



# SERIES 24

RAISING THE BAR  
MP - COUNT ON IT

1 & 2 Pole Protection  
ROHS Compliant  
0.1 to 30 Amp Capacity



## SUPERIOR CIRCUIT PROTECTION

[www.mechprod.com](http://www.mechprod.com)

## Series 24 Overview

### Multi-functional to fit your design needs.

The switchable, trip-free, MP series 24 circuit breaker may be specified to meet a wide variety of circuit protection and switching requirements in ratings of 0.1 - 30A. The snap-in mount Series 24 may be specified as a circuit protector and switch, as a one or two pole device with splash and actuator guard options.

- Certified for CSA C22.2 No.100-04 Portable generators
- ROHS Compliant
- Splash Guard / Actuator Guard
- Lighted or Unlighted
- Trip Free

### Trip-Free Protection

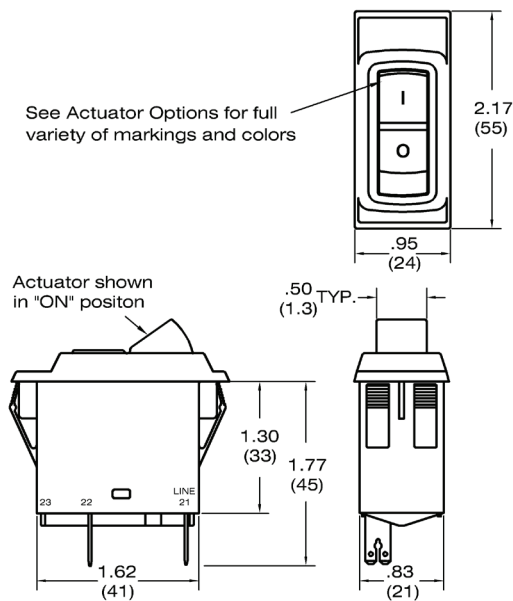
The series 24 operates as a latched mechanism, in which the switch function (Power On/Off) is independent of the trip function (Overload Protection). The latch mechanism is tripped by means of a cantilever-beam current sensing element. The contacts travel through an arc diverter chamber to reduce arc-quenching time. The overall mechanism is extremely simple in design for reliable operation.

US Patent Number 4937548

## Series 24 Physical Configuration

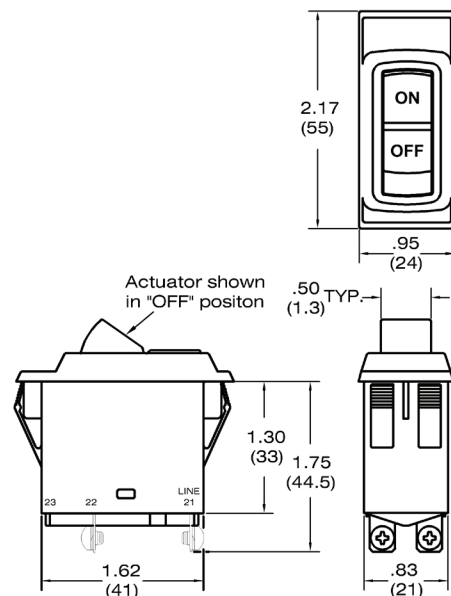
### Single Pole with quick Connect Terminals

Typical envelope dimensions  
Inches (mm)



### Two Pole with optional screw terminals

Typical envelope dimensions  
Inches (mm)



For 3D CAD:

[www.mechprod.com/3d-models-catalog](http://www.mechprod.com/3d-models-catalog)



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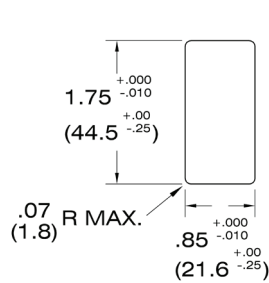
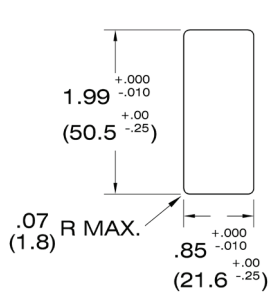
Specifications subject to change

