

TWO POLE



2B



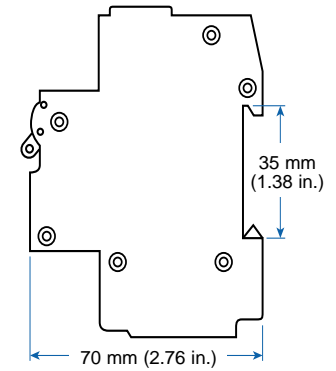
THREE POLE



3B



Basic Dimensions (side view)



Rated Current	Type/ Cat. No.	Approvals
0.3A	NA	
0.5A	NA	
0.75A	NA	
0.8A ^①	NA	
1.0A	2BU1	UL Ⓢ
1.6A	2BU1.6	UL Ⓢ
2.0A	2BU2	UL Ⓢ
2.5A	2BU2.5	UL Ⓢ
3.0A	2BU3	UL Ⓢ
3.5A	2BU3.5	UL Ⓢ
4.0A	2BU4	UL Ⓢ
5.0A	2BU5	UL Ⓢ
6.0A	2BU6	UL Ⓢ ⚡
8.0A	NA	
10A	2BU10	UL Ⓢ ⚡
12A ^①	NA	
12.5A	NA	
13A	2BU13	UL Ⓢ ⚡
15A ^①	2BU15	UL Ⓢ
16A	2BU16	UL Ⓢ ⚡
20A	2BU20	UL Ⓢ ⚡
25A	2BU25	UL Ⓢ ⚡
30A ^①	2BU30	UL Ⓢ
32A	2BU32	UL Ⓢ ⚡*
40A	2BU40	UL Ⓢ ⚡*
50A	2BU50	UL Ⓢ ⚡*
60A ^①	2BU60	UL Ⓢ
63A	2BU63	⚡*

480Y/277VAC

0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB

0.3-10A (RC): 10kA; 13-60A (RC): 5kA no branch circuit protection required

0.3-63A (RC): 10kA

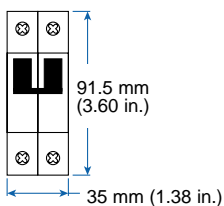
10000 ON/OFF operations^②

40°C (104°F)

5/1.4kg (3.1 lb.)

Top: 18-3 AWG; Bottom: 18-2 AWG

20 lb.in.



Type/ Cat. No.	Approvals
NA	
NA	
NA	
NA	
3BU1	UL Ⓢ
3BU1.6	UL Ⓢ
3BU2	UL Ⓢ
3BU2.5	UL Ⓢ
3BU3	UL Ⓢ
3BU3.5	UL Ⓢ
3BU4	UL Ⓢ
3BU5	UL Ⓢ
3BU6	UL Ⓢ ⚡
NA	
3BU10	UL Ⓢ ⚡
NA	
NA	
3BU13	UL Ⓢ ⚡
3BU15	UL Ⓢ
3BU16	UL Ⓢ ⚡
3BU20	UL Ⓢ ⚡
3BU25	UL Ⓢ ⚡
3BU30	UL Ⓢ
3BU32	UL Ⓢ ⚡*
3BU40	UL Ⓢ ⚡*
3BU50	UL Ⓢ ⚡*
3BU60	UL Ⓢ
3BU63	⚡*

480Y/277VAC

0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB

0.3-10A (RC): 10kA; 13-60A (RC): 5kA no branch circuit protection required

0.3-63A (RC): 10kA

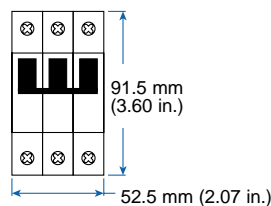
10000 ON/OFF operations^②

40°C (104°F)

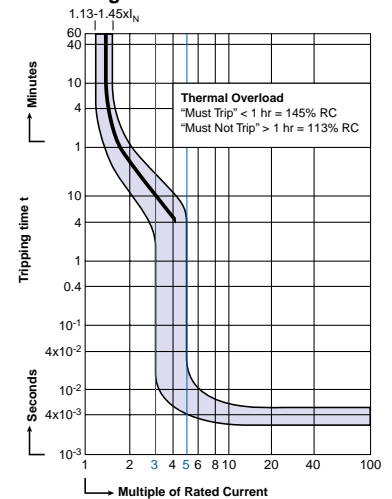
4/1.68kg (3.7 lb.)

