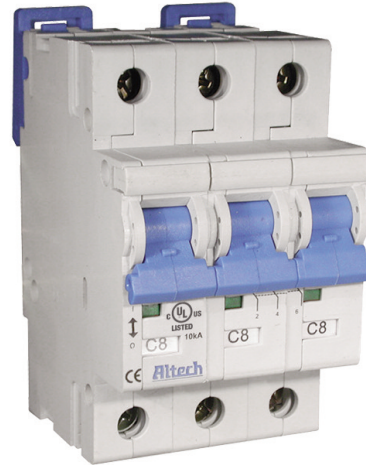


# M-Series

## M-Series - UL508 Manual Motor Controller with Disconnecting Mean

- DIN Rail Mounted
- 17.5mm width per pole
- Thermal Magnetic
- 480Y/277V AC, 50/60Hz
- 10kA Short Circuit Withstand Capacity
- Positive Trip indicator (Green - off/tripped, Red - on)
- Applications Include:
  - AC Motor Starting, Across the Line
  - AC General Use



|                                                      |                                                                                                                          |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <b>Voltage Rating</b>                                | 480Y/277VAC                                                                                                              |
| <b>Short Circuit Withstand Rating (UL - Ratings)</b> | 0.5-6A (RC): 10kA with no back-up fuse<br>8-63A (RC): 10kA with UL-listed Class J back-up fuse; 5kA with no back-up fuse |
| <b>Interrupting Capacity (IEC/EN60898/60947-2)</b>   | 0.5-63A (RC): 10kA                                                                                                       |
| <b>Calibration Temperature</b>                       | 30°C (86°F)                                                                                                              |
| <b>Operating Temperature</b>                         | -25° to 60°C (-13° to 140°F)                                                                                             |
| <b>Storage Temperature</b>                           | -25° to 75°C (-13° to 167°F)                                                                                             |
| <b>Terminal Size Acceptability: and Torque</b>       | 14-3 AWG: 17.5 lb-in. (2.0 Nm)<br>18-16 AWG: 25 lb-in. (2.8 Nm)                                                          |
| <b>Terminal Protection Degree</b>                    | IP20                                                                                                                     |
| <b>Vibration Resistance</b>                          | 3g (8-50Hz)                                                                                                              |

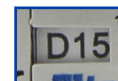
### Indicator window



ON

OFF

### Trip curve and amperage window display.

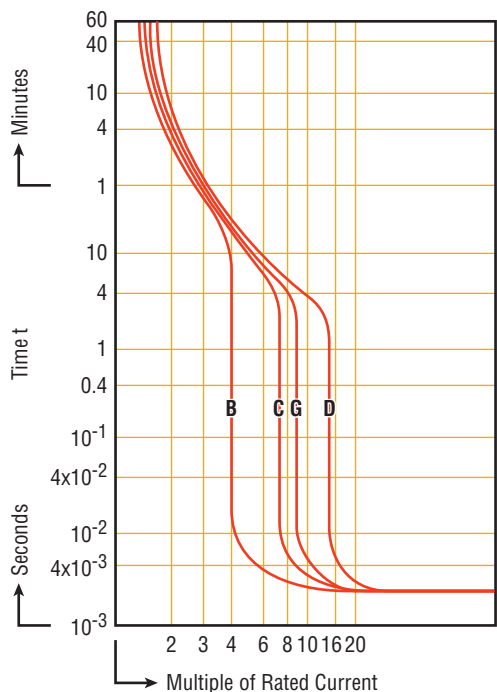


### SHORT CIRCUIT WITHSTAND RATINGS FOR M-SERIES MANUAL MOTOR CONTROLLER

| Trip Curve | Amp Range | Backup Protection                 |                                |
|------------|-----------|-----------------------------------|--------------------------------|
|            |           | UL-Listed Class J Fuse up to 10kA | No Backup Fuse Required up to: |
| All        | 0.5 - 6A  | 4xRC*                             | 10kA                           |
| All        | 8 - 63A   | 4xRC*                             | 5kA                            |

\*up to nearest rated current

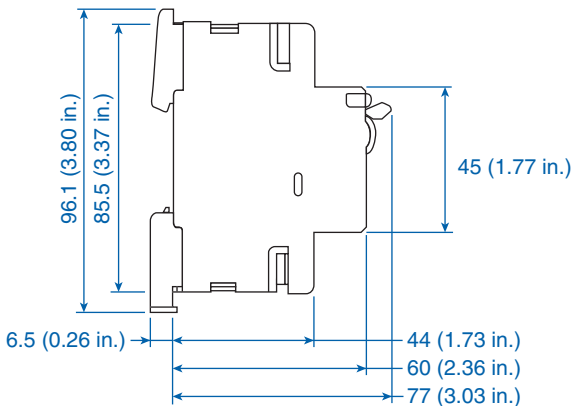
DC voltage rating: 48 VDC (self-certified).



