

■ **Description**

- The combination starter protects the motor from short-circuit and overcurrent accidents in the three-phase motor circuit within a range between 15kW at 240V AC and 22kW at 415V AC, up to a current level of 50A.
- The manual motor starter provides overload, phase-loss, and short-circuit protections for the motor circuit, and incorporates a dial for flexible adjustment to match the total load current of the motor.
- The magnetic contactor allows remote ON/OFF operation of the motor circuit with high frequency, and features a electrical durability of one million operations.
- The manual motor starter and magnetic contactor are connected via link module and mounted to a base plate.

■ **Features**

Reduction and space-saving design

- The combination starter consists of a manual motor starter and magnetic contactor that can be assembled by the user to achieve a compact motor control circuit.
- The modular wiring system reduces wiring works, shortens required mounting time, and decreases the mounting area.
- The busbar system and connecting modules make it possible to reduce complicated wiring work.

Comforms to IEC standard

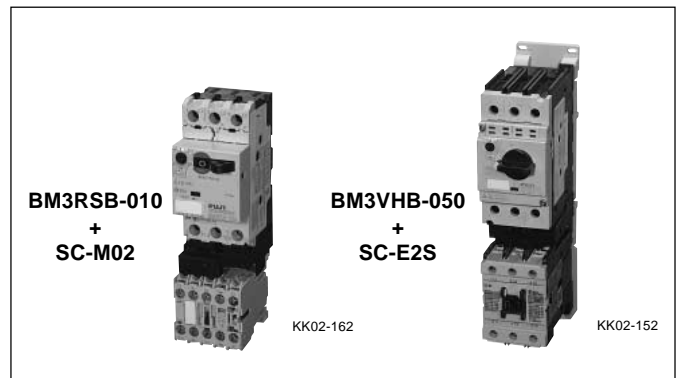
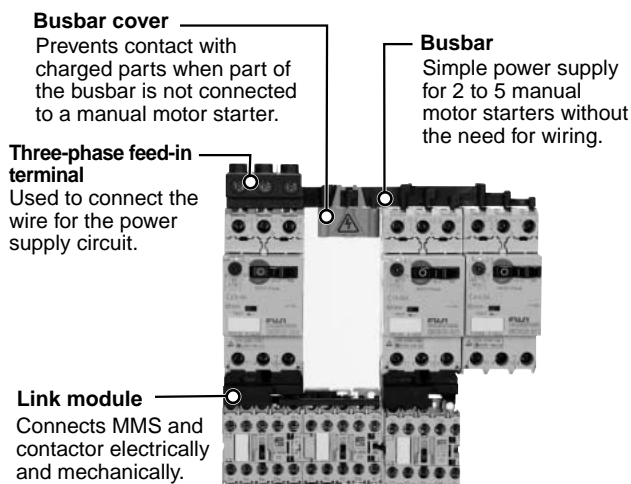
- The combination starter conforms to IEC 60947 requirements for magnetic motor starters and short circuit protective device of coordination types 1 and 2, thus greatly reducing the possibility of an accident spreading to affect other equipment.
- The combination starter can be mounted to IEC top hat rail using the base plate.

Protection against exposure to charged parts

- A busbar system, busbar cover, and terminals with finger protection prevent exposure to charged parts.

■ **Busbar system**

Various wiring materials available to reduce both wiring and wiring steps.



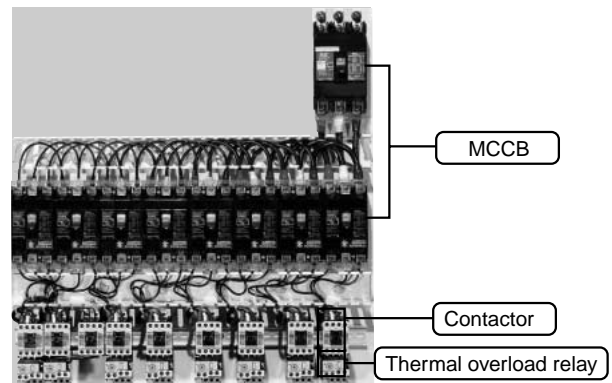
■ **Application example**

Combining modular equipment enables compact control panel configurations.

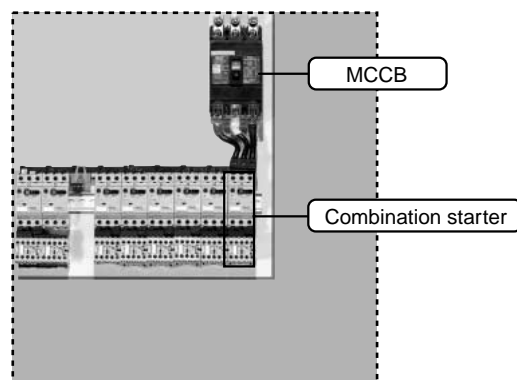
Combination starters and busbar systems help to downsize equipment.

• **Example of 8-motor control circuit**

Conventional control panel



New control panel



Mounting space: 52% reduction

Wiring space: 90% reduction

DUO series Combination Starters

Protective coordination

■ Protective coordination between MMSs and contactors/combination starters

• IEC 60947-4-1 Type 1 The rated conditional short-circuit current $I_q=50kA/240V$ AC, 415V AC

Motor capacity and full load current 3-phase				Manual motor starter		Magnetic contactor		Link module	Base plate
200–240V AC		380–415V AC		Type	Adjustable current range (A)	Type	Rated operational current AC-3 (A)		
Capacity (kW)	Current (A)	Capacity (kW)	Current (A)						
0.03	0.24	0.06	0.23	BM3RSB-P25 BM3RHB-P25	0.16 to 0.25	SC-M01 SC-E02	6 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPVE22A) BZ0BPVE22A
0.06	0.37	0.09	0.32	BM3RSB-P40 BM3RHB-P40	0.25 to 0.4	SC-M01 SC-E02	6 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPVE22A) BZ0BPVE22A
–	–	0.12	0.5	BM3RSB-P63 BM3RHB-P63	0.4 to 0.63	SC-M01 SC-E02	6 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPVE22A) BZ0BPVE22A
0.12	0.68	0.18	0.65	BM3RSB-001 BM3RHB-001	0.63 to 1.0	SC-M01 SC-E02	6 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPVE22A) BZ0BPVE22A
–	–	0.25	0.9	BM3RSB-001 BM3RHB-001	0.63 to 1.0	SC-M01 SC-E02	6 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPVE22A) BZ0BPVE22A
0.2	1.3	0.37	1.25	BM3RSB-1P6 BM3RHB-1P6	1.0 to 1.6	SC-M01 SC-E02	6 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPVE22A) BZ0BPVE22A
–	–	0.55	1.6	BM3RSB-2P5 BM3RHB-2P5	1.0 to 1.6	SC-M01 SC-E02	6 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPVE22A) BZ0BPVE22A
0.4	2.3	0.75	2	BM3RSB-2P5 BM3RHB-2P5	1.6 to 2.5	SC-M01 SC-E02	6 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPVE22A) BZ0BPVE22A
–	–	1.1	2.5	BM3RSB-004 BM3RHB-004	2.5 to 4.0	SC-M01 SC-E02	6 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPVE22A) BZ0BPVE22A
0.75	3.6	1.5	3.5	BM3RSB-004 BM3RHB-004	2.5 to 4.0	SC-M01 SC-E02	6 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPVE22A) BZ0BPVE22A
–	–	2.2	5	BM3RSB-6P3 BM3RHB-6P3	4.0 to 6.3	SC-M01 SC-E02	6 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPVE22A) BZ0BPVE22A
1.5	6.1	3	6.5	BM3RSB-010 BM3RHB-010	6.3 to 10	SC-M02 SC-E02	9 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPVE22A) BZ0BPVE22A
2.2	9	4	9	BM3RSB-010 BM3RHB-010	6.3 to 10	SC-M02 SC-E02	9 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPVE22A) BZ0BPVE22A
3	12	5.5	12	BM3RSB-013 BM3RHB-013	9 to 13	SC-E03	12	BZ0LRE22AA	BZ0BPVE22A
4	16	7.5	16	BM3RHB-020	14 to 20	SC-E04	18	BZ0LRE22AA	BZ0BPVE22A
5.5	22	11	22	BM3RHB-025	19 to 25	SC-E05	25	BZ0LRE22AA	BZ0BPVE22A
7.5	29	15	30	BM3RHB-032 BM3VHB-032	24 to 32	SC-E1	32	BZ0LRE32AA BZ0LVE51AA	BZ0BPVE32A BZ0BPVE51A
11	40	18.5	37	BM3VHB-040	28 to 40	SC-E2	40	BZ0LVE51AA	BZ0BPVE51A
15	50	22	48	BM3VHB-050	35 to 50	SC-E2S	50	BZ0LVE51AA	BZ0BPVE51A

Notes: • The full-load current of each three-phase motor is a reference value. Check the actual full-load current of the motor before use.

• The above table shows combinations with AC operated type magnetic contactors. The link module will differ if the magnetic contactor is a DC operated type.

*1 Use the base plate type in () when you use the base plate.