Top: 18-3 AWG; Bottom: 18-2 AWG

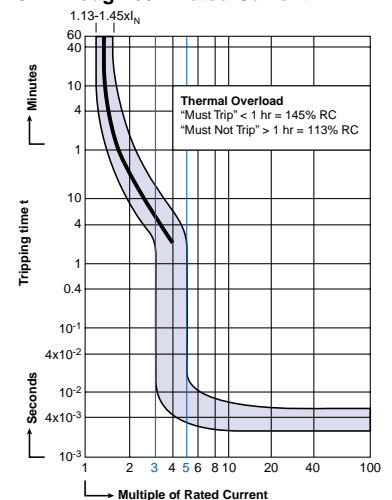
20 lb.in.



V-EA-B Trip 6.0A Through 10A Rated Current



V-EA-B Trip 13A Through 63A Rated Current



“B” Magnetic Trip Parameters

Rated current 0.3A to 63A.

1. Hold for a minimum of 100ms at surge of 3 times rated current.
2. Trip in under 100ms at 5 times rated current.

NB: Trip curves shown comply with North American standards. For trip curves according to European standards please consult Altech.

TWO POLE



2C



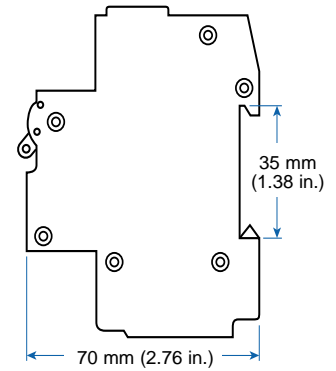
THREE POLE



3C



Basic Dimensions (side view)



Rated Current **Type/ Cat. No.** **Approvals**

0.3A	2CU03	UL, IEC, CSA
0.5A	2CU05	UL, IEC, CSA
0.75A	2CU075	UL, IEC, CSA
0.8A	NA	
1.0A	2CU1	UL, IEC, CSA
1.6A	2CU1.6	UL, IEC, CSA
2.0A	2CU2	UL, IEC, CSA
2.5A	2CU2.5	UL, IEC, CSA
3.0A	2CU3	UL, IEC, CSA
3.5A	2CU3.5	UL, IEC, CSA
4.0A	2CU4	UL, IEC, CSA
5.0A	2CU5	UL, IEC, CSA
6.0A	2CU6	UL, IEC, CSA
8.0A	2CU8	UL, IEC, CSA
10A	2CU10	UL, IEC, CSA
12A	NA	
12.5A	NA	
13A	2CU13	UL, IEC, CSA
15A	2CU15	UL, IEC, CSA
16A	2CU16	UL, IEC, CSA
20A	2CU20	UL, IEC, CSA
25A	2CU25	UL, IEC, CSA
30A	2CU30	UL, IEC, CSA
32A	2CU32	UL, IEC, CSA*
40A	2CU40	UL, IEC, CSA*
50A	2CU50	UL, IEC, CSA*
60A	2CU60	UL, IEC, CSA
63A	2CU63	UL, IEC, CSA*

480Y/277VAC

0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB

0.3-10A (RC): 10kA; 13-60A (RC): 5kA no branch circuit protection required

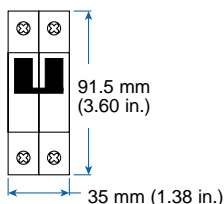
0.3-63A (RC): 10kA

10000 ON/OFF operations[®]

40°C (104°F)

5/1.4kg (3.1 lb.)

Top: 18-3 AWG; Bottom: 18-2 AWG
20 lb.in.



