

## W51 series

### Rocker-Actuated Thermal Circuit Breaker/Power Switch With Optional Indicator Lamp



#### Features

- Compact, trip-free, rocker-actuated design.
- 5 to 20 amp ratings.
- Provides circuit protection and power switching in a single unit.
- Available with optional indicator lamp.
- Snaps into the same cutout as many common power switches.
- Various color, marking and termination options.

#### Agency Approvals

W51 series is UL 1077 Recognized as Supplementary Protectors, File E69543, for Canada and the United States. Approved to VDE 0642/EN60934 (Circuit Breakers for Equipment) License Number 40017023 (for AC loads only). CCC mark compliant, certificate 2004010307123223.

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.

#### 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. \* 150% for 5-8A models

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

Insulation Resistance: 100 megohms.

Maximum Operating Voltages: 50VDC, 125 or 250VAC, 50/60 Hz. (model dependent).

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

Resettable Overload Capacity: Ten times rated current.

Switch Endurance Cycling: Typically 6,000 operations at 100% of rating.

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                      | 10.0                   | 0.025                      |
| 6.0                    | 0.042                      | 15.0                   | 0.017                      |
| 7.0                    | 0.036                      | 20.0                   | 0.0125                     |
| 8.0                    | 0.031                      |                        |                            |

#### Mechanical/Environmental Data

Operating Temperature Range: 0°C to +60°C for 10-20A models

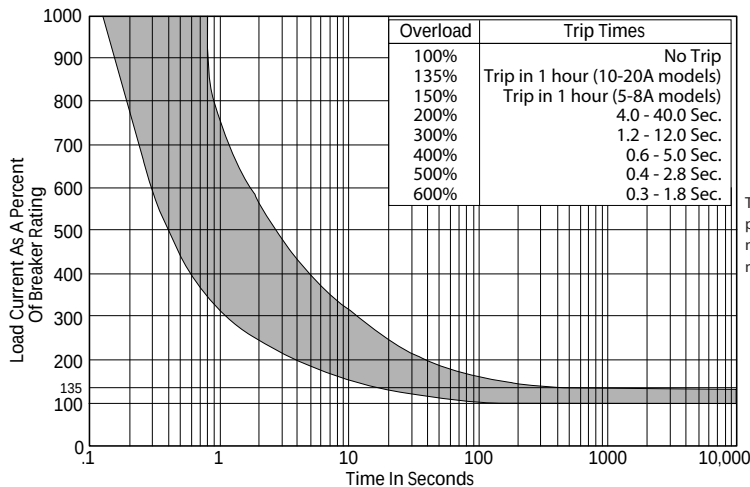
0°C to +50°C for 5-8A models

Termination: .250" (6.35mm) quick connects, solder terminals or right angle PC terminals.

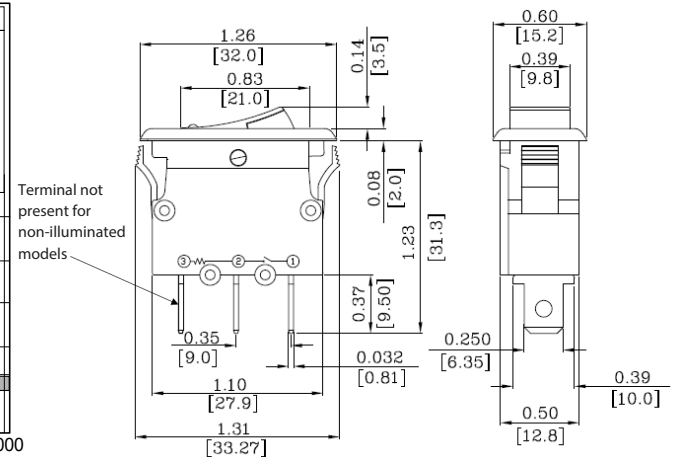
Mounting: Snaps into 1.122 x .531 (28.5 x 13.5) panel cutout.

Approximate Weight: 0.37 oz. (10.5g).

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



#### Outline Dimensions



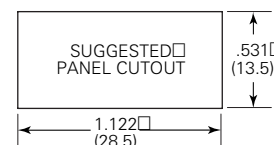
#### Ambient Compensation Table

| Ambient Temperature in °C | Rating Correction Factor |               |
|---------------------------|--------------------------|---------------|
|                           | 5-8A Models              | 10-20A Models |
| 10                        | .80                      | .80           |
| 20                        | .90                      | .90           |
| 25                        | 1.00                     | 1.00          |
| 30                        | 1.10                     | 1.05          |
| 40                        | 1.25                     | 1.15          |
| 50                        | 1.61                     | 1.25          |
| 60                        |                          | 1.40          |

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.