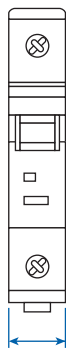
## Time versus Current Trip Curve

For the exact trip curve, please refer to page 20

Dimensions in mm side view



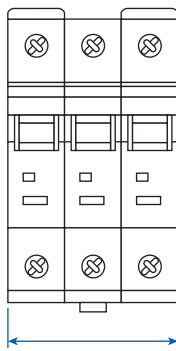
1 POLE



2 POLE



3 POLE



| Trip-Characteristics*          |                   |                        |                       | Applications                                                                        |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|--------------------------------|-------------------|------------------------|-----------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Characteristic Trip Boundaries |                   |                        |                       | Lighting<br>Wiring<br>Protection<br>Control<br>Circuits                             | Business<br>Equipment<br>Appliances                                                 | Transformers                                                                        | Power<br>Supplies<br>Heaters                                                        | Motors                                                                              |                                                                                       |                                                                                       | General<br>Electronics                                                                | Solenoid                                                                              | Reactive<br>Load                                                                      |
| Thermal Trip                   |                   | Magnetic Trip          |                       |                                                                                     |                                                                                     |                                                                                     |                                                                                     | General                                                                             | Low<br>Inrush                                                                         | High<br>Inrush                                                                        |                                                                                       |                                                                                       |                                                                                       |
| Must not<br>Trip>100ms         | Must Trip<br><1hr | Must not<br>Trip>100ms | Must Trip<br>at 100ms |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| B-Characteristics              |                   |                        |                       |  |  |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |  |                                                                                       |                                                                                       |
| 1.13xRC                        | 1.45xRC           | 3xRC                   | 5xRC                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| C-Characteristics              |                   |                        |                       |  |  |                                                                                     |                                                                                     |                                                                                     |  |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.13xRC                        | 1.45xRC           | 5xRC                   | 10xRC                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| D-Characteristics              |                   |                        |                       |                                                                                     |                                                                                     |  |  |                                                                                     |                                                                                       |  |                                                                                       |                                                                                       |  |
| 1.13xRC                        | 1.45xRC           | 10xRC                  | 20xRC                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| G-Characteristics              |                   |                        |                       |  |                                                                                     |  |                                                                                     |  |  |                                                                                       |                                                                                       |  |                                                                                       |
| 1.05xRC                        | 1.35xRC           | 8xRC                   | 10xRC                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |

\*The value of each characteristic is shown vertically beneath its corresponding heading.



**Warning!**

This information should only be used as a selection guide. The use of a Miniature Circuit Breaker/Manual Motor Controller in an application with a certain Trip-Characteristic always requires prototype testing! It is the responsibility of the circuit design engineer to select the appropriate Miniature Circuit Breaker/Manual Motor Controller for their specific application.

Introduction

UL 489

UL 508

UL 1077

Busbars

ANNEX



## B-Trip Characteristic

### Application Examples:

Business equipment, wiring protection, lighting, appliances, control circuits and some electronic applications. Relatively long thermal trip delay but low magnetic trip point.



LISTED  
C.B.  
E509480



One Pole

| Rated Current | Type/<br>Cat. No. |
|---------------|-------------------|
| 0.5A          | 1BU05M            |
| 1.0A          | 1BU1M             |
| 2.0A          | 1BU2M             |
| 3.0A          | 1BU3M             |
| 4.0A          | 1BU4M             |
| 5.0A          | 1BU5M             |
| 6.0A          | 1BU6M             |
| 8.0A          | 1BU8M             |
| 10A           | 1BU10M            |
| 12A           | 1BU12M            |
| 13A           | 1BU13M            |
| 15A           | 1BU15M            |
| 16A           | 1BU16M            |
| 20A           | 1BU20M            |
| 25A           | 1BU25M            |
| 30A           | 1BU30M            |
| 32A           | 1BU32M            |
| 40A           | 1BU40M            |
| 50A           | 1BU50M            |
| 60A           | 1BU60M            |
| 63A           | 1BU63M            |

Standard Pack: 12

Weight:

0.5A - 63A: 1.6kg (3.54 lb.)



