

Sentron Molded Case Circuit Breakers

Magnetic Trip Only — ETI Motor Circuit Protector

Selection

Breaker Type	Ampere Rating	Instantaneous Trip Range ^②		Complete Circuit Breaker Without Lugs ^⑤	
		Minimum ^③	Maximum ^③	Catalog Number 2-Pole	Catalog Number 3-Pole
HEM	3	9	33	—	HEM3M003L
	7	21	77	—	HEM3M007L
	15	45	165	—	HEM3M015L
	30	90	330	—	HEM3M030L
	50	150	550	—	HEM3M050L
	70	210	770	—	HEM3M070L
	100	300	1100	—	HEM3M100L
SHIPPING:					3.7 lbs. each
ED6-A 600V AC 250V DC	1	2.6	9	—	ED63A001
	2	7	22	—	ED63A002
	3	10	35	—	ED63A003
	5	16	54	—	ED63A005
	10	30	100	—	ED63A010
	25	55	180	—	ED63A025
	30	80	270	—	ED63A030
	40	115	375	—	ED63A040
	50	180	600	—	ED63A050
	100	315	1000	—	ED63A100
	125	500	1250	—	ED63A125
	SHIPPING:				
CED6-A 600V AC 250V DC	1	2.6	9	—	CED63A001■
	2	7	22	—	CED63A002■
	3	10	35	—	CED63A003■
	5	16	54	—	CED63A005■
	10	30	100	—	CED63A010■
	25	55	180	—	CED63A025■
	30	80	270	—	CED63A030■
	40	115	375	—	CED63A040■
	50	180	600	—	CED63A050■
	100	315	1000	—	CED63A100■
	125	500	1250	—	CED63A125■
	SHIPPING:				
FXD6 ^④ 600V AC 250V DC	150	400	800	—	FXD63L150■
	150	800	1500	—	FXD63A150
	150	1100	2500	—	FXD63H150
	250	1100	2500	—	FXD63A250
SHIPPING:					9 lbs. each
CFD6 ^④ 600V AC 250V DC	150	400	800	—	CFD63L150■
	150	800	1500	—	CFD63A150■
	150	1100	2500	—	CFD63H150■
	250	1100	2500	—	CFD63A250■
SHIPPING:					12 lbs. each
JXD6(A) ^① 600V AC 250V DC	400	1250	2500	—	JXD63L400
	400	2000	4000	JXD62H400■	JXD63H400
SHIPPING:					16 lbs. each
CJD6 ^① 600V AC 250V DC	400	1250	2500	—	CJD63L400■
	400	2000	4000	—	CJD63H400■
SHIPPING:					29.5 lbs. each
LXD6(A) ^① 600V AC 250V DC	600	2000	4000	LXD62L600■	LXD63L600■
	600	3000	6000	—	LXD63H600
SHIPPING:					16 lbs. each
CLD6 ^① 600V AC 250V DC	600	2000	4000	—	CLD63L600■
	600	3000	6000	—	CLD63H600■
SHIPPING:					31.5 lbs. each
LMXD6 ^④ 600V AC 250V DC	800	2800	6000	—	LMXD63L800■
	800	3200	8000	—	LMXD63A800
SHIPPING:					35 lbs. each
MXD6 ^④ 600V AC 250V DC	800	3000	6000	—	MXD63L800■
	800	4000	8000	—	MXD63A800■
	800	5000	10000	—	MXD63H800
SHIPPING:					33 lbs. each
CMD6 ^④ 600V AC 250V DC	800	3000	6000	—	CMD63L800■
	800	4000	8000	—	CMD63A800■
	800	5000	10000	—	CMD63H800■
SHIPPING:					80 lbs. each

Important Information

ETI interrupting ratings are determined through combination tests with properly sized overload relays and contactors.

⑤ Connectors included when ordering by circuit breaker catalog number for HEM, ED and CED6 ETIs. Order ETI circuit breaker and lugs (2 per pole) separately for the FXD6, CFD6, MXD6, CMD6, JXD6, CJD6, LXD6 and CLD6 ETI's.

■ Built to order. Allow 2-3 weeks for delivery.

① 2-pole available in 3-pole width only.

② When applied on DC Circuits — Trip levels will increase approximately +15 to 20%.

③ Tolerance -20%/+30% for lowest setting. All other set-

tings are -20%/+20%

④ For 2-pole application use outside poles of 3-pole circuit breaker.

