

Reliable on land or sea.

UL 1500 Ignition proof.

ABYC compliant.

High interrupt capacity.



Series 18.

Count on it.



The Series 18 from MP. Count on it. Wherever it goes.

Clearly Specified Protection.

Available in 16 standard ratings (2-60A), the Series 18 from MP expands the specified performance capabilities of a classic circuit breaker design. Electrical, mechanical and environmental specifications have all been defined and validated through testing to the requirements of the American Boat and Yacht Council (ABYC), the US Coast Guard (USCG), the Society of Automotive Engineers (SAE), Underwriters Laboratories (UL) and various Military Standards.

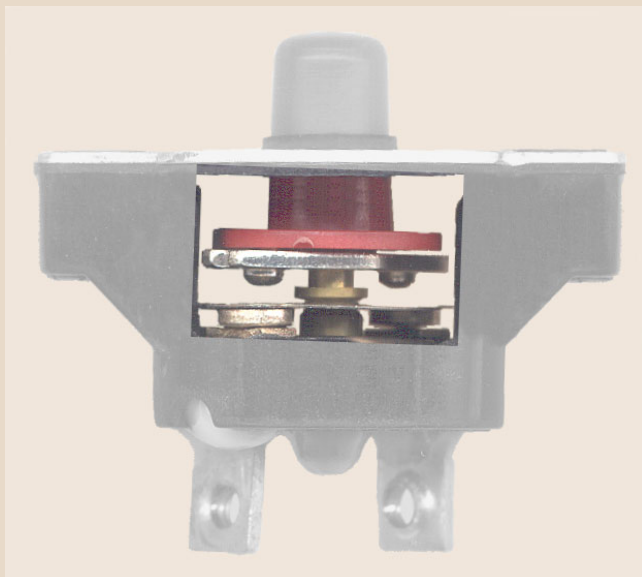
Robust Design for Harsh Environments.

The Series 18 was designed for the harshest of environments. The weatherproof and ignition proof characteristics are especially well suited to applications in Marine, Heavy Equipment, Trucks, Buses and Battery Chargers. All materials for the Series 18 were carefully chosen for resistance to UV and flammability. Equipment that must perform in the most demanding environmental conditions relies on the Series 18.



The Series 18 is designed to be fit and form compatible to previously available devices, while providing enhanced performance.

Series 18 Physical Configuration



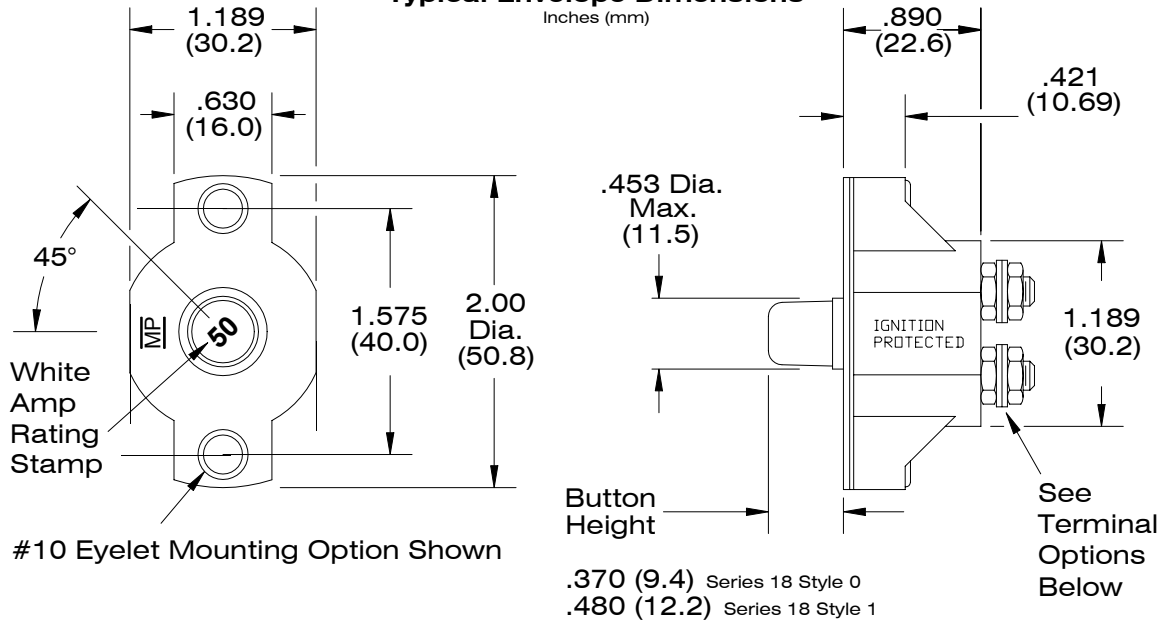
The Series 18 uses a double-break design to achieve increased short-circuit interruption capability.

