200WU66
E2KM3225	E2KEM3225W
E2KM3225F	E2KM3400F
E2KM3225FUV	E2KM3400F
E2KM3225MU66	E2KEM3225MWU66
E2KM3225TM	E2KEM3225TM
E2KM3225U66	E2KEM3225WU66
E2LM3300U66	E2LEM3300WU66
E2LM3350U66	E2LEM3350WU66
E2LM3400U66	E2LEM3400WU66
E2LM3400F	E2LM3600F
E2LM3400FUV	E2LM3600F
E2LM3400M2U66	E2LEM3400M2WU66
E2LM3400MU66	E2LEM3400MWU66
E2LM3400U66	E2LEM3400WU66
FDBM3015	E2F3015
FDBM3015WU62	E2F3015WU62
FDBM3020	E2F3020
FDBM3025	E2F3025
FDBM3025U62	E2F3025U62
FDBM3030	E2F3030
FDBM3030U62	E2F3030WU62
FDBM3030WU62	E2F3030WU62
FDBM3035	E2F3035

Series C Mining	Superseded by E ² Mining
FDBM3040	E2F3040
FDBM3045	E2F3045
FDBM3050	E2F3050
FDBM3050U62	E2F3050U62
FDBM3050WU62	E2F3050WU62
FDBM3060	E2F3060
FDBM3070	E2F3070
FDBM3070WU62	E2F3070WU62
FDBM3080	E2F3080
FDBM3090	E2F3090
FDBM3100	E2F3100
FDBM3100LM04U62	E2F3100M04U62
FDBM3125	E2F3125
FDBM3150	E2F3150
FDBM3150L	E2F3150L
FDM3015	E2F3015
FDM3015L	E2F3015L
FDM3015LU62	E2F3015LU62
FDM3020	E2F3020
FDM3020LU62	E2F3020LU62
FDM3025	E2F3025
FDM3025L	E2F3025L
FDM3025LS22	E2F3025LS22
FDM3025LU62	E2F3025LU62
FDM3030	E2F3030
FDM3030LS22	E2F3030LS22
FDM3040	E2F3040
FDM3040L	E2F3040L
FDM3040LU62	E2F3040LU62
FDM3050	E2F3050
FDM3050LU62	E2F3050LU62
FDM3050U62	E2F3050U62
FDM3060	E2F3060
FDM3060LU62	E2F3060LU62
FDM3070	E2F3070
FDM3070A02U62	E2F3070A02U62
FDM3080	E2F3080
FDM3090	E2F3090
FDM3100	E2F3100
FDM3100LS22	E2F3100LS22

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Molded Case Circuit Breakers

Specialty Breakers

E² Cross-Reference, continued

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Series C Mining	Superseded by E ² Mining
FDM3100LU62	E2FLU62
FDM3125	E2F3125
FDM3125LU62	E2F3125LU62
FDM3150	E2F3150
HFD0003AM	E2F003AM
HFD0003AMLU62	E2F003AMLU62
HFD0007CM	E2F007CM
HFD0007CMU62	E2F007CMU62
HFD0015EM	E2F015EM
HFD0015EMA02	E2F015EMA02
HFD0015EMLU62	E2F015EMLU62
HFD0015EMU62	E2F015EMU62
HFD0030HM	E2F030HM
HFD0030HMLU62	E2F030HMLU62
HFD0030HMU62	E2F030HMU62
HFD0050KM	E2F050KM
HFD0050KML	E2F050KML
HFD0050KMLU62	E2F050KMLU62
HFD0050KMU62	E2F050KMU62
HFD0070MM	E2F070MM
HFD0070MMU62	E2F070MMU62
HFD01001M	E2F1001M
HFD01001MS22	E2F1001MS22
HFD0100LM	E2F100LM
HFD0100LMA02	E2F100LMA02
HFD0100LMU62	E2F100LMU62
HFD0100RM	E2F100RM
HFD0100RML	E2F100RML
HFD0100RMS22	E2F100RMS22
HFD0100RMU62	E2F100RMU62
HFD0150TM	E2F150TM
HFD0150TML	E2F150TML
HFD0150TMU62	E2F150TMU62
HFD0150UM	E2F150UM
JCDA2D1S30	E2JM250MDA2D1S30
JCMA2D1S30	E2JM250MFA2D1S30
JDCM3070W	E2JM3070W
JDCM3090W	E2JM3090W
JDCM3100W	E2JM3100W
JDCM3125W	E2JM3125W