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Sentron Molded Case Circuit Breakers

Motor Circuits

Application

General

Protection of Motor Circuits

Molded case circuit breakers are used in motor circuits as a disconnecting means and for short-circuit protection. They should be used in conjunction with motor-running, over-current-protection devices, and should permit the motor to start without nuisance tripping from motor-inrush current. The circuit breaker should have a continuous-current rating of not less than 115% of the motor full-load current.

The recommended motor circuit protectors (Siemens ETI instantaneous only circuit breakers) listed have

continuous-current ratings of at least 115% of motor full-load currents. The trip-setting positions are approximately 11 times motor full-load currents. The suggested trip settings may have to be adjusted upward to no higher than 1300% of full-load current for non-design E type motors, and no greater than 1700% of full load current for design E motors, to allow for motor start-up due to inrush currents.

Breaker Mounted Immediately Ahead of Motor Starter

Siemens ETI motor circuit protectors are recommended for use in combination motor starters to provide selective short-circuit protection for the motor

branch circuit. The adjustable instantaneous-trip feature of the Siemens ETI motor circuit protector provides for a trip setting slightly above the peak motor-inrush current. With this setting, no delay is introduced in opening the circuit when a fault occurs. This circuit breaker has no time-delay trip element. Therefore it must be used in conjunction with, and immediately ahead of, the motor-running overcurrent protective device.

Important: The information below does not apply to all motor applications: it is recommended that the user refer to the National Electrical Code (NEC) for specific needs.

Table 1 (When Breaker is Mounted Immediately Ahead of Motor Starter)

3-Phase Induction Type Motors (Siemens ETI motor circuit protectors for branch circuit use with alternating-current combination, full voltage motor starters).

