

## Economical, Push-to-Reset Only Thermal Circuit Breaker



## Agency Approvals

W54 series (except 35A and 40A models) is UL 1077 Recognized as Supplementary Protectors, File E69543, for Canada and the United States.

Users should thoroughly review the technical data before selecting a product part number. It is recommended that users also seek out the pertinent approvals files of the agencies/laboratories and review them to ensure the product meets the requirements for a given application.

## Features

- New, economical design.
- 5 to 40 amp ratings. (35A and 40A models will not be submitted for UL/CSA).
- Cannot be manually tripped.
- Button extends for visual trip indication.
- Push button to reset breaker.
- Numerous mounting and termination options.

## Electrical Data @ 25°C

**Calibration:** Will continuously carry 100% of rating.  
May trip between 101% and 134%, but must trip at 135% of rating within one hour at +25°C.

**Dielectric Strength:** 1,500VAC (60 seconds).

**Insulation Resistance:** 100 megohms.

**Maximum Operating Voltages:** 50VDC; 125 or 250VAC (model dependent).

**Interrupt Capacity:** 1,000 amps in accordance with UL standard 1077.

**Resettable Overload Capacity:** Ten times rated current.

**Reset Time:** 60 seconds.

## Typical Resistance vs. Current Rating @ +25° C

| Current Rating in Amps | Typical Resistance in Ohms | Current Rating in Amps | Typical Resistance in Ohms |
|------------------------|----------------------------|------------------------|----------------------------|
| 5.0                    | 0.050                      | 15.0                   | 0.017                      |
| 6.0                    | 0.042                      | 20.0                   | 0.012                      |
| 7.0                    | 0.036                      | 25.0                   | 0.010                      |
| 8.0                    | 0.031                      | 30.0                   | 0.008                      |
| 10.0                   | 0.025                      | 35.0                   | 0.007                      |
| 12.0                   | 0.021                      | 40.0                   | 0.006                      |

## Mechanical/Environmental Data

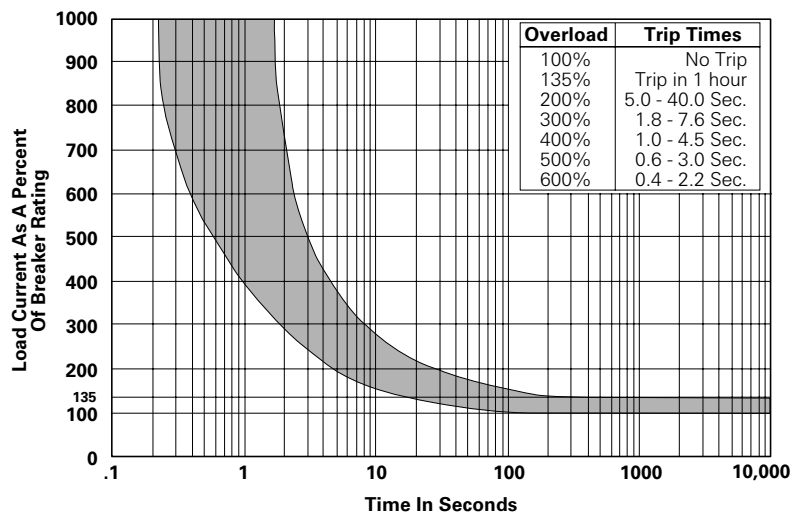
**Operating Temperature Range:** 0°C to +60°C.

**Termination:** .250" (6.35mm) quick connects or #8-32 screws.

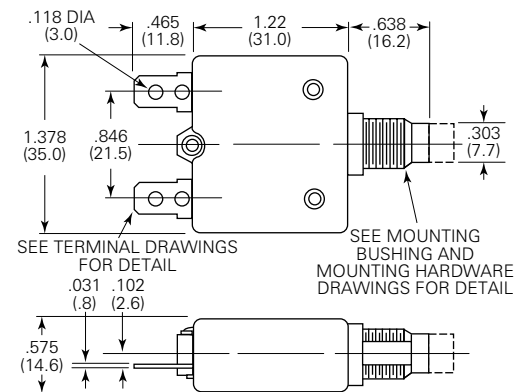
**Mounting:** Various options. See Ordering Information and drawings.