Series C Mining	Superseded by E ² Mining
JDCM3150W	E2JM3150W
JDCM3175W	E2JM3175W
JDCM3200W	E2JM3200W
JDCM3225A5W	E2JM3225AW
JDCM3225D5W	E2JM3225DW
JDCM3225W	E2JM3225W
JDCM3250A5MW	E2JM3250MAW
JDCM3250A5MWU18	E2JM3250MAWU18
JDCM3250A5W	E2JM3250AW
JDCM3250C5MW	E2JM3250MCW
JDCM3250D5MW	E2JM3250MDW
JDCM3250D5MWA06	E2JM3250MDWA06
JDCM3250D5W	E2JM3250DW
JDCM3250D5WS10	E2JM3250DWS10
JDCM3250F	E2JM3250F
JDCM3250F5MD01	E2JM3250MFD01
JDCM3250F5MW	E2JM3250MFW
JDCM3250G5MW	E2JM3250MGW
JDCM3250G5WA02D01	E2JM3250MGA02D01
JDCM3250J5MW	E2JM3250MJW
JDCM3250J5MWA02	E2JM3250MJA02
JDCM3250J5WA02D01	E2JM3250MJA02D01
JDCM3250J5WD01	E2JM3250MJD01
JDCM3250K5MW	E2JM3250MKW
JDCM3250L5MW	E2JM3250MLW
JDCM3250MW	E2JM3250MW
JDCM3250W	E2JM3250W
JDCMAA2D1	E2JM3250MMA02D01
JDCMDD1S30	E2JM3250MDS30D01
JDCMFD01	E2JM3250MFD01
JDCMGA02D1	E2JM3250MGA02D01
JDCMJA2D1	E2JM3250MJA02D01
JDCMJD01	E2JM3250MJD01
JDM2250F	E2JM3250F
JDM3070W	E2J3070W
JDM3090W	E2J3090W
JDM3100W	E2J3100W
JDM3125W	E2J3125W
JDM3150W	E2J3150W
JDM3150WU18	E2J3150WU18

E² Cross-Reference,

continued

Series C Mining	Superseded by E ² Mining
JDM3175W	E2J3175W
JDM3200W	E2J3200W
JDM3200WA06	E2J3200WA06
JDM3225A5W	E2J3225AW
JDM3225D5W	E2J3225DW
JDM3225W	E2J3225W
JDM3250A5MW	E2J3250MAW
JDM3250A5W	E2J3250AW
JDM3250C5MW	E2J3250CW
JDM3250D5MW	E2J3250MDW
JDM3250D5W	E2J3250DW
JDM3250F	E2J3250F
JDM3250F5MW	E2J3250MFW
JDM3250G5MW	E2J3250MGW
JDM3250J5MW	E2J3250MJW
JDM3250K5MW	E2J3250MKW
JDM3250L5MW	E2J3250MLW
JDM3250MW	E2J3250MW
JDM3250W	E2J3250W
JDM3250WS10	E2J3250WS10
JM2225T1125-2250	E2J3225T
JM3070T	E2J3070T
JM3090T	E2J3090T
JM3100T	E2J3100T
JM3125T	E2J3125T
JM3150T	E2J3150T
JM3175T	E2J3175T
JM3200T	E2J3200T
JM3225T	E2J3225T
JM3225TA5	E2J3225TA
JM3225TD5	E2J3225TD
JM3250T	E2J3250T
JM3250TA5	E2J3250TA
JM3250TA5M_350-700	E2J3250TMA
JM3250TC5M	E2J3250TMC
JM3250TD5_500-1000	E2J3250TMD
JM3250TF5M_625-1250	E2J3250TMF
JM3250TG5M_750-1500	E2J3250TMG
JM3250TJ5M_875-1750	E2J3250TMJ
JM3250TK5M_1000-2000	E2J3250TMK