Motor Full Load Amperes	Catalog Number	ETI Trip Setting		Motor Full Load Amperes	Catalog Number	ETI Trip Setting		Motor Full Load Amperes	Catalog Number	ETI Trip Setting	
		Adjustment	Amperes			Adjustment	Amperes			Adjustment	Amperes
0.69 – 0.91	HEM3M003L	A (min)	9	1.23 – 1.99	ED63A005 CED63A005	Low	16	95.00 – 110.00	JXD63L400 CJD63L400	Low	1250
1.1 – 1.3		B	15	2.00 – 2.75		2	26	110.00 – 124.00		2	1430
1.6 – 1.7		C	21	2.76 – 3.52		3	36	138.00 – 151.00		4	1790
2.0 – 2.2		D	27	3.53 – 4.14		4	46	165.00 – 178.00		6	2140
2.3 – 2.5		E	30	4.15 – 4.90		High	54	178.00 – 192.00		7	2320
2.6 – 2.8		F (max)	33					192.00 – 227.00		High	2500
1.5 – 2.0	HEM3M007L	A (min)	21	2.30 – 3.83	ED63A010 CED63A010	Low	30	154.00 – 176.00	JXD63H400 CJD63H400	Low	2000
2.6 – 3.1		B	35	3.84 – 5.37		2	50	176.00 – 198.00		2	2290
3.7 – 3.9		C	49	5.38 – 6.52		3	70	220.00 – 242.00		4	2860
4.8 – 5.2		D	63	6.53 – 7.68		4	85	264.00 – 285.00		6	3430
5.3 – 5.7		E	70	7.69 – 9.10		High	100	285.00 – 308.00		7	3710
5.8 – 6.1		F (max)	77					308.00 – 326.00		High	4000
3.4 – 4.5	HEM3M015L	A (min)	45	4.23 – 6.91	ED63A025 CED63A025	Low	55	155.00 – 176.00	LXD63L600 CLD63L600	Low	2000
5.7 – 6.8		B	75	6.92 – 9.61		2	90	176.00 – 198.00		2	2290
8.0 – 9.1		C	100	9.62 – 11.91		3	125	220.00 – 242.00		4	2860
10.4 – 11.4		D	135	11.92 – 13.83		4	155	264.00 – 285.00		6	3430
11.5 – 12.6		E	150	13.84 – 16.40		High	180	285.00 – 308.00		7	3710
12.7 – 13.0		F (max)	165					308.00 – 326.00		High	4000
3.9 – 9.1	HEM3M030L	A (min)	90	6.15 – 10.37	ED63A030 CED63A030	Low	80	231.00 – 264.00	LXD63H600 CLD63H600	Low	3000
11.5 – 13.7		B	150	10.38 – 14.22		2	135	264.00 – 292.00		2	3430
16.1 – 18.3		C	210	14.23 – 18.06		3	185	330.00 – 362.00		4	4290
20.7 – 22.9		D	270	18.07 – 20.75		4	235	395.00 – 428.00		6	5140
23.0 – 25.2		E	300	20.76 – 24.50		High	270	428.99 – 462.00		7	5570
25.3 – 26.1		F (max)	330					462.00 – 490.00		High	6000
11.5 – 15.2	HEM3M050L	A (min)	150	8.84 – 14.22	ED63A040 CED63A040	Low	115	215.00 – 238.00	LMDX63L800	Low	2800
19.2 – 22.9		B	250	14.23 – 19.60		2	185	238.00 – 261.00		2	3100
26.9 – 30.6		C	350	19.61 – 24.99		3	255	261.00 – 284.00		3	3400
34.6 – 38.3		D	450	25.00 – 28.83		4	325	308.00 – 369.00		5	4000
38.4 – 42.1		E	500	28.84 – 34.00		High	375	369.00 – 423.00		6	4800
42.2 – 43.5		F (max)	550					423.00 – 462.00		7	5500
16.1 – 30.6	HEM3M070L	A (min)	210	13.84 – 23.06	ED63A050 CED63A050	Low	180	215.00 – 238.00	LMDX63A800	Low	3200
26.9 – 32.2		B	350	23.07 – 31.52		2	300	261.00 – 284.00		2	3500
37.6 – 42.9		C	490	31.53 – 39.99		3	410	284.00 – 323.00		3	3700
48.4 – 53.7		D	630	40.00 – 46.14		4	520	362.00 – 492.00		5	4700
53.8 – 59.1		E	700	46.15 – 54.50		High	600	492.00 – 562.00		6	6400
59.2 – 60.9		F (max)	770					562.00 – 616.00		7	7300
23.0 – 30.9	HEM3M100L	A (min)	300	24.23 – 41.52	ED63A100 CED63A100	Low	315	246.00 – 269.00	LMDX63A800	Low	3200
38.4 – 46.0		B	500	41.53 – 56.91		2	540	269.00 – 284.00		2	3500
53.8 – 61.4		C	700	56.92 – 68.45		3	740	284.00 – 323.00		3	3700
69.2 – 76.8		D	900	68.46 – 76.91		4	890	362.00 – 492.00		5	4700
76.9 – 84.5		E	1000	76.92 – 90.90		High	1000	492.00 – 562.00		6	6400
84.6 – 87.0		F (max)	1100					562.00 – 616.00		7	7300
.20 – .33	ED63A001 CED63A001	Low	2.6	30.76 – 35.37	FXD63L150 CFD63L150	Low	400	231.00 – 264.00	MXD63L800 CMD63L800	Low	3000
.34 – .45		2	4.5	35.38 – 39.99		2	460	264.00 – 292.00		2	3430
.46 – .56		3	6	44.51 – 49.23		4	580	292.00 – 330.00		3	3800
.57 – .68		4	7.5	53.84 – 58.45		6	700	362.00 – 395.00		5	4710
.69 – .81		High	9	58.46 – 63.06		7	760	428.00 – 462.00		7	5570
.53 – .83	ED63A002 CED63A002	Low	7	61.53 – 69.22	FXD63A150 CFD63A150	Low	800	462.00 – 490.00	MXD63A800 CMD63A800	Low	4000
.84 – 1.14		2	11	69.23 – 76.91		2	900	352.00 – 442.00		2	4570
1.15 – 1.45		3	15	84.61 – 92.29		4	1100	442.00 – 447.00		3	5740
1.46 – 1.68		4	19	100.00 – 108.00		6	1300	483.00 – 527.00		5	6280
1.69 – 2.00		High	22	108.00 – 115.00		7	1400	571.00 – 616.00		7	7240
.76 – 1.29	ED63A003 CED63A003	Low	10	115.00 – 136.00	FXD63A250 CFD63A250	High	1500	616.00 – 660.00	MXD63H800 CMD63H800	Low	5000
1.30 – 1.75		2	17	85.00 – 100.00		Low	1100	385.00 – 440.00		3	6430
1.76 – 2.29		3	23	100.00 – 115.00		2	1300	495.00 – 550.00		5	7860
2.30 – 2.68		4	30	131.00 – 146.00		4	1700	605.00 – 660.00		6	8575
2.69 – 3.18		High	35	162.00 – 177.00		6	2100				
				177.00 – 192.00		7	2300				
			192.00 – 227.00	High	2500						

Note: Lowest instantaneous settings have a -20%/+30% tolerance and all other settings have a -20%/+20% tolerance.

