



# Circuit Protection & Power Components

## Over-Current Protection Devices

Thermal Circuit Breakers	5-2
Magnetic Circuit Breakers	5-2
PolySwitch Resettable Devices	5-3
Fast Acting Surface-Mount Fuses	5-3

## Over-Voltage Protection Devices

Radial-Leaded Metal-Oxide Varistors (ROV)	5-3
Gas Discharge Tubes (GDT)	5-4
SiBar Thyristor Surge Protectors	5-4
Transformers	5-4



**P&B Thermal Circuit Breakers**

- Secondary circuit protectors based on thermal technology (bimetal)
- Trip point varies with the ambient temperature
- A single unit can operate over a range of AC and DC voltages
- Relatively inexpensive resettable circuit protection option
- One- and two-pole configurations with current ratings from 0.5 through 50 amps
- Order Catalog 1308242, "Relays, Contactors, Timers, Transformers and Circuit Breakers for General Purpose Applications".

Series	Approx. Size	Number of Poles	Current Rating	Trip Time at 200% of Rating	Max. Operating Voltages	Actuator Type	Terminal Type
W57	.575" x 1.15" x .889" D 0.5 oz	1	4 - 20A	4 to 40s	50VDC 250VAC	Push to reset	.25" Quick Connect
W54	.575" x 1.378" x 1.22" D 0.9 oz	1	5 - 40A	5 to 30s	50VDC 250VAC	Push to reset	.25" Quick Connect, #8-32 Screw
W58	.66" x 1.375" x 1.375" D 1.5 oz	1	0.5 - 30A	10 to 45s - 0.5-4A 6 to 30s - 5-30A	50VDC 250VAC	Push to reset	.25" Quick Connect, #6-32 Screw
W28	.54" x .63" x 1.54" D 0.35 oz	1	0.25 - 20A	4.5 to 28s - 0.25 - 2A 2.2 to 15s - 3-15A	32VDC 250VAC	Push to reset	.25" Quick Connect
W51	.504" x 1.098" x .858" D 0.37 oz	1	5 - 20A	4 to 40s	50VDC 250VAC	Rocker (switchable)	.25" Quick Connect, PC Terminals
W33	.85" x 1.69" x 1.72" D 1.2 oz	1 or 2	2 - 20A	3 to 33s	50VDC 250VAC	Rocker (switchable)	.25" Quick Connect / Solder
W23	.69" x 1.38" x 1.6" D 2 oz	1	0.5 - 50A	11 to 30s - 0.5-3A 6 to 22s - 5-50A	50VDC 250VAC	Push/Pull (switchable)	#8-32 Screw
W23	.69" x 1.38" x 1.6" D 2 oz	1	0.5 - 50A	11 to 30s - 0.5-3A 6 to 22s - 5-50A	50VDC 250VAC	Toggle (switchable)	#8-32 Screw



**P&B Magnetic Circuit Breakers**

- Secondary circuit protectors based on magnetic/hydraulic technology
- Trip point is stable over wide range of ambient temperature
- Models are voltage and frequency sensitive
- Available with various time delays before tripping
- One- through four-pole models offer current ratings from 0.20 through 50 amps
- Offered with optional auxiliary switch
- Order Catalog 1308242, "Relays, Contactors, Timers, Transformers and Circuit Breakers for General Purpose Applications".

Series	Approx. Size (per pole)	Number of Poles	Current Rating	Trip Time at 200% of Rating	Max. Operating Voltages	Actuator Type	Terminal Type
W6	.75" x 2.0" x 1.64" D 2.5 oz	1, 2, 3 or 4	.20 - 50A	30ms to 150s (depends on trip curve specified)	65VDC 277VAC 480VAC 3ØWye	Toggle or Rocker	.25" Quick Connect or #8-32 or #10-32 Screw
W9	.75" x 2.5" x 2.1" D 2.5 oz	1, 2, 3 or 4	.20 - 50A	30ms to 150s (depends on trip curve specified)	65VDC 277VAC 480VAC 3ØWye	Toggle	#10-32 Stud



