

M1-M6 & M1PVS Product Selection Guide

Label

- ① Handle
- ② Product Series
- ③ Product Selection
- ④ Test Button
- ⑤ Adjustable Current and Magnetic Setting (M1~M5) or Electronic Trip (M6)
- ⑥ Brand
- ⑦ UL Listed Mark
- ⑧ CE Mark
- ⑨ Rated Current



Product Selection Guide

M1PVS

M	1	PV	S	80	T	3	L	A^{††}
NOARK Ex9 Series - M	Frame Size	Photovoltaic Code	Interrupting Rating	Amperage	Trip Unit	Pole	Terminal Option	Jumper Connection Type
	1: 80 A	1000VDC type in compliance with UL 489B	S: 10kA @1000Vdc	15~80 A	T: Thermal-Magnetic	3: 3 Poles	Blank: Bus Bar Connection L: Lug Line/Load Side	A: Jumper Connection A B: Jumper Connection B C: Jumper Connection C D: Jumper Connection D

M1-M6

M	1	S	100	T	2	L	F[†]	C^{***}
NOARK Ex9 Series - M	Frame Size	Interrupting Rating	Amperage	Trip Unit	Pole	Terminal Option	Rate Code	Neutral Protection Code
	1: 150 A 2: 250 A 3: 400 A 4: 600 A 5: 800 A 6: 1200 A	S: Standard N: Normal H ^{**} : High	M1: 15~150 A M2: 100~250 A M3: 225~400 A M4: 400~600 A M5: 600~800A M6: 800~1200 A	T: Thermal-Magnetic E: Electronic (M6 only)	1: 1 Pole (M1/M2 Only) 22: 2 Poles (M1/M2 Only) 2: 2 Poles (3 Pole Case) 3: 3 Poles 4: 4 Poles (M5-M6 Only)	L: Lug Line/Load Side	Blank: Standard (80% Rated) F: 100% Rated	Blank: Neutral Pole without protection C: Neutral Pole with 100% protection

** Used for M1-M5

*** M5 4P Only

† M6 only

†† Product equipped with factory installed jumpers

NOARK takes no responsibility if the customer changes the jumper configuration in the field.

M1 Lug Line/Load Side Connection



M1N
1 Pole
10kA @480Vac
50kA @240Vac

Rated Amperage (A)	1-Pole	
	Fixed Magnetic • Fixed Thermal	
	Catalog Number	Part Number
15	M1N15T1L	1102223
20	M1N20T1L	1102224
25	M1N25T1L	1102225
30	M1N30T1L	1102226
35	M1N35T1L	1102227
40	M1N40T1L	1102228
45	M1N45T1L	1102229
50	M1N50T1L	1102230
60	M1N60T1L	1102231
70	M1N70T1L	1102232
80	M1N80T1L	1102233
90	M1N90T1L	1102234
100	M1N100T1L	1102235
125	M1N125T1L	1102236
150	M1N150T1L	1102237



M1S
2 Pole
35 kA @ 480 Vac
50 kA @ 240 Vac
14 kA @ 600 Vac

Rated Amperage (A)	2-Pole	
	Fixed Magnetic • Adjustable Thermal	
	Catalog Number	Part Number
15	M1S15T22L	1102277
20	M1S20T22L	1102278
25	M1S25T22L	1102279
30	M1S30T22L	1102280
35	M1S35T22L	1102281
40	M1S40T22L	1102282
45	M1S45T22L	1102283
50	M1S50T22L	1102284
60	M1S60T22L	1102285
70	M1S70T22L	1102286
80	M1S80T22L	1102287
90	M1S90T22L	1102288
100	M1S100T22L	1102289
125	M1S125T22L	1102264
150	M1S150T22L	1102265