Sentron Molded Case Circuit Breakers

Adjustable Instantaneous Magnetic Trip Settings

Application

Breaker Type	Maximum Continuous Amperes	Nominal AC Adjustable Trip Range								ETI Motor Circuit Protector Catalog Number		Thermal Magnetic Catalog Number	
		Low	2	3	4	5	6	7	High	3-Pole	2-Pole	3-Pole	
JXD2(A)	200	1250	1430	1610	1790	1960	2140	2320	2500	—	JXD22B200	JXD23B200	
	225	1250	1430	1610	1790	1960	2140	2320	2500	—	JXD22B225	JXD23B225	
	250	1250	1430	1610	1790	1960	2140	2320	2500	—	JXD22B250	JXD23B250	
	300	1250	1430	1610	1790	1960	2140	2320	2500	—	JXD22B300	JXD23B300	
	350	2000	2290	2570	2860	3140	3430	3710	4000	—	JXD22B350	JXD23B350	
	400	2000	2290	2570	2860	3140	3430	3710	4000	—	JXD22B400	JXD23B400	
JXD6(A)	200	1250	1430	1610	1790	1960	2140	2320	2500	—	JXD62B200	JXD63B200	
	225	1250	1430	1610	1790	1960	2140	2320	2500	—	JXD62B225	JXD63B225	
	250	1250	1430	1610	1790	1960	2140	2320	2500	—	JXD62B250	JXD63B250	
	300	1250	1430	1610	1790	1960	2140	2320	2500	—	JXD62B300	JXD63B300	
	350	2000	2290	2570	2860	3140	3430	3710	4000	—	JXD62B350	JXD23B350	
	400	2000	2290	2570	2860	3140	3430	3710	4000	—	JXD62B400	JXD23B400	
JD6(A)	200	1250	1430	1610	1790	1960	2140	2320	2500	—	JD62B200	JD63B200	
	225	1250	1430	1610	1790	1960	2140	2320	2500	—	JD62B225	JD63B225	
	250	1250	1430	1610	1790	1960	2140	2320	2500	—	JD62B250	JD63B250	
	300	1250	1430	1610	1790	1960	2140	2320	2500	—	JD62B300	JD63B300	
	350	2000	2290	2570	2860	3140	3430	3710	4000	—	JD62B350	JD63B350	
	400	2000	2290	2570	2860	3140	3430	3710	4000	JXD63L400 JXD63H400	JD62B400	JD63B400	
HJD6(A)	200	1250	1430	1610	1790	1960	2140	2320	2500	—	HJD62B200	HJD63B200	
	225	1250	1430	1610	1790	1960	2140	2320	2500	—	HJD62B225	HJD63B225	
	250	1250	1430	1610	1790	1960	2140	2320	2500	—	HJD62B250	HJD63H250	
	300	1250	1430	1610	1790	1960	2140	2320	2500	—	HJD62B300	HJD63B300	
	350	2000	2290	2570	2860	3140	3430	3710	4000	—	HJD62B350	HJD63B350	
	400	2000	2290	2570	2860	3140	3430	3710	4000	—	HJD62H400	HJD63B400	
HHJD6	200	1250	1430	1610	1790	1960	2140	2320	2500	—	HHJD62B200	HHJD63B200	
	225	1250	1430	1610	1790	1960	2140	2320	2500	—	HHJD62B225	HHJD63B225	
	250	1250	1430	1610	1790	1960	2140	2320	2500	—	HHJD62B250	HHJD63B250	
	300	1250	1430	1610	1790	1960	2140	2320	2500	—	HHJD62B300	HHJD63B300	
	350	2000	2290	2570	2860	3140	3430	3710	4000	—	HHJD62B350	HHJD63B350	
	400	2000	2290	2570	2860	3140	3430	3710	4000	—	HHJD62B400	HHJD63B400	
CJD6	200	1250	1430	1610	1790	1960	2140	2320	2500	—	—	CJD63B200	
	225	1250	1430	1610	1790	1960	2140	2320	2500	—	—	CJD63B225	
	250	1250	1430	1610	1790	1960	2140	2320	2500	—	—	CJD63B250	
	300	1250	1430	1610	1790	1960	2140	2320	2500	—	—	CJD63B300	