• IEC 60947-4-1 Type 2 The rated conditional short-circuit current Iq=50kA/240V AC, 415V AC

Motor capacity and full load current 3-phase				Manual motor starter		Magnetic contactor		Link module	Base plate
200–240V AC		380–415V AC		Type	Adjustable current range (A)	Type	Rated operational current AC-3 (A)		
Capacity (kW)	Current (A)	Capacity (kW)	Current (A)						
0.03	0.24	0.06	0.23	BM3RSB-P25	0.16 to 0.25	SC-M01	6	BZ0LRC09AA	*1 (BZ0BPRES22A)
				BM3RHB-P25		SC-E02	9	BZ0LRE22AA	BZ0BPRES22A
0.06	0.37	0.09	0.32	BM3RSB-P40	0.25 to 0.4	SC-M01	6	BZ0LRC09AA	*1 (BZ0BPRES22A)
				BM3RHB-P40		SC-E02	9	BZ0LRE22AA	BZ0BPRES22A
–	–	0.12	0.5	BM3RSB-P63	0.4 to 0.63	SC-M01	6	BZ0LRC09AA	*1 (BZ0BPRES22A)
				BM3RHB-P63		SC-E02	9	BZ0LRE22AA	BZ0BPRES22A
0.12	0.68	0.18	0.65	BM3RSB-001	0.63 to 1.0	SC-M01	6	BZ0LRC09AA	*1 (BZ0BPRES22A)
				BM3RHB-001		SC-E02	9	BZ0LRE22AA	BZ0BPRES22A
–	–	0.25	0.9	BM3RSB-001	0.63 to 1.0	SC-M01	6	BZ0LRC09AA	*1 (BZ0BPRES22A)
				BM3RHB-001		SC-E02	9	BZ0LRE22AA	BZ0BPRES22A
0.2	1.3	0.37	1.25	BM3RSB-1P6	1.0 to 1.6	SC-M01	6	BZ0LRC09AA	*1 (BZ0BPRES22A)
				BM3RHB-1P6		SC-E02	9	BZ0LRE22AA	BZ0BPRES22A
–	–	0.55	1.6	BM3RSB-1P6	1.0 to 1.6	SC-M01	6	BZ0LRC09AA	*1 (BZ0BPRES22A)
				BM3RHB-1P6		SC-E02	9	BZ0LRE22AA	BZ0BPRES22A
0.4	2.3	0.75	2	BM3RSB-2P5	1.6 to 2.5	SC-M01	6	BZ0LRC09AA	*1 (BZ0BPRES22A)
				BM3RHB-2P5		SC-E02	9	BZ0LRE22AA	BZ0BPRES22A
–	–	1.1	2.5	BM3RSB-004	2.5 to 4.0	SC-M01	6	BZ0LRC09AA	*1 (BZ0BPRES22A)
				BM3RHB-004		SC-E02	9	BZ0LRE22AA	BZ0BPRES22A
0.75	3.6	1.5	3.5	BM3RSB-004	2.5 to 4.0	SC-E03	12	BZ0LRE22AA	BZ0BPRES22A
				BM3RHB-004					
–	–	2.2	5	BM3RSB-6P3	4.0 to 6.3	SC-E04	18	BZ0LRE22AA	BZ0BPRES22A
				BM3RHB-6P3					
1.5	6.1	3	6.5	BM3RSB-010	6.3 to 10	SC-E04	18	BZ0LRE22AA	BZ0BPRES22A
				BM3RHB-010					
2.2	9	4	9	BM3RSB-010	6.3 to 10	SC-E04	18	BZ0LRE22AA	BZ0BPRES22A
				BM3RHB-010					
3	12	5.5	12	BM3RSB-013	9 to 13	SC-E05	25	BZ0LRE22AA	BZ0BPRES22A
				BM3RHB-013					
4	16	7.5	16	BM3RHB-020	14 to 20	SC-E05	25	BZ0LRE22AA	BZ0BPRES22A
5.5	22	11	22	BM3RHB-025	19 to 25	SC-E1	32	BZ0LRE32AA	BZ0BPRES32A
				BM3VHB-025				BZ0LVE51AA	BZ0BPVE51A
7.5	29	15	30	BM3RHB-032	24 to 32	SC-E1	32	BZ0LRE32AA	BZ0BPRES32A
				BM3VHB-032				BZ0LVE51AA	BZ0BPVE51A
11	40	18.5	37	BM3VHB-040	28 to 40	SC-E2	40	BZ0LVE51AA	BZ0BPVE51A

Notes: • The full-load current of each three-phase motor is a reference value.
Check the actual full-load current of the motor before use.

• The above table shows combinations with AC operated type magnetic contactors.
The link module will differ if the magnetic contactor is a DC operated type.

*1 Use the base plate type in () when you use the base plate.

DUO series Combination Starters

Protective coordination

■ Protective coordination between MMSs and contactors/combination starters (ring terminal connection type)

• IEC 60947-4-1 Type 1 The rated conditional short-circuit current $I_q=50kA/240V$ AC, 415V AC

Motor capacity and full load current 3-phase				Manual motor starter (ring terminal connection type)		Magnetic contactor (ring terminal connection type)		Link module (ring terminal connection type)	Base plate
200–240V AC		380–415V AC		Type	Adjustable current range (A)	Type	Rated operational current AC-3 (A)	Type	
Capacity (kW)	Current (A)	Capacity (kW)	Current (A)						
0.03	0.24	0.06	0.23	BM3RSR-P25 BM3RHR-P25	0.16 to 0.25	SC-M01 SC-E02P	6 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPPE22A) BZ0BPPE22A *3
0.06	0.37	0.09	0.32	BM3RSR-P40 BM3RHR-P40	0.25 to 0.4	SC-M01 SC-E02P	6 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPPE22A) BZ0BPPE22A *3
–	–	0.12	0.5	BM3RSR-P63 BM3RHR-P63	0.4 to 0.63	SC-M01 SC-E02P	6 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPPE22A) BZ0BPPE22A *3
0.1	0.68	0.18	0.65	BM3RSR-001 BM3RHR-001	0.63 to 1.0	SC-M01 SC-E02P	6 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPPE22A) BZ0BPPE22A *3
–	–	0.25	0.9	BM3RSR-001 BM3RHR-001	0.63 to 1.0	SC-M01 SC-E02P	6 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPPE22A) BZ0BPPE22A *3
0.2	1.3	0.37	1.25	BM3RSR-1P6 BM3RHR-1P6	1.0 to 1.6	SC-M01 SC-E02P	6 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPPE22A) BZ0BPPE22A *3
–	–	0.55	1.5	BM3RSR-2P5 BM3RHR-2P5	1.0 to 1.6	SC-M01 SC-E02P	6 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPPE22A) BZ0BPPE22A *3
0.4	2.3	0.75	2	BM3RSR-2P5 BM3RHR-2P5	1.6 to 2.5	SC-M01 SC-E02P	6 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPPE22A) BZ0BPPE22A *3
–	–	1.1	2.5	BM3RSR-004 BM3RHR-004	2.5 to 4.0	SC-M01 SC-E02P	6 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPPE22A) BZ0BPPE22A *3
0.75	3.6	1.5	3.5	BM3RSR-004 BM3RHR-004	2.5 to 4.0	SC-M01 SC-E02P	6 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPPE22A) BZ0BPPE22A *3
–	–	2.2	5	BM3RSR-6P3 BM3RHR-6P3	4.0 to 6.3	SC-M01 SC-E02P	6 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPPE22A) BZ0BPPE22A *3
1.5	6.1	3	6.5	BM3RSR-010 BM3RHR-010	6.3 to 10	SC-M02 SC-E02P	9 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPPE22A) BZ0BPPE22A *3
2.2	9	4	9	BM3RSR-010 BM3RHR-010	6.3 to 10	SC-M02 SC-E02P	9 9	BZ0LRC09AA BZ0LRE22AA	*1 (BZ0BPPE22A) BZ0BPPE22A *3
3	12	5.5	12	BM3RSR-013 BM3RHR-013	9 to 13	SC-E03P	12	BZ0LRE22AA	(BZ0BPPE22A) *3
4	16	7.5	16	BM3RHR-020	14 to 20	SC-E04P	18	BZ0LRE22AA	(BZ0BPPE22A) *3
5.5	22	11	22	BM3RHR-025	19 to 25	SC-E05P	25	BZ0LRE22AA	(BZ0BPPE22A) *3
7.5	29	15	30	BM3RHR-032	24 to 32	SC-E1P	32	*2	(BZ0BPPE32A) *3

Notes: • The full-load current of each three-phase motor is a reference value. Check the actual full-load current of the motor before use.

• The above table shows combinations with AC operated type magnetic contactors. The link module will differ if the magnetic contactor is a DC operated type.

*1 Use the base plate type in () when you use the base plate.

*2 Use electric wire.

*3 If you do not use the base plate, use two mounting rails.

