

## The Altech Advantage

In today's very competitive marketplace you need reliability, so you need to use circuit breakers that are high quality and technically correct for your application. Altech is a US leader in DIN rail mounted breakers with ratings up to 63A. Only Altech offers DIN rail mounted breakers that meet UL489, UL508 or UL1077 approvals with a short circuit interrupt capacity of up to 10kA. No other manufacturer offers this complete line. This assures you the right product for your application requirements.

If your application requires a manual motor controller, Altech is the leading US supplier of UL508 Manual Motor Controllers (MMC). In AC, we offer up to 60A in 1 to 3 poles at 480Y/277VAC. With 6 trip curves, Altech has the largest selection in the industry. This ensures you the selectivity you require for your application designs. Our MMCs have a 10kA short circuit withstand capacity, this is the highest rating in the industry. The AC version is rated up to 60A and is DC rated in 2 poles up to 80VDC.

### UL508

#### Manual Motor Controllers (MMC)

Provides the following features according to NEC®:

- Overload protection
- Switching function
- Disconnect function\*

\*when suitable for disconnect means

#### Modern Look and Color

Dark blue handle and terminal caps enhance appearance and match imprint.

#### Marking Window

Large marking area with clear swivel window screen.


#### Standard Dual Connection Terminal


Standard box & ring tongue terminal are unique for the industry.


#### Reinforced Housing

Added ridges and new housing design improves overall product strength.



 508 listed  
E137938

 C22.2 No.14 certified  
LR104391

 (up to 25A certain trip curves)

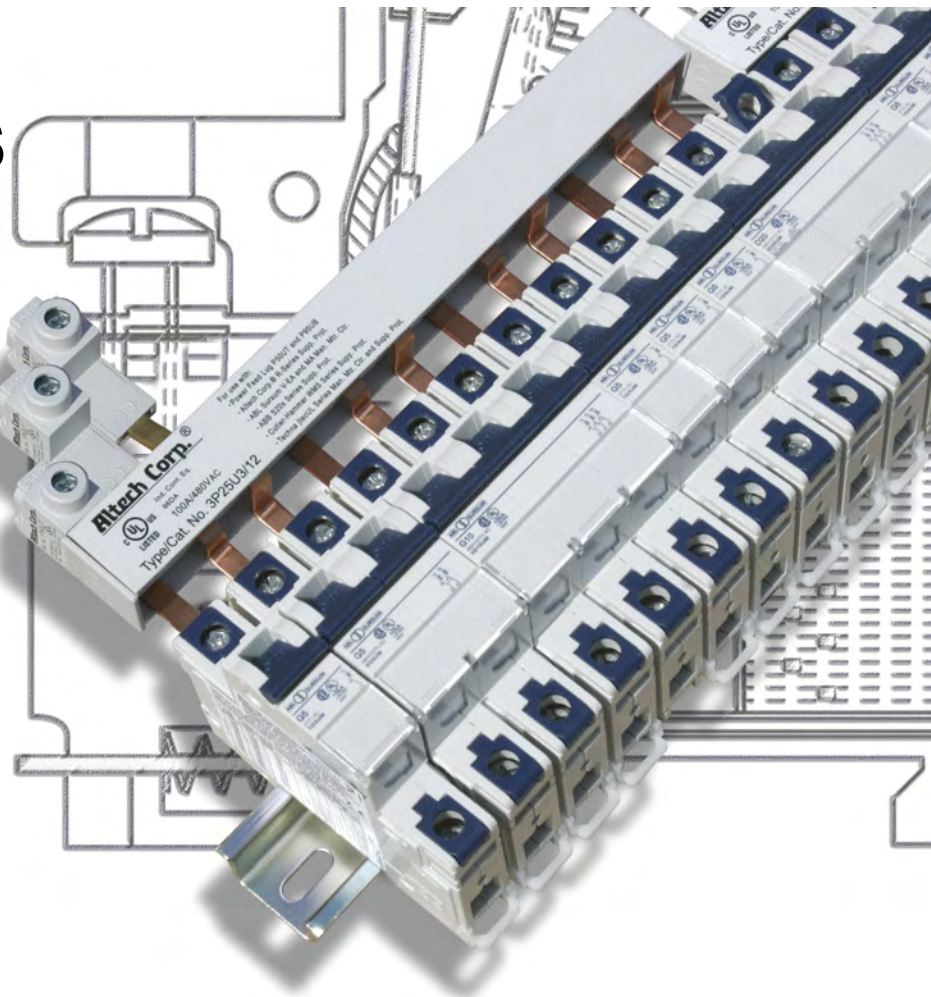


# V-EA Series

**UL** 508 listed  
E137938

**SP** C22.2 No.14 certified  
LR104391

UL508 Listed  
Manual Motor Controllers  
“Suitable as Motor Disconnect”