	350	2000	2290	2570	2860	3140	3430	3710	4000	—	—	CJD63B350	
	400	2000	2290	2570	2860	3140	3430	3710	4000	CJD63H400 CJD63L400	—	CJD63B400	
LXD6(A)	450	3000	3430	3860	4290	4710	5140	5570	6000	—	LXD62B450	LXD63B450	
	500	3000	3430	3860	4290	4710	5140	5570	6000	—	LXD62B500	LXD63B500	
	600	3000	3430	3860	4290	4710	5140	5570	6000	—	LXD62B600	LXD63B600	
LD6(A)	250	1250	1430	1610	1790	1960	2140	2320	2500	—	LD62B250	LD63B250	
	300	1250	1430	1610	1790	1960	2140	2320	2500	—	LD62B300	LD63B300	
	350	2000	2290	2570	2860	3140	3430	3710	4000	—	LD62B350	LD63B350	
	400	2000	2290	2570	2860	3140	3430	3710	4000	—	LD62B400	LD63B400	
	450	2000	2290	2570	2860	3140	3430	3710	4000	—	LD62B450	LD63B450	
	600	2000	2290	2570	2860	3140	3430	3710	4000	LXD63L600 LXD63H600	LD62B500	LD63B500	
HLD6(A)	250	1250	1430	1610	1790	1960	2140	2320	2500	—	HLD62B250	HLD63B250	
	300	1250	1430	1610	1790	1960	2140	2320	2500	—	HLD62B300	HLD63B300	
	350	2000	2290	2570	2860	3140	3430	3710	4000	—	HLD62B350	HLD63B350	
	400	2000	2290	2570	2860	3140	3430	3710	4000	—	HLD62B400	HLD63B400	
	450	2000	2290	2570	2860	3140	3430	3710	4000	—	HLD62B450	HLD63B450	
	600	3000	3430	3860	4290	4710	5140	5570	6000	—	HLD62B500	HLD63B500	
HHLD6	250	1250	1430	1610	1790	1960	2140	2320	2500	—	HHLD62B250	HHLD63B250	
	300	1250	1430	1610	1790	1960	2140	2320	2500	—	HHLD62B300	HHLD63B300	
	350	2000	2290	2570	2860	3140	3430	3710	4000	—	HHLD62B350	HHLD63B350	
	400	2000	2290	2570	2860	3140	3430	3710	4000	—	HHLD62B400	HHLD63B400	
	450	2000	2290	2570	2860	3140	3430	3710	4000	—	HHLD62B450	HHLD63B450	
	600	3000	3430	3860	4290	4710	5140	5570	6000	—	HHLD62B500	HHLD63B500	
CLD6	250	1250	1430	1610	1790	1960	2140	2320	2500	—	—	CJD63B250	
	300	1250	1430	1610	1790	1960	2140	2320	2500	—	—	CJD63B300	
	350	2000	2290	2570	2860	3140	3430	3710	4000	—	—	CJD63B350	
	400	2000	2290	2570	2860	3140	3430	3710	4000	—	—	CJD63B400	
	450	2000	2290	2570	2860	3140	3430	3710	4000	—	—	CLD63B450	
	600	3000	3430	3860	4290	4710	5140	5570	6000	CLD63L600 CLD63H600	—	CLD63B500	
LMXD6	500	3000	3430	3860	4290	4710	5140	5570	6000	—	—	LMXD63B500	
	600	3000	3430	3860	4290	4710	5140	5570	6000	—	—	LMXD63B600	
	700	3200	3500	3700	4200	4700	6400	7300	8000	—	LMXD62B600	LMXD63B700	
	800	2800	3100	3400	3700	4000	4800	5500	6000	LMXD63L800 LMXD63A800	LMXD62B700	—	
	800	3200	3500	3700	4200	4700	6400	7300	8000	—	LMXD62B800	LMXD63B800	
	LMD6	500	3000	3430	3860	4290	4710	5140	5570	6000	—	LMD62B500	LMD63B500
600		3000	3430	3860	4290	4710	5140	5570	6000	—	LMD62B600	LMD63B600	
700		3200	3500	3700	4200	4700	6400	7300	8000	—	LMD62B700	LMD63B700	
800		3200	3500	3700	4200	4700	6400	7300	8000	—	LMD62B800	LMD63B800	

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