• IEC 60947-4-1 Type 2 The rated conditional short-circuit current I_q=50kA/240V AC, 415V AC

Motor capacity and full load current 3-phase				Manual motor starter (ring terminal connection type)		Magnetic contactor (ring terminal connection type)		Link module (ring terminal connection type)	Base plate
200–240V AC		380–415V AC		Type	Adjustable current range (A)	Type	Rated operational current AC-3 (A)	Type	
Capacity (kW)	Current (A)	Capacity (kW)	Current (A)						
0.03	0.24	0.06	0.23	BM3RSR-P25	0.16 to 0.25	SC-M01	6	BZ0LRC09AA	*1 (BZ0BPRES22A)
				BM3RHR-P25		SC-E02P	9	BZ0LRE22AA	BZ0BPRES22A *3
0.06	0.37	0.09	0.32	BM3RSR-P40	0.25 to 0.4	SC-M01	6	BZ0LRC09AA	*1 (BZ0BPRES22A)
				BM3RHR-P40		SC-E02P	9	BZ0LRE22AA	BZ0BPRES22A *3
–	–	0.12	0.5	BM3RSR-P63	0.4 to 0.63	SC-M01	6	BZ0LRC09AA	*1 (BZ0BPRES22A)
				BM3RHR-P63		SC-E02P	9	BZ0LRE22AA	BZ0BPRES22A *3
0.12	0.68	0.18	0.65	BM3RSR-001	0.63 to 1.0	SC-M01	6	BZ0LRC09AA	*1 (BZ0BPRES22A)
				BM3RHR-001		SC-E02P	9	BZ0LRE22AA	BZ0BPRES22A *3
–	–	0.25	0.9	BM3RSR-001	0.63 to 1.0	SC-M01	6	BZ0LRC09AA	*1 (BZ0BPRES22A)
				BM3RHR-001		SC-E02P	9	BZ0LRE22AA	BZ0BPRES22A *3
0.2	1.3	0.37	1.25	BM3RSR-1P6	1.0 to 1.6	SC-M01	6	BZ0LRC09AA	*1 (BZ0BPRES22A)
				BM3RHR-1P6		SC-E02P	9	BZ0LRE22AA	BZ0BPRES22A *3
–	–	0.55	1.6	BM3RSR-2P5	1.0 to 1.6	SC-M01	6	BZ0LRC09AA	*1 (BZ0BPRES22A)
				BM3RHR-2P5		SC-E02P	9	BZ0LRE22AA	BZ0BPRES22A *3
0.4	2.3	0.75	2	BM3RSR-2P5	1.6 to 2.5	SC-M01	6	BZ0LRC09AA	*1 (BZ0BPRES22A)
				BM3RHR-2P5		SC-E02P	9	BZ0LRE22AA	BZ0BPRES22A *3
–	–	1.1	2.5	BM3RSR-004	2.5 to 4.0	SC-M01	6	BZ0LRC09AA	*1 (BZ0BPRES22A)
				BM3RHR-004		SC-E02P	9	BZ0LRE22AA	BZ0BPRES22A *3
0.75	3.6	1.5	3.5	BM3RSR-004	2.5 to 4.0	SC-E03P	12	BZ0LRE22AA	(BZ0BPRES22A) *3
				BM3RHR-004					
–	–	2.2	5	BM3RSR-6P3	4.0 to 6.3	SC-E04P	18	BZ0LRE22AA	(BZ0BPRES22A) *3
				BM3RHR-6P3					
1.5	6.1	3	6.5	BM3RSR-010	6.3 to 10	SC-E04P	18	BZ0LRE22AA	(BZ0BPRES22A) *3
				BM3RHR-010					
2.2	9	4	9	BM3RSR-010	6.3 to 10	SC-E04P	18	BZ0LRE22AA	(BZ0BPRES22A) *3
				BM3RHR-010					
3	12	5.5	12	BM3RSR-013	9 to 13	SC-E05P	25	BZ0LRE22AA	(BZ0BPRES22A) *3
				BM3RHR-013					
4	16	7.5	16	BM3RHR-020	14 to 20	SC-E05P	25	BZ0LRE22AA	(BZ0BPRES22A) *3
5.5	22	11	22	BM3RHR-025	19 to 25	SC-E1P	32	*2	(BZ0BPRES32A)
7.5	29	15	30	BM3RHR-032	24 to 32	SC-E1P	32	*2	(BZ0BPRES32A)

Notes: • The full-load current of each three-phase motor is a reference value. Check the actual full-load current of the motor before use.

• The above table shows combinations with AC operated type magnetic contactors. The link module will differ if the magnetic contactor is a DC operated type.

*1 Use the base plate type in () when you use the base plate.

*2 Use electric wire.

*3 If you do not use the base plate, use two mounting rails.

DUO series Combination Starters

Combinations meeting for UL market

■ Combinations meeting for UL market

• BM3RSB, BM3RHB, BM3RSR, BM3RHR

3-phase motor				Manual motor starters		Adjustable current range (A)	Magnetic contactor	Link module	Base plate
Rated capacity (HP) 220–240V AC	Rated operational current (A)	Rated capacity (HP) 440–480V AC	Rated operational current (A)						
–	–	–	–	BM3RSB-P16	BM3RHB-P16	0.1 to 0.16	SC-M01	BZ0LRC09AA	*1 (BZ0BPVE22A)
							SC-E02	BZ0LRE22AA	BZ0BPVE22A
–	–	–	–	BM3RSB-P25	BM3RHB-P25	0.16 to 0.25	SC-M01	BZ0LRC09AA	*1 (BZ0BPVE22A)
							SC-E02	BZ0LRE22AA	BZ0BPVE22A
–	–	–	–	BM3RSB-P40	BM3RHB-P40	0.25 to 0.4	SC-M01	BZ0LRC09AA	*1 (BZ0BPVE22A)
							SC-E02	BZ0LRE22AA	BZ0BPVE22A
–	–	–	–	BM3RSB-P63	BM3RHB-P63	0.4 to 0.63	SC-M01	BZ0LRC09AA	*1 (BZ0BPVE22A)
							SC-E02	BZ0LRE22AA	BZ0BPVE22A
–	–	–	–	BM3RSB-001	BM3RHB-001	0.63 to 1.0	SC-M01	BZ0LRC09AA	*1 (BZ0BPVE22A)
							SC-E02	BZ0LRE22AA	BZ0BPVE22A
–	–	0.75	1.6	BM3RSB-1P6	BM3RHB-1P6	1.0 to 1.6	SC-M01	BZ0LRC09AA	*1 (BZ0BPVE22A)
							SC-E02	BZ0LRE22AA	BZ0BPVE22A
0.5	2.2	1	2.1	BM3RSB-2P5	BM3RHB-2P5	1.6 to 2.5	SC-M01	BZ0LRC09AA	*1 (BZ0BPVE22A)
							SC-E02	BZ0LRE22AA	BZ0BPVE22A
0.75	3.2	2	3.4	BM3RSB-004	BM3RHB-004	2.5 to 4	SC-M01	BZ0LRC09AA	*1 (BZ0BPVE22A)
							SC-E02	BZ0LRE22AA	BZ0BPVE22A
1.5	6	3	4.8	BM3RSB-6P3	BM3RHB-6P3	4 to 6.3	SC-M01	BZ0LRC09AA	*1 (BZ0BPVE22A)
							SC-E02	BZ0LRE22AA	BZ0BPVE22A
–	–	5	7.6	BM3RSB-010	BM3RHB-010	6.3 to 10	SC-M02	BZ0LRC09AA	*1 (BZ0BPVE22A)
							SC-E02	BZ0LRE22AA	BZ0BPVE22A
3	9.6	7.5	11	BM3RSB-013	BM3RHB-013	9 to 13	SC-E03	BZ0LRE22AA	BZ0BPVE22A
5	15.2	10	14	BM3RSB-016	BM3RHB-016	11 to 16	SC-E04	BZ0LRE22AA	BZ0BPVE22A
5	15.2	10	14	BM3RSB-020	BM3RHB-020	14 to 20	SC-E04	BZ0LRE22AA	BZ0BPVE22A
7.5	22	15	21	BM3RSB-025	BM3RHB-025	19 to 25	SC-E05	BZ0LRE22AA	BZ0BPVE22A
10	28	20	27	BM3RSB-032	BM3RHB-032	24 to 32	SC-E1	BZ0LRE32AA	BZ0BPVE32A


Note: *1 Use the base plate type in () when you use the base plate.

• BM3VSB, BM3VHB


3-phase motor				Manual motor starters		Adjustable current range (A)	Magnetic contactor	Link module	Base plate
Rated capacity (HP) 220–240V AC	Rated operational current (A)	Rated capacity (HP) 440–480V AC	Rated operational current (A)						
3	9.6	5	7.6	BM3VSB-010	BM3VHB-010	6.3 to 10	SC-E1	BZ0LVE51AA	BZ0BPVE51A
3	9.6	7.5	11	BM3VSB-013	BM3VHB-013	9 to 13	SC-E1	BZ0LVE51AA	BZ0BPVE51A
5	15.2	10	14	BM3VSB-016	BM3VHB-016	11 to 16	SC-E1	BZ0LVE51AA	BZ0BPVE51A
5	15.2	10	14	BM3VSB-020	BM3VHB-020	14 to 20	SC-E1	BZ0LVE51AA	BZ0BPVE51A
7.5	22	15	21	BM3VSB-025	BM3VHB-025	19 to 25	SC-E1	BZ0LVE51AA	BZ0BPVE51A
10	28	20	27	BM3VSB-032	BM3VHB-032	24 to 32	SC-E1	BZ0LVE51AA	BZ0BPVE51A
10	28	30	40	BM3VSB-040	BM3VHB-040	28 to 40	SC-E2	BZ0LVE51AA	BZ0BPVE51A
15	42	30	40	BM3VSB-050	BM3VHB-050	35 to 50	SC-E2S	BZ0LVE51AA	BZ0BPVE51A
20	54	40	52	BM3VSB-063	BM3VHB-063	45 to 63	SC-E3	BZ0LVE65AA	BZ0BPVE65A