Type/ Cat. No. **Approvals**

3CU03	UL, IEC, CSA
3CU05	UL, IEC, CSA
3CU075	UL, IEC, CSA
NA	
3CU1	UL, IEC, CSA
3CU1.6	UL, IEC, CSA
3CU2	UL, IEC, CSA
3CU2.5	UL, IEC, CSA
3CU3	UL, IEC, CSA
3CU3.5	UL, IEC, CSA
3CU4	UL, IEC, CSA
3CU5	UL, IEC, CSA
3CU6	UL, IEC, CSA
3CU8	UL, IEC, CSA
3CU10	UL, IEC, CSA
NA	
NA	
3CU13	UL, IEC, CSA
3CU15	UL, IEC, CSA
3CU16	UL, IEC, CSA
3CU20	UL, IEC, CSA
3CU25	UL, IEC, CSA
3CU30	UL, IEC, CSA
3CU32	UL, IEC, CSA*
3CU40	UL, IEC, CSA*
3CU50	UL, IEC, CSA*
3CU60	UL, IEC, CSA
3CU63	UL, IEC, CSA*

480Y/277VAC

0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB

0.3-10A (RC): 10kA; 13-60A (RC): 5kA no branch circuit protection required

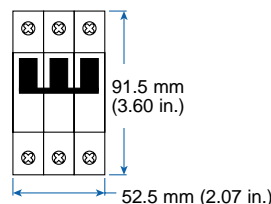
0.3-63A (RC): 10kA

10000 ON/OFF operations[®]

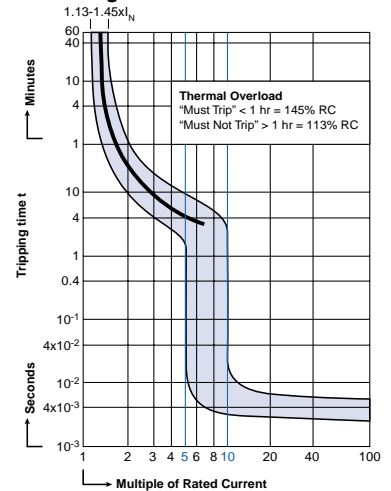
40°C (104°F)

4/1.68kg (3.7 lb.)

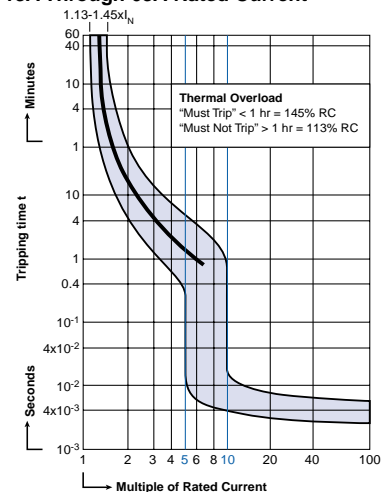
Top: 18-3 AWG; Bottom: 18-2 AWG
20 lb.in.



V-EA-C Trip 0.3A Through 10A Rated Current



V-EA-C Trip 13A Through 63A Rated Current



"C" Magnetic Trip Parameters Rated current 0.3A to 63A.

1. Hold for a minimum of 100ms at surge of 5 times rated current.
2. Trip in under 100ms at 10 times rated current.

NB: Trip curves shown comply with North American standards. For trip curves according to European standards please consult Altech.

TWO POLE



2D



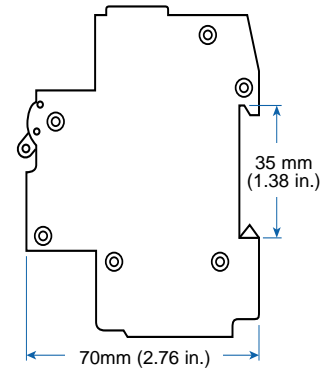
THREE POLE



3D



Basic Dimensions (side view)



