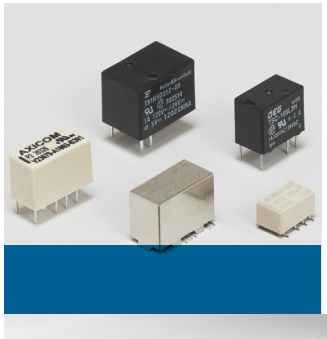
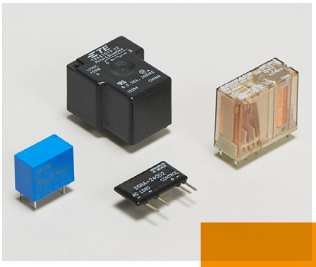






Quick Reference Guide

# INDUSTRIAL RELAYS

## RELAYS, CONTACTORS & CIRCUIT BREAKERS

TE Connectivity (TE) has extensive capabilities in the design and manufacture of relays and a broad portfolio of switching solutions for demanding, high performance applications. These relay products are remotely actuated to control electrical power flow by either interrupting or completing an electrical circuit.

Complying with standardized PCB footprints, TE offers a wide range of inrush current capabilities and addresses the complete spectrum of requirements for production lines, robotics, elevators, control panels, CNC machines, motion control systems, lighting, building systems, solar, HVAC, and an array of safety-critical applications. Through agency approved test labs, we ensure that our relays are tested to meet the expectations of the industry. Whether you are designing for harsh or indoor applications, TE delivers high quality relays from state-of-the-art production lines.



ROBOTICS



HVAC



BUILDING SYSTEMS



SOLAR



LIGHTING

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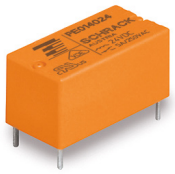
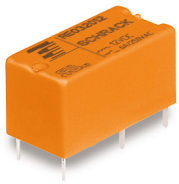
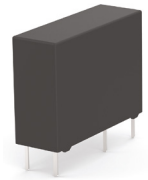
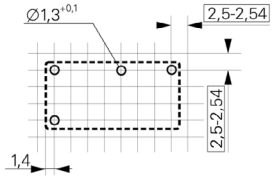
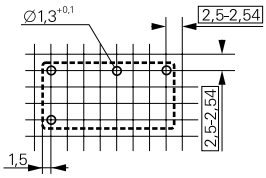
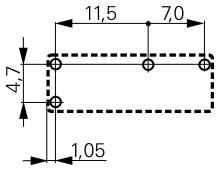
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MOTION CONTROL

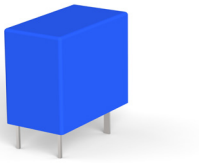
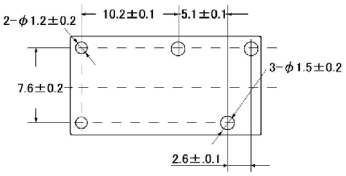
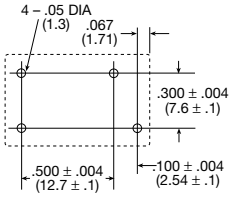
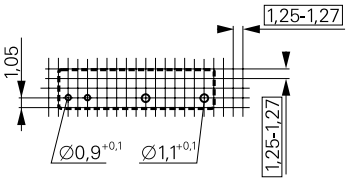


# WHAT'S INSIDE

| | SCHRACK PE | SCHRACK RE/REL | PCJ |
|---|---|---|---|
| **Key Features** | Low height 10.0mm<br>Sensitive 200mW coil<br>Mono-or bistable coil<br>WG type available (IEC 60335-1) | Miniature PCB relays<br>PCB area 200mm2<br>Wash tight | Slim outline<br>Sensitive coil 200mW<br>WG type available (IEC 60335-1)<br>Ambient temperature up to 105°C |
| |  |  |  |
| **Footprint**<br>2) see footnote below |  |  |  |
| **Applications** | Industrial electronics<br>White goods<br>Measurement and control | PLC; Timers; I/O cards<br>Temperature control<br>White goods | Home applications<br>HVAC |
| **Contact Data** | | | |
| **Contact arrangement** | 1 form C (CO) | 1 form A (NO) | 1 form A (NO) |
| **Rated voltage** | 250VAC | 250VAC | 250VAC |
| **Rated current** | 5A (CO)<br>6A (NO) | 6/5A | 3A/5A (WG type) |
| **Switching power / Max. break** | 1250VA | 1500/1250VA | 750VA/1250VA (WG type) |
| **Contact material** | AgNi 90/10, $AgSnO_2$ | AgNi 0.15, AgNi 90/10 | AgNi |
| **Min. recommended contact load** | 1) see footnote below | 1) see footnote below | 100mA at 5VDC |
| **Coil Data** | | | |
| **Magnetic system** | DC, bistable | DC | DC |
| **Rated coil voltage** | 3 to 48VDC | 5 to 48VDC | 5 to 24VDC |
| **Rated coil power** | 200mW | 200/360mW | 200mW |
| **Dielectric Strength** | | | |
| **Initial dielectric strength** | | | |
| between open contacts | 1000Vrms | 1000Vrms | 750Vrms |
| between contact and coil | 4000Vrms | 4000/3000Vrms | 4000Vrms |
| between adjacent contacts | | | |
| **Clearance/creepage between contact and coil** | 3.2/4mm | 4/4mm | 8/>8mm |
| **Other Data** | | | |
| **Ambient temperature (max.)** | + 85°C | +70°C (RE)/ + 85°C (REL) | + 85/ +105°C (WG type) |
| **Category of environmental protection IEC61810** | RTII, RTIII | RTIII(RE), RTII(REL) | RTII, RTIII |
| **Terminal type** | THT | THT | THT |
| **Mounting** | PCB | PCB | PCB |
| **Dimensions** | 20x10x10mm | 20x10x10.6mm/20.7x10.7x12mm | 20.4x7x15mm |
| **Accessories** | | | |
| **Link to datasheet** | SCHRACK PE | SCHRACK RE<br>SCHRACK REL | PCJ |

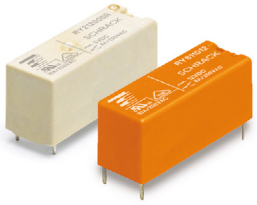
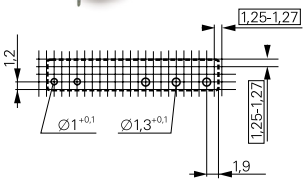
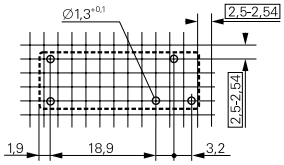
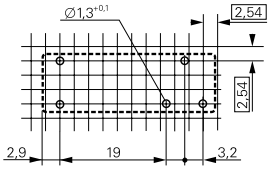
1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

| | PCH | OJ/OJE/T77 | PCN/PCNH |
|---|---|---|---|
| **Key Features** | Compact size<br>WG type available (IEC 60335-1)<br>TV-3 ratings for NO contact | Miniature size<br>Sensitive coil 200mW<br>4kV coil-contacts (OJ/OJT)<br>Meet UL TV-5 ratings (OJT) | 1 pole 3A/5A<br>Only 5mm wide<br>Allows high function/packaging density<br>RoHS compliant<br>(Directive 2002/95/EC) |
| |  |  |  |
| **Footprint**<br>2) see footnote below |  |  |  |
| **Applications** | Appliances<br>HVAC<br>Refrigerators, microwave ovens | Appliances<br>HVAC<br>Industrial control | PLC<br>Temperature control<br>I/O modules |
| **Contact Data** | | | |
| **Contact arrangement** | 1 form C (CO), 1 form A (NO) | 1 form A (NO) | 1 form A (NO) |
| **Rated voltage** | 277VAC/30VDC | 250VAC/28VDC | 250VAC |
| **Rated current** | 3/5/10A | 3/5/8/10A | 3A/5A |
| **Switching power / Max. break** | 1400VA/150W (NO)<br>850VA/90W (NC) | 720 to 2500VA/<br>90 to 240W | 750VA /1250VA |
| **Contact material** | $AgSnO_2$ | Ag, AgCdO, $AgSnO_2$ | AgNi gold plated |
| **Min. recommended contact load** | 100mA at 5VDC | 1) see footnote below | 100mA at 5VDC |
| **Coil Data** | | | |
| **Magnetic system** | DC, sensitive | DC, sensitive | DC |
| **Rated coil voltage** | 3 to 48VDC | 3 to 48VDC | 3 to 24VDC |
| **Rated coil power** | 200/400mW | 200/250/450mW | 100mW/120mW |
| **Dielectric Strength** | | | |
| **Initial dielectric strength** | | | |
| between open contacts | 750Vrms | 750/1000Vrms | 750Vrms |
| between contact and coil | 4000Vrms | 3000/4000Vrms | 3000Vrms |
| between adjacent contacts | | | |
| **Clearance/creepage** | | | |
| between contact and coil | 1.6/3.2mm | 1.6/3.2mm and 3.2/6.4mm | 3.5mm |
| **Other Data** | | | |
| **Ambient temperature (max.)** | +70°C (standard)/+85°C (WG type) | up to 85°C | +85°C |
| **Category of environmental protection IEC61810** | RTII, RTIII | RTII, RTIII | RTIII |
| **Terminal type** | THT | THT | THT |
| **Mounting** | PCB | PCB | PCB |
| **Dimensions (lwh)** | 20x10x15.2mm | 18.2x10.2x14.7mm | 20x5x12.5mm |
| **Accessories** | | | |
| **Link to datasheet** | PCH | OJ/OJE<br>T77 | PCN |