■ Optional accessories


• Link modules

Description	Applicable MMS	Applicable magnetic contactor	Operating coil	Type	Mass (g)
 <p>The link module connects the manual motor starter and magnetic contactor electrically and mechanically.</p> <p>(No.KK01-153)</p>	BM3RSB BM3RHB	SC-M01, M02	AC	BZ0LRC09AA	25
		SC-M01/G, M02/G	DC		
		SC-E02, E03, E04, E05	AC	BZ0LRE22AA	25
		SC-E02/G, E03/G, E04/G, E05/G	DC	BZ0LRE22GA	35
		SC-E1	AC	BZ0LRE32AA	45
		SC-E1/G	DC	BZ0LRE32GA	60
	BM3RSR BM3RHR	SC-M01, M02	AC	BZ0LRC09AA	25
		SC-M01/G, M02/G	DC		
		SC-E02P, E03P, E04P, E05P	AC	BZ0LRE22AA	25
		SC-E02P/G, E03P/G, E04P/G, E05P/G	DC	BZ0LRE22GA	35
	BM3V	SC-E1, E2, E2S	AC	BZ0LVE51AA	45
		SC-E1/G, E2/G, E2S/G	DC	BZ0LVE51GA	60
SC-E3		AC	BZ0LVE65AA	65	
SC-E3/G		DC	BZ0LVE65GA	80	

• Base plates

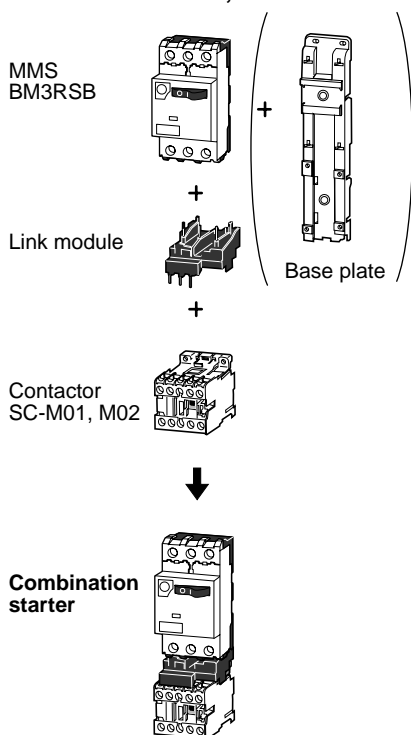
Description	Applicable MMS	Applicable magnetic contactor	Operating coil	Type	Mass (g)
 <p>The base plate is a plastic plate to which the combination starter is mounted. The base plate can then be mounted to a panel with screws or to a IEC top hat rail.</p> <p>(No.KK01-155)</p>	BM3RSB BM3RHB	SC-M01, M02	AC	(BZ0BPRE22A)	100
		SC-M01/G, M02/G	DC		
		SC-E02, E03, E04, E05	AC	BZ0BPRE22A	100
		SC-E02/G, E03/G, E04/G, E05/G	DC		
		SC-E1	AC	BZ0BPRE32A	160
		SC-E1/G	DC		
	BM3RSR BM3RHR	SC-M01, M02	AC	(BZ0BPRE22A)	100
		SC-M01/G, M02/G	DC		
		SC-E02P, E03P, E04P, E05P	AC	(BZ0BPRE22A)	100
		SC-E02P/G, E03P/G, E04P/G, E05P/G	DC		
		SC-E1P	AC	BZ0BPRE32A	160
		SC-E1P/G	DC		
	BM3V	SC-E1, E2, E2S	AC	BZ0BPVE51A	160
		SC-E1/G, E2/G, E2S/G	DC		
		SC-E3	AC	BZ0BPVE65A	195
		SC-E3/G	DC		

• Base plate coupling kit

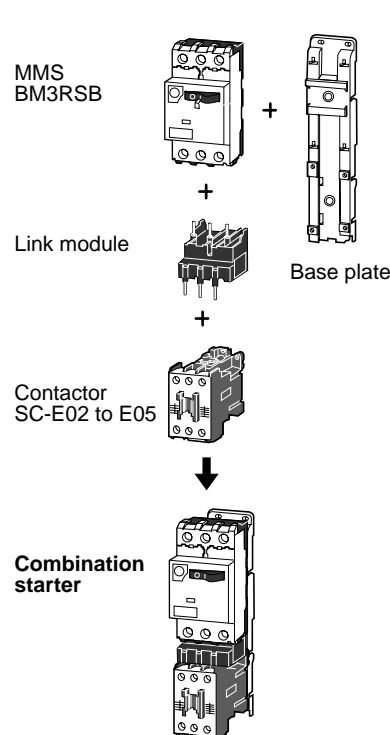
Description	Applicable base plate	Type	Mass(g)
 <p>The base plate coupling kit is used to couple two base plates that are mounted with combination starters consisting of manual motor starters and SC-E□RM reversing magnetic contactors.</p> <p>(No.KK03-036)</p>	BZ0BPRE22A BZ0BPRE32A BZ0BPVE51A BZ0BPVE65A	BZ0BPCA	4