Two Pole

| Rated Current | Type/<br>Cat. No. |
|---------------|-------------------|
| 0.5A          | 2BU05M            |
| 1.0A          | 2BU1M             |
| 2.0A          | 2BU2M             |
| 3.0A          | 2BU3M             |
| 4.0A          | 2BU4M             |
| 5.0A          | 2BU5M             |
| 6.0A          | 2BU6M             |
| 8.0A          | 2BU8M             |
| 10A           | 2BU10M            |
| 12A           | 2BU12M            |
| 13A           | 2BU13M            |
| 15A           | 2BU15M            |
| 16A           | 2BU16M            |
| 20A           | 2BU20M            |
| 25A           | 2BU25M            |
| 30A           | 2BU30M            |
| 32A           | 2BU32M            |
| 40A           | 2BU40M            |
| 50A           | 2BU50M            |
| 60A           | 2BU60M            |
| 63A           | 2BU63M            |

Standard Pack: 6

Weight:

0.5A - 63A: 1.6kg (3.54 lb.)



Three Pole

| Rated Current | Type/<br>Cat. No. |
|---------------|-------------------|
| 0.5A          | 3BU05M            |
| 1.0A          | 3BU1M             |
| 2.0A          | 3BU2M             |
| 3.0A          | 3BU3M             |
| 4.0A          | 3BU4M             |
| 5.0A          | 3BU5M             |
| 6.0A          | 3BU6M             |
| 8.0A          | 3BU8M             |
| 10A           | 3BU10M            |
| 12A           | 3BU12M            |
| 13A           | 3BU13M            |
| 15A           | 3BU15M            |
| 16A           | 3BU16M            |
| 20A           | 3BU20M            |
| 25A           | 3BU25M            |
| 30A           | 3BU30M            |
| 32A           | 3BU32M            |
| 40A           | 3BU40M            |
| 50A           | 3BU50M            |
| 60A           | 3BU60M            |
| 63A           | 3BU63M            |

Standard Pack: 4

Weight:

0.5A - 63A: 1.66kg (3.67 lb.)

**Four Pole**  
Please contact  
Altech.

Non-standard current ratings available. Minimum quantities may apply. Please contact Altech for further details.

## C-Trip Characteristic

### Application Examples:

Lighting, wiring protection, appliances, business equipment, and control circuit applications. Relatively long thermal trip delay and medium magnetic trip point.



One Pole

| Rated Current | Type/<br>Cat. No. |
|---------------|-------------------|
| 0.5A          | 1CU05M            |
| 1.0A          | 1CU1M             |
| 2.0A          | 1CU2M             |
| 3.0A          | 1CU3M             |
| 4.0A          | 1CU4M             |
| 5.0A          | 1CU5M             |
| 6.0A          | 1CU6M             |
| 8.0A          | 1CU8M             |
| 10A           | 1CU10M            |
| 12A           | 1CU12M            |
| 13A           | 1CU13M            |
| 15A           | 1CU15M            |
| 16A           | 1CU16M            |
| 20A           | 1CU20M            |
| 25A           | 1CU25M            |
| 30A           | 1CU30M            |
| 32A           | 1CU32M            |
| 40A           | 1CU40M            |
| 50A           | 1CU50M            |
| 60A           | 1CU60M            |
| 63A           | 1CU63M            |

Standard Pack: 12

Weight:

0.5A - 63A: 1.6kg (3.54 lb.)



Two Pole

| Rated Current | Type/<br>Cat. No. |
|---------------|-------------------|
| 0.5A          | 2CU05M            |
| 1.0A          | 2CU1M             |
| 2.0A          | 2CU2M             |
| 3.0A          | 2CU3M             |
| 4.0A          | 2CU4M             |
| 5.0A          | 2CU5M             |
| 6.0A          | 2CU6M             |
| 8.0A          | 2CU8M             |
| 10A           | 2CU10M            |
| 12A           | 2CU12M            |
| 13A           | 2CU13M            |
| 15A           | 2CU15M            |
| 16A           | 2CU16M            |
| 20A           | 2CU20M            |
| 25A           | 2CU25M            |
| 30A           | 2CU30M            |
| 32A           | 2CU32M            |
| 40A           | 2CU40M            |
| 50A           | 2CU50M            |
| 60A           | 2CU60M            |
| 63A           | 2CU63M            |

Standard Pack: 6

Weight:

0.5A - 63A: 1.6kg (3.54 lb.)



