



# W54 series

## Push To Reset Only P&B Thermal Circuit Breaker



### Features

- 5 to 40 amp ratings.
- Cannot be manually tripped.
- Button extends for visual trip indication.
- Push button to reset breaker.
- Numerous mounting and termination options.
- Choice of silver-cadmium oxide or silver-tin oxide contacts.
- Optional bottom marking of amperage rating.

**Insulation Resistance:** 100 megohms.  
**Maximum Operating Voltages:** 50VDC; 250VAC .  
**Interrupt Capacity:** 1,000 amps in accordance with UL standard 1077.  
**Resettable Overload Capacity:** Ten times rated current.  
**Reset Time:** 60 seconds.

### Agency Approvals

W54 series is UL 1077 Recognized as Supplementary Protectors, File E69543, for Canada and the United States. Available models meet Ignition Protection requirements in accordance with UL 1500 (excludes models rated >30A). CSA Accepted as Supplementary Protectors (Appliance Component Protectors), File 240027 (to 125VAC, excludes models rated >30A). Approved to VDE 0642/EN60934 (Circuit Breakers for Equipment) License Number 40007877 (excludes models rated >20A, models with screw terminals, models with silver-tin oxide contacts). CCC mark compliant, certificate 2004010307123217.

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 confirm the product meets the requirements for a given application.

### 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).

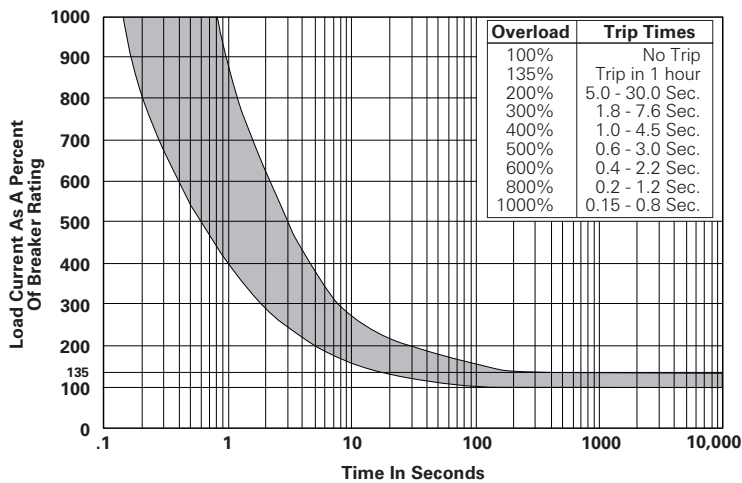
### Typical Resistance vs. Current Rating @25°C

| 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                      |

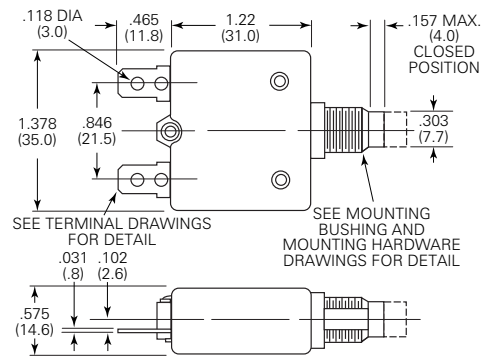
### Mechanical/Environmental Data

**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

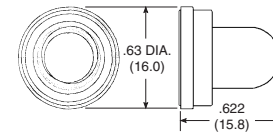


### Outline Dimensions

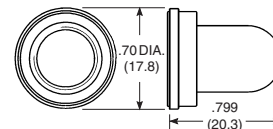


### Optional Protective Boot

Silicone rubber boot is bonded to integral aluminum nut.



**1-1423696-5**  
Black boot for W54 with 3/8"-24 bushing.



**1-1423696-6**  
Clear boot for W54 with M11 X 1.0 bushing.

### Ambient Compensation Table

| Ambient Temperature in °C | Rating Correction Factor |              |
|---------------------------|--------------------------|--------------|
|                           | 5-8A Models              | 9-30A Models |
| 10                        | .90                      | .80          |
| 20                        | .98                      | .90          |
| 25                        | 1.00                     | 1.00         |
| 30                        | 1.10                     | 1.05         |
| 40                        | 1.25                     | 1.15         |
| 50                        | 1.61                     | 1.31         |
| 60                        | 2.00                     | 1.55         |