Rated Current	Type/ Cat. No.	Approvals
0.3A	2DU03	UL SF
0.5A	2DU05	UL SF
0.75A	2DU075	UL SF
0.8A	NA	
1.0A	2DU1	UL SF
1.6A	2DU1.6	UL SF
2.0A	2DU2	UL SF
2.5A	2DU2.5	UL SF
3.0A	2DU3	UL SF
3.5A	2DU3.5	UL SF
4.0A	2DU4	UL SF
5.0A	2DU5	UL SF
6.0A	2DU6	UL SF
8.0A	2DU8	UL SF
10A	2DU10	UL SF
12A	NA	
12.5A	NA	
13A	2DU13	UL SF
15A	2DU15	UL SF
16A	2DU16	UL SF
20A	2DU20	UL SF
25A	2DU25	UL SF
30A	2DU30	UL SF
32A	2DU32	UL SF *
40A	2DU40	UL SF *
50A	2DU50	UL SF *
60A	2DU60	UL SF
63A	2DU63	UL SF *

Type/ Cat. No.	Approvals
3DU03	UL SF
3DU05	UL SF
3DU075	UL SF
NA	
3DU1	UL SF
3DU1.6	UL SF
3DU2	UL SF
3DU2.5	UL SF
3DU3	UL SF
3DU3.5	UL SF
3DU4	UL SF
3DU5	UL SF
3DU6	UL SF
3DU8	UL SF
3DU10	UL SF
NA	
NA	
3DU13	UL SF
3DU15	UL SF
3DU16	UL SF
3DU20	UL SF
3DU25	UL SF
3DU30	UL SF
3DU32	UL SF *
3DU40	UL SF *
3DU50	UL SF *
3DU60	UL SF
3DU63	UL SF *

480Y/277VAC

0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB

0.3-10A (RC): 10kA; 13-60A (RC): 5kA no branch circuit protection required

0.3-63A (RC): 10kA

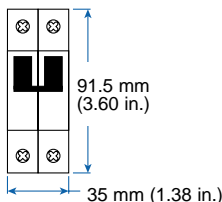
10000 ON/OFF operations²

40°C (104°F)

5/1.4kg (3.1 lb.)

Top: 18-3 AWG; Bottom: 18-2 AWG

20 lb.in.



480Y/277VAC

0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB

0.3-10A (RC): 10kA; 13-60A (RC): 5kA no branch circuit protection required

0.3-63A (RC): 10kA

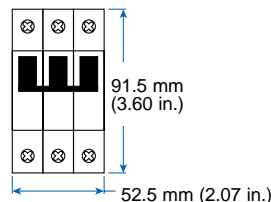
10000 ON/OFF operations²

40°C (104°F)

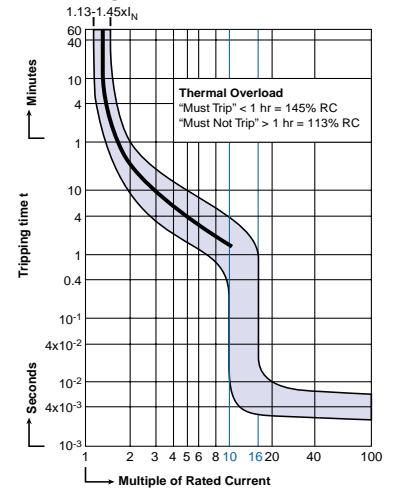
4/1.68kg (3.7 lb.)

Top: 18-3 AWG; Bottom: 18-2 AWG

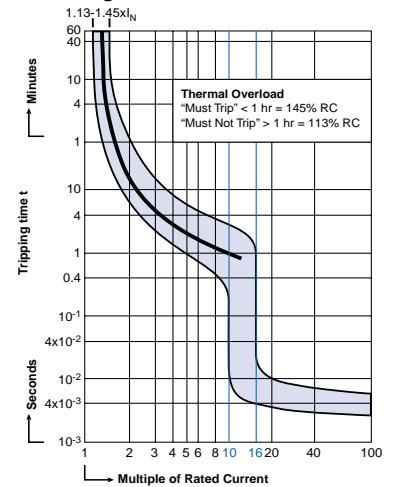
20 lb.in.