- Lug Line/Load Side Connection MCCB sold with Terminal Lugs

M1-M3 Specifications

		M1							M2							M3				
Rated Current (A)		15~150							100~250							225~400				
Number of Poles		1	2		2*, 3			1	2	2*,3										
Breaker Type		N	S	N	H	S	N	H	N	S	N	S	N	H	S	N	H			
Rated Voltage 50/60 Hz	Vac	480	600		600**			480	600	600**										
	Vdc	250	500					250	500											
Interrupting Capacity (kA rms)																				
Circuit Breaker Ratings UL 489 CSA C22.2 (kA rms) Vac 50/60 Hz	240 Vac	50	50	100	150	50	100	150	50	50	100	50	100	150	65	100	150			
	480 Vac	10	35	65	100	35	65	100	10	35	65	35	65	100	42	65	100			
	600 Vac	-	14	20	25	14	20	25	-	14	20	14	20	25	18	25	30			
	250 Vdc 1 Pole	25	-						25	-										
	500 Vdc 2 Poles	-	20	35	50	20	35	50	-	20	35	20	35	50	35	50	65			
	600 Vdc 3 Poles	-				20	35	50	-			20	35	50	35	50	65			
Circuit Breaker Ratings IEC 60947-2	220 / 240 Vac	50	50	100	150	50	100	150	50	50	100	50	100	150	65	100	150			
	380 / 415 Vac	-	5	8	10	5	8	10	-	6	10	6	10	12	10	15	20			
	660 / 690 Vac	-																		
Ultimate Breaking Capacity (Icu = 100% Ics) (kA rms)	250 Vdc 1 Pole	25	-						25	-										
	500 Vdc 2 Poles	-	20	35	50	20	35	50	-			20	35	50	35	50	65			
	500 Vdc 3 Poles	-				25	35	50	-						25	35	50	35	50	65
Current Rating (A) @ 104 °F (40 °C)		15~150							100~250							225~400				
Thermal-Magnetic Trip Units	A = Adjustable T = Thermal F = Fixed M = Magnetic	FT/ FM	15~45 FT/FM 50~150A AT/FM		15~45A FT/FM 50~100A AT/FM 125~150A AT/AM			FT/ FM	AT / AM											
Accessories																				
Alarm Switch																				
Auxiliary Contact																				
Shunt Trip		-	■						-	■										
Under-Voltage Trip																				
Handle Operators																				
Handle Lock		■							■							■				
Flange Handle																				
Mechanical Interlock																				
Handle Operators																				
Motor Operator																				
Terminal Cover and Kits																				
Connection																				
Lug Line/Load Side Connection		■																		

* 2 pole in a 3 pole case

** 600 Vdc only available for 3 pole and 4 pole

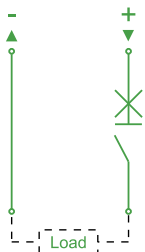
M1-M6 Specifications

		M1	M2	M3	M4	M5	M6				
Insulation Voltage (Vi)		800 Vac									
Impulse Withstand Voltage (Vimp)		8 kVac									
Operational Voltage (Ve)	IEC	690 Vac									
	UL	600 Vac									
IEC Ics (% Icu)		100%									
Operating temperature		-25°C to 70°C									
Utilization Category		A									
Mechanical Operating Cycles		10,000		8,000		3,000					
Electrical Operating Cycles		6,000		5,000		500					
Dimensions LxWxD in (mm)	1 Pole	6.46x1.4x3.33 (164x35x84.5)	7.17x1.57x3.47 (182x40x88)	-							
	2 Poles	6.46x2.44x3.33 (164x62x84.5)	7.17x2.95x3.47 (182x75x88)	-							
	2 Poles*	-		11.22x5.51x4.59 (285x140x116.5)	12.32x7.68x5.43 (313x195x138)	-					
	3 Poles	6.46x3.54x3.33 (164x90x84.5)	7.17x4.13x3.47 (182x105x88)	-		16.18x7.68x7.58 (411x195x192.5)	17.72x8.27x6.6 (450x210x167.6)				
	4 Poles	-		-		16.18x10.2x7.58 (411x260x192.5)	17.72x11.43x6.6 (450x280x167.6)				
Weight of Unit lb (kg)	1 Pole	1.47 (0.67)	1.76 (0.8)	-							
	2 Poles	2.53 (1.15)	3.3 (1.5)	-							
	2 Poles*	3.17 (1.44)	3.75 (1.70)	8.97 (4.07)	20.94 (9.5)	27.8 (12.5)	-				
	3 Poles	3.68 (1.67)	4.41 (2.00)	13.45 (6.1)	25.35 (11.5)	33.18 (15.05)	55.56 (25.2)				
	4 Poles	-		-		43.43 (19.7)	69.67 (31.6)				
Cable Connection Wire 167 °F (75 °C) Cu Wire Only AWG (mm ²)	1-Hole	14-3/0 (2.5-95)	1-Hole 8 - 350 kcmil (10-185)	1-Hole 3/0 - 500 kcmil (95-240)	2-Holes (2x) 3/0 - 400 kcmil ((2x) 95-185)		2-Holes 250-600kc- mil (120-300)	3-Holes 3/0- 750 kcmil (95-300)			
				2-Holes 3 - 250 kcmil (35-120)			3-Holes 250-500 kcmil (100-250)	4-Holes 3/0- 500 kcmil (95-240)			
Lugs in-lb (N.m)		89 (10)		230 (23)		310 (35)		398 (45)		310 (35)	