Three Pole

| Rated Current | Type/<br>Cat. No. |
|---------------|-------------------|
| 0.5A          | 3CU05M            |
| 1.0A          | 3CU1M             |
| 2.0A          | 3CU2M             |
| 3.0A          | 3CU3M             |
| 4.0A          | 3CU4M             |
| 5.0A          | 3CU5M             |
| 6.0A          | 3CU6M             |
| 8.0A          | 3CU8M             |
| 10A           | 3CU10M            |
| 12A           | 3CU12M            |
| 13A           | 3CU13M            |
| 15A           | 3CU15M            |
| 16A           | 3CU16M            |
| 20A           | 3CU20M            |
| 25A           | 3CU25M            |
| 30A           | 3CU30M            |
| 32A           | 3CU32M            |
| 40A           | 3CU40M            |
| 50A           | 3CU50M            |
| 60A           | 3CU60M            |
| 63A           | 3CU63M            |

Standard Pack: 4

Weight:

0.5A - 63A: 1.66kg (3.67 lb.)

**Four Pole**  
Please contact  
Altech.

Non-standard current ratings available. Minimum quantities may apply. Please contact Altech for further details.

Introduction

UL 489

UL 508

UL 1077

Busbars

ANNEX

## D-Trip Characteristic

### Application Examples:

Control transformers, power supplies and reactive loads. Relatively long thermal trip delay and very high magnetic trip point.



One Pole

| Rated Current | Type/<br>Cat. No. |
|---------------|-------------------|
| 0.5A          | 1DU05M            |
| 1.0A          | 1DU1M             |
| 2.0A          | 1DU2M             |
| 3.0A          | 1DU3M             |
| 4.0A          | 1DU4M             |
| 5.0A          | 1DU5M             |
| 6.0A          | 1DU6M             |
| 8.0A          | 1DU8M             |
| 10A           | 1DU10M            |
| 12A           | 1DU12M            |
| 13A           | 1DU13M            |
| 15A           | 1DU15M            |
| 16A           | 1DU16M            |
| 20A           | 1DU20M            |
| 25A           | 1DU25M            |
| 30A           | 1DU30M            |
| 32A           | 1DU32M            |
| 40A           | 1DU40M            |
| 50A           | 1DU50M            |
| 60A           | 1DU60M            |
| 63A           | 1DU63M            |

Standard Pack: 12

Weight:

0.5A - 63A: 1.6kg (3.54 lb.)



Two Pole

| Rated Current | Type/<br>Cat. No. |
|---------------|-------------------|
| 0.5A          | 2DU05M            |
| 1.0A          | 2DU1M             |
| 2.0A          | 2DU2M             |
| 3.0A          | 2DU3M             |
| 4.0A          | 2DU4M             |
| 5.0A          | 2DU5M             |
| 6.0A          | 2DU6M             |
| 8.0A          | 2DU8M             |
| 10A           | 2DU10M            |
| 12A           | 2DU12M            |
| 13A           | 2DU13M            |
| 15A           | 2DU15M            |
| 16A           | 2DU16M            |
| 20A           | 2DU20M            |
| 25A           | 2DU25M            |
| 30A           | 2DU30M            |
| 32A           | 2DU32M            |
| 40A           | 2DU40M            |
| 50A           | 2DU50M            |
| 60A           | 2DU60M            |
| 63A           | 2DU63M            |

Standard Pack: 6

Weight:

0.5A - 63A: 1.6kg (3.54 lb.)



Three Pole

| Rated Current | Type/<br>Cat. No. |
|---------------|-------------------|
| 0.5A          | 3DU05M            |
| 1.0A          | 3DU1M             |
| 2.0A          | 3DU2M             |
| 3.0A          | 3DU3M             |
| 4.0A          | 3DU4M             |
| 5.0A          | 3DU5M             |
| 6.0A          | 3DU6M             |
| 8.0A          | 3DU8M             |
| 10A           | 3DU10M            |
| 12A           | 3DU12M            |
| 13A           | 3DU13M            |
| 15A           | 3DU15M            |
| 16A           | 3DU16M            |
| 20A           | 3DU20M            |
| 25A           | 3DU25M            |
| 30A           | 3DU30M            |
| 32A           | 3DU32M            |
| 40A           | 3DU40M            |
| 50A           | 3DU50M            |
| 60A           | 3DU60M            |
| 63A           | 3DU63M            |

Standard Pack: 4

Weight:

0.5A - 63A: 1.66kg (3.67 lb.)

**Four Pole**  
Please contact  
Altech.

Non-standard current ratings available. Minimum quantities may apply. Please contact Altech for further details.