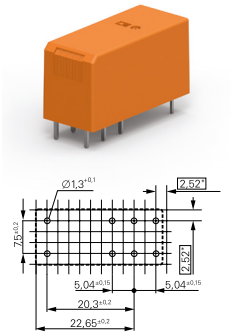
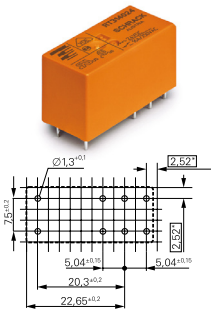
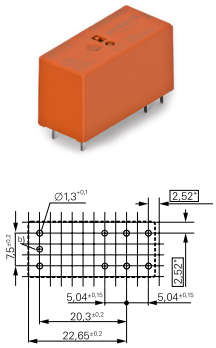
1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

| | SCHRACK SNR | SCHRACK RYII | SCHRACK MSR/T75 |
|---|---|---|---|
| **Key Features** | 5mm wide slim outline<br>Strong coil pins for DIN-rail socket<br>Allows high function/ packaging density | Reflow solderable version<br>Low height 12.3mm<br>Reinforced insulation<br>Pinnings 3.2mm and 5mm | High inrush currents with AgSnO contacts<br>4kV/8mm coil-contact<br>Reinforced insulation |
| |  |  |  |
| **Footprint**<br>2) see footnote below |  |  |  |
| **Applications** | Interface technology<br>PLC, timers, Heating control | Interface technology<br>HVAC, PLC, Power supplies<br>Domestic appliances | Interface technology<br>HVAC, PLC, Power supplies<br>Domestic appliances |
| **Contact Data** | | | |
| **Contact arrangement** | 1 form C (CO), 1 form A (NO) | 1 form C (CO), 1 form A (NO),<br>1 from B (NC) | 1 form C (CO)<br>1 form A (NO) |
| **Rated voltage** | 250VAC | 250VAC | 250VAC |
| **Rated current** | 6A | 8A | 8/10A |
| **Switching power / Max. break** | 1500VA | 2000VA | 2000VA |
| **Contact material** | $AgSnO_2$ , $AgSnO_2$ gold plated | AgNi0.15, $AgSnO_2$, AgNi 0.15 gold plated | AgNi90/10, $AgSnO_2$ |
| **Min. recommended contact load** | 100mA at 12VDC | 1) see footnote below | 1) see footnote below |
| **Coil Data** | | | |
| **Magnetic system** | DC | DC | DC |
| **Rated coil voltage** | 5 to 48VDC | 5 to 60VDC | 3 to 60VDC |
| **Rated coil power** | 170/217mW | (223 - 257)mW | (212-262)mW |
| **Dielectric Strength** | | | |
| **Initial dielectric strength** | | | |
| between open contacts | 1000Vrms | 1000Vrms | 1000Vrms |
| between contact and coil | 4000Vrms | 5000Vrms | 4000Vrms |
| between adjacent contacts | | | |
| **Clearance/creepage** | | | |
| between contact and coil | 6/8mm | 8/8mm | 8/8mm |
| **Other Data** | | | |
| **Ambient temperature (max.)** | +85°C | +70°C | +85°C |
| **Category of environmental protection IEC61810** | RTIII | RTII, RTIII | RTII, RTIII |
| **Terminal type** | THT | THT, THR | THT |
| **Mounting** | PCB or on socket | PCB or on socket | PCB |
| **Dimensions (lwh)** | 28x5x15mm | 28.5x10.1x12.3mm | 28.6x10x15mm |
| **Accessories** | DIN rail sockets | PCB sockets | |
| **Link to datasheet** | SCHRACK SNR | SCHRACK RYII | SCHRACK MSR |

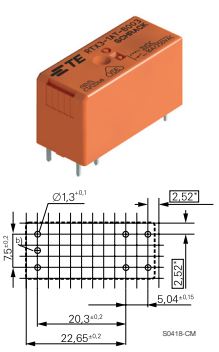
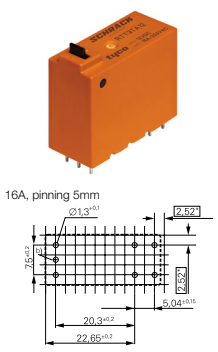
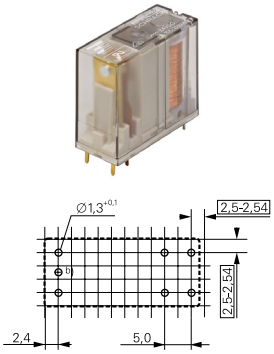
1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

| | SCHRACK RZ | SCHRACK RT | SCHRACK RT INRUSH |
|---|---|---|---|
| **Key Features** | High performance version available<br>Reinforced insulation<br>High ambient temperature version (105°C)<br>WG type available (IEC 60335-1)<br>AgNi and AgSnO contact versions<br>THR (reflow) version | DC and AC coil<br>Mono-or bistable coil<br>Reinforced insulation<br>WG type available (IEC 60335-1)<br>High ambient temperature version (105°C)<br>THR (reflow) version<br>Sensitive version<br>Bifurcated contacts | For inrush peak currents up to 80A<br>Mono-or bistable coil<br>Reinforced insulation<br>WG type available (IEC 60335-1) |
| **Footprint**<br>2) see footnote below |  |  |  |
| **Applications** | Household appliances<br>HVAC, Home automation<br>Machine control, Energy control | HVAC, Home automation,<br>Machine control, Energy control<br>Switching cabinet, Interface modules | Lighting applications, Movement detectors, Motors control, Domestic appliances |
| **Contact Data** | | | |
| Contact arrangement | 1 form C (CO)<br>1 form A (NO) | 1 form C (CO), 1 from A (NO)<br>2 form C (CO), 2 form A (NO) | 1 form C (CO)<br>1 from A (NO) |
| Rated voltage | 250VAC | 250VAC | 250VAC |
| Rated current | 16A | 2X8/16A | 16A |
| Switching power / Max. break | 4000VA | 2X2000/4000VA | 4000VA |
| Contact material | AgNi90/10, $AgSnO_2$ | AgNi90/10, $AgSnO_2$ | AgNi90/10, $AgSnO_2$ |
| Min. recommended contact load | 1) see footnote below | 1) see footnote below | 1) see footnote below |
| **Coil Data** | | | |
| Magnetic system | DC | DC, AC, bistable | DC, bistable |
| Rated coil voltage | 5 to 48VDC | 5 to 110VDC/24 to 230VAC | 5 to 11VDC |
| Rated coil power | 400mW | 400mW/0.75VA | 400mW |
| **Dielectric Strength** | | | |
| Initial dielectric strength | | | |
| between open contacts | 1000Vrms | 1000Vrms | 1000Vrms |
| between contact and coil | 5000Vrms | 5000Vrms | 5000Vrms |
| between adjacent contacts | | 2500Vrms | |
| Clearance/creepage | | | |
| between contact and coil | >10/10mm | >10/10mm | >10/10mm |
| **Other Data** | | | |
| Ambient temperature (max.) | +85°C<br>+105°C (HOT type)<br>+70°C (transparent cover type) | +75°C (AC type)<br>+85°C | +85°C |
| Category of environmental protection IEC61810 | RTII, RTIII | RTII, RTIII | RTII |
| Terminal type | THT | THT, THR (DC and AC type) | THT |
| Mounting | PCB | PCB or on socket | PCB or socket |
| Dimensions (lwh) | 29x12.7x15.7mm | 29x12.7x15.7mm | 29x12.7x15.7mm |
| **Accessories** | | PCB and DIN rail sockets | |
| **Link to datasheet** | SCHRACK RZ | SCHRACK RT | SCHRACK RT INRUSH |