■ Combination starter configurations

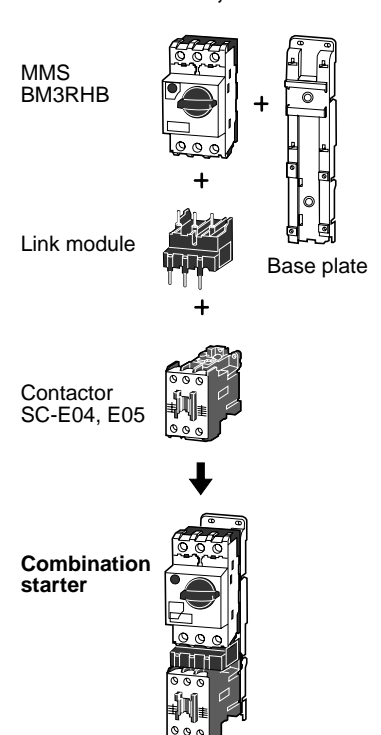
• BM3RSB+SC-M01, M02



• BM3RSB+SC-E02 to E05

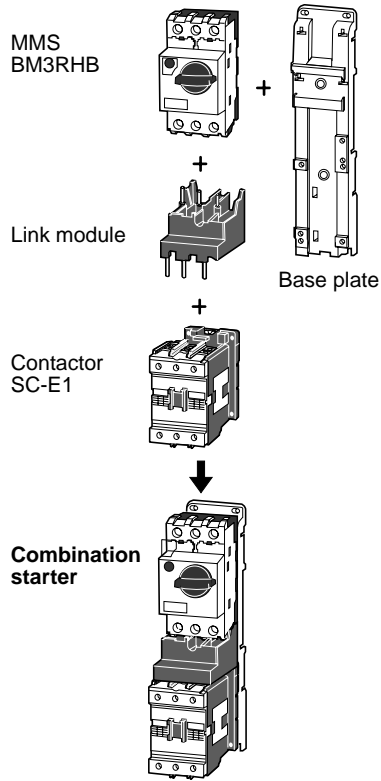


• BM3RHB+SC-E04, E05

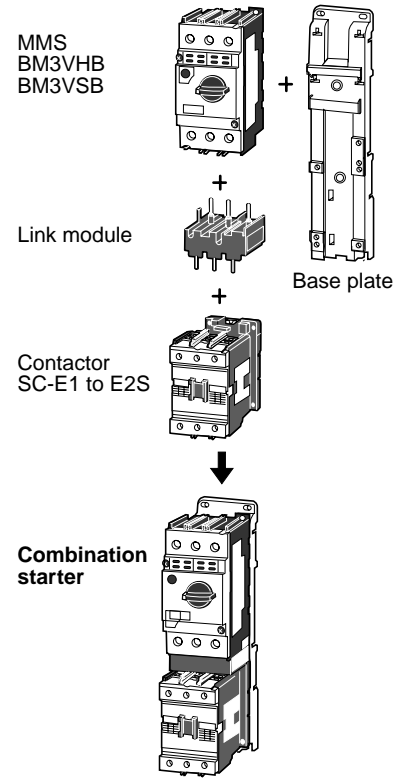


DUO series Combination Starters Configuration

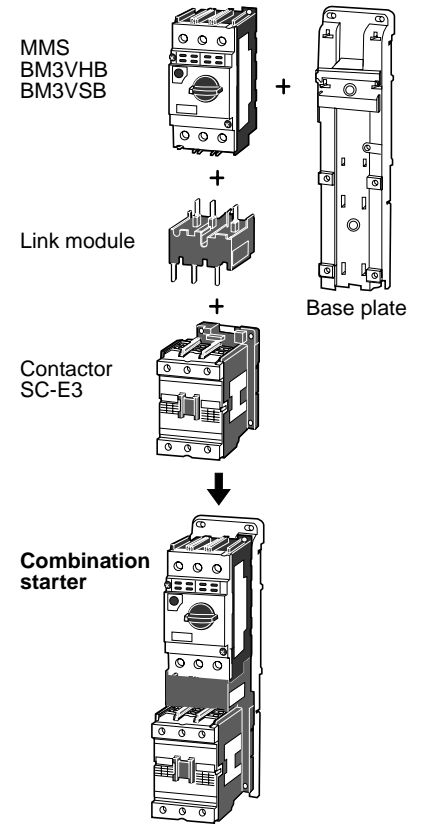
• BM3RHB+SC-E1



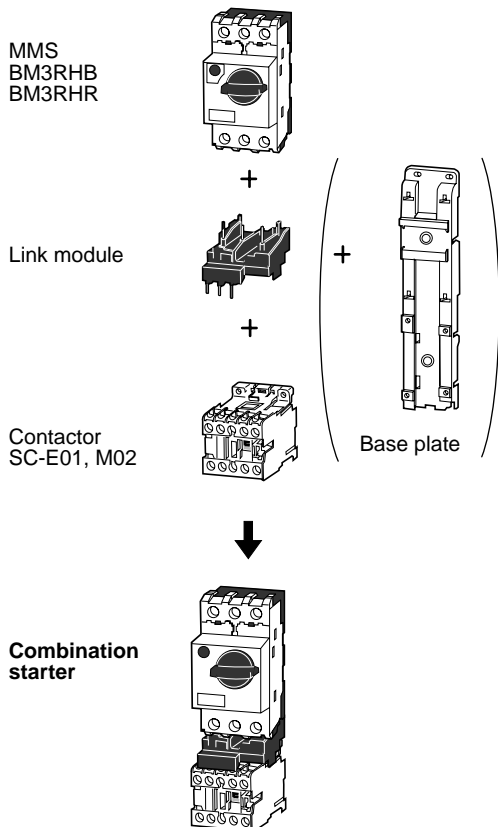
• BM3V□B+SC-E1 to E2S



• BM3V□B+SC-E3

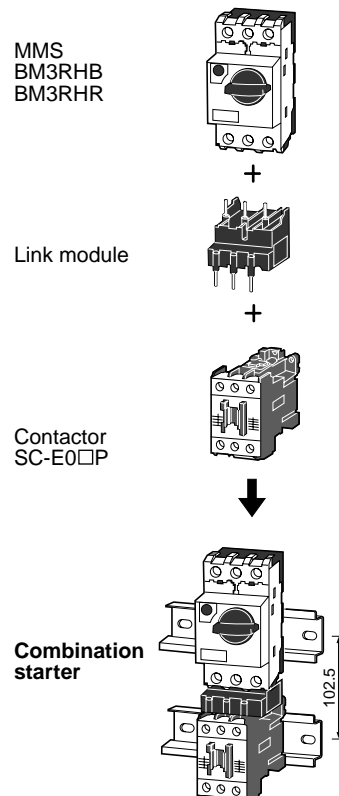


• BM3RH□+SC-M01, M02



• BM3R□+SC-E0□P

(When two mounting rails are used)

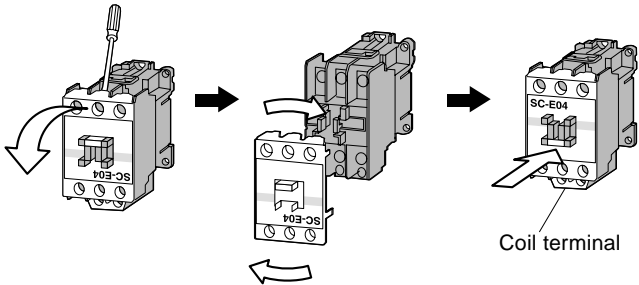


■ **Note to mount an MMS and contactor**

When the manual motor starter and magnetic contactor are configured as a combination starter, the nameplate ends up facing the wrong direction because the coil terminal of the magnetic contactor faces downward. Use the following procedure to turn the nameplate upside down.

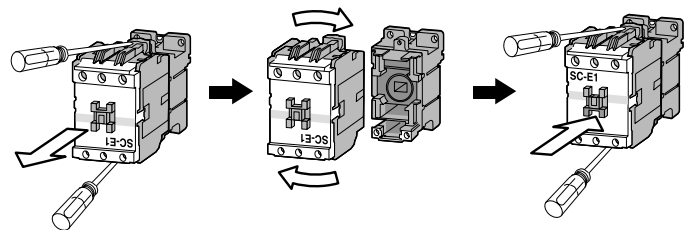
For SC-E02 to SC-E05 magnetic contactors

- Insert a flat-blade screwdriver between the center pole of arc-chamber (S phase or V phase) and the terminal screw, and lift the arc-chamber to remove it.
- After removing the arc-chamber, turn it 180 degrees (top to bottom), then re-mount it onto the magnetic contactor.
- Align the arc-chamber with the top and bottom terminals and press it on firmly by hand.



For SC-E1 to SC-E3 magnetic contactors

- Use a Phillips screwdriver to remove the two screws securing the front and back bodies.
- Remove the front body and turn it 180 degrees (top to bottom), then re-mount it with the screws.
- Make sure that no foreign matter enters the interior of the magnetic contactor during this removal/re-mounting procedure.



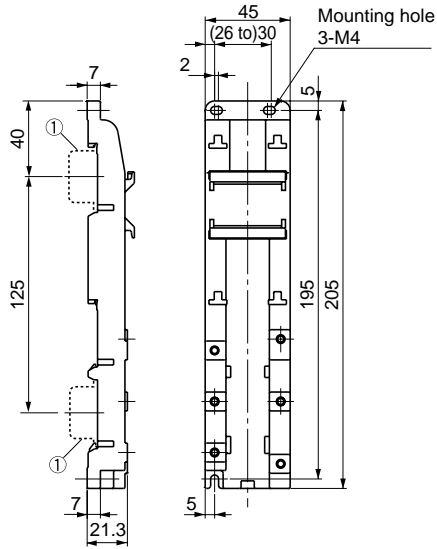
DUO series Combination Starters

Dimensions

■ Dimensions, mm

• Base plates

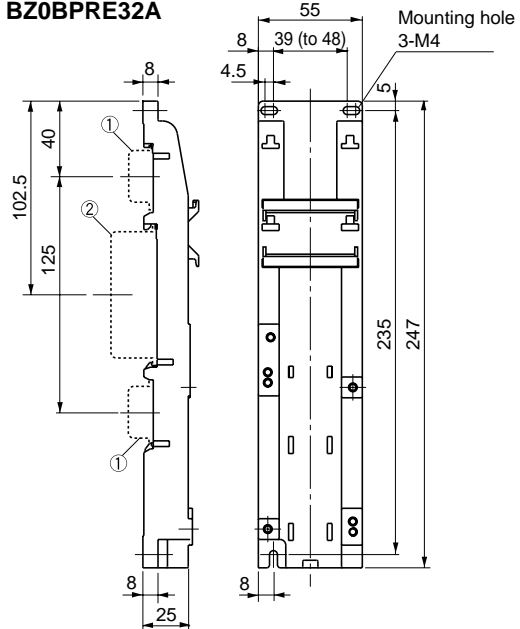
BZ0BPVE22A



① 35mm wide rail (height 15mm) x 2

Base plate type	Applicable type	
	MMS	Contactor
BZ0BPVE22A	BM3RSB	SC-E02, E03, E04, E05
	BM3RHB	E02/G, E03/G, E04/G, E05/G

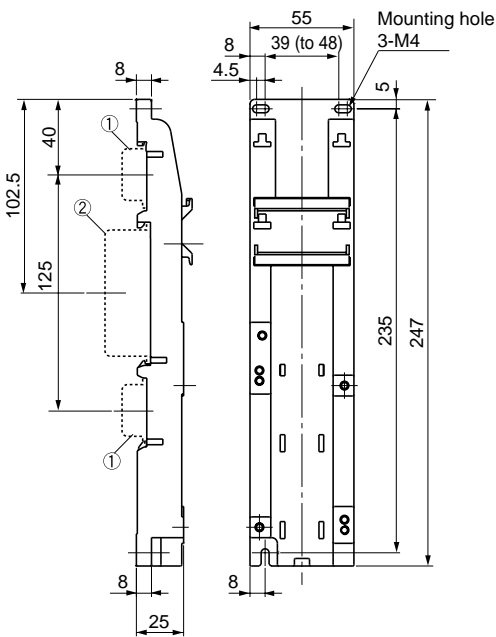
BZ0BPVE32A



① 35mm wide rail (height 15mm) x 2
② 75mm wide rail (height 25mm) x 1

Base plate type	Applicable type	
	MMS	Contactor
BZ0BPVE32A	BM3RSB	SC-E1, E1/G
	BM3RHB	

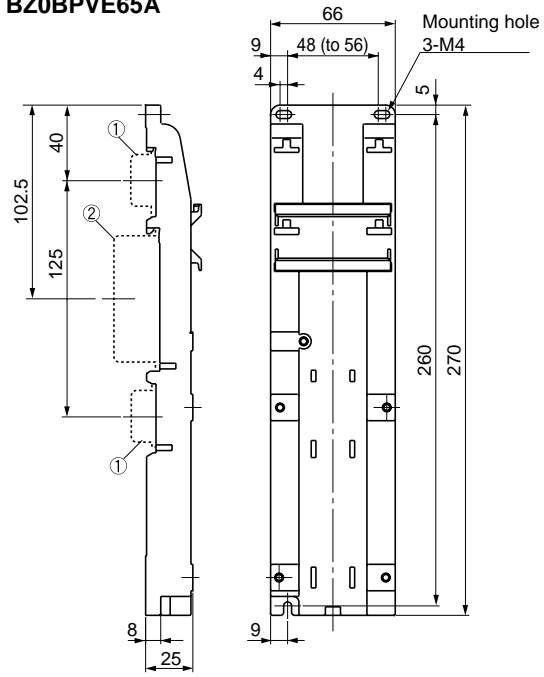
BZ0BPVE51A



① 35mm wide rail (height 15mm) x 2
② 75mm wide rail (height 25mm) x 1

Base plate type	Applicable type	
	MMS	Contactor
BZ0BPVE51A	BM3VSB	SC-E1, E2, E2S,
	BM3VHB	E1/G, E2/G, E2S/G

BZ0BPVE65A



① 35mm wide rail (height 15mm) x 2
② 75mm wide rail (height 25mm) x 1

Base plate type	Applicable type	
	MMS	Contactor
BZ0BPVE65A	BM3VSB	SC-E3, E3/G
	BM3VHB	