The push-to-reset actuator is trip-free, ensuring the Series 18 cannot be forced to continuously maintain a closed circuit if an overload condition exists.

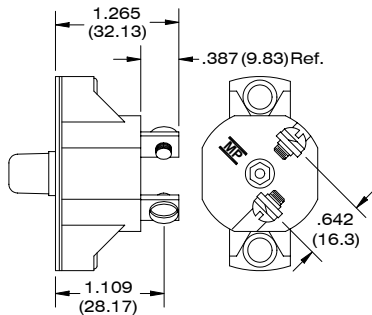
Series 18 Physical Configuration

Typical Envelope Dimensions

Inches (mm)

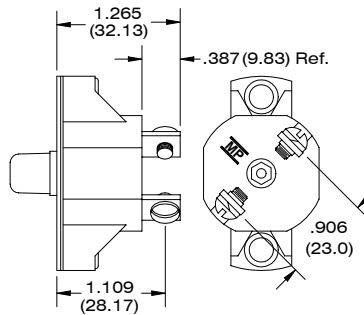


Series 18 Terminal Options



1S & 2E (offset)

2 - 10 Amps, Style 0 only
1S = Offset 6-32 Screw Terminals
2E = Offset 8-32 Screw Terminals

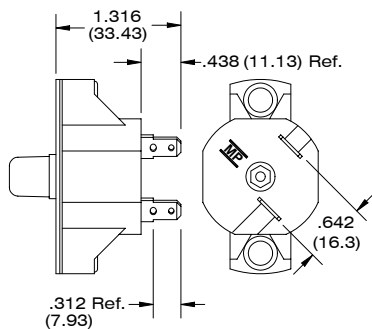


2E (in-line)

12.5 - 40 Amps, Style 0 only
 In-Line 8-32 Screw Terminals

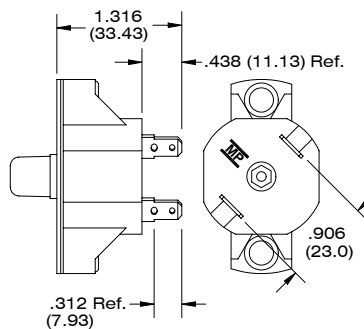
Two screw terminal options are available for the Series 18 Style 0: #6-32 (for 2-10 amp ratings only) and #8-32 (for 12.5-40 amps). In addition, .250 quick connects are available for ratings up to 25 amps.

Series 18 Style 1 is available with #10-32 stud terminals.



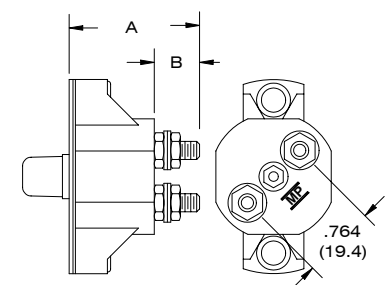
1Q (offset)

2 - 10 Amps, Style 0 only
 Offset .250" Quick-Connect Terminals



1Q (in-line)