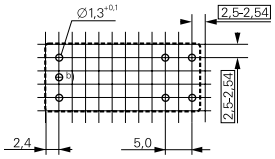
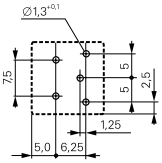
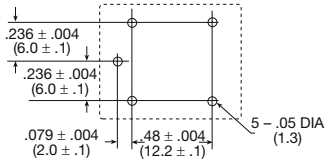
1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

| | SCHRACK RTX | SCHRACK RT iPOWER | SCHRACK RP3SL |
|---|---|---|---|
| **Key Features** | Inrush peak currents up to 370A<br>Bistable coil<br>Reinforced insulation<br>16A rated fluorescent load acc. EN60669-1<br>8A electronic ballast acc. UL508<br>1 1/2 HP motor load acc. UL508 | High Inrush peak currents up to 165A (20ms) and 800A (200µs)<br>Mono-or bistable coil<br>RTS3T: 5A Electronic ballast acc. UL508<br>RTSET: 8A Electronic ballast acc. UL508<br>Test tab (manual operator) optional for RTT3T bistable versions | Inrush peak currents up to 120A (20ms)<br>Mono-or bistable coil<br>Sealed version available |
| **Footprint**<br>2) see footnote below |  |  |  |
| **Applications** | Lighting control systems<br>Motion sensors<br>Home automation applications | LED lighting systems, Lighting control, Movement detectors<br>Filament and incandescent lamp<br>Motor control | Lighting control<br>Motor control<br>Building automation |
| **Contact Data** | | | |
| **Contact arrangement** | 1 from A (NO) | 1 from A (NO) | 1 form A, 1 NO |
| **Rated voltage** | 250VAC | 250VAC | 250VAC |
| **Rated current** | 16A | 16A | 16A |
| **Switching power / Max. break** | 4000VA | 4000VA | 4000VA |
| **Contact material** | W (pre-make contact) + $AgSnO_2$ | W (pre-make contact) + $AgSnO_2$<br>$AgSnO_2$ | $AgSnO_2$ |
| **Min. recommended contact load** | 1) see footnote below | 1) see footnote below | 100mA at 12VDC |
| **Coil Data** | | | |
| **Magnetic system** | Bistable | DC, bistable | DC |
| **Rated coil voltage** | 5 to 48VDC | 5 to 11VDC | 6 to 110VDC |
| **Rated coil power** | 650mW/665mW | 400mW | 500mW |
| **Dielectric Strength** | | | |
| **Initial dielectric strength** | | | |
| between open contacts | 1250Vrms | 1250Vrms | 2000Vrms |
| between contact and coil | 5000Vrms | 5000Vrms | 4000Vrms |
| between adjacent contacts | | | |
| **Clearance/creepage** | | | |
| between contact and coil | min. 6/6mm | 10/10mm | 8/8mm |
| **Other Data** | | | |
| **Ambient temperature (max.)** | +70°C | RTS3L/RTS3T +105°C, RTSET +85°C | +70°C |
| **Category of environmental protection IEC61810** | RTII | RTII | RTII, RTIII |
| **Terminal type** | THT | THT | THT |
| **Mounting** | PCB | PCB | PCB |
| **Dimensions (lwh)** | 29.1x12.7x16mm | 29x12.7x15.7mm (RTS3T), 29x12.7x16.0mm (RTS3L) | 29x12.6x25.5mm |
| **Accessories** | | | |
| **Link to datasheet** | SCHRACK RTX | SCHRACK RT IPOWER | SCHRACK RP3SL |

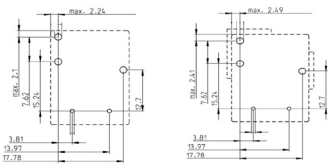
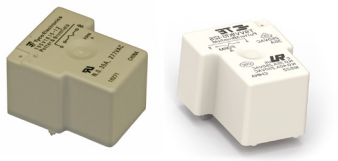
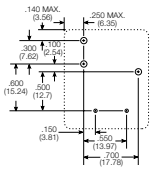
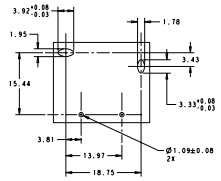
1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

| | SCHRACK RP-2POLE 1.5MM | SCHRACK PB/PBH | SCHRACK ORWH |
|---|---|---|---|
| **Key Features** | 2 pole 8A<br>1.5mm contact gap per pole<br>Creepage distance complies with IEC 60950<br>Sealed version available | Compact and simple design gives high process security<br>High ambient temperature version up to 105°C (PBH)<br>WG type acc. IEC 60335-1 | Compact relay with 1 form A and 1 form C contact arrangement<br>10A switching capacity |
| |  |  |  |
| **Footprint**<br>2) see footnote below |  |  |  |
| **Applications** | Domestic appliances<br>UPS<br>Solar Inverter | White goods<br>Small home appliances<br>Heating temperature controllers | Appliances<br>HVAC<br>Emergency lighting |
| **Contact Data** | | | |
| **Contact arrangement** | 2 form A, 2 NO | 1 form C (CO)<br>1 form A (NO) | 1 form C (CO)<br>1 form A (NO) |
| **Rated voltage** | 250VAC | 250VAC | 277VAC/28VDC |
| **Rated current** | 8A | 10A | 10A |
| **Switching power / Max. break** | 2000VA | 2500VA | 2770VA/360W |
| **Contact material** | $AgSnO_2$ | AgNi90/10, AgSnO | AgZnO, AgNi |
| **Min. recommended contact load** | 100mA at 12VDC | 1) see footnote below | 100mA at 5VDC |
| **Coil Data** | | | |
| **Magnetic system** | DC | DC | DC |
| **Rated coil voltage** | 5 to 110VDC | 5 to 48VDC | 5 to 24VDC |
| **Rated coil power** | 780mW | 360mW/500mW | 360mW |
| **Dielectric Strength** | | | |
| **Initial dielectric strength** | | | |
| between open contacts | 25000Vrms | 1000Vrms | 750Vrms |
| between contact and coil | 5000Vrms | 2500Vrms | 1500Vrms |
| between adjacent contacts | 300Vrms | | |
| **Clearance/creepage** | | | |
| between contact and coil | 7/8mm | 3/4mm / 4/5mm | 3.2mm |
| **Other Data** | | | |
| **Ambient temperature (max.)** | +40°C | +85°C/+105°C | +85°C |
| **Category of environmental protection IEC61810** | RTII, RTIII | RTII | RTII, RTIII |
| **Terminal type** | THT | THT | THT |
| **Mounting** | PCB | PCB | PCB |
| **Dimensions (lwh)** | 29x12.6x25.5mm | 15x15x20mm | 19.0x15.5x15.8mm |
| **Accessories** | | | |
| **Link to datasheet** | SCHRACK RP-2POLE 1.5MM | SCHRACK PB<br>SCHRACK PBH | SCHRACK ORWH |

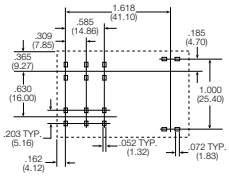
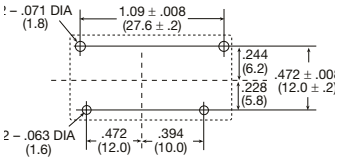
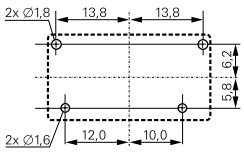
1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

| | Potter & Brumfield T9G | Potter & Brumfield T9A | Potter & Brumfield T9S/T9V |
|---|---|---|---|
| **Key Features** | High breaking capacity<br>PCB and quick connect connections<br>4kV coil-contact<br>Minimum board space (29mm x 21.5mm)<br>UL-class F as standard | High breaking capacity<br>PCB and quick connect and chassis mount version<br>UL-class F as standard<br>Open version available | 1 pole 35A (T9S)/40A (T9V)<br>Contact gap 1.5mm/1.8mm min.<br>Ambient temperature up to 85°C at 35A<br>Production in accordance to IEC 60335-1<br>RoHS compliant (Directive 2002/95/EC) |
| **Footprint**<br>2) see footnote below |  |  |  |
| |  |  |  |
| **Applications** | HVAC, Appliances<br>Industrial control<br>Energy management | HVAC<br>Appliances<br>Industrial controls | Photovoltaic inverter<br>Electrical vehicle loading stations<br>Electrical vehicle |
| **Contact Data** | | | |
| Contact arrangement | 1 form C (1 CO)<br>1 form B (1 NC)<br>1 form A (1 NO) | 1 form C (1 CO)<br>1 form B (1 NC)<br>1 form A (1 NO) | 1 form A (1NO) |
| Rated voltage | 250VAC | 250VAC | 277VAC (1.5mm gap), 250VAC (1.8mm gap) |
| Rated current | 30A | 30A | 35A (T9S) , 40A (T9V) |
| Switching power / Max. break | | 7500VA | 9695VA (T9S), 10000VA (T9V) |
| Contact material | $AgSnO_2$ | AgCdO, AgSnInO | AgNi |
| Min. recommended contact load | 1A at 12VAC/VDC | 1A at 5VDC or 12VAC | 1A at 5VDC/12VAC |
| **Coil Data** | | | |
| Magnetic system | DC | DC | Monostable |
| Rated coil voltage | 5 to 110VDC | 6 to 48VDC | 12VDC |
| Rated coil power | 900mW | 1W/900mW | 2.25W |
| **Dielectric Strength** | | | |
| Initial dielectric strength | | | |
| between open contacts | 1500Vrms | 1500Vrms | 2500Vrms |
| between contact and coil | 4000Vrms | 2500Vrms | 4000Vrms |
| between adjacent contacts | | | |
| Clearance/creepage | | | |
| between contact and coil | >6.4mm/>8mm | 3.1/6.3mm | 3/4mm |
| **Other Data** | | | |
| Ambient temperature (max.) | +105°C | +85°C | +85°C |
| Category of environmental protection IEC61810 | RTII, RTIII | RT0, RTI, RTII, RTIII | RTII/RTIII |
| Terminal type | THT/Quick connect | THT/Quick connect | PCB |
| Mounting | PCB | PCB, panel mount | PCB |
| Dimensions (lwh) | 29x21.5x15.7mm | 32.3x27.4x20.4mm | 32x27x20mm |
| **Accessories** | | | |
| **Link to datasheet** | POTTER & BRUMFIELD T9G | POTTER & BRUMFIELD T9A | Potter & Brumfield T9V<br>Potter & Brumfield T9S |