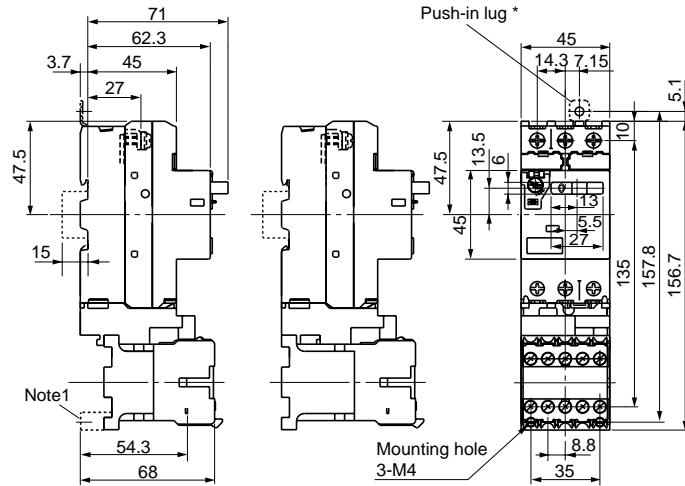
■ Dimensions, mm

• Combination

BM3RS□ + SC-M01, M02

+ SC-M01/G, M01/G1, M01/G2

+ SC-M02/G, M02/G1, M02/G2



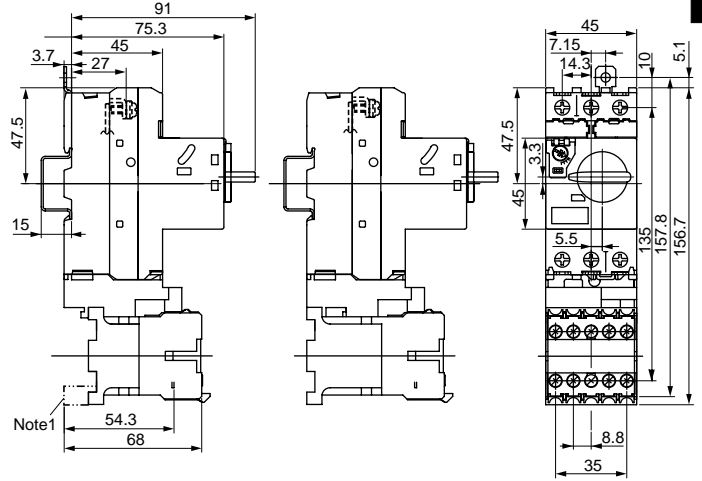
MMS	Contactors	Link module	Mass(g)
BM3RSB	SC-M01, M02	BZ0LRC09AA	540
BM3RSR	SC-M01/G, M01/G1, M01/G2 SC-M02/G, M02/G1, M02/G2	BZ0LRC09AA	600

Note1: * Dimensions for mounting of an optional push-in lug/BZ0SET and 2-spacer supplied with link module/BZ0LRC09AA, when screw-mounting BM3RSB with SC-M01 or SC-M02.

BM3RH□ + SC-M01, M02

+ SC-M01/G, M01/G1, M01/G2

+ SC-M02/G, M02/G1, M02/G2



MMS	Contactors	Link module	Mass(g)
BM3RHB	SC-M01, M02	BZ0LRC09AA	560
BM3RHR	SC-M01/G, M01/G1, M01/G2 SC-M02/G, M02/G1, M02/G2	BZ0LRC09AA	620

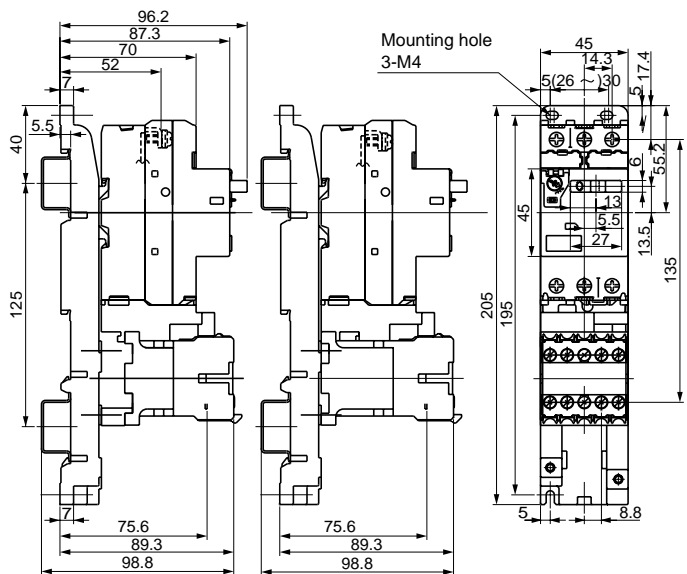
① 35mm wide rail (height 15mm) x 1

BM3RS□ + SC-M01, M02

+ SC-M01/G, M01/G1, M01/G2

+ SC-M02/G, M02/G1, M02/G2

+ (Base plate BZ0BP22A)



MMS	Contactors	Link module	Base plate	Mass(g)
BM3RSB	SC-M01, M02	BZ0LRC09AA	BZ0BP22A	640
	SC-M01/G, M01/G1, M01/G2			700
	SC-M02/G, M02/G1, M02/G2			

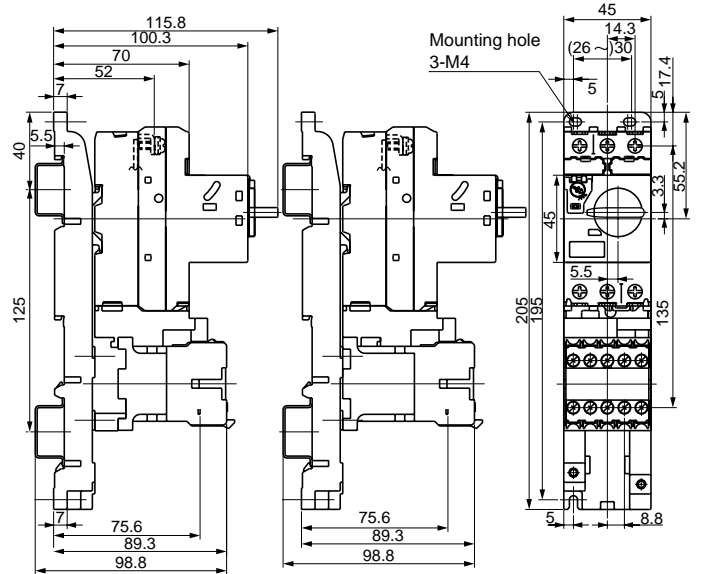
① 35mm wide rail (height 15mm) x 2

BM3RH□ + SC-M01, M02

+ SC-M01/G, M01/G1, M01/G2

+ SC-M02/G, M02/G1, M02/G2

+ (Base plate BZ0BP22A)



MMS	Contactors	Link module	Base plate	Mass(g)
BM3RHB	SC-M01, M02	BZ0LRC09AA	BZ0BP22A	660
	SC-M01/G, M01/G1, M01/G2			720
	SC-M02/G, M02/G1, M02/G2			