# G-Trip Characteristic

**Application Examples:**  
Control transformers, power supplies and reactive loads. Relatively long thermal trip delay and very high magnetic trip point.



**One Pole**

| Rated Current | Type/<br>Cat. No. |
|---------------|-------------------|
| 0.5A          | 1GU05M            |
| 1.0A          | 1GU1M             |
| 2.0A          | 1GU2M             |
| 3.0A          | 1GU3M             |
| 4.0A          | 1GU4M             |
| 5.0A          | 1GU5M             |
| 6.0A          | 1GU6M             |
| 8.0A          | 1GU8M             |
| 10A           | 1GU10M            |
| 12A           | 1GU12M            |
| 13A           | 1GU13M            |
| 15A           | 1GU15M            |
| 16A           | 1GU16M            |
| 20A           | 1GU20M            |
| 25A           | 1GU25M            |
| 30A           | 1GU30M            |
| 32A           | 1GU32M            |
| 40A           | 1GU40M            |
| 50A           | 1GU50M            |
| 60A           | 1GU60M            |
| 63A           | 1GU63M            |

Standard Pack: 12

Weight:  
0.5A - 63A: 1.6kg (3.54 lb.)



**Two Pole**

| Rated Current | Type/<br>Cat. No. |
|---------------|-------------------|
| 0.5A          | 2GU05M            |
| 1.0A          | 2GU1M             |
| 2.0A          | 2GU2M             |
| 3.0A          | 2GU3M             |
| 4.0A          | 2GU4M             |
| 5.0A          | 2GU5M             |
| 6.0A          | 2GU6M             |
| 8.0A          | 2GU8M             |
| 10A           | 2GU10M            |
| 12A           | 2GU12M            |
| 13A           | 2GU13M            |
| 15A           | 2GU15M            |
| 16A           | 2GU16M            |
| 20A           | 2GU20M            |
| 25A           | 2GU25M            |
| 30A           | 2GU30M            |
| 32A           | 2GU32M            |
| 40A           | 2GU40M            |
| 50A           | 2GU50M            |
| 60A           | 2GU60M            |
| 63A           | 2GU63M            |

Standard Pack: 6

Weight:  
0.5A - 63A: 1.6kg (3.54 lb.)



**Three Pole**

| Rated Current | Type/<br>Cat. No. |
|---------------|-------------------|
| 0.5A          | 3GU05M            |
| 1.0A          | 3GU1M             |
| 2.0A          | 3GU2M             |
| 3.0A          | 3GU3M             |
| 4.0A          | 3GU4M             |
| 5.0A          | 3GU5M             |
| 6.0A          | 3GU6M             |
| 8.0A          | 3GU8M             |
| 10A           | 3GU10M            |
| 12A           | 3GU12M            |
| 13A           | 3GU13M            |
| 15A           | 3GU15M            |
| 16A           | 3GU16M            |
| 20A           | 3GU20M            |
| 25A           | 3GU25M            |
| 30A           | 3GU30M            |
| 32A           | 3GU32M            |
| 40A           | 3GU40M            |
| 50A           | 3GU50M            |
| 60A           | 3GU60M            |
| 63A           | 3GU63M            |

Standard Pack: 4

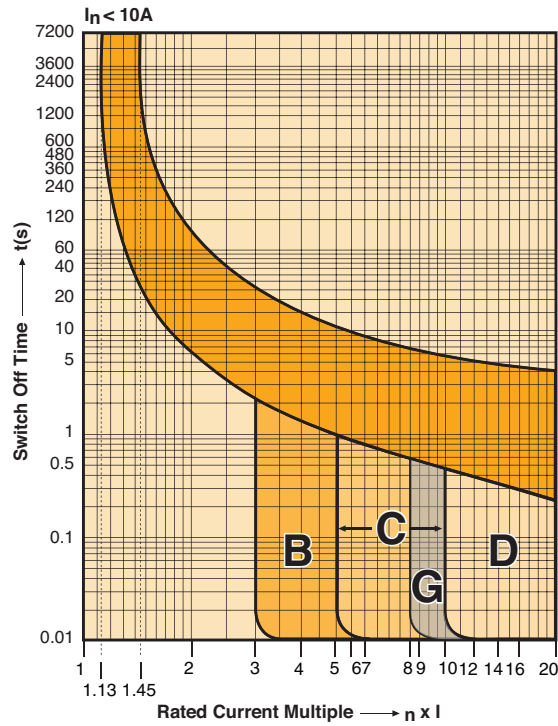
Weight:  
0.5A - 63A: 1.66kg (3.67 lb.)