QC-4010-C

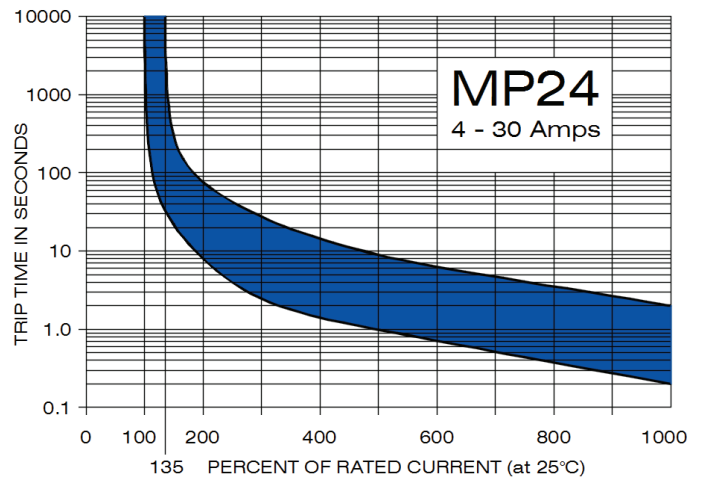
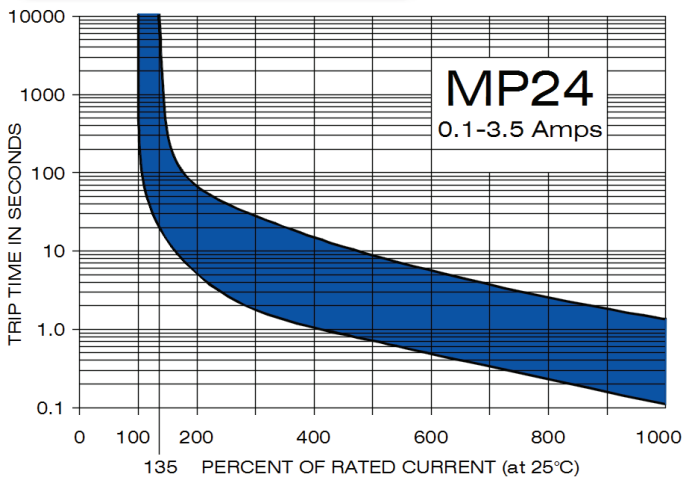
## Series 24 Specifications

