



# Circuit Protection Selection Guide



## Product Key

- Thermal
- Thermal-Magnetic
- Magnetic/ Magnetic-Hydraulic
- High Performance
- Electronic
- Solid State (SSRPCs)
-  Optional Illumination
-  Remote Capability

## Circuit Protection Technologies

### Thermal



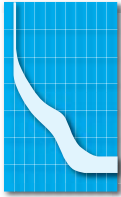
Heating effect of current through a bi-metal thermal actuator, thermal circuit breakers offer one of the most reliable and cost effective types of circuit protection.

### Thermal Magnetic



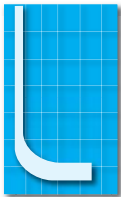
Latching type bi-metal is combined with a magnetic coil to provide the joint benefits of delayed operation for low level overcurrent protection and fast magnetic action on higher value short-circuits.

### Magnetic-Hydraulic



An effective design of solenoid coil with a hydraulic delay providing tripping that is highly tolerant to changes in ambient temperature.

### Magnetic



Fast acting characteristics for printed circuit board applications and higher current devices. Designed with a unique method of magnetic operation, it provides rapid response time, and is well suited for impulse disconnection.

<b>104</b>	<b>105</b>	<b>106</b>	<b>1110</b>
 0.05... 10A AC 250V; DC 48V	 0.05... 10A AC 250V; DC 48V	 0.05... 10A AC 250V; DC 48V	 0.05... 16A AC 250V; DC 50V
<b>1410</b>	<b>1610</b>	<b>1658</b>	<b>3120</b>
 0.63... 10A AC 250V; DC 48V	 5... 30A DC 32V	 5... 30A AC 240V; DC 28V	 0.1... 20A AC 250V; DC 50V
<b>2210-S</b>	<b>2215</b>	<b>808</b>	<b>8340-F</b>
 0.1... 25A AC 277V; DC 65V	 0.05... 10A AC 250V; DC 75V	 0.01... 5A AC 120V; DC 60V	 0.02... 50A AC 250V; DC 80V
<b>447</b>	<b>452</b>	<b>482</b>	<b>483</b>
 100... 400A DC 28V	 50... 125A DC 72V	 0.1... 50A AC 115V; DC 72V	 1... 35A AC 115V; DC 75V
<b>5140</b>	<b>9510</b>	<b>ESS20</b>	<b>ESX10-T</b>
 20... 50A 3 AC 200V; DC 28V	 Simulator Switch DC 12V, 24V, 28V, 48V	 0.5... 10A DC 24V	 0.5... 12A DC 24V

1140	1160	1170	1180
			
3.5... 16A AC 250V; DC 50V	12... 30A DC 12V	3... 25A DC 28V	0.1... 10A AC 250V; DC 72V
3130	3131	2-5700	201
			
0.1... 20A AC 250V; DC 50V	0.1... 20A AC 250V; DC 32V	0.05... 25A AC 250V; DC 50V	0.05... 16A AC 250V; DC 80V
8340-G	8345	412	413
			
0.02... 50A AC 250V; DC 110V	0.1... 125A AC 277V; DC 110V	7.5... 35A AC 115V; DC 28V	30... 90A AC 115V; DC 28V
4120	4140	4930	583
			
0.5... 25A AC 115V; DC 50V	20... 50A AC 115V; DC 28V	5... 100A AC 115V; DC 28V	1... 30A 3 AC 200V; DC 28V
E-1048-8I	E-1048-8C	E-1048-8D	E-1048-7
			
1... 20A DC 12/ DC 24V	1... 25A DC 12/ DC 24V	1... 25A DC 12/ DC 24V	0.5... 4A DC 24V

## Terminals



Quick Connect 0.250\*



Combination  
0.250 X 0.110\*



Quick Connect 0.110\*



Screw Terminals



Stud Terminals



Plug-in Terminals



Blade Terminals



PC Board

\* Quick connect not recommended for current ratings greater than or equal to 25A

## Actuator Styles

### Push-to-Reset



When tripped, user pushes actuator to original position to reset the breaker. Ideal to avoid accidental actuation.

### Push-Push



User pushes the actuator to engage and pushes the actuator to disengage.

### Manual Release



User disengages the breaker with the use of the release button.

### Push-pull



User pushes actuator to engage and pulls actuator to disengage.

### Toggle



Traditional breaker handle (on/off position).

### Rocker



Used in switch/ circuit breaker combination.

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