**Approximate Weight:** 0.9 oz. (25.0g).

## Time vs. Current Trip Curve @ +25°C



## Outline Dimensions



## Ambient Compensation Table

| Ambient Temperature in °C | Rating Correction Factor |
|---------------------------|--------------------------|
| 10                        | .90                      |
| 20                        | .98                      |
| 25                        | 1.00                     |
| 30                        | 1.10                     |
| 40                        | 1.25                     |
| 50                        | 1.61                     |
| 60                        | 2.00                     |

**To use this chart:** Divide the breaker rating by the correction factor to determine the compensated rating. Calculate the overloads in terms of the compensated rating to use the published trip curve. Do not use these devices outside their specified operating temperature ranges.

## Ordering Information

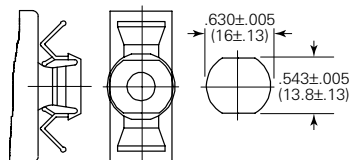
| Typical Part No. ▶                                                                                                                                              |   |    |    |    |     |   |    |    |   |                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---|----|----|----|-----|---|----|----|---|----------------|
|                                                                                                                                                                 |   |    |    |    |     | W | 54 | -X | B | 1 A 4 A 1 0 -5 |
| <b>1. Designator:</b><br>W = Circuit breaker                                                                                                                    |   |    |    |    |     |   |    |    |   |                |
| <b>2. Series Number:</b><br>54 = Economical, Single Pole, Push-to-Reset, Thermal Model                                                                          |   |    |    |    |     |   |    |    |   |                |
| <b>3. Circuit Function:</b><br>X = Series Trip                                                                                                                  |   |    |    |    |     |   |    |    |   |                |
| <b>4. Button:</b><br>A = White, plain, no rate marking      C = White with black rate marking (vertical)<br>B = White with red rate marking (vertical)          |   |    |    |    |     |   |    |    |   |                |
| <b>5. Mounting Bushing:</b><br>1 = 9.8mm x 12.6mm long, metal      7 = 3/8" (one side flat) x 10mm long, plastic<br>2 = 3/8" (one side flat) x 10mm long, metal |   |    |    |    |     |   |    |    |   |                |
| <b>6. Terminals:</b><br>A = Quick connect .250" (6.35mm) straight      C = #8-32 screw 90° (screws installed)<br>B = Quick connect .250" (6.35mm) bent 90°      |   |    |    |    |     |   |    |    |   |                |
| <b>7. Mounting Hardware:</b><br>4 = Metal knurled nut/hex nut      5 = Plastic knurled nut      12 = Metal knurled nut      99 = None                           |   |    |    |    |     |   |    |    |   |                |
| <b>8. Mounting Hardware Packaging:</b><br>A = Assembled to bushing      B = Bulk unassembled      C = No mounting hardware                                      |   |    |    |    |     |   |    |    |   |                |
| <b>9. Maximum AC Operating Voltage:</b><br>1 = 250VAC                                                                                                           |   |    |    |    |     |   |    |    |   |                |
| <b>10. Nameplate:</b><br>0 = None                                                                                                                               |   |    |    |    |     |   |    |    |   |                |
| <b>11. Specify Amp Rating:</b>                                                                                                                                  |   |    |    |    |     |   |    |    |   |                |
| 5                                                                                                                                                               | 7 | 10 | 15 | 25 | 35* |   |    |    |   |                |
| 6                                                                                                                                                               | 8 | 12 | 20 | 30 | 40* |   |    |    |   |                |

\*Not UL or CSA

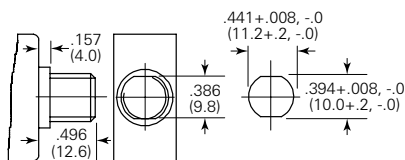
We recommend that our authorized distributors stock the following items for immediate delivery.