V-EA-D Trip 0.3A Through 10A Rated Current



V-EA-D Trip 13A Through 63A Rated Current



"D" Magnetic Trip Parameters

Rated current 0.3A to 63A.

1. Hold for a minimum of 100ms at surge of 10 times rated current.
2. Trip in under 100ms at 16 times rated current.

NB: Trip curves shown comply with North American standards. For trip curves according to European standards please consult Altech.

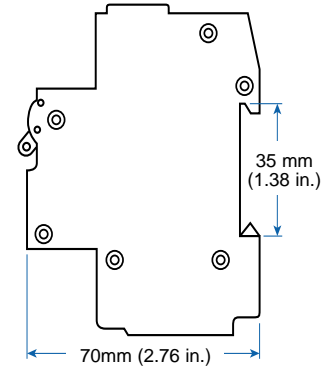
TWO POLE



THREE POLE



Basic Dimensions (side view)



Rated Current **Type/
Cat. No.** **Approvals**

0.3A	2EU03	UL	CS
0.5A	2EU05	UL	CS
0.75A	2EU075	UL	CS
0.8A	NA		
1.0A	2EU1	UL	CS
1.6A	2EU1.6	UL	CS
2.0A	2EU2	UL	CS
2.5A	2EU2.5	UL	CS
3.0A	2EU3	UL	CS
3.5A	2EU3.5	UL	CS
4.0A	2EU4	UL	CS
5.0A	2EU5	UL	CS
6.0A	2EU6	UL	CS
8.0A	2EU8	UL	CS
10A	2EU10	UL	CS
12A	2EU12	UL	CS
12.5A	2EU125	UL	CS
13A	2EU13	UL	CS
15A	2EU15	UL	CS
16A	2EU16	UL	CS
20A	2EU20	UL	CS
25A	2EU25	UL	CS
30A	2EU30	UL	CS
32A	2EU32	UL	CS
40A	2EU40	UL	CS
50A	2EU50	UL	CS
60A	2EU60	UL	CS
63A	2EU63	UL	CS

**Type/
Cat. No.** **Approvals**

3EU03	UL	CS
3EU05	UL	CS
3EU075	UL	CS
NA		
3EU1	UL	CS
3EU1.6	UL	CS
3EU2	UL	CS
3EU2.5	UL	CS
3EU3	UL	CS
3EU3.5	UL	CS
3EU4	UL	CS
3EU5	UL	CS
3EU6	UL	CS
3EU8	UL	CS
3EU10	UL	CS
3EU12	UL	CS
3EU125	UL	CS
3EU13	UL	CS
3EU15	UL	CS
3EU16	UL	CS
3EU20	UL	CS
3EU25	UL	CS
3EU30	UL	CS
3EU32	UL	CS
3EU40	UL	CS
3EU50	UL	CS
3EU60	UL	CS
3EU63	UL	CS

480Y/277VAC

0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB

0.3-10A (RC): 10kA; 12-60A (RC): 5kA no branch circuit protection required

0.3-63A (RC): 10kA

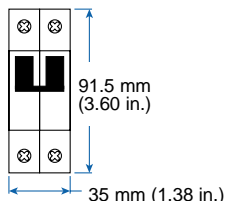
10000 ON/OFF operations[Ⓢ]

40°C (104°F)

5/1.4kg (3.1 lb.)

Top: 18-3 AWG; Bottom: 18-2 AWG

20 lb.in.



480Y/277VAC

0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB

0.3-10A (RC): 10kA; 12-60A (RC): 5kA no branch circuit protection required

0.3-63A (RC): 10kA

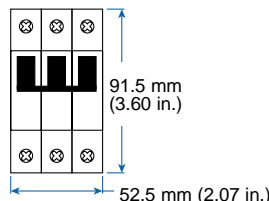
10000 ON/OFF operations[Ⓢ]

40°C (104°F)

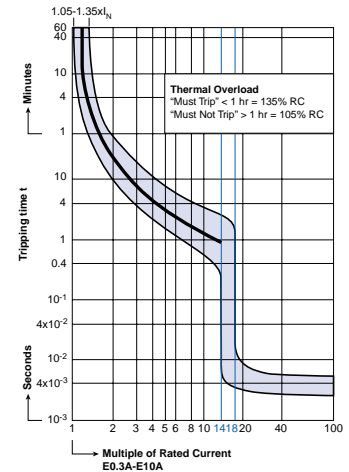
4/1.68kg (3.7 lb.)