**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**

|   |          |           |           |          |          |          |          |          |          |          |   |
|---|----------|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|---|
| <b>Typical Part No. &gt;</b>  | <b>W</b> | <b>54</b> | <b>-X</b> | <b>B</b> | <b>1</b> | <b>A</b> | <b>4</b> | <b>A</b> | <b>1</b> | <b>0</b> | <b>-5</b>                                 |
| <b>1. Designator:</b><br>W = Circuit breaker  |          |           |           |          |          |          |          |          |          |          |   |
| <b>2. Series Number:</b><br>54 = Single pole, push-to-reset, thermal model  |          |           |           |          |          |          |          |          |          |          |   |
| <b>3. Circuit Function &amp; Contact Material:</b><br>X = Series trip, silver-cadmium oxide contacts<br>F = Series trip, silver-tin oxide contacts †  |          |           |           |          |          |          |          |          |          |          |   |
| <b>4. Button Color &amp; Rate Marking:</b><br>A = White, plain, no rate marking<br>B = White with red rate marking (vertical)<br>C = White with black rate marking (vertical)<br>D = Black, plain, no rate marking<br>E = Black with white rate marking (horizontal)<br>F = White with red rate marking (horizontal)<br>G = White with black rate marking (horizontal)<br>H = Black with white rate marking (vertical)<br>I = Red, plain, no rate marking<br>J = Black, no rate marking on button, white rate marking on bottom of case between terminals.  |          |           |           |          |          |          |          |          |          |          |   |
| <b>5. Mounting Bushing:</b><br>1 = Metal, 9.8mm (double D) x 12.6mm long, M11x1 threads, (similar to 7/16"), round base<br>2 = Metal, 3/8" (single D) x 10mm long, 3/8"x24 threads, hex base<br>3 = Metal, 9.8mm (double D) x 12.6mm long, M11x1 threads, (similar to 7/16"), hex base<br>4 = Metal, 10.5mm (double D) x 12.6mm long, M12x1 threads, (similar to 15/32"), round base<br>6 = Plastic, 9.8mm (double D) x 12.6mm long, M11x1 threads, (similar to 7/16"), round base<br>7 = Plastic, 3/8" (single D) x 10mm long, 3/8"x24 threads, hex base<br>8 = Plastic, snap-in type<br>Notes: Codes 1, 3 and 6 are similar in size to 7/16" bushings (not exact equivalent).<br>Code 4 is similar in size to a 15/32" bushing (not exact equivalent) |          |           |           |          |          |          |          |          |          |          |   |
| <b>6. Terminals:</b><br>A = Quick connect .250" (6.35mm), straight<br>B = Quick connect .250" (6.35mm), bent 90°<br>C = #8-32 screw, bent 90° (screws installed) †<br>D = Quick connect .250" (6.35mm), bent 45°<br>E = Quick connect .250" (6.35mm), bent 90° opposite<br>F = #8-32 screw, bent 45° (screws installed)<br>G = QC .250" (6.35mm) and #8-32 screw, bent 90° (screw installed)  |          |           |           |          |          |          |          |          |          |          |   |
| <b>7. Mounting Hardware:</b><br>4 = Metal, knurled nut/hex nut<br>6 = Metal, hex nut<br>12 = Metal, knurled nut<br>15 = Metal, two hex nuts and one lockwasher<br>18 = Metal, one hex nut and one lockwasher<br>7 = Plastic, knurled nut<br>8 = Plastic, knurled nut with small hole<br>22 = Plastic knurled nut, metal lockwasher<br>99 = None   |          |           |           |          |          |          |          |          |          |          |   |
| <b>8. Mounting Hardware Packaging:</b><br>A = Assembled to bushing<br>B = Bulk unassembled<br>C = No mounting hardware  |          |           |           |          |          |          |          |          |          |          |   |
| <b>9. Maximum Operating Voltage:</b><br>1 = 250VAC<br>2 = 125VAC / 50VDC  |          |           |           |          |          |          |          |          |          |          |   |
| <b>10. Nameplate:</b><br>0 = None<br>1 = Embossed aluminum<br>2 = Silver color printing on black<br>3 = Black printing on silver color  |          |           |           |          |          |          |          |          |          |          |   |
| <b>11. Specify Amp Rating:</b>  |          |           |           |          |          |          |          |          |          |          |   |
| 5    7    10    15    25†    35*††<br>6    8    12    20    30†    40*††  |          |           |           |          |          |          |          |          |          |          |   |
|   |          |           |           |          |          |          |          |          |          |          | *UL1077, but not UL1500 †Not VDE ‡Not CSA |

**12. UL Recognition:**  
Leave Blank = UL1077 recognized breaker  
M = Model meeting Ignition Protection requirements in accordance with UL 1500, in addition to UL1077 recognition (not available with models >30A rating).  
Code M breakers are not VDE approved or CSA certified.

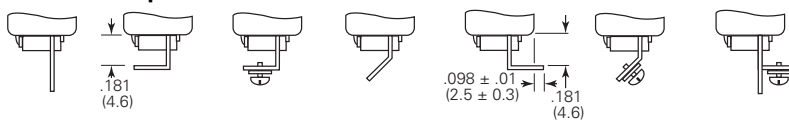
**Our authorized distributors are more likely to stock the following items for immediate delivery.**