Series C Mining	Superseded by E ² Mining
JM3250TL5M_1125-2250	E2J3250TML
JM3250TM	E2J3250TM
KDCM3100W	E2KM3100W
KDCM3125W	E2KM3125W
KDCM3150W	E2KM3150W
KDCM3175W	E2KM3175W
KDCM3200W	E2KM3200W
KDCM3225A5MW	E2KM3200MAW
KDCM3225D5MW	E2KM3200MDW
KDCM3225W	E2KM3225W
KDCM3250W	E2KM3250W
KDCM3250WU18	E2KM3250WU18
KDCM3300W	E2KM3300W
KDCM3350W	E2KM3350W
KDCM3400D5MA02D09H04	E2KM3400MDA02D09H04
KDCM3400D5MW	E2KM3400MDW
KDCM3400D5MWA02D07	E2KM3400MDA02D07
KDCM3400D5W	E2KM3400DW
KDCM3400D5WD09	E2KM3400DD09
KDCM3400F	E2KM3400F
KDCM3400F5MW	E2KM3400MFW
KDCM3400FD09G04	E2KM3400MFD09G04
KDCM3400G5MW	E2KM3400MGD09G05
KDCM3400G5MWD09H04	E2KM3400MGD09H04
KDCM3400G5W	E2KM3400MGW
KDCM3400G5WD07	E2KM3400MGD07
KDCM3400J5MA02D09	E2KM3400MJA02D09
KDCM3400J5MA2D9G4S30	E2KM3400MJA2D9G4S30
KDCM3400J5MD09	E2KM3400MJD09
KDCM3400J5MD09H04S30	E2KM3400MJD09H04S30
KDCM3400J5MW	E2KM3400MJW
KDCM3400J5MWA02D07	E2KM3400MJA02D07
KDCM3400J5MWA06	E2KM3400MJWA06
KDCM3400J5MWD07S30	E2KM3400MJD07S30
KDCM3400J5WD07	E2KM3400MJD07
KDCM3400K5MW	E2KM3400MKW
KDCM3400K5MWS10	E2KM3400MKWS10
KDCM3400K5MWU18	E2KM3400MKWU18
KDCM3400L5MW	E2KM3400MLW
KDCM3400L5MWD09H04	E2KM3400MLD09H04

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Molded Case Circuit Breakers

Specialty Breakers

E² Cross-Reference, continued

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Series C Mining	Superseded by E ² Mining
KDCM3400L5MWS10	E2KM3400MLWS10
KDCM3400L5WD07	E2KM3400MLD07
KDCM3400MW	E2KM3400MW
KDCM3400N5MW	E2KM3400MNW
KDCM3400N5MWA06	E2KM3400MNWA06
KDCM3400N5WA02D07	E2KM3400MNA02D07
KDCM3400R5MW	E2KM3400MRW
KDCM3400W	E2KM3400W
KDCM3400W5MW	E2KM3400MWW
KDCMDMD07	E2KM3400MDD07
KDCMNA2D7	E2KM3400MNA02D07
KDM2400F	E2K2400F
KDM2400G5MS50	E2K2400MGWS50
KDM2400G5MW	E2K2400MGW
KDM2400W5MW	E2K2400MWW
KDM2400W5MWA06D07S10	E2K2400MWA06D07S10
KDM2400W5MWA06D10S10	E2K2400MWA06D10S10
KDM2400W5MWD07	E2K2400MWD07
KDM2400W5MWD07S10	E2K2400MWD07S10
KDM2400W5MWD10	E2K2400MWD10
KDM2400W5MWD10S10	E2K2400MWD10S10
KDM2400W5MWS10	E2K2400MWS10
KDM3100W	E2K3100W
KDM3125W	E2K3125W
KDM3150W	E2K3150W
KDM3150WA06	E2K3150WA06
KDM3175W	E2K3175W
KDM3200W	E2K3200W
KDM3225A5W	E2K3225AW
KDM3225D5A13D09U18	E2K3225DA13D09U18
KDM3225D5MW	E2K3400MDW
KDM3225D5W	E2K3225DW
KDM3225F	E2K3400F
KDM3225W	E2K3225W
KDM3225WK37	E2KE3225W
KDM3225WK37U18	E2KE3225WU18
KDM3225WK38	E2KE3225MW
KDM3250W	E2K3250W
KDM3300W	E2K3300W
KDM3300WA06U18	E2K3300WA06U18