<b>Standard Amp Ratings</b>	0.1A, 0.2A, 0.3A, 0.4A, 0.5A, 0.6A, 0.8A, 1A, 1.25A, 1.5A, 2A, 2.5A, 3A, 3.5A, 4A, 4.5A, 5A, 6A, 7A, 8A, 10A, 12A, 14A, 15A, 16A, 18A, 20A, 25A, or 30A
<b>Maximum Voltage Ratings</b>	250VAC / 50VDC Max.
<b>Ultimate Trip</b>	Must Hold 100% at 25°C/77°F Must Trip at 135% within 1 hour.
<b>Dielectric Strength</b>	2,000+VAC per IEC and 1,500+VAC per UL, CSA
<b>Rated Short Circuit Capacity I<sub>cn</sub> (IEC60934)</b>	0.1 - 2A, 10 x I <sub>n</sub> 2.5 - 20A, 250A 2 pole, 150A 1 pole
<b>Short Circuit Current Rating (UL1077)</b>	UL 2 pole at 250VAC 0.1-0.4A, 200A (pending) 0.5-30A, 5,000A  UL 2 pole at 50VDC 0.1-0.4A 1,000A (pending) 0.5-30A, 1,000A
<b>Inrush Capacity</b>	Will not trip at 35X rated current for ½ cycle (0.008 sec.)
<b>Typical Life (2 Pole)</b>	50,000 operations, I <sub>n</sub> ≤ 16A (240VAC / 50VDC) 30,000 operations, I <sub>n</sub> ≤ 17A (240VAC) 10,000 operations, I <sub>n</sub> ≥ 17A (50VDC)
<b>Typical Life (1 Pole)</b>	30,000 operations, I <sub>n</sub> ≤ 20A (240VAC) 30,000 operations, I <sub>n</sub> ≤ 16A (50VDC) 30,000 operations, I <sub>n</sub> ≥ 17A (28VDC)
<b>Operating Temperature Range</b>	Example: -30°C/-22°F to 60°C/140°F
<b>Weight</b>	1.3 oz. (37 gm.)
<b>CSA Application Codes (2 Pole)</b>	(1 ph., 2 pole break) 4-30A, 250VAC, 50VDC TC3, OL1 250VAC, OL1 50VDC SC:U3, 0.37kA 250VAC: SC:C1, 5kA, 250VAC; SC:C1, 1kA 50VDC
<b>CSA Application Codes (1 Pole)</b>	4-30A, 250VAC, 50VDC, TC3, OL0 250VAC, OL1 125VAC (50VDC 4-20A OL1, 21-30A OL0) SC:C1, 1kA 50VDC: SC:U3, 0.37kA 250VAC; SC:C1, 5kA 250VAC
<b>Weight</b>	1.3 oz. (37 gm.)
	<b>Environmental</b>
<b>Ingress Protection (IP Rating)</b>	IP40 operating area (IP54 with splash protection) and IP00 terminal area per IEC 529 / DIN 40050
<b>Corrosion</b>	96 Hrs. at 5% salt spray as tested to IEC60068-2-11, Test Ka
<b>Humidity</b>	240 Hrs. at 95% RH as tested to IEC60068-2-3, Test Ca
<b>Shock</b>	30g (11ms) as tested to IEC60068-2-27, Test Ea
<b>Vibration</b>	8g (57-500Hz) as tested to IEC60068-2-6, Test FC 10 frequency cycles / axis
	Regulatory Compliance Summary
	UL1077 Recognized, File # E66224 CSA certified, File # LR27156 (MC# 164913) VDE / IEC60934 License # 40028901, 0.5-20 Amp CCC CQC GB17701-1999, License Pending*

## Series 24 Panel Mount Openings (B)



## Series 24 Trip Curves



## Series 24 Operating Characteristics

Current Rating	Voltage Drop
0.1-3.5 Amp	9.0V at rated current
4-20 Amp	0.24V at rated current

### Typical Overload Trip Time Data (in seconds at 25 °C)

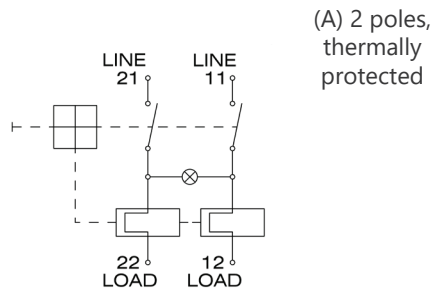
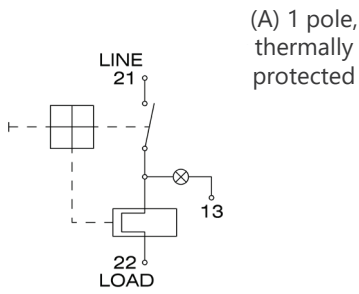
Current Rating	200%	500%	1000%
0.1 - 3.5 Amps	8-60	0.7-5	0.3-2.0
4 - 30 Amps	8-80	1-4	0.2-1.5

### Typical Ambient Temperature Correction Factor

Current Rating	°F	-22	32	77	104	122	140
	°C	-30	0	25	40	50	60
0.1 - 3.5 Amps		0.8	0.9	1.00	1.08	1.16	1.24
4 - 30 Amps		0.8	0.9	1.00	1.08	1.16	1.24