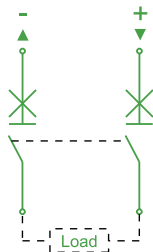
* 2 pole in a 3 pole case

M1-M5 Interruption Polarity for DC Application

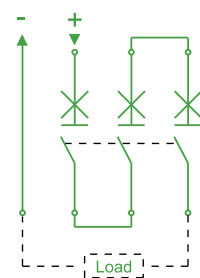
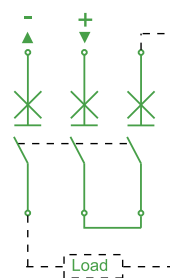
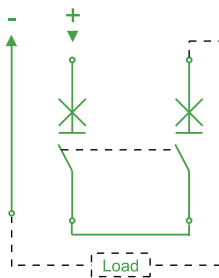
1 Pole



2 Poles



3 Poles



M1 Trip Unit

M1 1 Pole

- Fixed Magnetic: 150~1,500 A tripping current
- Fixed Thermal: 15~150 A rated current

M1 2 Poles

- Fixed Thermal: 15~45 A rated current
- Adjustable Thermal: 50~150 A rated current
Adjustable: 0.8~1 x In
- Fixed Magnetic: 150~1,500 A tripping current

M1 3 Poles

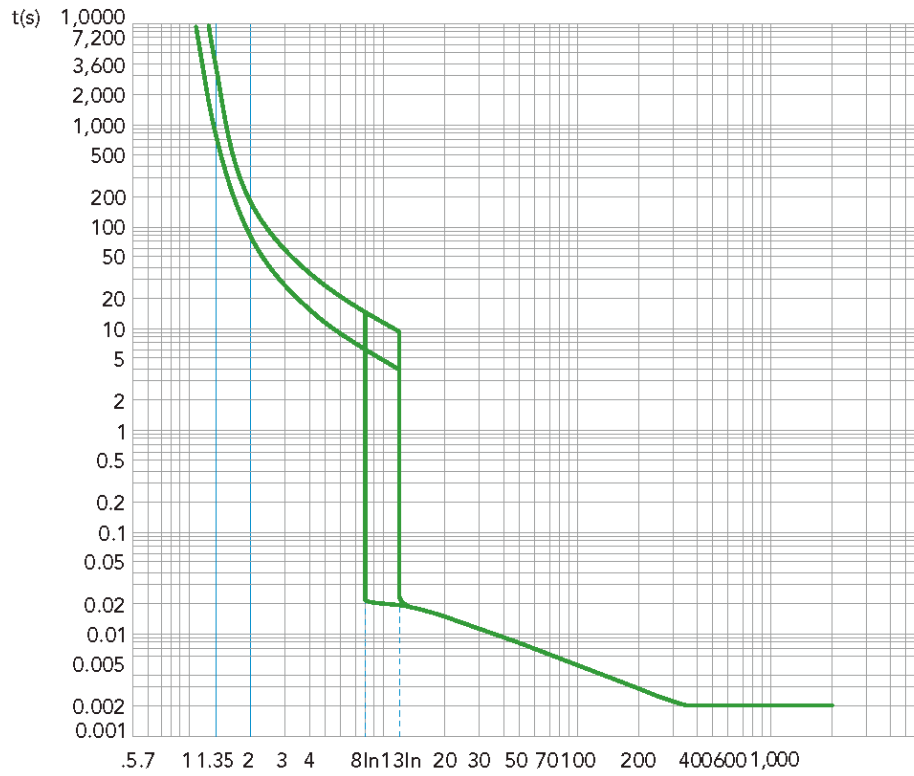
- Fixed Thermal: 15-45A rated current
- Adjustable Thermal: 50-150A rated current
Adjustable: 0.8~1×In
- Fixed Magnetic: 150~1,000 A tripping current
- Adjustable Magnetic: 125~150 A rated current
Adjustable: 5~10 x In