12.5 - 25 Amps, Style 0 only
 In-Line .250" Quick-Connect Terminals

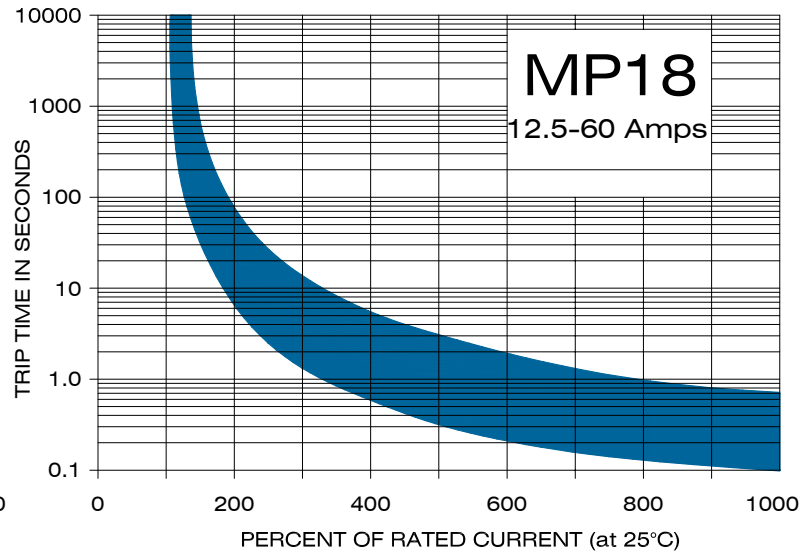
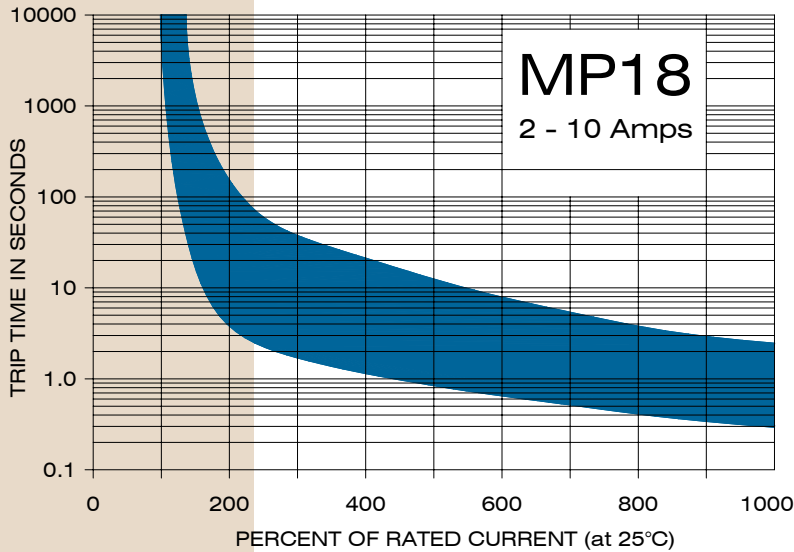


2T & 3T

12.5 - 60 Amps, Style 1 only
 #10-32 Threaded Stud Terminals

	A	B
2T	1.221 (31.0)	.325 Ref. (8.3)
3T	1.345 (34.2)	.449 Ref. (11.4)

Series 18 Typical Trip Curves



Series 18 Operating Characteristics

Minimum Ultimate Trip

The Series 18 Style 0 offers a minimum ultimate trip of 100% of rated current at 25°C / 77°F, while Style 1 offers a minimum ultimate trip of 110%.

Maximum Ultimate Trip

The Series 18 Style 0 offers a maximum ultimate trip of 135% of rated current at 25°C / 77°F, while Style 1 offers a maximum ultimate trip of 143%.

Overload Trip Time Data (seconds at 25°C)

Current Rating	200%	400%	1000%
2 - 10 Amps	4-150	1.2-20	0.3-2.5
12.5 - 60 Amps	6-70	0.6-5	0.1-0.7

Voltage Drop

The Series 18 Style 0 has a maximum voltage drop of 0.8V at rated current. The Series 18 Style 1 has a maximum voltage drop of 0.25V at rated current.