**Four Pole**  
Please contact  
Altech.

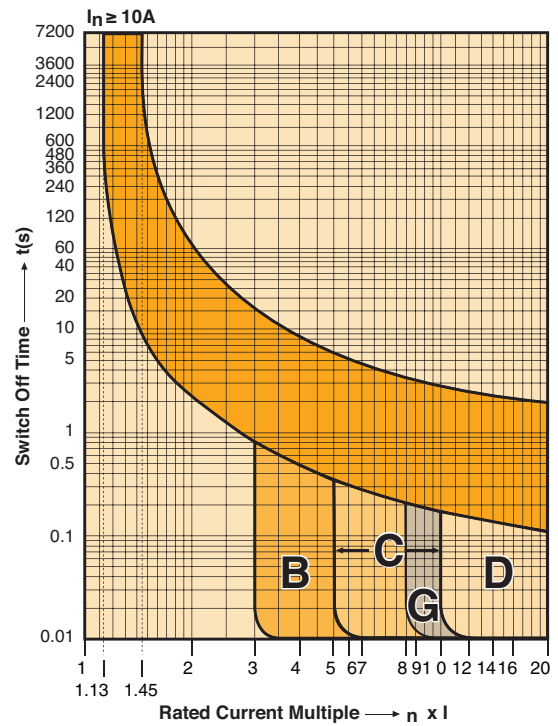
Non-standard current ratings available. Minimum quantities may apply. Please contact Altech for further details.

## M-Series Trip Curves

### B, C, G and D Trip Less than 10A



### B, C, G and D Trip 10A and higher



## Temperature and Power Loss Specifications

Introduction

UL 489

UL 508

UL 1077

Busbars

ANNEX

| Rated current of MCB | Internal Impedances & Power Loss |                  |                                                          |        |        | MCB Temperature Compensation                              |       |       |       |       |       |       |       |       |  |
|----------------------|----------------------------------|------------------|----------------------------------------------------------|--------|--------|-----------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--|
|                      | Internal impedance               | Power loss on CB | Maximum allowable impedance of breakdown loop (0.2/0.4s) |        |        | Effective rated current allowing for ambient temperature. |       |       |       |       |       |       |       |       |  |
| I <sub>n</sub> (A)   | Z (m Ω)                          | P (W)            | Z <sub>s</sub> (Ω)                                       |        |        | I <sub>cor</sub> (A)                                      |       |       |       |       |       |       |       |       |  |
|                      | Char. B,C,D                      | Char. B,C,D      | Char.B                                                   | Char.C | Char.D | Ambient Temperature                                       |       |       |       |       |       |       |       |       |  |
|                      |                                  |                  |                                                          |        |        | -20°C                                                     | -10°C | 0°C   | 10°C  | 20°C  | 30°C  | 40°C  | 50°C  | 60°C  |  |
| 0.50                 | 6600                             | 1.7              | 42.0                                                     | 51.1   | 28.8   | 0.61                                                      | 0.59  | 0.57  | 0.55  | 0.53  | 0.50  | 0.47  | 0.44  | 0.42  |  |
| 1.00                 | 1650                             | 1.7              | 46.0                                                     | 25.6   | 14.4   | 1.21                                                      | 1.18  | 1.14  | 1.10  | 1.05  | 1.00  | 0.93  | 0.88  | 0.83  |  |
| 2.00                 | 370                              | 1.5              | 23.0                                                     | 12.8   | 7.2    | 2.42                                                      | 2.36  | 2.28  | 2.20  | 2.10  | 2.00  | 1.86  | 1.76  | 1.67  |  |
| 3.00                 | 210                              | 1.9              | 15.3                                                     | 8.5    | 4.8    | 3.63                                                      | 3.54  | 3.42  | 3.30  | 3.15  | 3.00  | 2.79  | 2.64  | 2.50  |  |
| 4.00                 | 126                              | 2.0              | 11.5                                                     | 6.4    | 3.6    | 4.84                                                      | 4.72  | 4.56  | 4.40  | 4.20  | 4.00  | 3.72  | 3.52  | 3.33  |  |
| 6.00                 | 51                               | 1.8              | 7.7                                                      | 4.3    | 2.4    | 7.30                                                      | 7.10  | 6.80  | 6.60  | 6.30  | 6.00  | 5.60  | 5.30  | 5.00  |  |
| 8.00                 | 21                               | 1.3              | 5.8                                                      | 3.2    | 1.8    | 9.70                                                      | 9.40  | 9.10  | 8.80  | 8.40  | 8.00  | 7.40  | 7.00  | 6.70  |  |
| 10.00                | 14.8                             | 1.5              | 4.6                                                      | 2.6    | 1.4    | 12.1                                                      | 11.8  | 11.40 | 11.00 | 10.50 | 10.00 | 9.30  | 8.80  | 8.30  |  |
| 13.00                | 11.3                             | 1.9              | 3.5                                                      | 2.0    | 1.1    | 15.7                                                      | 15.3  | 14.80 | 14.30 | 13.70 | 13.00 | 12.10 | 11.50 | 10.80 |  |
| 16.00                | 7.5                              | 1.9              | 2.9                                                      | 1.6    | 0.9    | 19.4                                                      | 18.9  | 18.20 | 17.60 | 16.80 | 16.00 | 14.90 | 14.10 | 13.30 |  |
| 20.00                | 6.3                              | 2.5              | 2.3                                                      | 1.3    | 0.7    | 24.2                                                      | 23.60 | 22.80 | 22.00 | 21.00 | 20.00 | 18.60 | 17.60 | 16.70 |  |
| 25.00                | 4.4                              | 2.8              | 1.8                                                      | 1.0    | 0.6    | 30.3                                                      | 29.50 | 28.50 | 27.50 | 26.30 | 25.00 | 23.30 | 22.00 | 20.80 |  |
| 32.00                | 3.1                              | 3.2              | 1.4                                                      | 0.8    | 0.4    | 38.7                                                      | 37.80 | 36.50 | 35.20 | 33.60 | 32.00 | 29.80 | 28.20 | 26.70 |  |
| 40.00                | 2.5                              | 4.0              | 1.2                                                      | 0.6    | 0.4    | 48.4                                                      | 47.20 | 45.60 | 44.00 | 42.00 | 40.00 | 37.20 | 35.20 | 33.30 |  |
| 50.00                | 2.2                              | 5.5              | 0.9                                                      | 0.5    | 0.3    | 60.5                                                      | 59.0  | 57.00 | 55.00 | 52.50 | 50.00 | 46.50 | 44.10 | 41.70 |  |
| 63.00                | 1.6                              | 6.4              | 0.7                                                      | 0.4    | 0.2    | 76.2                                                      | 74.30 | 71.80 | 69.30 | 66.20 | 63.00 | 58.60 | 55.50 | 52.50 |  |