1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

| | Potter & Brumfield T92 | PCF | PCFN SOLAR |
|---|---|---|---|
| **Key Features** | Switching capacity 7500VA<br>DC or AC coil<br>4kV/8mm coil-contact<br>PCB or quick connect connections or chassis mount | Quick connect terminal for load (PCF only)<br>Height 26.5mm<br>Meet 4kV dielectric voltage between coil and contact<br>Ambient temperature 85°C | Specially designed to meet the requirements for solar<br>Contact gap 1.5mm/1.8mm min.<br>200mW hold power |
| |  |  |  |
| **Footprint**<br>2) see footnote below |  |  |  |
| **Applications** | HVAC<br>Residential/commercial appliances<br>Industrial controls | Applicances<br>HVAC<br>Office machines | Photovoltaic Inverter |
| **Contact Data** | | | |
| **Contact arrangement** | 2 form C (2 CO)<br>2 form A (2 NO) | 1 form A (1 NO) | 1 form A (1 NO) |
| **Rated voltage** | 400VAC | 250VAC | 277VAC |
| **Rated current** | 30A | 25A | 26A |
| **Switching power / Max. break** | 7500VAC | 6370VA | 7200VA |
| **Contact material** | AgCdO, AgSnInO | Visit TE.com for more information | $AgSnO_2$ |
| **Min. recommended contact load** | 500mA (NO)/ 100mA (NC) at 12VAC | 100mA at 5VDC | 100mA at 5VDC |
| **Coil Data** | | | |
| **Magnetic system** | DC, AC | DC | DC |
| **Rated coil voltage** | 5 to 110VDC/12 to 240VAC | 6 to 24VDC | 12VDC and 24VDC |
| **Rated coil power** | 1.7W/4.0VA | 900mW | 1.5W/200mW hold power |
| **Dielectric Strength** | | | |
| **Initial dielectric strength** | | | |
| between open contacts | 1500Vrms | 1000Vrms | 2500Vrms |
| between contact and coil | 4000Vrms | 4000Vrms | 4000Vrms |
| between adjacent contacts | 2000Vrms | | |
| **Clearance/creepage** | | | |
| between contact and coil | 8/9.5mm | 6.7/>8mm | 6.1/6.1mm |
| **Other Data** | | | |
| **Ambient temperature (max.)** | DC Coil +85°C; AC Coil +65°C | +85°C | +85°C |
| **Category of environmental protection IEC61810** | RTI, RTII, RTIII | RTII | RTII |
| **Terminal type** | THT/Quick connect | THT/Quick connect (#250) | PCB-THT |
| **Mounting** | Panel mount, PCB | PCB | PCB |
| **Dimensions (lwh)** | 52.3x34.6x30.8mm | 30.4x16x26.5mm | 30.4x16x26.5mm |
| **Accessories** | | | |
| **Link to datasheet** | POTTER & BRUMFIELD T92 | PCF | PCFN SOLAR |

1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

## EW60

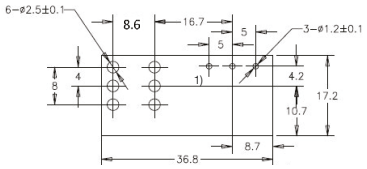
### Key Features

1 pole 60A, 1 form A (NO) contact
Polarized bistable (latching) with 1 or 2 coils
NEMA 410-2011, 16A, 277VAC, electronic ballast; 20A branch circuit
480A inrush, 2.1m sec




### Footprint

2) see footnote below




### Applications

Lighting control, bus actuator,
power distribution, circuit protection, inverter

### Contact Data

| | |
|---|---|
| Contact arrangement | 1 form A (1 NO) |
| Rated voltage | 440VAC |
| Rated current | 60A |
| Switching power / Max. break | 15000VA |
| Contact material | $AgSnO_2$ |
| Min. recommended contact load | Visit TE.com for more information |

### Coil Data

| | |
|---|---|
| Magnetic system | Bistable |
| Rated coil voltage | 5 to 24VDC |
| Rated coil power | 1.5W/3W |

### Dielectric Strength

| | |
|---|---|
| Initial dielectric strength | |
| between open contacts | 1500Vrms |
| between contact and coil | 4000Vrms |
| between adjacent contacts | |
| Clearance/creepage | |
| between contact and coil | ≥6/9mm |

### Other Data

| | |
|---|---|
| Ambient temperature (max.) | +70°C |
| Category of environmental protection IEC61810 | RTI |
| Terminal type | PCB |
| Mounting | PCB |
| Dimensions (lwh) | 36.8×17.2x30.4mm |

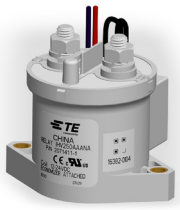
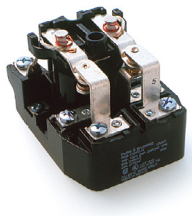
### Accessories

### Link to datasheet

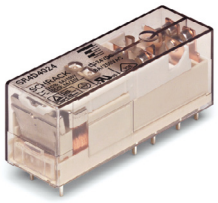
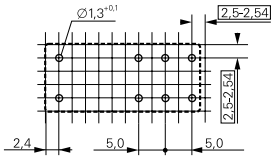
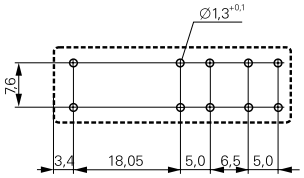
EW60

1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

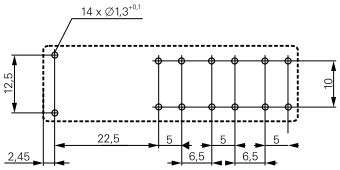
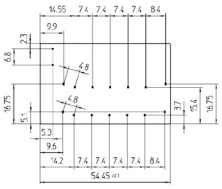
| | IHV | Potter & Brumfield PRD |
|---|---|---|
| **Key Features** | Hermetically sealed - intrinsically safe<br>Designed accordance to AIAG QS9000<br>No position sensitive<br>RoHS compliance | Contact ratings to 50A<br>Magnetic blowout available for switching DC loads<br>SPDT auxiliary switch available<br>Class B insulation system |
| |  |  |
| | PCB mount not applicable.<br>Visit TE.com for more information | PCB mount not applicable.<br>Visit TE.com for more information |
| **Applications** | DC charging, Solar inverter, Energy store station<br>BMS, Electrical forklift, AGV, Rail transit<br>Circuit protection and Safety in Industrial Machinery | Industrial controls<br>Lighting |
| **Contact Data** | | |
| Contact arrangement | 1 form X | 1 form A (1 NO)<br>1 form C (1 CO)<br>1 form X (NO-DM)<br>2 form A (2 NO)<br>2 form C (2 CO) |
| Rated voltage | 450VDC / 750VDC | 600VAC, 28/125VDC |
| Rated current | 50A/100A/150A/200A/250A/350A | 50A |
| Switching power / Max. break | | 12000VA |
| Contact material | | Ag, AgCdO |
| Min. recommended contact load | Visit TE.com for more information | 1A at 12VDC/VAC |
| **Coil Data** | | |
| Magnetic system | DC | DC, AC |
| Rated coil voltage | 12VDC, 24VDC or PWM | 6 to 110VDC/6 to 480VAC |
| Rated coil power | Visit TE.com for more information | 2W/9.8VA |
| **Dielectric Strength** | | |
| Initial dielectric strength | | |
| between open contacts | | 2000Vrms |
| between contact and coil | 2000Vrms | 2000Vrms |
| between adjacent contacts | | 2000Vrms |
| Clearance/creepage | | |
| between contact and coil | Visit TE.com for more information | >8mm |
| **Other Data** | | |
| Ambient temperature (max.) | +85°C | DC +80°C<br>AC +45°C |
| Category of environmental protection IEC61810 | RTV | RT 0/open |
| Terminal type | Screw | Screw/Quick connect |
| Mounting | Panel mount | Panel mount |
| Dimensions (lwh) | Visit TE.com for more information | 85.7X63.8X63.5mm |
| **Accessories** | | Dust cover |
| **Link to datasheet** | | POTTER & BRUMFIELD PRD |