|                |                 |                 |                  |                  |                  |
|----------------|-----------------|-----------------|------------------|------------------|------------------|
| W54-XB1A4A10-5 | W54-XB1A4A10-8  | W54-XB1A4A10-15 | W54-XB1A4A10-30  | W54-XC4C12A10-15 | W54-XC4C12A10-30 |
| W54-XB1A4A10-6 | W54-XB1A4A10-10 | W54-XB1A4A10-20 | W54-XC4C12A10-5  | W54-XC4C12A10-20 |                  |
| W54-XB1A4A10-7 | W54-XB1A4A10-12 | W54-XB1A4A10-25 | W54-XC4C12A10-10 | W54-XC4C12A10-25 |                  |

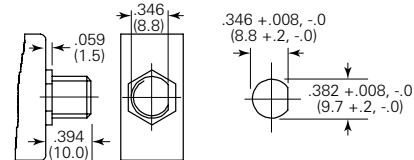
## Mounting Bushings and Recommended Panel Cutouts



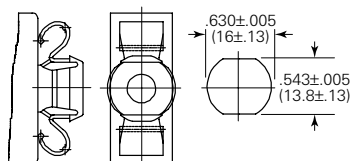
Special Order – Snap In Option I



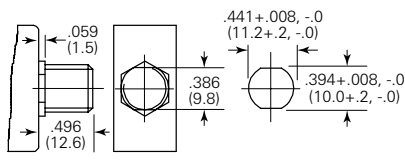
Special Order – M11 X 1.0 Thread



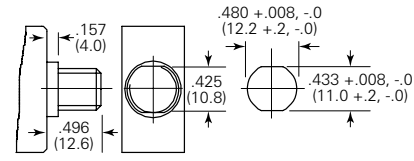
Standard Option 2 – 3/8" - 24UNF Thread



Special Order – Snap In Option II

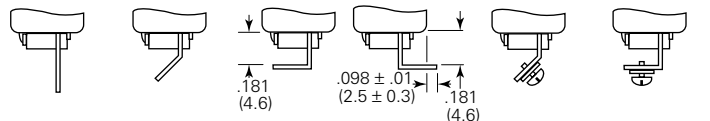


Standard Option 1 – M11 X 1.0 Thread

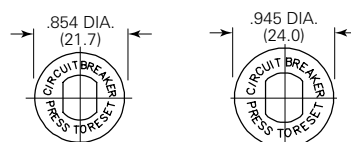


Special Order – M12 X 1.0 Thread

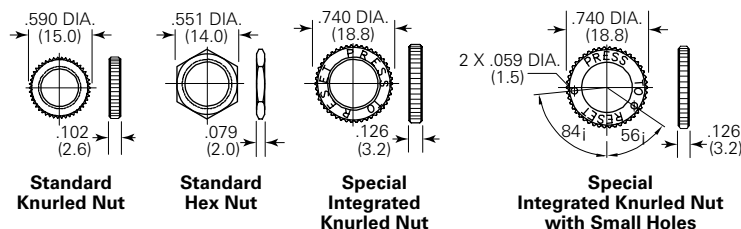
## Termination Options

Standard  
.250 QC  
StraightSpecial  
.250 QC  
45°Standard  
.250 QC  
90°Special  
.250 QC  
270°Special  
#8-32 Screw  
45°Standard  
#8-32 Screw  
90°

## Optional Nameplates

.016 (.4) THICK  
Special  
Embossed  
Aluminum.016 (.4) THICK  
Special  
Silver Printing  
On Black

## Mounting Hardware Options

Standard  
Knurled NutStandard  
Hex NutSpecial  
Integrated  
Knurled NutSpecial  
Integrated Knurled Nut  
with Small Holes

## ORDERING NOTE:

Many options illustrated here are not listed in the "Ordering Information" chart above. Options denoted by "Special" or "Special Order" in their descriptions are only offered on a special order basis. They are subject to extended leadtimes and significant minimum order quantities. Your Tyco Electronics sales engineer must consult with the factory before providing price and availability information regarding items with these options.