Top: 18-3 AWG; Bottom: 18-2 AWG

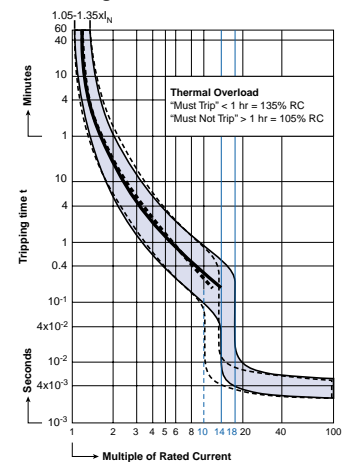
20 lb.in.



V-EA-E Trip 0.3A Through 10A Rated Current



V-EA-E Trip 12A Through 60A Rated Current



“E” Magnetic Trip Parameters
Rated Current, 0.3A to 50A (———),
60/63A (- - - - -).

Magnetic Trip:

1. Hold for a minimum of 100ms at surge of 14 times (60A, 10 times) rated current.
2. Trip in under 100ms at 18 times (60A, 14 times) rated current.

NB: Trip curves shown comply with North American standards. For trip curves according to European standards please consult Altech.

TWO POLE



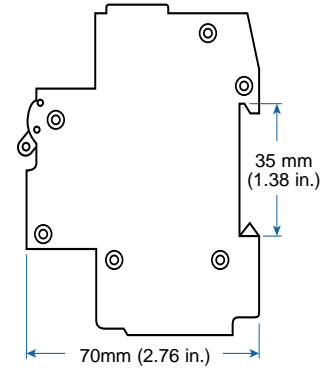
2G

THREE POLE



3G

Basic Dimensions (side view)



Rated Current **Type/ Cat. No.** **Approvals**

0.3A	2GU03	UL SF
0.5A	2GU05	UL SF
0.75A	NA	
0.8A	2GU08	UL SF
1.0A	2GU1	UL SF
1.6A	2GU1.6	UL SF
2.0A	2GU2	UL SF
2.5A	2GU2.5	UL SF
3.0A	2GU3	UL SF
3.5A	2GU3.5	UL SF
4.0A	2GU4	UL SF
5.0A	2GU5	UL SF
6.0A	2GU6	UL SF
8.0A	2GU8	UL SF
10A	2GU10	UL SF
12A	2GU12	UL SF *
12.5A	2GU125	UL SF *
13A	2GU13	UL SF *
15A	2GU15	UL SF *
16A	2GU16	UL SF *
20A	2GU20	UL SF *
25A	2GU25	UL SF *
30A	2GU30	UL SF *
32A	2GU32	UL SF *
40A	2GU40	UL SF *
50A	2GU50	UL SF *
60A	2GU60	UL SF *
63A	2GU63	UL SF *

Type/ Cat. No. **Approvals**

3GU03	UL SF
3GU05	UL SF
NA	
3GU08	UL SF
3GU1	UL SF
3GU1.6	UL SF
3GU2	UL SF
3GU2.5	UL SF
3GU3	UL SF
3GU3.5	UL SF
3GU4	UL SF
3GU5	UL SF
3GU6	UL SF
3GU8	UL SF
3GU10	UL SF
3GU12	UL SF *
3GU125	UL SF *
3GU13	UL SF *
3GU15	UL SF *
3GU16	UL SF *
3GU20	UL SF *
3GU25	UL SF *
3GU30	UL SF *
3GU32	UL SF *
3GU40	UL SF *
3GU50	UL SF *
3GU60	UL SF *
3GU63	UL SF *

480Y/277VAC

0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB

0.3-10A (RC): 10kA; 12-60A (RC): 5kA no branch circuit protection required

0.3-63A (RC): 10kA

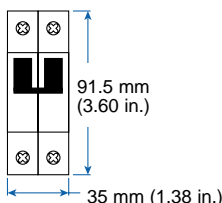
10000 ON/OFF operations[Ⓜ]

40°C (104°F)

5/1.4kg (3.1 lb.)