1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

| | SCHRACK SR2M | SCHRACK SR4 D/M |
|---|---|---|
| **Key Features** | 2 pole relay with force guided contacts according to EN50205<br>Reinforced insulation between poles | 4 pole relay with force guided contacts according to EN50205<br>Compact design, space efficient |
| |  |  |
| **Footprint**<br>2) see footnote below |  |  |
| **Applications** | Safety modules<br>Process technology<br>Elevator and Escalator control | Safety modules<br>Process technology<br>Elevator and Escalator control |
| **Contact Data** | | |
| Contact arrangement | 1 form A + 1 from B (1 NO + 1 NC)<br>2 form C (2 CO) | 3 form A + 1 form B (3 NO + 1 NC)<br>2 form A + 2 form B (2 NO + 2 NC) |
| Rated voltage | 250VAC | 250VAC |
| Rated current | 6A | 8A |
| Switching power / Max. break | 1500VA | 2000VA |
| Contact material | AgNi | $AgSnO_2$ |
| Min. recommended contact load | 10mA at 5VDC | 10mA at 5VDC |
| **Coil Data** | | |
| Magnetic system | DC | DC |
| Rated coil voltage | 5 to 110VDC | 5 to 110VDC |
| Rated coil power | 700mW | 800mW |
| **Dielectric Strength** | | |
| Initial dielectric strength | | |
| between open contacts | 1500Vrms | 1500Vrms |
| between contact and coil | 4000Vrms | 4000Vrms |
| between adjacent contacts | 3000Vrms | 2500Vrms |
| Clearance/creepage | | |
| between contact and coil | 8/8mm | 10/10mm |
| **Other Data** | | |
| Ambient temperature (max.) | +70°C | +70°C |
| Category of environmental protection IEC61810 | RTIII | RTIII |
| Terminal type | THT/Plug-in | THT |
| Mounting | PCB/Socket | PCB |
| Dimensions (lwh) | 29x12.6x25.5mm | 40x13x16.5mm |
| **Accessories** | Sockets and relay clips | |
| **Link to datasheet** | SCHRACK SR2M | SCHRACK SR4 D/M |

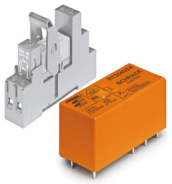
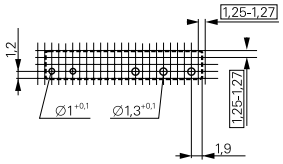
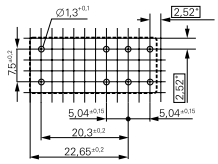
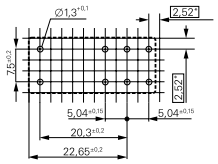
1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

| | SCHRACK SR6 | SCHRACK SRL7 |
|---|---|---|
| **Key Features** | 4/6 pole relay with force guided contacts according to EN50205<br>Reinforced insulation between all contacts depending on version | 7 pole relay with force guided contacts according to EN50205 |
| |  |  |
| **Footprint**<br>2) see footnote below |  |  |
| **Applications** | Safety modules<br>Process technology<br>Elevator and escalator control | Safety modules<br>Process technology<br>Elevator and escalator control |
| **Contact Data** | | |
| Contact arrangement | 3 form A + 1 form B (3 NO + 1 NC)<br>2 form A + 2 form B (2 NO + 2 NC)<br>3 form A + 3 form B (3 NO + 3 NC)<br>4 form A + 2 form B (4 NO + 2 NC)<br>5 form A + 1 form B (5 NO + 1 NC) | 2 form B + 5 form A (2 NC + 5 NO) |
| Rated voltage | 250VAC | 250VAC |
| Rated current | 8A | 6A |
| Switching power / Max. break | 2000VA | 1500VA |
| Contact material | $AgSnO_2$ | Ag alloy |
| Min. recommended contact load | 10mA at 5VDC | 10mA at 5VDC |
| **Coil Data** | | |
| Magnetic system | DC | DC |
| Rated coil voltage | 5 to 110VDC | 5 to 110VDC |
| Rated coil power | 1200/800mW | 700mW |
| **Dielectric Strength** | | |
| Initial dielectric strength | | |
| between open contacts | 1500Vrms | 1000Vrms |
| between contact and coil | 4000Vrms | 2500/4000Vrms |
| between adjacent contacts | 3000/4000Vrms | 2500/4000Vrms |
| Clearance/creepage | | |
| between contact and coil | 5.5/5.5mm, 15/15mm | ≥3/4mm and ≥5.5/5.5mm |
| **Other Data** | | |
| Ambient temperature (max.) | +70°C | +85°C |
| Category of environmental protection IEC61810 | RTIII | RTII |
| Terminal type | THT | THT |
| Mounting | PCB | PCB |
| Dimensions (lwh) | 55x16.5x16.5mm | 55.5x33.8x10.8mm |
| **Accessories** | | |
| **Link to datasheet** | SCHRACK SR6 | SCHRACK SRL7 |

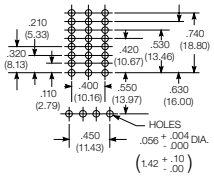
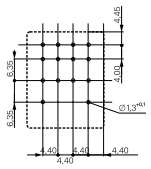
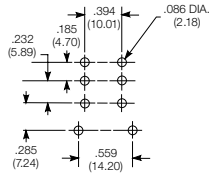
1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

| | SCHRACK SLIM INTERFACE SNR | SCHRACK INTERFACE RELAY RT | SCHRACK INTERFACE RELAY XT |
|---|---|---|---|
| **Key Features** | Strong coil pins for DIN-rail socket<br>LED and protection circuit standard<br>4kV coil-contact, 6/8mm clearance/ creepage<br>System width only 6.2mm | Strengthened pins designed to plug into DIN-rail-sockets<br>Cadmium-free contacts<br>Complete interface solutions available<br>Modular concept socket/relay/module | Manual test tab, optionally lockable<br>Mechanical and electrical indicator<br>Reinforced insulation<br>4kV/8mm dielectric strength between coil and contact |
| |  |  |  |
| **Footprint**<br>2) see footnote below |  |  |  |
| **Applications** | Interface technology<br>Panel board<br>Mechanical engineering | Panel board<br>Mechanical engineering<br>Machine Industry | Panel boards<br>Mechanical engineering |
| **Contact Data** | | | |
| **Contact arrangement** | 1 form C, (CO) | 1 form C, (1 CO)<br>2 form C, (2 CO) | 1 form C, (1 CO)<br>2 form C, (2 CO) |
| **Rated voltage** | 250VAC | 240VAC | 240VAC |
| **Rated current** | 6A | 8/16A | 8/16A |
| **Switching power / Max. break** | 1500VA | 2000/4000VA | 2000/4000VA |
| **Contact material** | $AgSnO_2$, $AgSnO_2$ Au plated | $AgSnO_2$, AgNi90/10<br>AgNi90/10 Au plated | AgNi90/10 |
| **Min. recommended contact load** | 1) see footnote below | 1) see footnote below | 10mA at 12VDC |
| **Coil Data** | | | |
| **Magnetic system** | DC | DC, AC | DC, AC |
| **Rated coil voltage** | 5 to 60VDC | 5 to 110VDC/24 to 230VAC | 12 to 110VDC/24 to 230VAC |
| **Rated coil power** | 170mW | 400mW/0.75VA | 400mW/0.75VA |
| **Dielectric Strength** | | | |
| **Initial dielectric strength** | | | |
| between open contacts | 1000Vrms | 1000Vrms | 1000Vrms |
| between contact and coil | 4000Vrms | 4000/5000Vrms | 4000/5000Vrms |
| between adjacent contacts | | 2500Vrms | 2500Vrms |
| **Clearance/creepage** | | | |
| between contact and coil | ≥6/8mm | ≥8/8mm | ≥8/8mm |
| **Other Data** | | | |
| **Ambient temperature (max.)** | Relay +85°C, in socket +55°C | +70/+85°C | +70/+85°C |
| **Category of environmental protection IEC61810** | RTIII | RTII | RTII |
| **Terminal type** | Plug-in | Plug-in | Plug-in |
| **Mounting** | Socket | Socket | Socket |
| **Dimensions (lwh)** | 28x5x15mm | 29x13x15.7mm | 29x13x26.7mm |
| **Accessories** | DIN rail sockets, jumper bars | DIN rail and PCB sockets, clips, marking tags, modules, jumper bars | DIN rail and PCB sockets, clips, marking tags, modules, jumper bars |
| **Link to datasheet** | SCHRACK SLIM INTERFACE SNR | SCHRACK INTERFACE RELAY RT | SCHRACK INTERFACE RELAY XT |