Series C Mining	Superseded by E ² Mining
KDM3300WS10	E2K3300WS10
KDM3350W	E2K3350W
KDM3400D5MW	E2K3400MDW
KDM3400D5W	E2K3400DW
KDM3400D5WU18	E2K3400DWU18
KDM3400F	E2K3400F
KDM3400F5MW	E2K3400MFW
KDM3400FK37A06D09D18	E2KE3400A06D09D18
KDM3400G5A06D09U18	E2K3400GA06D09U18
KDM3400G5A13D09U18	E2K3400GA13D09U18
KDM3400G5MW	E2K3400MGW
KDM3400G5W	E2K3400GW
KDM3400G5WA06	E2K3400GWS10
KDM3400G5WS10	E2K3400GWS10
KDM3400G5WU18	E2K3400GWU18
KDM3400J5MW	E2K3400MJW
KDM3400K5MS54	E2K3400MKWS54
KDM3400K5MW	E2K3400MKW
KDM3400L5MW	E2K3400MLW
KDM3400MW	E2K3400MW
KDM3400MWA06U18	E2K3400MWA06U18
KDM3400N5MW	E2K3400MNW
KDM3400R5MW	E2K3400MRW
KDM3400W	E2K3400W
KDM3400W5MW	E2K3400MWW
KEM3100T	KEM3100T
KEM3125T	KEM3125T
KEM3150T	KEM3150T
KEM3150TM	KEM3150TM
KEM3200T	KEM3200T
KEM3225T	KEM3225T
KEM3225T2	KEM3225T2
KEM3225TM	KEM3225TM
KEM3225TM2	KEM3225TM2
KM2225TA5	E2K2225TA
KM2225TA5M	E2K2400TMA
KM2225TD5	E2K2225TD
KM2225TD5M	E2K2400TMD
KM2400TD5	E2K2400TD
KM2400TD5M	E2K2400TMD

E² Cross-Reference, continued

Series C Mining	Superseded by E ² Mining
KM2400TG5M	E2K2400TMG
KM2400TN5M	E2K2400TMN
KM2400TW5M	E2K2400TMW
KM3100T	E2K3100T
KM3125T	E2K3125T
KM3150T	E2K3150T
KM3175T	E2K3175T
KM3200T	E2K3200T
KM3225T	E2K3225T
KM3225TA5	E2K3225TA
KM3225TA5M	E2K3400TMA
KM3225TD5	E2K3225TD
KM3225TD5M	E2K3400TMD
KM3250T	E2K3250T
KM3300T	E2K3300T
KM3350T	E2K3350T
KM3400T	E2K3400T
KM3400TD5	E2K3400TD
KM3400TF5M	E2K3400TMF
KM3400TG5M	E2K3400TMG
KM3400TJ5M	E2K3400TMJ
KM3400TK5M	E2K3400TMK
KM3400TL5M	E2K3400TML
KM3400TM	E2K3400TM
KM3400TN5M	E2K3400TMN
KM3400TR5M	E2K3400TMR
KM3400TW5M	E2K3400TMW
LDCM3600EMA05W	E2LEM3600MA05W
LDCM3600F	E2LM3600F
LDM3600F	E2L3600F

Series C Mining	Superseded by E ² Mining
LEM3300T	LEM3300T
LEM3350T	LEM3350T
LEM3400T	LEM3400T
LEM3400T2	LEM3400T2
LEM3400TM	LEM3400TM
LEM3400TM2	LEM3400TM2
LEM3600T	LEM3600T
LEM3600TM	LEM3600TM
LM3600TL6M	E2L3600TML
LM3600TN6M	E2L3600TMN
LM3600TP6M	E2L3600TMP
LM3600TR6M	E2L3600TMR
LM3600TS6M	E2L3600TM
LM3600TX6M	E2L3600TMX
UVE3LP08K	UVE3LP08K
UVE4LP08K	UVE4LP08K

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Additional Information on Mining Breakers

Source	Description
TD01217001E	E ² Mining Circuit Breaker Dimensional Data
BR01217001E	E ² Mining Circuit Breaker Brochure
TC01217001E	E ² Mining Circuit Breaker Time Current Curves
www.eaton.com/mining	Mining and Metals