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.

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 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).

Time vs. Current Trip Curve @ +25°C

<table>
<thead>
<tr>
<th>Load Current As A Percent of Breaker Rating</th>
<th>Time In Seconds</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>No Trip</td>
</tr>
<tr>
<td>135%</td>
<td>Trip in 1 hour</td>
</tr>
<tr>
<td>200%</td>
<td>5.0 - 30.0 Sec.</td>
</tr>
<tr>
<td>300%</td>
<td>1.8 - 7.6 Sec.</td>
</tr>
<tr>
<td>400%</td>
<td>1.0 - 4.5 Sec.</td>
</tr>
<tr>
<td>500%</td>
<td>0.6 - 3.0 Sec.</td>
</tr>
<tr>
<td>600%</td>
<td>0.4 - 2.2 Sec.</td>
</tr>
<tr>
<td>800%</td>
<td>0.2 - 1.2 Sec.</td>
</tr>
<tr>
<td>1000%</td>
<td>0.15 - 0.8 Sec.</td>
</tr>
</tbody>
</table>

Overload Trip Times

<table>
<thead>
<tr>
<th>Overload Trip Times</th>
<th>Current Rating in Amps</th>
<th>Typical Resistance in Ohms</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>5.0</td>
<td>0.050</td>
</tr>
<tr>
<td>135%</td>
<td>6.0</td>
<td>0.042</td>
</tr>
<tr>
<td>200%</td>
<td>7.0</td>
<td>0.036</td>
</tr>
<tr>
<td>300%</td>
<td>8.0</td>
<td>0.031</td>
</tr>
<tr>
<td>400%</td>
<td>10.0</td>
<td>0.025</td>
</tr>
<tr>
<td>500%</td>
<td>12.0</td>
<td>0.021</td>
</tr>
</tbody>
</table>

Typical Resistance vs. Current Rating @25°C

Typical Resistance @ 25°C

<table>
<thead>
<tr>
<th>Current Rating in Amps</th>
<th>Typical Resistance in Ohms</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td>15.0</td>
</tr>
<tr>
<td>6.0</td>
<td>20.0</td>
</tr>
<tr>
<td>7.0</td>
<td>25.0</td>
</tr>
<tr>
<td>8.0</td>
<td>30.0</td>
</tr>
<tr>
<td>10.0</td>
<td>35.0</td>
</tr>
<tr>
<td>12.0</td>
<td>40.0</td>
</tr>
</tbody>
</table>

Mechanical/Environmental Data
Operating Temperature Range: 0°C to +60°C.
Termination: 250°C (6.35mm) quick connects or #8-32 screws.
Mounting: Various options. See Ordering Information and drawings.
Approximate Weight: 0.9 oz. (25.0g).

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.
Ordering Information

<table>
<thead>
<tr>
<th>Typical Part No.</th>
<th>W</th>
<th>54</th>
<th>-X</th>
<th>B</th>
<th>1</th>
<th>A</th>
<th>4</th>
<th>A</th>
<th>1</th>
<th>0</th>
<th>-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designator:</td>
<td>W</td>
<td>Circuit breaker</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Series Number:</td>
<td>54</td>
<td>Single pole, push-to-reset, thermal model</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Circuit Function &amp; Contact Material: X = Series trip, silver-cadmium oxide contacts</td>
<td>F = Series trip, silver-tin oxide contacts</td>
<td>tNot VDE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Button Color & Rate Marking:
- A = White, plain, no rate marking
- B = White with red rate marking (vertical)
- C = White with black rate marking (vertical)
- D = Black, plain, no rate marking
- E = Black with white rate marking (horizontal)
- F = White with red rate marking (horizontal)
- G = White with black rate marking (horizontal)
- H = Black with white rate marking (vertical)
- I = Red, plain, no rate marking
- J = Black, no rate marking on button, white rate marking on bottom of case between terminals.

5. Mounting Bushing:
- 1 = Metal, 9.8mm (double D) x 12.6mm long, M11x1 threads, (similar to 7/16"), round base
- 2 = Metal, 3/8" (single D) x 10mm long, 3/8"x24 threads, hex base
- 3 = Metal, 9.8mm (double D) x 12.6mm long, M11x1 threads, (similar to 7/16"), hex base
- 4 = Metal, 10.5mm (double D) x 12.6mm long, M12x1 threads, similar to 15/32", round base
- 5 = Plastic, 9.8mm (double D) x 12.6mm long, M11x1 threads, similar to 7/16", round base
- 6 = Plastic, 3/8" (single D) x 10mm long, 3/8"x24 threads, hex base
- 7 = Plastic, 3/8" (single D) x 10mm long, 3/8"x24 threads, hex base
- 8 = Plastic, snap-in type
Notes: Codes 1, 3 and 6 are similar in size to 7/16" bushings (not exact equivalent).
   Code 4 is similar in size to a 15/32" bushing (not exact equivalent).