1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

| | Potter & Brumfield R10 | SCHRACK PT/ Potter & Brumfield KH | Potter & Brumfield K10 |
|---|---|---|---|
| **Key Features** | Broad range of coil options provide sensitivity ranging from 25 to 750mW<br>Various contacts switch from dry circuit to 7.5A<br>Many mounting and termination options | Sensitive coil<br>Low height 29/33mm<br>Manual test tab, optionally lockable<br>Mechanical indicator<br>Optional LED, protection diode | Mounting options include socket, PCB, top flange<br>DC and AC coils<br>LED versions available |
| |  |  |  |
| **Footprint**<br>2) see footnote below |  |  |  |
| **Applications** | Coin changers<br>Audio equipment<br>Ultrasonic test equipment | Machine industry<br>Elevator industry<br>Building management | Industrial controls<br>Motor controls<br>Industrial timers |
| **Contact Data** | | | |
| Contact arrangement | 1, 2, 3, 4, 6, 8 form C (CO) | 2 form C (2 CO)<br>3 form C (3 CO)<br>4 form C (4 CO) | 2 form C (2 CO) |
| Rated voltage | 115VAC, 115VDC | 240VAC | 120/240VAC |
| Rated current | 0.5/2/3/7.5A | 1/2/5/6/10/12A | 10/15A |
| Switching power / Max. break | 862VA max. | 1500/2500/3000VA | 1800/2500VA |
| Contact material | Ag, AgCdO, Ag w/ Au overlay | AgNi90/10, AgNi90/10 Au plated | AgCdO, AgNi90/10 |
| Min. recommended contact load | Dry circuit to 300mA at 12VDC | 1) Bifurcated contacts for dry circuit available on KH | 1) see footnote below |
| **Coil Data** | | | |
| Magnetic system | DC, AC | DC, AC | DC, AC |
| Rated coil voltage | 3 to 115VDC/6 to 115VAC | 6 to 220VDC/6 to 240VAC | 6 to 220VDC/6 to 240VAC |
| Rated coil power | 36mW to 1.6W/1.5VA | 750 to 900mW/1 to 1.2VA | 750 to 900mW/1 to 1.2VA |
| **Dielectric Strength** | | | |
| Initial dielectric strength | | | |
| between open contacts | 500/1000Vrms | 1200Vrms | 1200/1000Vrms |
| between contact and coil | 1000Vrms | 2500Vrms | 2500/1500Vrms |
| between adjacent contacts | 1000Vrms | 2000/2500Vrms | 2500/1500Vrms |
| Clearance/creepage | | | |
| between contact and coil | Visit TE.com for more information | ≥4/4mm | ≥3.1/3.1mm |
| **Other Data** | | | |
| Ambient temperature (max.) | +75°C | +70°C | +70°C |
| Category of environmental protection IEC61810 | RTI, RTIII | RTII | RTII |
| Terminal type | Solder/plug-in and PCB | THT, plug-in, Quick connect | Quick connect, solder, PCB |
| Mounting | Socket, panel mount and PCB | Socket, PCB | Socket and bracket mount |
| Dimensions (lwh) | 29.6x18.7x30.2mm | 28x22.5x29/30/36mm | 28x22.5x29/34.9mm |
| **Accessories** | Solder/PCB sockets, clips, hold down strap, mounting strip | DIN rail and PCB sockets, clips, marking tags, modules, jumper bars | Screw, solder and PCB sockets and clips |
| **Link to datasheet** | POTTER & BRUMFIELD R10 | Potter & Brumfield KHA<br>SCHRACK PT | POTTER & BRUMFIELD K10 |

1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

## Key Features

### Potter & Brumfield KRPA/MT

Industry standard octal/undecal type termination for quick installation
DC and AC coils
Mechanical indicator, indicator lamp and push-to-test options

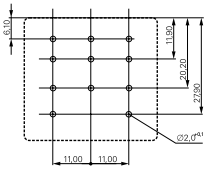


PCB mount not applicable.
Visit TE.com for more information

### SCHRACK RM2/3/7

Wide selection of termination and mounting styles
PC terminals available
Push to test button and indicator lamps
Class B coil insulation

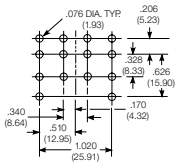





### Potter & Brumfield KUP/ KUMP/KUIP

Wide selection of termination and mounting styles
Broad range of contact forms
PC terminals available
Push to test button and indicator lamps
Class B coil insulation





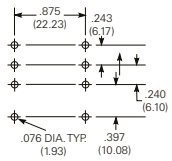
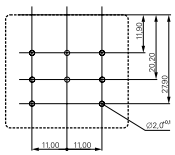

## Footprint

2) see footnote below

| | Potter & Brumfield KRPA/MT | SCHRACK RM2/3/7 | Potter & Brumfield KUP/ KUMP/KUIP |
|---|---|---|---|
| **Applications** | Mechanical engineering<br>Elevator control, Plant control<br>Baggage handling | Elevator control<br>Power supplies | HVAC<br>Pump motor controls<br>Hospital beds |
| **Contact Data** | | | |
| Contact arrangement | 1 form C (1 CO) (KRPA)<br>2 form C (2 CO)<br>3 form C (3 CO) | 2 form C (2 CO)<br>3 form C (3 CO) | 1, 2, 3, 4 form C (CO)<br>1, 2, 3 form A (NO)<br>2, 3 form B (NC)<br>1 form X (NO-DM)<br>1 form Y (NC-DB)<br>1 from Z (CO-DM/DB) |
| Rated voltage | 240VAC | 400VAC | 240VAC |
| Rated current | 4/10A | 10/16A | 10/15A |
| Switching power / Max. break | 500/2400/2500VA | 3800/6000VA | 2400/4155VA |
| Contact material | AgCdO, AgNi90/10, AgNi90/10 Au plated | AgCdO, AgNi90/10 in preparation | Ag, AgCdO, AgSnOInO |
| Min. recommended contact load | 1) see footnote below | 100mA at 12VDC | 100mA at 12VDC(Ag) 300mA at 12VDC (AgCdO, AnSnOInO) |
| **Coil Data** | | | |
| Magnetic system | DC, AC | DC, AC | DC, AC |
| Rated coil voltage | 6 to 220VDC/6 to 240VAC | 6 to 220VDC/6 to 400VAC | 5 to 110VDC/6 to 240VAC |
| Rated coil power | 760mW to 1.3W/0.74 to 2.3VA | 1.2 to 1.8W/2 to 2.8VA | 1.2 to 1.8W/2 to 2.7VA |
| **Dielectric Strength** | | | |
| Initial dielectric strength | | | |
| between open contacts | 1000/1500Vrms | 1500Vrms | 1200Vrms |
| between contact and coil | 1000/2500Vrms | 2500Vrms | 2200/3750Vrms |
| between adjacent contacts | 1000/2500Vrms | 2500Vrms | 2200Vrms |
| Clearance/creepage | | | |
| between contact and coil | ≥2.8/4mm | ≥4/14.9mm | Visit TE.com for more information |
| **Other Data** | | | |
| Ambient temperature (max.) | DC +60/+70°C<br>AC +50/+55°C | +50/+70°C | DC +50/+70/+95°C<br>AC +45/+55/+70°C |
| Category of environmental protection IEC61810 | RTI | RTI | RTI |
| Terminal type | Plug-in | THT, Plug-in, solder, Quick connect | THT, Plug-in, solder, Quick connect |
| Mounting | Socket | Socket, PCB, bracket, flange mount and DIN-snap-on | Socket, PCB, bracket, flange, stud and tapped core |
| Dimensions (lwh) | 35.7x35.7x50.8/57mm | 38.5x35.5x48.5mm | 38.9x35.7x48.4mm |
| **Accessories** | DIN rail and PCB sockets, clips, marking tags, modules | DIN rail and PCB sockets, clips | DIN rail, panel and PCB sockets, clips |
| **Link to datasheet** | POTTER & BRUMFIELD KRPA<br>SCHRACK MT | SCHRACK RM2/3/7 | Potter & Brumfield KUIP KUGP<br>KUM KUMP KUP |

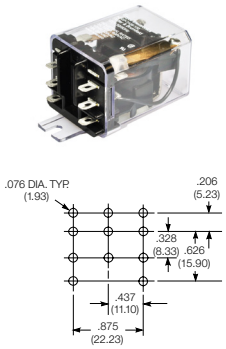
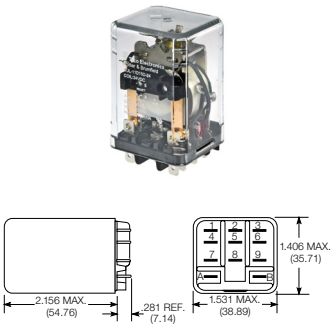
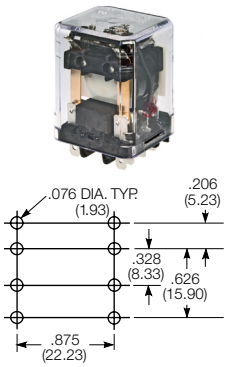
1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