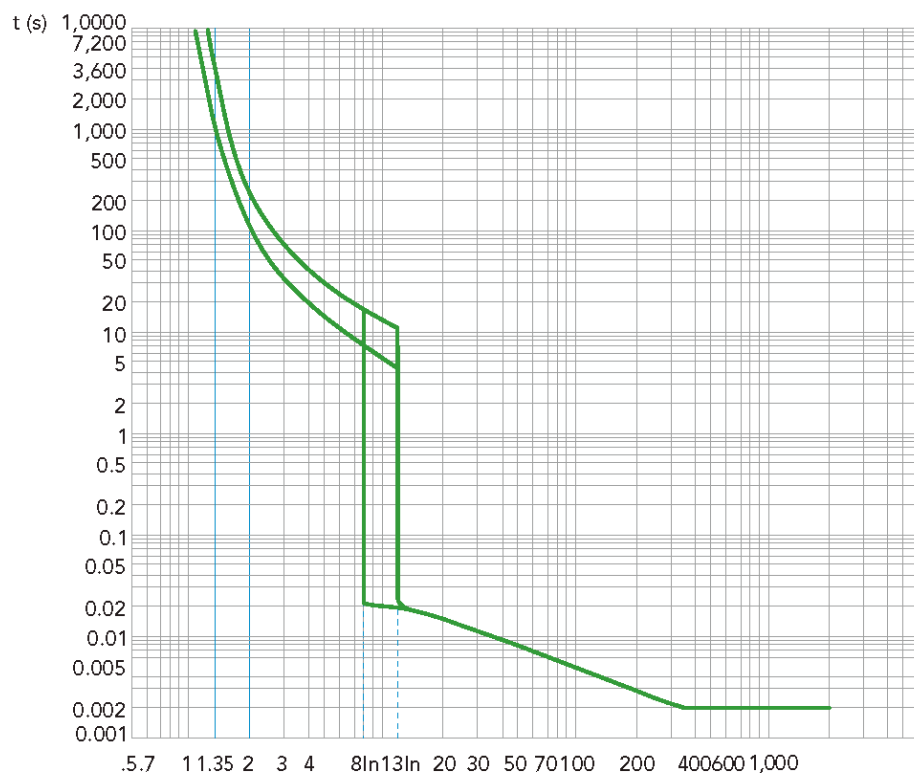
M1 - 1 Pole																
Fixed Thermal Overload Protection	I_R	15 A	20 A	25 A	30 A	35 A	40 A	45 A	50 A	60 A	70 A	80 A	90 A	100 A	125 A	150 A
	Fixed 1.0 x In		15	20	25	30	35	40	45	50	60	70	80	90	100	125
Fixed Magnetic Short Circuit Protection	I_i	15 A	20 A	25 A	30 A	35 A	40 A	45 A	50 A	60 A	70 A	80 A	90 A	100 A	125 A	150 A
	Fixed 10 x In		150	200	250	300	350	400	450	500	600	700	800	900	1000	1250
M1 - 2 Poles																
Fixed Thermal Overload Protection	I_R	15 A	20 A	25 A	30 A	35 A	40 A	45 A	50 A	60 A	70 A	80 A	90 A	100 A	125 A	150 A
	Fixed 1.0 x In		15	20	25	30	35	40	45							
Adjustable Thermal Overload Protection	0.8 x In								40	48	56	64	72	80	100	120
	0.9 x In								45	54	63	72	81	90	112.5	135
	1.0 x In								50	60	70	80	90	100	125	150
Fixed Magnetic Short Circuit Protection	I_i	15 A	20 A	25 A	30 A	35 A	40 A	45 A	50 A	60 A	70 A	80 A	90 A	100 A	125 A	150 A
	Fixed 1.0 x In		150	200	250	300	350	400	450	500	600	700	800	900	1000	1250
M1 - 3 Pole																
Fixed Thermal Overload Protection	I_R	15 A	20 A	25 A	30 A	35 A	40 A	45 A	50 A	60 A	70 A	80 A	90 A	100 A	125 A	150 A
	Fixed 1.0 x In		15	20	25	30	35	40	45							
Adjustable Thermal Overload Protection	0.8 x In								40	48	56	64	72	80	100	120
	0.9 x In								45	54	63	72	81	90	112.5	135
	1.0 x In								50	60	70	80	90	100	125	150
Fixed Magnetic Short Circuit Protection	I_i	15 A	20 A	25 A	30 A	35 A	40 A	45 A	50 A	60 A	70 A	80 A	90 A	100 A	125 A	150 A
	Fixed 1.0 x In		150	200	250	300	350	400	450	500	600	700	800	900	1000	1250
Adjustable Magnetic Short Circuit Protection	I_i	15 A	20 A	25 A	30 A	35 A	40 A	45 A	50 A	60 A	70 A	80 A	90 A	100 A	125 A	150 A
	5 x In														625	750
	6 x In														750	900
	7 x In														875	1050
	8 x In														1000	1200
	9 x In														1125	1350
10 x In														1250	1500	