① 35mm wide rail (height 15mm) x 2

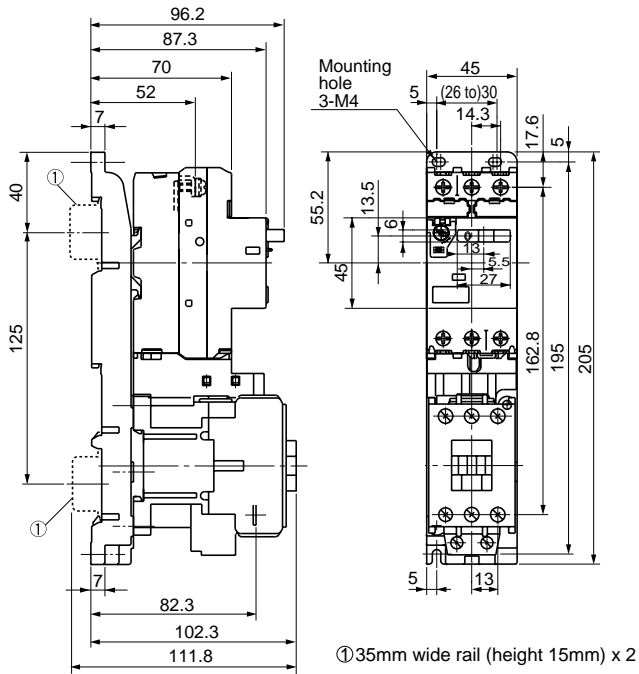
DUO series Combination Starters

Dimensions

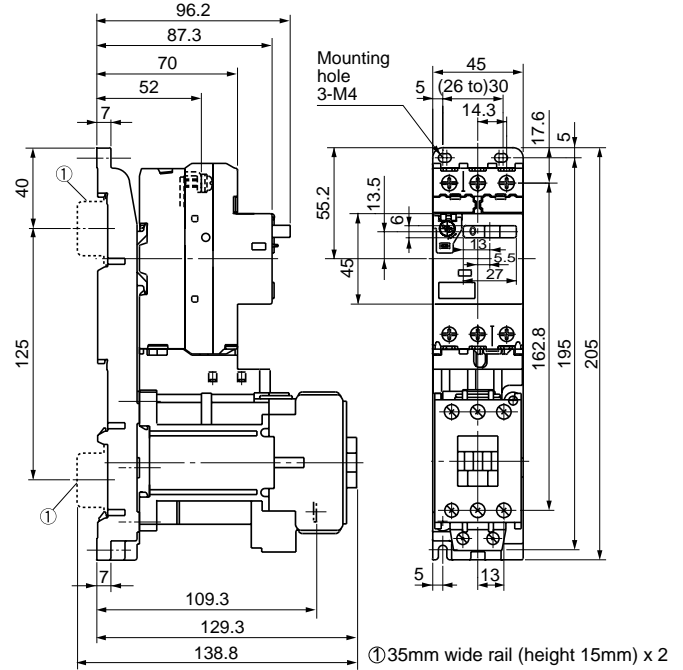
■ Dimensions, mm

• Combination

BM3RS□ + SC-E02 to E05



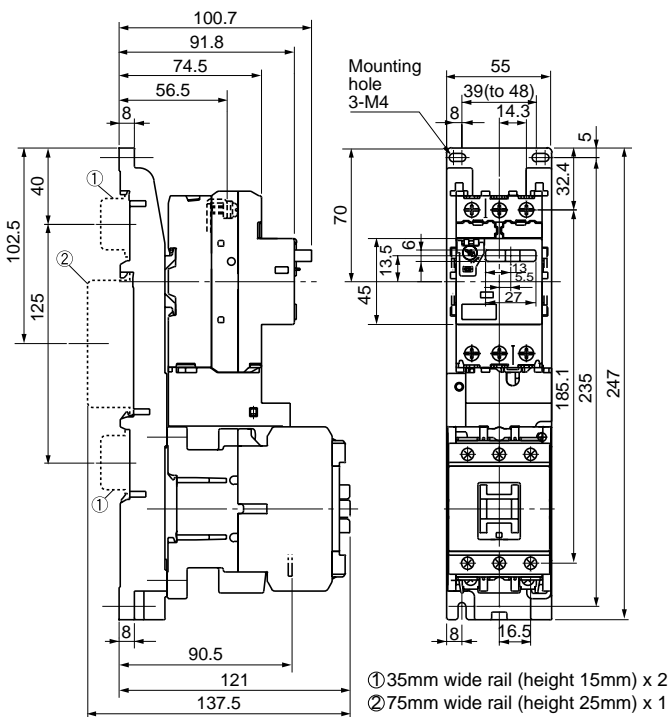
BM3RS□ + SC-E02/G to E05/G



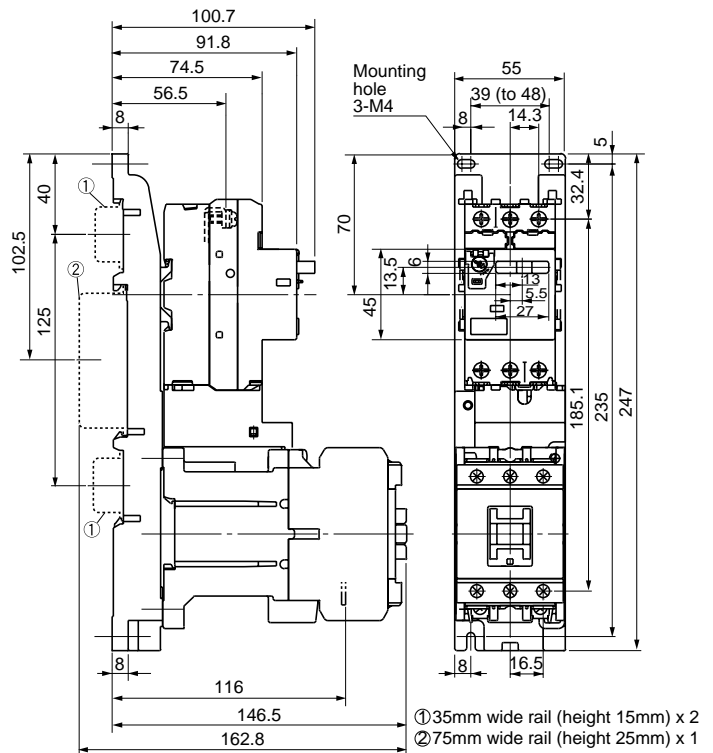
MMS	Contactors	Link module	Base plate	Mass (g)
BM3RSB	SC-E02, E03, E04, E05	BZ0LRE22AA	BZ0BPPE22A	820
BM3RSR				

MMS	Contactors	Link module	Base plate	Mass (g)
BM3RSB	SC-E02/G, E03/G, E04/G, E05/G	BZ0LRE22GA	BZ0BPPE22A	1,065
BM3RSR				

BM3RS□ + SC-E1



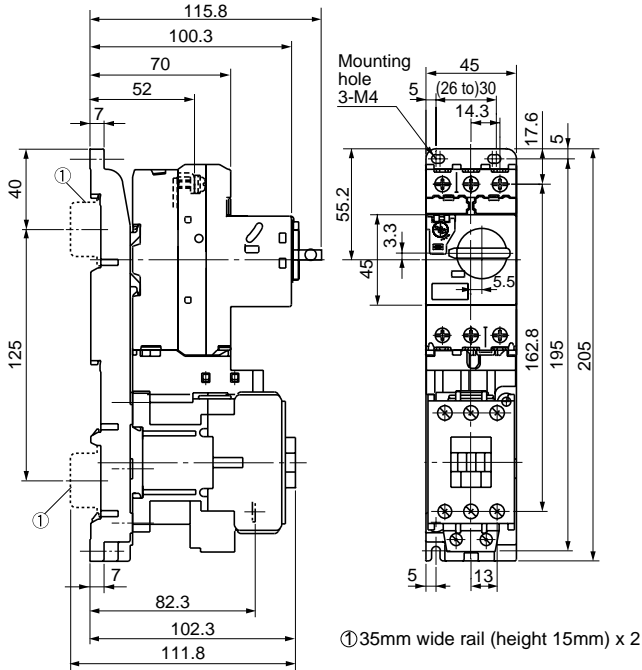
BM3RS□ + SC-E1/G



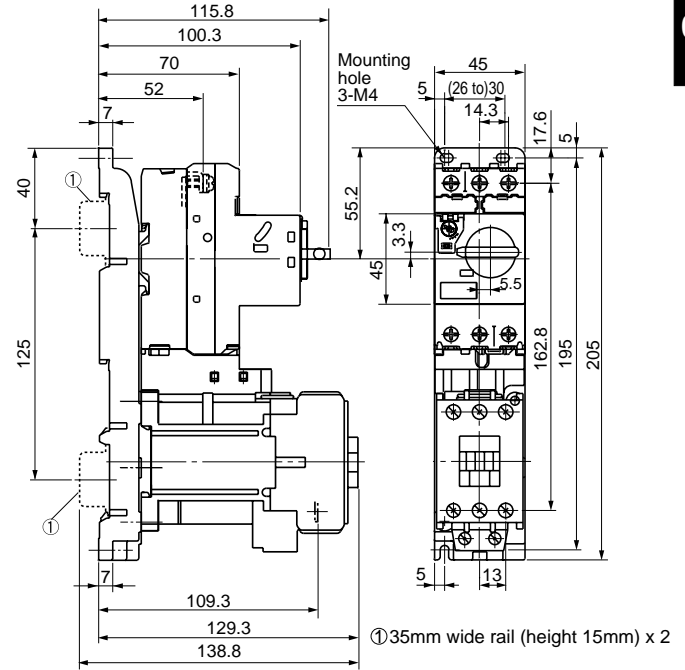
MMS	Contactors	Link module	Base plate	Mass (g)
BM3RSB	SC-E1	BZ0LRE32AA	BZ0BPPE32A	1,135
BM3RSR				

MMS	Contactors	Link module	Base plate	Mass (g)
BM3RSB	SC-E1/G	BZ0LRE32GA	BZ0BPPE32A	1,360
BM3RSR				

■ Dimensions, mm
• Combination
BM3RH□ + SC-E02 to E05



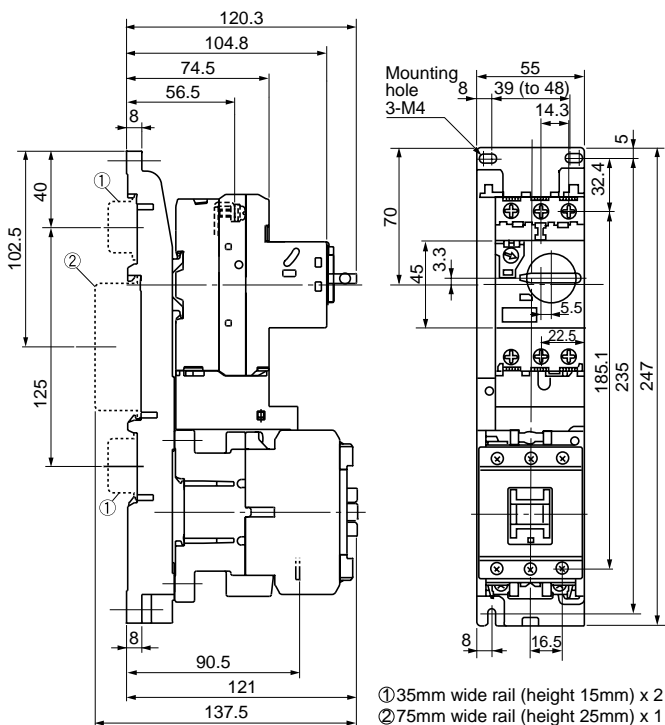
BM3RH□ + SC-E02/G to E05/G



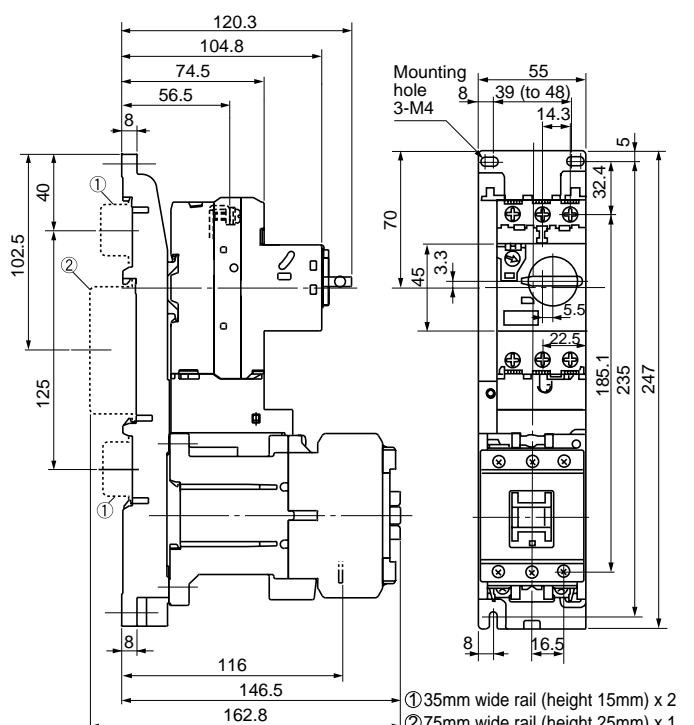
MMS	Contactors	Link module	Base plate	Mass (g)
BM3RHB	SC-E02, E03, E04, E05	BZ0LRE22AA	BZ0BPPE22A	840
BM3RHR				