W54-XB1A4A10-5    W54-XB1A4A10-15    W54-XB1A4A10-25  
W54-XB1A4A10-10    W54-XB1A4A10-20    W54-XB1A4A10-30

**ORDERING NOTE:**

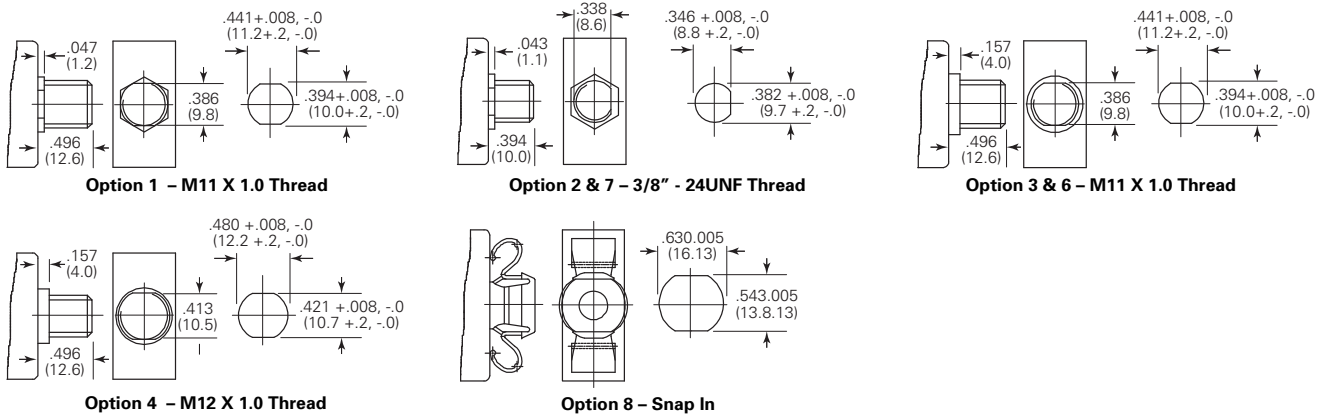
Mounting hardware can be ordered separately. Some options are subject to extended leadtimes and significant minimum order quantities.

**Termination Options**



|  |                                   |                                       |  |   |                                       |  |
|--|-----------------------------------|---------------------------------------|--|---|---------------------------------------|--|
| <b>Option A</b><br>Standard<br>.250 QC<br>Straight | <b>Option B</b><br>.250 QC<br>90° | <b>Option C</b><br>#8-32 Screw<br>90° | <b>Option D</b><br>Special<br>.250 QC<br>45° | <b>Option E</b><br>.250<br>QC/PCB<br>270° | <b>Option F</b><br>#8-32 Screw<br>45° | <b>Option H</b><br>.250 QC Straight<br>with #8-32 Load<br>Term. Bent 90° |
|--|-----------------------------------|---------------------------------------|--|---|---------------------------------------|--|

**Mounting Bushings and Recommended Panel Cutouts**



**Mounting Hardware Options**



**Optional Bottom Marking of Rating**



**Mounting Hardware Dimensions**

| Dimension Code | Bushing Diameter | Plastic Knurled Nut | Integrated Plastic Knurled Nut w/Holes | Metal Knurled Nut | Metal Hex Nut | Lockwasher  |
|----------------|------------------|---------------------|--|-------------------|---------------|-------------|
| A              | 3/8"             | .74 (18.8)          | –                                      | .56 (14.2)        | .55 (14.0)    | .49 (12.5)  |
|                | M11              | .74 (18.8)          | .74 (18.8)                             | .59 (15.0)        | .55 (14.0)    | .587 (14.9) |
|                | M12              | –                   | –                                      | .59 (15.0)        | .55 (14.0)    | .626 (15.9) |
| B              | 3/8"             | .126 (3.2)          | –                                      | .079 (2.0)        | .079 (2.0)    | .02 (.5)    |
|                | M11              | .126 (3.2)          | .13 (3.3)                              | .102 (2.6)        | .118 (3.0)    | .02 (.5)    |
|                | M12              | –                   | –                                      | .102 (2.6)        | .079 (2.0)    | .02 (.5)    |

**Mounting Hardware Ordering Information**

| Mounting Bushing Material | Mounting Bushing Code | Plastic Knurled Nut | Integrated Plastic Knurled Nut w/Holes | Metal Knurled Nut | Metal Hex Nut | Lockwasher  |
|---------------------------|-----------------------|---------------------|--|-------------------|---------------|-------------|
| Metal                     | 1 (M11)               | –                   | –                                      | 1423696-4         | 1423696-6     | 1-1423696-2 |
|                           | 2 (3/8")              | –                   | –                                      | 1-1423696-0       | 1423696-3     | 1-1423696-1 |
|                           | 3 (M11)               | –                   | –                                      | 1423696-4         | 1423696-6     | 1-1423696-2 |
|                           | 4 (M12)               | –                   | –                                      | 1423696-5         | 1423696-7     | 1-1423696-3 |
| Plastic                   | 6 (M11)               | 1423696-8           | 2-1423696-2                            | –                 | –             | –           |
|                           | 8 (3/8")              | 1423696-2           | –                                      | –                 | –             | –           |

**Nameplates**



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- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
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Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: [org@lifeelectronics.ru](mailto:org@lifeelectronics.ru)