Top: 18-3 AWG; Bottom: 18-2 AWG

20 lb.in.



480Y/277VAC

0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB

0.3-10A (RC): 10kA; 12-60A (RC): 5kA no branch circuit protection required

0.3-63A (RC): 10kA

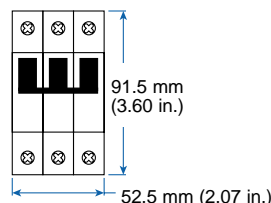
10000 ON/OFF operations[Ⓜ]

40°C (104°F)

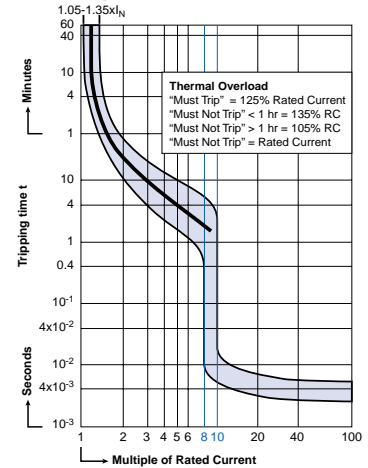
4/1.68kg (3.7 lb.)

Top: 18-3 AWG; Bottom: 18-2 AWG

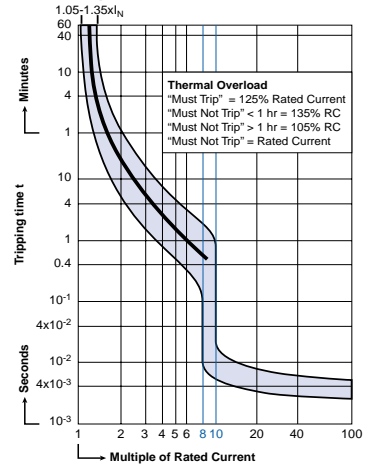
20 lb.in.



V-EA-G Trip 0.3A Through 10A Rated Current



V-EA-G Trip 12A Through 63A Rated Current



"G" Magnetic Trip Parameters Rated Current, 0.3A to 63A.

Magnetic Trip:

1. Hold for a minimum of 100ms at surge of 8 times rated current.
2. Trip in under 100ms at 10 times rated current.

NB: Trip curves shown comply with North American standards. For trip curves according to European standards please consult Altech.

MA Three Phase Adjustable Trip Miniature Circuit Breakers/ Manual Motor Controllers



UL508 listed



CAN/CSA-C22.2 No.14 certified



The MA was designed to handle the high inrush loads of 3 phase transformers, power supplies, motors, etc. The MA protects wiring and equipment from damage caused by the three major classes of over-current, yet greatly reduces the number of nuisance trips in high starting and inrush current circuits.

An IEC device with excellent ratings under a UL listing at 480Y/277V (including group ratings) and at 500V under international standards, the Altech/ Sursum MA provides short and long term cost effective circuit protection for USA and/or export applications. The short term advantages include: (1) adjustable thermal trip allows finalization of initial designs before procurement of the load equipment is complete; (2) snap-on mounting for readily available, internationally standardized DIN Rail saves panel layout design time as well as installation and change labor; (3) large cage-clamp terminals with screws suitable to power screwdrivers, simplifies and speeds wiring; (4) convenient switched disconnect during factory testing and/or initial start-up saves time and aggravation. The key long term advantage is customer satisfaction and proven over-current protection of wiring and equipment (and the lack of rework/repair costs).