| | SCHRACK RM8/C/D | Potter & Brumfield KUHP | SCHRACK RM5/6/B 3MM |
|---|---|---|---|
| **Key Features** | Power relay with push-on and solder terminals<br>Various mounting options<br>Indicator lamps and mechanical indicator<br>Optional push to test button | Power relay with push-on and solder terminals<br>Various mounting options<br>Designed to meet VDE space requirements<br>Class B coil insulation | 3mm contact gap<br>DC or AC coil<br>Push-to-test button<br>Plug-in version, PCB terminals or chassis or DIN-rail mount |
| **Footprint**<br>2) see footnote below | <br>PCB mount not applicable.<br>Visit TE.com for more information | <br> | <br> |
| **Applications** | Cleaning equipment<br>Heating equipment<br>Cooling equipment | Baggage handling motors<br>Industrial pumps<br>Commercial ovens | Power supplies<br>Pump control |
| **Contact Data** | | | |
| **Contact arrangement** | 1 form C (1 CO)<br>2 form C (2 CO)<br>1 form Z contact (1 NO + 1 NC)<br>1 form X contact (1 NO) | 1 form C (1 CO)<br>2 form C (2 CO) | 2 form A (2 NO)<br>3 form A (3NO) |
| **Rated voltage** | 400VAC | 240VAC, 50/60Hz; 28VDC | 240/400VAC |
| **Rated current** | 25/30/32A | 20/30A | 10/16A |
| **Switching power / Max. break** | 6000/7500VA | 4800/7200VA | 3800/6000VA |
| **Contact material** | AgCdO, AgNi90/10 | AgCdO, AgSnOInO | AgCdO, AgNi90/10 in preparation |
| **Min. recommended contact load** | 100mA at 12VDC | 300mA at 12VDC | 100mA at 12VDC |
| **Coil Data** | | | |
| **Magnetic system** | DC, AC | DC, AC | DC, AC |
| **Rated coil voltage** | 6 to 220VDC/6 to 400VAC | 6 to 110VDC 50/60Hz. 6 to 277VAC | 6 to 220VDC/6 to 400VAC |
| **Rated coil power** | 1.2W/2.7VA | 1.2W/2.7VA | 1.2W/2.7VA |
| **Dielectric Strength** | | | |
| **Initial dielectric strength** | | | |
| between open contacts | 1500/2000Vrms | 1200Vrms | 2500Vrms |
| between contact and coil | 2500Vrms | 3750Vrms | 2500Vrms |
| between adjacent contacts | 4000Vrms | 3750Vrms | 2500Vrms |
| **Clearance/creepage** | | | |
| between contact and coil | ≥4/14.9mm | Visit TE.com for more information | ≥4/14.9mm |
| **Other Data** | | | |
| **Ambient temperature (max.)** | DC +60/+65°C<br>AC +40°C | DC +45°C<br>AC +75°C | +50/+60°C |
| **Category of environmental protection IEC61810** | RTI | RTI, RT0 | RTI |
| **Terminal type** | Solder/Quick connect | Solder/PCB THT/Quick connect | Plug-in, solder, Quick connect, PCB THT |
| **Mounting** | Bracket, top flange panel mount and DIN snap-on | Bracket and top flange panel mount | Socket, PCB, bracket, flange mount and DIN-snap-on |
| **Dimensions (lwh)** | 38.5x35.5x48.5mm | 38.9x35.7x48.4mm | 38.5x35.5x48.5mm |
| **Accessories** | No sockets | No sockets | DIN rail and PCB sockets, clips |
| **Link to datasheet** | SCHRACK RM8C/D<br>SCHRACK RM 8 | POTTER & BRUMFIELD KUHP | SCHRACK RM5/6/B 3MM |

1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

| | Potter & Brumfield KUGP | Potter & Brumfield KUL | Potter & Brumfield KUEP |
|---|---|---|---|
| **Key Features** | 3mm contact gap<br>DC or AC coil<br>Plug-in version, PCB terminals or chassis mount | Magnetic latching<br>Single and dual coils<br>Panel mounting | 10A relay with various contact arrangements<br>Magnetic blowout for 150VDC load switching<br>Indicator lamp option |
| **Footprint**<br>2) see footnote below |  |  |  |
| **Applications** | Voltage control units | Alarm systems<br>Machine tools<br>Battery chargers | DC load switvhing in industrial controls |
| **Contact Data** | | | |
| Contact arrangement | 1 form C (1 CO)<br>2 form A (2 NO)<br>2 form C (2 CO)<br>3 form C (3 CO) | 1 form C (1 CO)<br>2 form C (2 CO)<br>3 form C (3 CO) | 1 form X (NO-DM)<br>2 form A (2 NO)<br>2 form C (2 CO) |
| Rated voltage | 240/400VAC | 28/240VAC | 150VDC/240VAC |
| Rated current | 10A | 10A | 10A |
| Switching power / Max. break | 2400VA | | 1500W/2400VA |
| Contact material | Ag, AgCdO | Ag, AgCdO | AgCdO, AgSnOInO |
| Min. recommended contact load | 100mA at 12VDC (Ag)<br>300mA at 12VDC (AgCdO) | 100mA at 12VDC (Ag)<br>300mA at 12VDC (AgCdO) | 300mA at 12VDC |
| **Coil Data** | | | |
| Magnetic system | DC, AC | DC, AC | DC, AC |
| Rated coil voltage | 6-110VDC/6-240VAC | 12 to 48VDC/24 to 120/240VAC | 5 to 110VDC/6 to 240VAC |
| Rated coil power | 1.8W/2.7VA | 1.6W dual coil/1.2W single coil | 1.2W to 1.8W/2 to 2.7VA |
| **Dielectric Strength** | | | |
| Initial dielectric strength | | | |
| between open contacts | 3500Vrms | 500Vrms | 1200Vrms |
| between contact and coil | 2200Vrms | 1500Vrms | 2200Vrms |
| between adjacent contacts | 2200Vrms | 1500Vrms | 2200Vrms |
| Clearance/creepage | | | |
| between contact and coil | >8mm | Visit TE.com for more information | Visit TE.com for more information |
| **Other Data** | | | |
| Ambient temperature (max.) | DC +75°C<br>AC +70°C | DC +70°C<br>AC +50/+70°C | AC +55/+70°C<br>DC +50/+70°C |
| Category of environmental protection IEC61810 | RTI | RTI | RTI |
| Terminal type | THT, Plug-in, solder, Quick connect, PCB | .187 Quick connect, solder | Quick connect, solder and PCB |
| Mounting | Socket, PCB, bracket, flange mount | Socket, bracket | Socket, PCB, bracket and top flange mount |
| Dimensions (lwh) | 38.9x35.7x48.4mm | 38.9x35.7x54.8mm | 38.9x35.7x48.4mm |
| **Accessories** | DIN rail and PCB sockets, clips | Screw, solder, PCB and Quick connect sockets and clips | DIN rail, track mount, chassis mount, and snap-in sockets, clips |
| **Link to datasheet** | POTTER & BRUMFIELD KUGP | POTTER & BRUMFIELD KUL | POTTER & BRUMFIELD KUEP |

1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

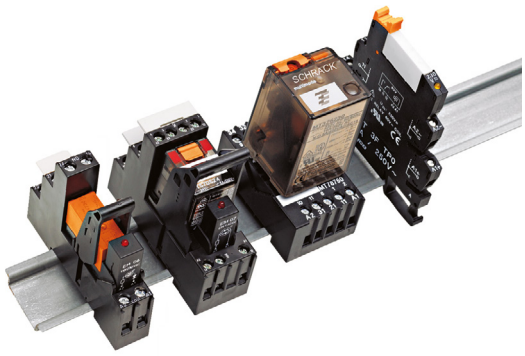
## Key Features

### ACCESSORIES

DIN rail and PCB sockets
Screw and screwless fingersafe terminals
Retaining and ejection clips
Marking tags, jumper bars, jumper links
LED and protection modules

### SETS

Relay package consisting of relay, DIN rail socket, plastic retaining clip, marking tag and module



## Applications

## Contact Data

| | | |
|---|---|---|
| **Contact arrangement** | 1 form C (1 CO)<br>2 form C (2 CO)<br>3 form C (3 CO)<br>4 form C (4 CO) | 1 form C (1 CO)<br>2 form C (2 CO)<br>3 form C (3 CO)<br>4 form C (4 CO) |
| **Rated voltage** | 240/250VAC | 240/250VAC |
| **Rated current** | 6 to 16A | 6 to 16A |
| **Switching power / Max. break** | | 1500 to 4000VA |
| **Min. recommended contact load** | | 1) see footnote below |

## Coil Data

| | | |
|---|---|---|
| **Magnetic system** | | DC, AC |
| **Rated coil voltage** | | 6 to 220VDC/6 to 230VAC |
| **Rated coil power** | | 170 to 700mW/0.4 to 1VA |

## Dielectric Strength

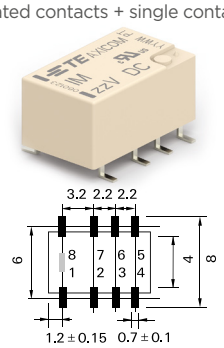
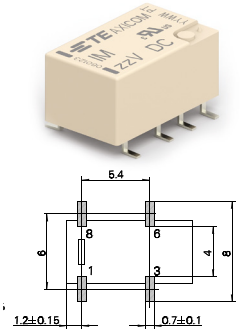
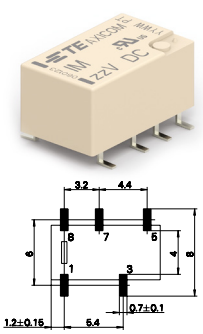
| | | |
|---|---|---|
| **Initial dielectric strength** | | |
| between open contacts | | |
| between contact and coil | | |
| between adjacent contacts | | |
| **Clearance/creepage** | | |
| between contact and coil | | |

## Other Data

| | | |
|---|---|---|
| **Ambient temperature (max.)** | | |
| **Category of environmental protection IEC61810** | IP20 | |
| **Terminal type** | Screw, screwless, plate mount, PCB | Screw, screwless |
| **Mounting** | | |
| **Dimensions (lwh)** | | |

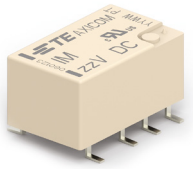
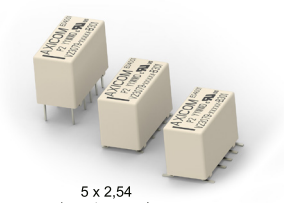
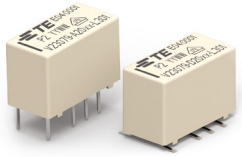
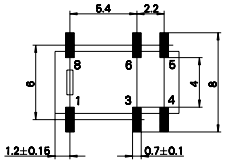
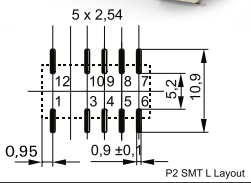
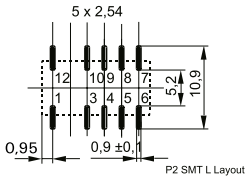
| | | |
|---|---|---|
| **Accessories** | PCB, panel mount and DIN rail | DIN, panel mount |
| **Link to datasheet** | ACCESSORIES SLIM INTERFACE RELAY SNR<br>ACCESSORIES INDUSTRIAL POWER RELAY RT<br>ACCESSORIES MINIATURE RELAY PT<br>ACCESSORIES INTERFACE PLUG-IN RELAY XT | RELAY PACKAGE RT<br>RELAY PACKAGE PT<br>RELAY PACKAGE SNR<br>ACCESSORIES MULTIMODE RELAY MT |