6. Terminals:
- A = Quick connect .250" (6.35mm), straight
- B = Quick connect .250" (6.35mm), bent 90°
- C = #8-32 screw, bent 90° (screws installed)
- D = Quick connect .250" (6.35mm), bent 45°
- E = Quick connect .250" (6.35mm), bent 90° opposite
- F = #8-32 screw, bent 45° (screws installed)
- G = QC .250" (6.35mm) and #8-32 screw, bent 90° (screw installed) tNot VDE

7. Mounting Hardware:
- 4 = Metal, knurled nut/Hex nut
- 6 = Metal, hex nut
- 12 = Metal, knurled nut
- 15 = Metal, two hex nuts and one lockwasher
- 18 = Metal, one hex nut and one lockwasher
- 99 = None

8. Mounting Hardware Packaging:
- A = Assembled to bushing
- B = Bulk unassembled
- C = No mounting hardware

9. Maximum Operating Voltage:
- 1 = 250VAC
- 2 = 125VAC / 50VDC

10. Nameplate:
- 0 = None
- 2 = Silver color printing on black
- 3 = Black printing on silver color

11. Specify Amp Rating:
- 5 7 10 15 25† 35‡
- 6 8 12 20 30† 40‡
- *UL1077, but not UL1500 tNot VDE tNot 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-XB1AA10-5  W54-XB1AA10-15  W54-XB1AA10-25
W54-XB1AA10-10  W54-XB1AA10-20  W54-XB1AA10-30

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

Termination Options

Option A Standard .250 QC Straight
Option B Special .250 QC 90°
Option C #8-32 Screw 90°
Option D Special .250 QC/PCB 45°
Option E #8-32 Screw 45°
Option F 250 QC Straight with #8-32 Load Term. Bent 90°

Dimensions are shown for reference purposes only. Specifications and availability subject to change.

www.tycoelectronics.com

Revised 3-09
Mounting Bushings and Recommended Panel Cutouts

Option 1 – M11 X 1.0 Thread

Option 2 & 7 – 3/8" - 24UNF Thread

Option 3 & 6 – M11 X 1.0 Thread

Option 4 – M12 X 1.0 Thread

Option 8 – Snap In

Mounting Hardware Options

Knurled Nut  Hex Nut  Integrated Knurled Nut with Small Holes  Lockwasher

ALTERNATE TEETH TWISTED IN OPPOSITE DIRECTIONS

Mounting Hardware Dimensions

<table>
<thead>
<tr>
<th>Dimension Code</th>
<th>Bushing Diameter</th>
<th>Plastic Knurled Nut</th>
<th>Integrated Plastic Knurled Nut w/Holes</th>
<th>Metal Knurled Nut</th>
<th>Metal Hex Nut</th>
<th>Lockwasher</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>3/8&quot;</td>
<td>.74 (18.8)</td>
<td>–</td>
<td>.56 (14.2)</td>
<td>.55 (14.0)</td>
<td>.49 (12.5)</td>
</tr>
<tr>
<td></td>
<td>M11</td>
<td>.74 (18.8)</td>
<td>.74 (18.8)</td>
<td>.59 (15.0)</td>
<td>.55 (14.0)</td>
<td>.587 (14.9)</td>
</tr>
<tr>
<td></td>
<td>M12</td>
<td>–</td>
<td>–</td>
<td>.59 (15.0)</td>
<td>.55 (14.0)</td>
<td>.626 (15.9)</td>
</tr>
<tr>
<td>B</td>
<td>3/8&quot;</td>
<td>.126 (3.2)</td>
<td>–</td>
<td>.079 (2.0)</td>
<td>.079 (2.0)</td>
<td>.02 (5)</td>
</tr>
<tr>
<td></td>
<td>M11</td>
<td>.126 (3.2)</td>
<td>.13 (3.3)</td>
<td>.102 (2.6)</td>
<td>.118 (3.0)</td>
<td>.02 (5)</td>
</tr>
<tr>
<td></td>
<td>M12</td>
<td>–</td>
<td>–</td>
<td>.102 (2.6)</td>
<td>.079 (2.0)</td>
<td>.02 (5)</td>
</tr>
</tbody>
</table>

Mounting Hardware Ordering Information

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal</td>
<td>1 (M11)</td>
<td>–</td>
<td>–</td>
<td>1423696-4</td>
<td>1423696-6</td>
<td>1-1423696-2</td>
</tr>
<tr>
<td></td>
<td>2 (3/8&quot;)</td>
<td>–</td>
<td>–</td>
<td>1-1423696-0</td>
<td>1423696-3</td>
<td>1-1423696-1</td>
</tr>
<tr>
<td></td>
<td>3 (M11)</td>
<td>–</td>
<td>–</td>
<td>1423696-4</td>
<td>1423696-6</td>
<td>1-1423696-2</td>
</tr>
<tr>
<td></td>
<td>4 (M12)</td>
<td>–</td>
<td>–</td>
<td>1423696-5</td>
<td>1423696-7</td>
<td>1-1423696-3</td>
</tr>
<tr>
<td>Plastic</td>
<td>6 (M11)</td>
<td>1423696-8</td>
<td>2-1423696-2</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>8 (3/8&quot;)</td>
<td>1423696-2</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

Nameplates

© 2009 by Tyco Electronics Corporation. All Rights Reserved. P&B, TE logo and Tyco Electronics are trademarks.