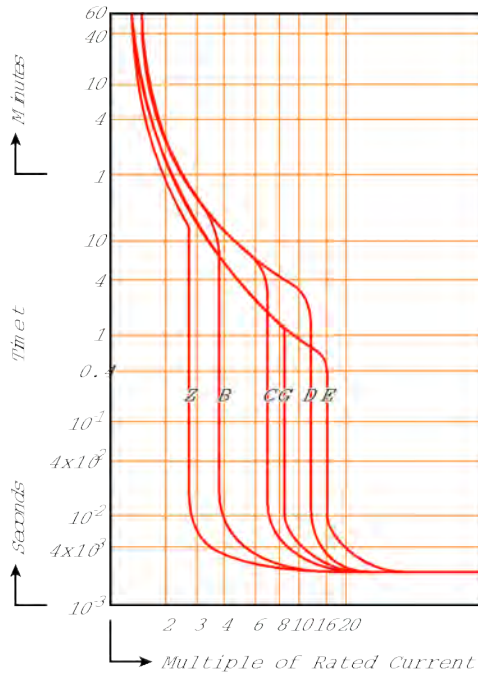
- DIN Rail Mounted
- 17.5mm width per pole
- Thermal Magnetic
- 480Y/277V AC, 50/60Hz
- 10kA Short Circuit Withstand Capacity
- Applications Include:
  - AC Motor Starting, Across the Line
  - AC General Use
  - AC Resistance
  - AC Discharge Lamps (Ballast)
  - AC Incandescent Lamps (Tungsten)

<b>Voltage Rating</b>	480Y/277VAC 0.3-25A: 1 pole - 42VDC; 2 Pole - 80VDC 30-60A: 1 pole - 24VDC; 2 Pole - 60VDC
<b>Short Circuit Withstand Rating (UL/CSA - Ratings)</b>	0.3-60A (RC): 10kA with UL-listed RK5 back-up fuse or MCCB
<b>Group Short Circuit Withstand Rating (UL/CSA - Ratings)</b>	0.3-10A (RC): 10kA; 12-60A (RC): 5kA no branch circuit protection required
<b>Interrupting Capacity (VDE - Ratings)</b>	0.3-63A (RC): 10kA
<b>Calibration Temperature</b>	40°C (104°F)
<b>Operating Temperature</b>	-25°C to 55°C (-13°F to 131°F)
<b>Storage Temperature</b>	-40°C to 70°C (-40°F to 158°F)
<b>Terminal Size Acceptability</b>	Top: 18-3 AWG; Bottom: 18-2 AWG (Line/Load reversible)
<b>Terminal Torque</b>	20 lb.in.
<b>Terminal Protection Degree</b>	IP20
<b>Horse Power Ratings</b>	see page 32
<b>Mechanical Endurance Ratings</b>	see page 33

## SHORT CIRCUIT WITHSTAND RATINGS FOR V-EA MANUAL MOTOR CONTROLLER

Trip Curve	Amp Range	Backup Protection	UL-Listed RK5-Fuse up to 10kA	UL-Listed MCCB up to 10kA	No BCP Required up to:
all	0.3 - 10A		4xRC* min 15A, max 70A	4xRC* min 15A, max 70A	10kA
all	12 - 30/32A		4xRC* max 125A	4xRC* max 125A	5kA
all	40 - 50A		4xRC* max 200A	4xRC* max 200A	5kA
all	60 / 63A		4xRC* max 250A	4xRC* max 250A	5kA

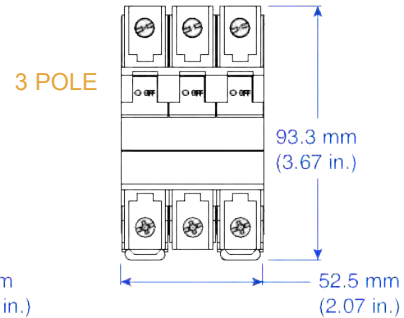
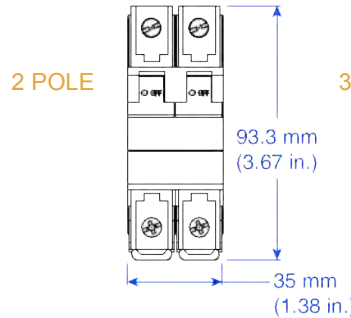
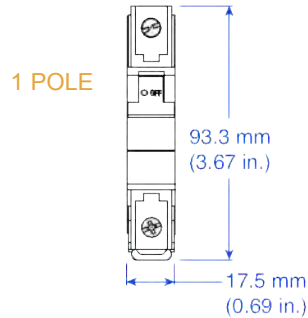
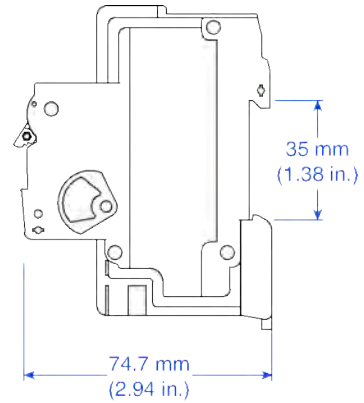
\*up to nearest rated current



## Time versus Current Trip Curve

For the exact trip curve, please refer to pages 30-31.

Dimensions in mm side view



### Application Overview

Trip-Characteristics*				Applications											
Characteristic Trip Boundaries				Lighting Wiring Protection Control Circuits	Business Equipment Appliances	Transformers	Power Supplies Heaters	Motors				General Electronics	Solenoid	Semi- conductors Components/ devices with low surge- current and short circuit withstand capabilities	Reactive Load
Thermal Trip		Magnetic Trip						General	Low Inrush	High Inrush	High Efficiency				
Must not Trip>100ms	Must Trip <1hr	Must not Trip>100ms	Must Trip 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	16xRC												
E-Characteristics						☒	☒			☒					
1.05xRC	1.35xRC	14xRC	18xRC												
G-Characteristics				☒		☒	☒	☒			☒				
1.05xRC	1.35xRC	8xRC	10xRC												
Z-Characteristics											☒	☒			
1.05xRC	1.35xRC	2xRC	3xRC												

\*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 his specific application.