**Raychem Circuit Protection PolySwitch Resettable Devices**

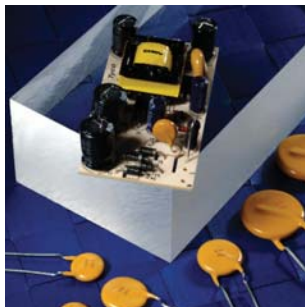
- PolySwitch PPTC (polymeric positive temperature coefficient) devices are used to help protect a wide range of electronic products in the computer, battery and portable electronics, consumer, automotive, industrial and telecommunications markets from overcurrent and overtemperature fault conditions
- Commonly referred to as “resettable fuses”, these PPTC devices are actually non-linear thermistors that limit current and reset when the power is removed and the fault condition is cleared
- Wide voltage, current and temperature capabilities
- Ledged, axial and surface-mount configurations
- UL component recognition and meet the requirements of other agencies, including Telcordia, CSA, TUV, and ITU-T
- Full RoHS compliant product line now available
- Order Catalog RCP0014.0504, “PolySwitch Resettable Devices Short Form Catalog”



**Raychem Circuit Protection Fast Acting Surface-Mount Fuses**

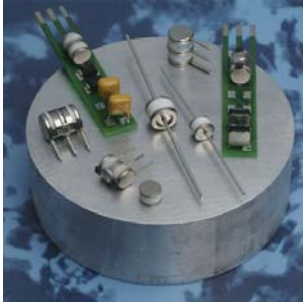
- Fast-acting fuses help provide overcurrent protection on systems using DC power sources of up to 63 VDC, and help facilitate the development of more reliable, high-performance consumer electronics such as laptops, multimedia devices, cell phones, and other portable electronics
- Small size with high current ratings
- High reliability and resilience
- Strong arc suppression characteristics
- Monolithic, multilayer design
- New Surface-mount Telecom Fuse series for overcurrent protection of telecommunications equipment provides leading-edge solutions
- Order Catalog 12345678, “Raychem Fast Acting Surface-Mount Fuses”

**Over-Voltage Protection Devices**



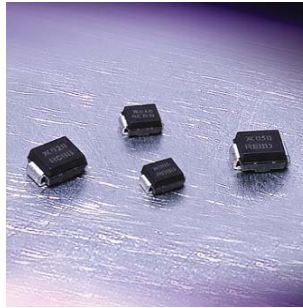
**Raychem Circuit Protection Radial-Leaded Metal Oxide Varistors (ROV)**

- Helps provide protection against overvoltage faults such as lightning, power contact, and power induction for a wide variety of power systems
- Helps designers meet UL (UL1414 and UL1449 2nd Edition), CSA and VDE standards
- Broad varistor voltage range: 18 V – 1800 V
- Various surge capabilities: standard, high surge, extra high surge
- Suitable for a broad range of applications including, but not limited to, security systems, power supplies, surge strips, motors and telecommunications equipment
- Order Catalog RCP0052.0904, “Raychem Circuit Protection ROV Databook”



### Raychem Circuit Protection Gas Discharge Tubes (GDT)

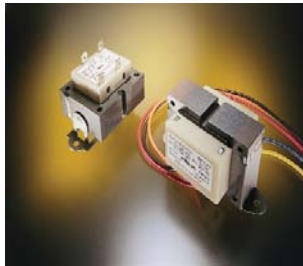
- Help protect sensitive telecom equipment such as power lines, communication lines, signal lines and data transmission lines from damage caused by transient surge voltages that typically result from lightning strikes and equipment switching operations
- Crowbar device with low arc-voltage
- Low capacitance and insertion loss
- High accuracy sparkover voltages for high precision designs
- Tested per ITU K.12
- Order Catalog RCP0061.0804, "Raychem Gas Discharge Tubes"



### Raychem Circuit Protection SiBar Thyristor Surge Protectors

- Designed to assist telecommunications and computer telephony equipment meet the applicable requirements and industry specifications
- Bidirectional transient voltage protection
- High off-state impedance
- Short-circuit failure mode
- Order Catalog RCP0025.0804.10K, "SiBar Products"

## Transformers



### PRODUCTS UNLIMITED Class II and General Purpose Transformers

- Class II transformers are designed to meet the requirements of UL1585
- General purpose transformers are designed to meet the requirements of UL506
- Standard models from 20 through 100 VA, custom models from 5 through 400 VA
- Optional overload protection is available via fuse or circuit breaker
- Primary windings for typical North American supply voltages (120, 208, 277, 480 and 575 VAC) as well as common international supply voltages (110, 220, 380 and 415 VAC)
- Standard models have 24 VAC secondary with other voltages available on custom types
- Choice of plate, foot or panel mounting
- Offered with stranded wire leads or quick connect terminals in various sizes
- Multiple voltage combinations are available
- Order Catalog 1308242, "Relays, Contactors, Timers, Transformers and Circuit Breakers for General Purpose Applications"