# Accessories

## M-Series - UL508 Manual Motor Controller with Disconnecting Mean



Accessories can be factory or field mounted on M-Series manual motor controllers for enhanced control and monitoring capabilities. Field mounting kits include all necessary parts and instructions. Accessories can be gang mounted on a single controller (the Auxiliary Switch in the outside position). The mounting arrangement links the internal latch-pins for the tripping mechanisms, ensuring simultaneous trips. Handles are linked to simplify manual resetting.



### Neutral Pole (63A/480Y/277 VAC)

| Description | Type/<br>Cat. No. | Cable<br>Max               | Cable<br>Min                 | Torque<br>Max     | Torque<br>Min     |
|-------------|-------------------|----------------------------|------------------------------|-------------------|-------------------|
| Neutral     | ALTN2             | 25mm <sup>2</sup><br>AWG 3 | 2.5mm <sup>2</sup><br>AWG 12 | 2Nm<br>17.5 lb-in | 1.5Nm<br>12 lb-in |

Standard Pack: 10

Weight: 1.25kg (2.77 lb.)



Shunt Trip



Undervoltage Trip

### Shunt Trip and Undervoltage Trip \*\*

| Description     | Shunt Trip<br>Type/Cat. No. | Operational<br>Voltage | Rated<br>Coil Current | Undervoltage Trip*<br>Type/Cat. No. |
|-----------------|-----------------------------|------------------------|-----------------------|-------------------------------------|
| <b>AC Coil:</b> |                             |                        |                       |                                     |
| 12V AC          | FA12ACR                     | 8.4 - 13.2V            | 6A                    | UV12ACR                             |
| 24V AC          | FA24ACR                     | 16.8 - 26.4V           | 2.8A                  | UV24ACR                             |
| 48V AC          | FA48ACR                     | 33.6 - 52.8V           | 0.8A                  | UV48ACR                             |
| 60V AC          | FA60ACR                     | 42 - 66V               | ~0.7A                 | UV60ACR                             |
| 110V AC         | FA110ACR                    | 77 - 121V              | 0.5A                  | UV110ACR                            |
| 120V AC         | FA120ACR                    | 84 - 132V              | ~0.5A                 | UV120ACR                            |
| 230V AC         | FA230ACR                    | 161 - 253V             | 0.6A                  | UV230ACR                            |
| 277V AC         | FA277ACR                    | 194 - 305V             | ~0.5A                 | UV277ACR                            |
| 400V AC         | FA400ACR                    | 280 - 440V             | 0.5A                  | UV400ACR                            |
| <b>DC Coil:</b> |                             |                        |                       |                                     |
| 12V DC          | FA12DCR                     | 8.4 - 13.2V            | ~6A                   | UV12DCR                             |
| 24V DC          | FA24DCR                     | 16.8 - 26.4V           | 3A                    | UV24DCR                             |
| 48V DC          | FA48DCR                     | 33.6 - 52.8V           | 2A                    | UV48DCR                             |
| 110V DC         | FA110DCR                    | 77 - 121V              | 0.6A                  | UV110DCR                            |