Type Designation

MA RT
(a) (b) (c) (d)

- (a) = MA - Manual Motor Controller
- (b) = Rated Current
- (c) = U - US Housing
- (d) = Blank - Standard Terminal
RT - Ring-tongue Terminal

Voltage Rating	480Y/277VAC
AIC (Interrupt Capacity)	0.16A-2.5A: 42kA; 4.0A-16A: 14kA; 20A-40A: 10kA
Standard Short Circuit Withstand Rating (UL/CSA Ratings)	0.16A-2.5A: 42kA; 4.0A-16A: 14kA
Group Short Circuit Ratings (UL/CSA Ratings)	see above
Typical Life	6000 on/off operations with 2xRC
Calibration Temperature	25°C, +0°, -5° (77°F, +0° -9°)
Standard Pack and Weight	1/450g (1.0 lb.)
Terminal Size Acceptability	Top/Bottom: 18-3 AWG

Type and Rated Current	Cat. No.	FLA Dial Adjustment Markings	GROUP SHORT CIRCUIT RATING AT 480VAC ^a (and BCP size)	3Ø HORSEPOWER RATINGS AT NOMINAL LINE VOLTAGE (See Note for HEA Definition)				
				110-120V HP (HEA)	200V HP (HEA)	208V HP (HEA)	220-240V HP (HEA)	460-480V HP (HEA)
MA0.16U	15.901U	0.1/ 0.12/0.14/0.16	42kARMS symmetrical (max. 1200A MCCB or RK5)					
MA0.25U	15.902U	0.16/0.19/0.22/0.25						
MA0.40U	15.903U	0.25/0.30/0.35/0.40						
MA0.63U	15.904U	0.40/0.48/0.56/0.63						
MA1.0U	15.905U	0.63/0.75/0.87/1.0						
MA1.6U	15.906U	1.0/1.2/1.4/1.6						
MA2.5U	15.907U	1.6/1.9/2.2/2.5	14kARMS symmetrical (max. 350A MCCB or RK5)					
MA4.0U	15.908U	2.5/3.0/3.5/4.0		1/2 (4.0)	3/4 (3.2)	3/4 (3.1)	1 (3.6)	2 (3.42)
MA6.3U	15.909U	4.0/4.8/5.6/6.3		3/4 (5.6)	1 1/2 (6.0)	1 1/2 (5.7)	1 1/2 (5.2)	3 (4.8)
MA10U	15.910U	6.3/7.5/8.7/10		1 (7.2)	2 (7.8)	2 (7.5)	3 (9.6)	5 (7.6)
MA16U	15.911U	10/12/14/16		2 (13.6)	3 (11.0)	3 (10.6)	5 (15.2)	10 (14.0)
MA20U	15.912U	16/17/18.5/20		3 (19.2)	5 (17.5)	5 (16.7)	5 (15.2)	10 (14.0)
MA25U	15.913U	20/21.5/23/25		3 (19.2)	5 (17.5)	7 1/2 (24.2)	7 1/2 (22.0)	15 (21.0)
MA32U	15.914U	25/27/30/32		5 (30.4)	7 1/2 (25.0)	7 1/2 (24.2)	10 (28.0)	20 (27.0)
MA40U	15.915U	32/34/37/40		5 (30.4)	10 (32.0)	10 (31.0)	10 (28.0)	25 (34.0)

Note: **HEA - Horsepower Equivalent Amperes**, the nominal amperage assigned to standard motor horsepower ratings in design guide tables such as NFPA-70 Tables 430-148, 430-149, 430-150; UL1077 Table 16.2; CSA - C22.2 No. 235-M89 Tables 44 and 45; CSA-C22.2 No. 14-M91 Table 19, etc. Multiply HEA values (in parenthesis) by 1.1 if power factor is 90%, and by 1.2 if power factor is 80%.

^a The standard-circuit short-circuit rating is 14kA for all types. Group ratings can be used in a standard circuit (e.g., MA1.0U at 42kA), but a higher standard rating cannot be used in a group circuit (e.g., MA40U at 14kA only in standard circuit.)