#### Recommended Panel Cutout



#### Panel Thickness

W51 series circuit breakers accommodate panel thicknesses from 0.030 in. to 0.118 in. (0.75 mm - 3.0 mm).

## Ordering Information

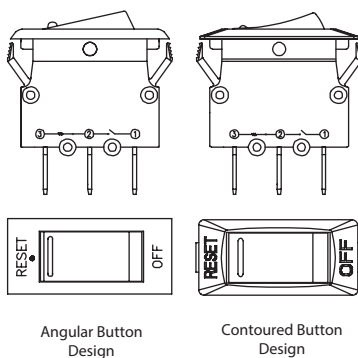
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |   |    |    |   |   |   |   |   |    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|----|----|---|---|---|---|---|----|
| Typical Part No. >                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | W | 51 | -A | 1 | 2 | 1 | B | 1 | -5 |
| 1. Designator:<br>W = Circuit breaker                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |   |    |    |   |   |   |   |   |    |
| 2. Series Number:<br>51 = Switchable, Single Pole, Rocker-Actuated Thermal Model                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |   |    |    |   |   |   |   |   |    |
| 3. Terminals:<br>A = Quick connect .250" (6.35mm) straight C = Printed Circuit - right angle                                                                                                                                                                                                                                                                                                                                                                                                                                                         |   |    |    |   |   |   |   |   |    |
| 4. Breaker Style & Base Color:<br>1 = Angular button design (see drawing below), black base color<br>B = Countoured button design (see drawing below), black base color                                                                                                                                                                                                                                                                                                                                                                              |   |    |    |   |   |   |   |   |    |
| 5. Rocker Color:<br>1 = Amber (translucent)<br>2 = Red (translucent)<br>3 = Green (translucent)<br>4 = White (opaque - for use on non-illuminated models)<br>5 = Black (opaque - for use on non-illuminated models)<br>6 = Red (opaque - for use on non-illuminated models)<br>7 = Gray (opaque - for use on non-illuminated models)<br>8 = Black (opaque) with red (translucent) indicator (only available on model with contoured button)<br>9 = Black (opaque) with green (translucent) indicator (only available on model with contoured button) |   |    |    |   |   |   |   |   |    |
| 6. Maximum Operating Voltage (AC):<br>1 = 125VAC    2 = 250VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |   |    |    |   |   |   |   |   |    |
| 7. Light:<br>A = Non-illuminated (two terminals)    B = Illuminated (three terminals, intended for AC load voltages >= 65vac; will not work with DC load voltages)                                                                                                                                                                                                                                                                                                                                                                                   |   |    |    |   |   |   |   |   |    |
| 8. Marking option:<br>0 = No marking    2 = RESET/OFF molded (only available on model with contoured button)<br>1 = RESET/OFF printed                                                                                                                                                                                                                                                                                                                                                                                                                |   |    |    |   |   |   |   |   |    |
| 9. Specify Amp Rating:<br>5    6    7    8    10    15    20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |   |    |    |   |   |   |   |   |    |

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

|               |               |               |               |               |               |
|---------------|---------------|---------------|---------------|---------------|---------------|
| W51-A121B1-5  | W51-A121B1-15 | W51-A122B1-5  | W51-A122B1-15 | W51-A152A1-5  | W51-A152A1-15 |
| W51-A121B1-10 | W51-A121B1-20 | W51-A122B1-10 | W51-A122B1-20 | W51-A152A1-10 | W51-A152A1-20 |

ORDERING NOTE: Some options illustrated below 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. Other base and button colors and intermediate amp ratings are also available on a special order basis. All special order items are subject to extended leadtimes and significant minimum order quantities. Your TE sales engineer must consult with the factory before providing price and availability information regarding items with these options.

## Case Styles



## Marking Options

For Angular Button Design  
(Printed)

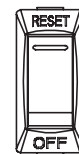


Standard -  
RESET/OFF  
Printed on  
Bezel



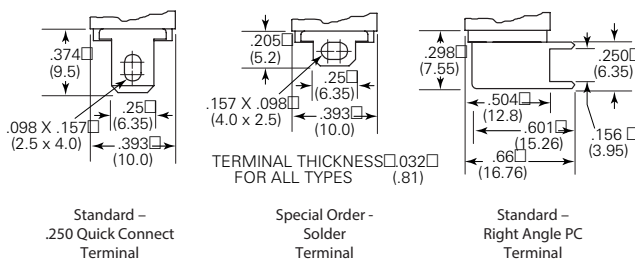
Standard -  
No Marking

For Contoured  
Button Design  
(Molded)



Standard -  
RESET/OFF  
Molded into  
bezel

## Terminal Types



## Wiring Schematic (illuminated models)