M1 Trip Curves

M1 (15~35 A)



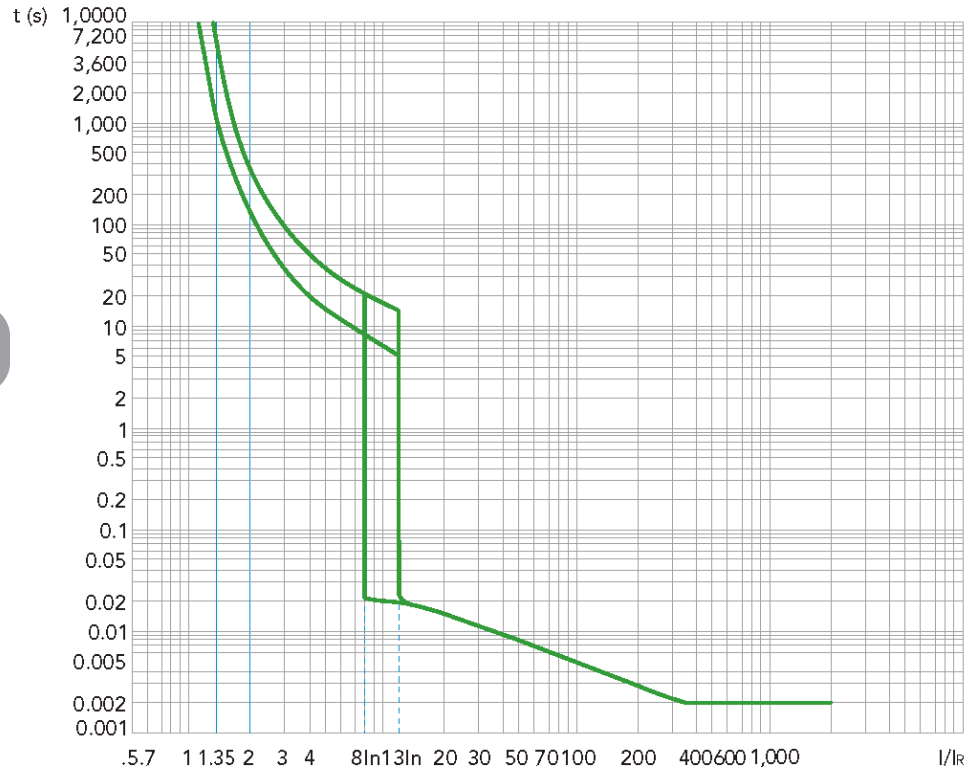
M1 (40~50 A)