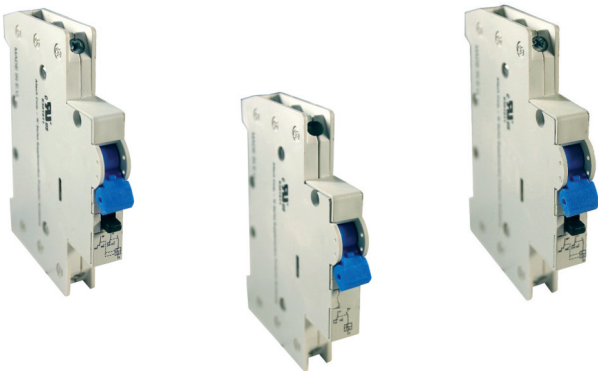
\* Reset-Hold Voltage =  $0.85 \times V_E$ ; Drop-Out Voltage =  $0.2 \times V_E$

\*\* Special order in conjunction with circuit breaker that is factory assembled (not field assembled).

Standard Pack: 10

Weight: 1.1kg (2.43 lb.)

|                           |                                                          |
|---------------------------|----------------------------------------------------------|
| Terminal Size - min/max   | 2.5 mm <sup>2</sup> (12 AWG) / 25mm <sup>2</sup> (3 AWG) |
| Terminal Torque - min/max | 1.5 Nm (12 lb. in.) / 2 Nm (17.5 lb. in.)                |

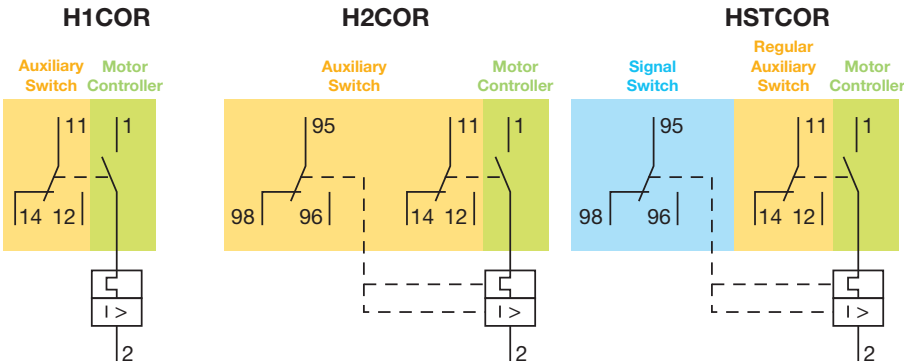


Auxiliary Contact (4A/230 VAC)

| Description                       | Type/<br>Cat. No. | Cable<br>Max                 | Cable<br>Min                 | Torque<br>Max    | Torque<br>Min     |
|-----------------------------------|-------------------|------------------------------|------------------------------|------------------|-------------------|
| 1 x CO                            | H1COR             | 2.5mm <sup>2</sup><br>AWG 12 | 0.5mm <sup>2</sup><br>AWG 20 | 0.5Nm<br>4 lb-in | 0.33Nm<br>3 lb-in |
| 2 x CO                            | H2COR             |                              |                              |                  |                   |
| 1 x CO, 1 Signal<br>& Test Button | HSTCOR            |                              |                              |                  |                   |

Standard Pack: 15  
Weight: H1COR: 0.5kg (1.32 lb.); H2COR, HSTCOR: 0.72kg (1.59 lb.)

Wiring Diagram



**Lock-out Adapter** Luggage Lock

| Description | Type/<br>Cat. No. |
|-------------|-------------------|
| Yellow      | EASS2             |

Standard Pack: 10  
Weight: 50g (1.76 oz.)