MMS	Contactors	Link module	Base plate	Mass (g)
BM3RHB	SC-E02/G, E03/G, E04/G, E05/G	BZ0LRE22GA	BZ0BPPE22A	1,085
BM3RHR				

BM3RH□ + SC-E1



BM3RH□ + SC-E1/G



MMS	Contactors	Link module	Base plate	Mass (g)
BM3RHB	SC-E1	BZ0LRE32AA	BZ0BPPE32A	1,155
BM3RHR				

MMS	Contactors	Link module	Base plate	Mass (g)
BM3RHB	SC-E1/G	BZ0LRE32GA	BZ0BPPE32A	1,380
BM3RHR				

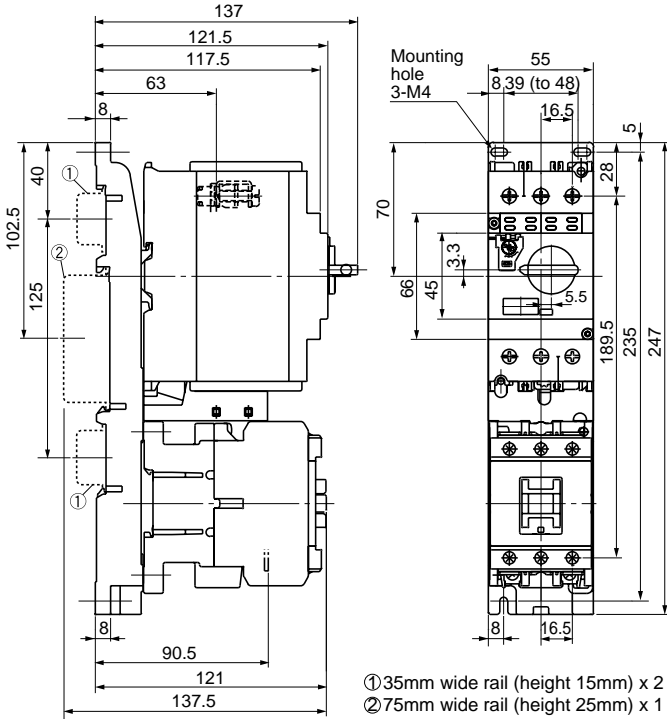
DUO series Combination Starters

Dimensions

■ Dimensions, mm

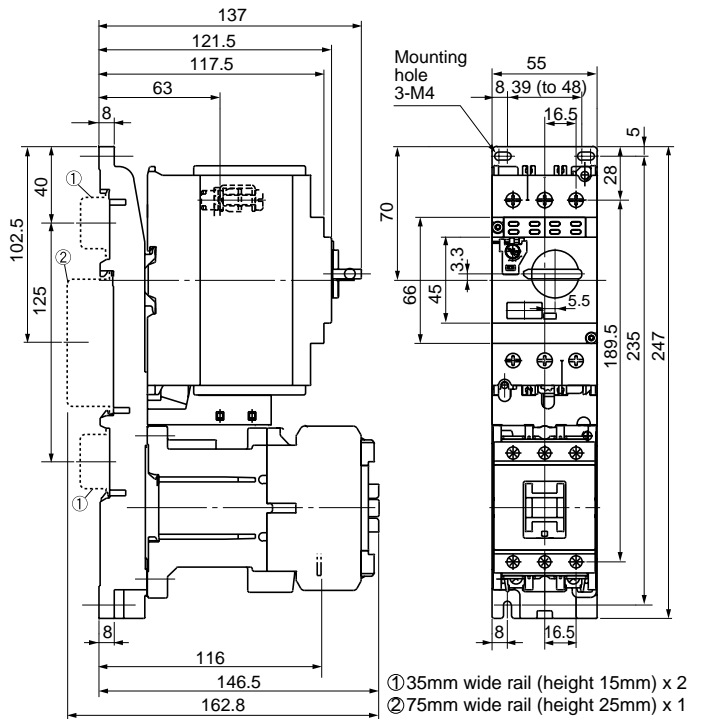
• Combination

BM3V□B + SC-E1, E2, E3



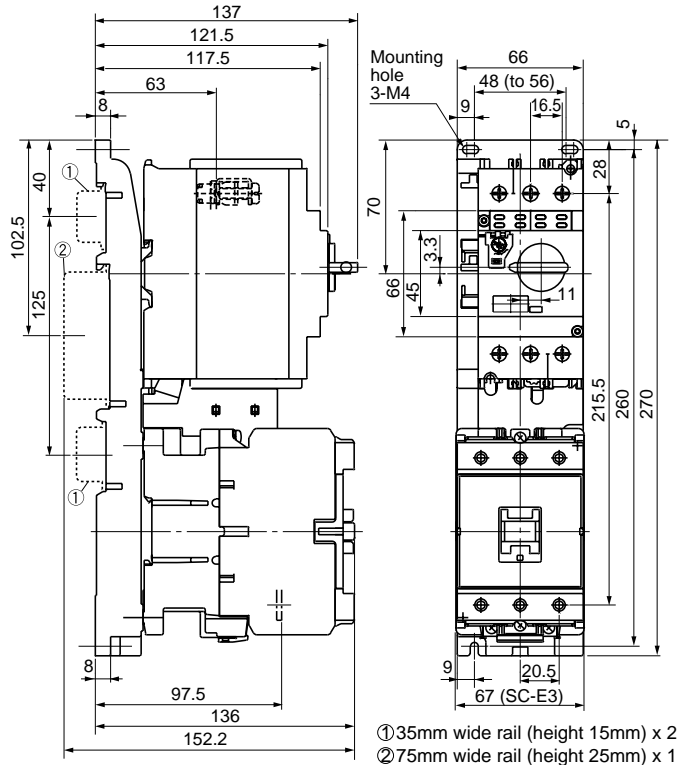
MMS	Contactors	Link module	Base plate	Mass (g)
BM3VSB	SC-E1, E2, E2S	BZ0LVE51AA	BZ0BPVE51A	1,580
BM3VHB				

BM3V□B + SC-E1/G, E2/G, E2S/G



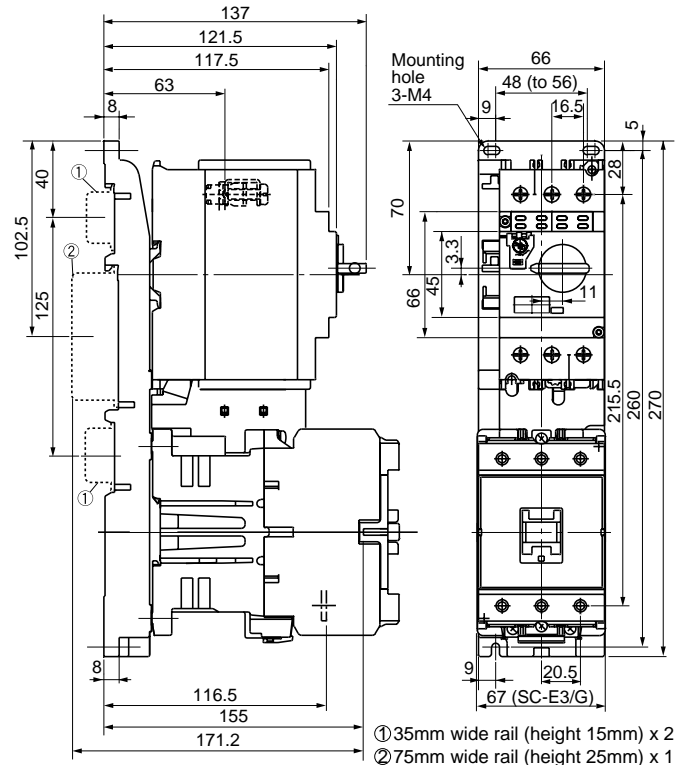
MMS	Contactors	Link module	Base plate	Mass (g)
BM3VSB	SC-E1/G, E2/G, E2S/G	BZ0LVE51GA	BZ0BPVE51A	1,810
BM3VHB				

BM3V□B + SC-E3



MMS	Contactors	Link module	Base plate	Mass (g)
BM3VSB	SC-E3	BZ0LVE65AA	BZ0BPVE65A	2,080
BM3VHB				

BM3V□B + SC-E3/G



MMS	Contactors	Link module	Base plate	Mass (g)
BM3VSB	SC-E3/G	BZ0LVE65GA	BZ0BPVE65A	2,400
BM3VHB				