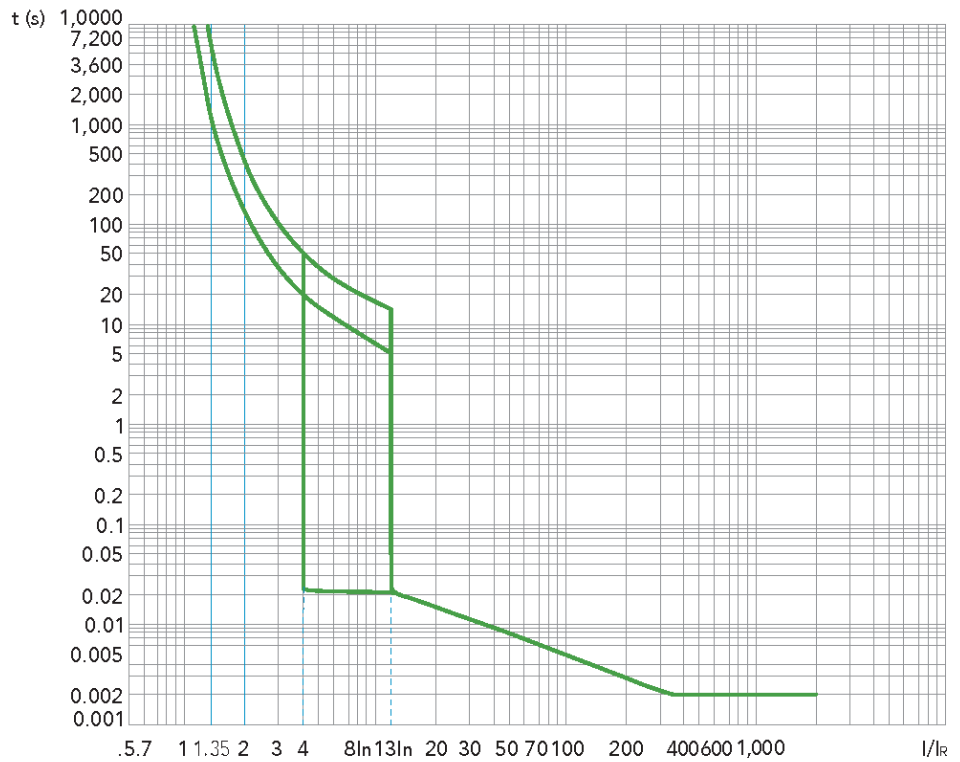
A

M1 Trip Curves

M1 (60~100 A)

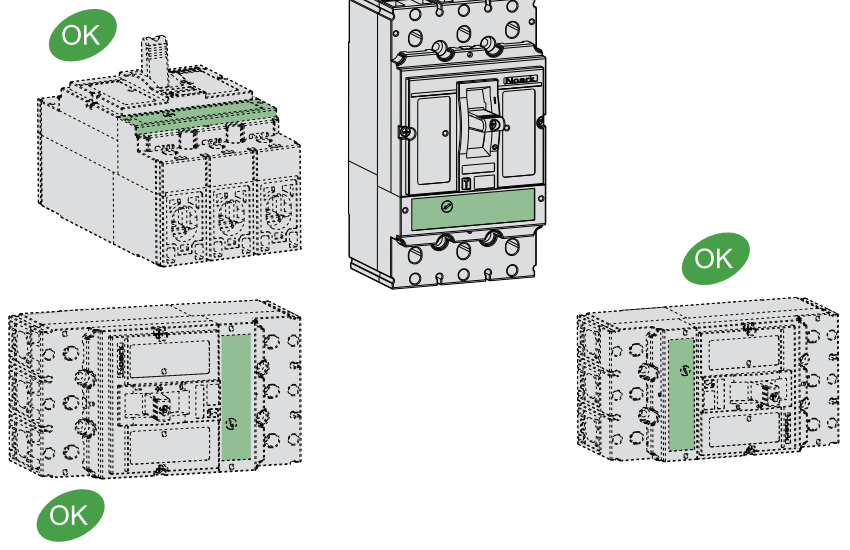
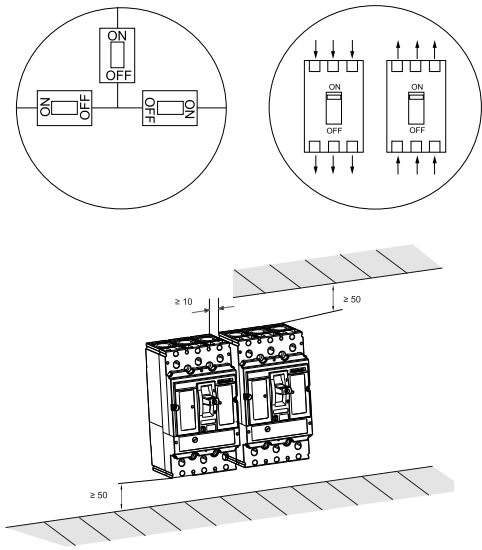


M1 (125~150 A)



M1/M1M/M1D-M2/M2M/M2D Mounting Positions

M1/M1M/M1D Reverse Feed Allowed



A

M2/M2M/M2D Reverse Feed Allowed