## Series 24 Poles (A)

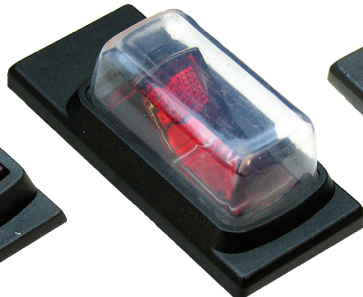


## Series 24 Actuator Options (C & G)

See back page for the complete list of options



**(C) Actuator Style 1**  
Standard Rocker



**(C) Actuator Style 2**  
Rocker with  
Splash Guard



**(C) Actuator Style 3**  
Rocker with  
Actuator Guard



**(C) Actuator Style 4**  
Rocker with  
Splash & Actuator Guard



**Color 1**



**Color 2**



**Color 3**



**Color 4**



**Color 5**

### (G) Actuator Colors

Series 24 rocker actuators are available in a variety of colors, with green red, amber and white translucent actuators for both lighted and unlighted applications, as well as unlighted black.

# Series 24 Part Numbering Guide

## Amp Rating

0010 = 0.1A	0200 = 2.0A	1000 = 10.0A
0020 = 0.2A	0250 = 2.5A	1200 = 12.0A
0030 = 0.3A	0300 = 3.0A	1400 = 14.0A
0040 = 0.4A	0350 = 3.5A	1500 = 15.0A
0050 = 0.5A	0400 = 4.0A	1600 = 16.0A
0060 = 0.6A	0450 = 4.5A	1800 = 18.0A
0080 = 0.8A	0500 = 5.0A	2000 = 20.0A
0100 = 1.0A	0600 = 6.0A	2500 = 25.0A
0125 = 1.25A	0700 = 7.0A	3000 = 30.0A
0150 = 1.5A	0800 = 8.0A	

(Additional ratings available)



### Series Number

24 = Series Circuit Protector

### (A) Poles

- 1 = 1 pole, thermally protected
- 2 = 2 pole, thermally protected

### (B) Panel Mount Openings

- 0 = Snap-in, 0.85 x 1.99 inch panel cutout
- 1 = Snap-in, 0.85 x 1.75 inch panel cutout

### (C) Actuator Styles

- 1 = Rocker
- 2 = Rocker with splash guard
- 3 = Rocker with actuator guard
- 4 = Rocker with splash & actuator guard

### (E) Light (Voltage) Options

- 0 = Not lighted
  - 1 = 4 -7 VDC Incandescent
  - 2 = 10 -14 VDC Incandescent
  - 3 = 20 -28 VDC Incandescent
  - 4 = 90 - 140 VAC Neon
  - 5 = 185 - 275 VAC Neon
- (Note: Options 1-5 require a translucent actuator color)

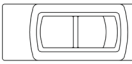

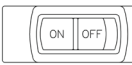


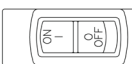

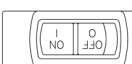
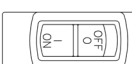
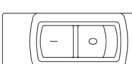

### (F) Termination Options

- 1 = Combination .110 / .250" Quick Connects
- 2 = #6-32 UNF (hardware bulk packed)
- 4 = #8-32 UNF (hardware bulk packed)

### (G) Actuator Color

- 1 = Green - Translucent
- 2 = Red - Translucent
- 3 = Amber - Translucent
- 4 = White - Translucent
- 5 = Black - Unlighted Only

### (H) Actuator Markings

- 0 = Not marked\* 
- 1 = ON / OFF\* 
- 2 = ON / OFF\* 
- 3 = ON/OFF\* 
- 4 = ON/OFF\* 
- 5 = ON I / O OFF 
- 6 = ON I / O OFF 
- 7 = ON I / O OFF 
- 8 = ON I / O OFF 
- 9 = I / O 
- A = I / O 

(\*non-VDE only)

To visit the MP website:



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Specifications subject to change

QC-4010-C



WARNING: Cancer & Reproductive Harm  
www.p65warnings.ca.gov/