Typical Ambient Temperature Correction Factor

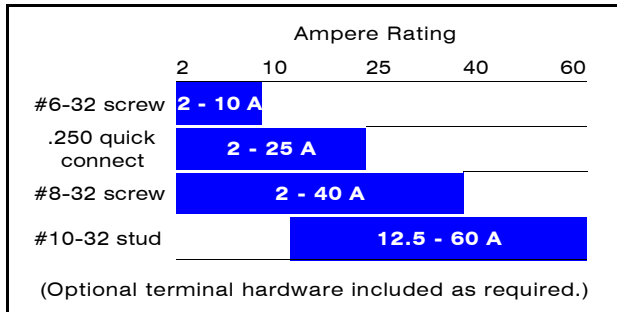
	-65°F -54°C	0	32	77	100	140	165
Style 0	0.83	0.87	0.93	1.00	1.11	1.25	1.66
Style 1	0.81	0.88	0.92	1.00	1.10	1.22	1.47

Series 18 Specifications

Standard Amp Rating

Series 18 can be specified in current ratings of 2A, 3A, 5A, 8A, 10A, 12.5A, 15A, 17.5A, 20A, 25A, 30A, 35A, 40A, 45A, 50A or 60A.

Termination Options



Mounting Options

Panel mounting options include both through-hole inserts for #10-32 thread clearance and #8-32 threaded mounting inserts.

Interrupt Capacity

Series 18 Style 0 & 1 tested per:

ABYC E11: 3000A (32VDC and 120VAC).

UL 1077: 3000A (32VDC and 120VAC).

SAE J553 compliant.

Series 18 Style 1 also tested per:

ABYC E11: 5000A (32VDC).

UL 1077: 5000A (32VDC).

Resettable Overload Capacity

The Series 18 may be reset at a minimum of ten times rated value.

Inrush Capacity

The Series 18 will not trip at 35X rated capacity for ½ cycle (0.008 sec.).

Endurance

At 32VDC the Series 18 meets the SAE J553 endurance requirements of 100 cycles at 6X rated value and 200 cycles at 2X rated value.

Dielectric Strength

All Series 18 models have a dielectric strength rating of 1500VAC.

Voltage Ratings

The Series 18 is rated at 120VAC and 32VDC.

Vibration

The Series 18 is rated at 10g per MIL-STD-202, Method 204, Test Condition A.

Shock

The Series 18 is rated at 100g per MIL-STD-202, Method 213, Test Condition A.

Corrosion (Salt Spray)

The Series 18 conforms to MIL-STD-202, Method 101, Test Condition A for 96 hours at 5% salt spray.

Ignition Proof

The Series 18 conforms to USCG Title 33, CFR, Section 183.410(a) per UL1500 testing.

Weatherproof

The Series 18 conforms to the weatherproof requirements of SAE J1428.

Humidity

The Series 18 conforms to MIL-STD-202, Method 106, for 240 hours at 95% relative humidity.

Weight

Approximately 39 grams

Regulatory Compliance Summary

Interrupt Capacity tested per: ABYC E11, UL 1077 & SAE J553.

Endurance per: SAE J553.

Dielectric Strength per: UL 1077

Vibration per: MIL-STD-202.

Shock per: MIL-STD-202.

Corrosion per: MIL-STD-202.

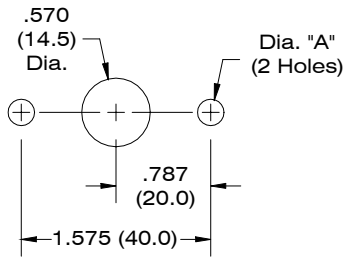
Ignition Proof per: UL 1500.

Weatherproof per: SAE J1428.

Humidity per: MIL-STD-202.

Series 18 Mounting Considerations

Recommended Mounting

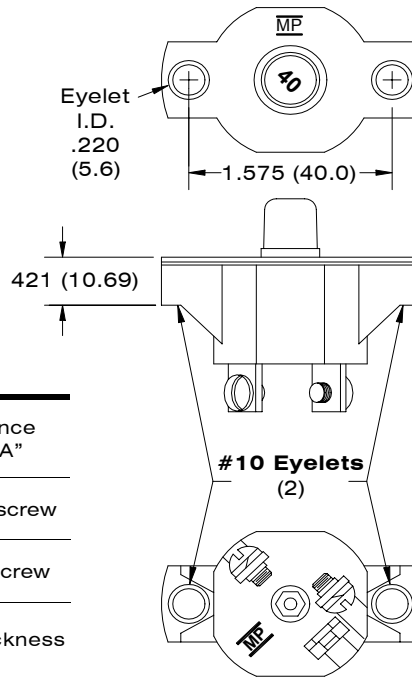


Panel Mounting Options

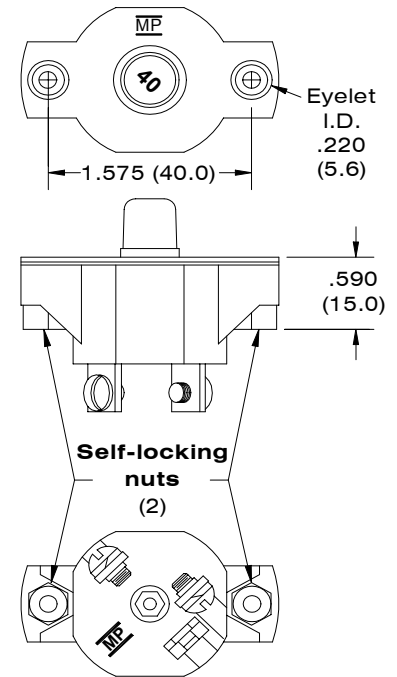
Mounting Code	Eyelet Size	Eyelet Dia.	Optional Screw Available*	Clearance Dia. "A"
T0	#10	.220 (5.6)	-	For #10 screw
E1	#10	.220 (5.6)	8-32	For #8 screw

*for .020 to .150 panel thickness

#10 Eyelet only **T0**



#10 Eyelet w/Locking Nut **E1**



Series 18 Part Numbering Guide

Color and Marking

- 0 = Red button
- 1 = Red button w/45° white amp-stamp
- A = No button (Auto-Reset)

Ampere Rating

- 0020 = 2.0A
 - 0030 = 3.0A
 - 0050 = 5.0A
 - 0080 = 8.0A
 - 0100 = 10.0A
 - 0125 = 12.5A
 - 0150 = 15.0A
 - 0175 = 17.5A
 - 0200 = 20.0A
 - 0250 = 25.0A
 - 0300 = 30.0A
 - 0350 = 35.0A
 - 0400 = 40.0A
 - 0450 = 45.0A
 - 0500 = 50.0A
 - 0600 = 60.0A
- (Additional ratings available)

P/N: 18

Series Number

18 = Series 18 Circuit Protector

Style

- 0 = 2 - 40 Amps, Standard Calibration
- 1 = 12.5 - 60 Amps, High Ambient

Actuation

- 0 = Manual Reset - Weatherproof
- 1 = Auto Reset - Weatherproof

Mounting

- T0 = #10 eyelet hole only
- E1 = #10 eyelet hole with attached self-locking nut

Terminals

- 1Q = 0.250" quick connect terminals (2 - 25A, Style 0 only)
 - 1S = 6-32 screw terminals (2 - 10A, Style 0 only)
 - 2E = 8-32 screw terminals (2 - 40A, Style 0 only)
 - 2T = 10-32 threaded .325" stud (12.5 - 60A, Style 1 only)
 - 3T = 10-32 threaded .449" stud (12.5 - 60A, Style 1 only)
- (see Terminal Configurations on page 2)

Mounting Hardware

- 0 = No mounting hardware
- 1 = Std. 8-32 screw for "E1" lock-nut (for .020 to .150 panel)

Terminal Hardware (bulk packed)

- 0 = No terminal hardware
- 1 = 6-32 screws & lockwashers for "1S" terminals
- 2 = 8-32 screws & lockwashers for "2E" terminals
- 3 = 10-32 nuts & lockwashers for "2T" & "3T" studs



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