1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

| | Axicom IM | Axicom IMB | Axicom IMC |
|---|---|---|---|
| **Key Features** | 4G telecom/signal relay/switching relay<br>Slim line 10x6mm, low-profile 5.65mm<br>Switching power 60W/62.5VA<br>Switching voltage 220VDC/250VAC<br>Monostable + Bistable<br>Low rated coil power<br>High dielectric version<br>High current version up to 5 A<br>High contact stability version<br>Bifurcated contacts + single contact | 4G telecom/signal relay/switching relay<br>Slim line 10x6mm, low-profile 5.65mm<br>Switching power 60W/62.5VA<br>Switching voltage 220VDC/250VAC<br>Monostable + Bistable<br>Very high dielectric version<br>Bifurcated contacts | 4G telecom/signal relay/switching relay<br>Slim line 10x6mm, low-profile 5.65mm<br>Switching power 60W/62.5VA<br>Switching voltage 220VDC/250VAC<br>Monostable + Bistable<br>High dielectric version<br>High current version up to 4 A<br>Bifurcated contacts |
| **Footprint**<br>2) see footnote below |  |  |  |
| **Applications** | Telecommunication, access and transmission equipment<br>Thermostat controls, fire and security equipment<br>Measurement and test equipment, Industrial controls, medical equipment | Telecommunication, access and transmission equipment<br>Thermostat controls, fire and security equipment<br>Measurement and test equipment, Industrial controls, medical equipment | Telecommunication, access and transmission equipment<br>Thermostat controls, fire and security equipment<br>Measurement and test equipment, Industrial controls, medical equipment |
| **Contact Data** | | | |
| **Contact arrangement** | 2 form C, 2 CO<br>Single contact + Bifurcated contacts | 1 form A, 1 NO<br>Bifurcated contacts | 1 form C, 1 CO<br>Bifurcated contacts |
| **Rated voltage** | 250VAC/220VDC | 250VAC/220VDC | 250VAC/220VDC |
| **Rated current** | 2/5A | 2A | 2/4A |
| **Switching power / Max. break** | 60W/62.5VA | 60W/62.5VA | 60W/62.5VA |
| **Min. recommended contact load** | 100µV/1µA | 100µV/1µA | 100µV/1µA |
| **Initial contact resistance** | <50mΩ at 10mA/30mV I: < 100mΩ | <100mΩ at 10mA/30mV | <50mΩ at 10mA/ 30mV |
| **Coil Data** | | | |
| **Magnetic system** | Polarized | Polarized | Polarized |
| **Rated coil voltage** | 1.5 to 24VDC | 1.5 to 24VDC | 1.5 to 24VDC |
| **Rated coil power**<br>**DC coil / bistable 1 coil/2 coils** | 50 to 200mW-/- | 140mW/-/- | 140mW/-/- |
| **Dielectric Strength** | | | |
| **Initial dielectric strength** | | | |
| between open contacts | 750 to 1500Vrms | 2500Vrms | 1000 to 1600Vrms |
| between contact and coil | 1500 to 1800Vrms | 3500Vrms | 1800 to 2200Vrms |
| between adjacent contacts | 750 to 1800Vrms | | |
| **Initial surge withstand voltage** | | | |
| between open contacts | 1000 to 2500V | 3500V | 1500 to 2200V |
| between contact and coil | 2000 to 2500V | 4900V | 2500 to 3000V |
| between adjacent contacts | 1000 to 2500V | | |
| **Isolation 100/900MHz** | 37.0/18.8dB | 37.0/18.8dB | 37.0/18.8dB |
| **Insertion loss 100/900MHz** | 0.03/0.33dB | 0.03/0.33dB | 0.03/0.33dB |
| **Volt. standing wave ratio 100/900MHz** | 1.06/1.49 | 1.06/1.49 | 1.06/1.49 |
| Capacitance<br>between open contacts | max. 1pF | max. 1pF | max. 1pF |
| **Other Data** | | | |
| **Ambient temperature (max.)** | -40 to +85°C | -40 to +85°C | -40 to +85°C |
| **Category of environmental protection** | IP67/RTV | IP67/RTV | IP67/RTV |
| **Terminal type** | THT, SMT | THT, SMT | THT, SMT |
| **Dimension (lwh)** | 10x6x5.65mm | 10x6x5.65mm | 10x6x5.65mm |
| **Link to datasheet** | AXICOM IM | AXICOM IMB | AXICOM IMC |

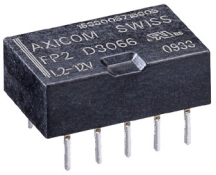
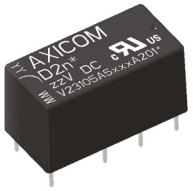
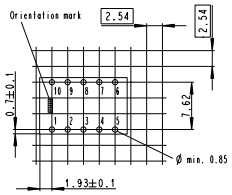
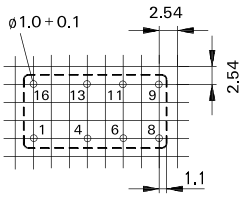
1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

| | Axicom IMD/IME | Axicom P2 / P2 HIGH DIELECTRIC VERSION | Axicom P2 LIGHTING |
|---|---|---|---|
| **Key Features** | 4G telecom/signal relay/switching relay<br>Slim line 10x6mm, low-profile 5.65mm<br>Switching power 60W/62.5VA<br>Switching voltage 220VDC/250VAC<br>Monostable<br>Bifurcated contacts | Small Signal relay<br>Slim line 15x7.5mm<br>Switching current max. 5A<br>High dielectric version<br>Meets Telcordia Technologies Inc. requirements | Small signal relay<br>Slim line 15x7.5mm<br>Switching current max. 5A<br>High dielectric strength 3kV<br>VDE certified for LED tubes |
| |  |  |  |
| **Footprint**<br>2) see footnote below |  |  |  |
| **Applications** | Telecommunication, access and transmission equipment, fire and security equipment<br>Thermostat controls<br>Measurement and test equipment, Industrial controls, medical equipment | Security systems, consumer electronics, thermostats<br>Home automation systems, communication systems<br>Set top boxes, office equipment | LED tubes<br>Office equipment<br>Security systems, set top boxes |
| **Contact Data** | | | |
| **Contact arrangement** | 2 form B, 2 NC<br>2 form A, 2 NO<br>Bifurcated contacts | 2 form C, 2 CO<br>Bifurcated contacts | 2 form C, 2 CO<br>Bifurcated contacts |
| **Rated voltage** | 250VAC/220VDC | 250VAC/220VDC | 250VAC/220VDC |
| **Rated current** | 2A | 2A | 2A |
| **Switching power / Max. break** | 60W/62.5VA | 60W/62.5VA | 60W/62.5VA |
| **Min. recommended contact load** | 100µV/1µA | 100µV/1µA | 100µV/1µA |
| **Initial contact resistance** | <50mΩ at 10mA/20mV | <50mΩ at 10mA/20mV | <50mΩ at 10mA/20mV |
| **Coil Data** | | | |
| **Magnetic system** | Polarized | Polarized | Polarized |
| **Rated coil voltage** | 1.5 to 24VDC | 2.4 to 24VDC | 3 to 12VDC |
| **Rated coil power DC coil / bistable 1 coil/2 coils** | 140mW/-/- | 140mW/70mW/140mW | 140mW - 1 coil version |
| **Dielectric Strength** | | | |
| **Initial dielectric strength** | | | |
| between open contacts | 1000Vrms | 1000 to 1500Vrms | 1500Vrms |
| between contact and coil | 1800Vrms | 1500Vrms | 3000Vrms |
| between adjacent contacts | 1000Vrms | 1000 to 1500Vrms | 1500Vrms |
| **Initial surge withstand voltage** | | | |
| between open contacts | 1500V | 2000 to 2500Vrms | |
| between contact and coil | 2500V | 2500V | 6000Vrms |
| between adjacent contacts | 1500V | 2500V | |
| **Isolation 100/900MHz** | 37.0/18.8dB | | |
| **Insertion loss 100/900MHz** | 0.03/0.33dB | | |
| **Volt. standing wave ratio 100/900MHz** | 1.6/1.49 | | |
| Capacitance | | | |
| between open contacts | max. 1pF | | |
| **Other Data** | | | |
| **Ambient temperature (max.)** | -40 to +85°C | -40 to +85°C | -40 to +85°C |
| **Category of environmental protection** | IP67/RTV | RTIII | RTIII |
| **Terminal type** | THT, SMT | THT, SMT | THT, SMT |
| **Dimension (lwh)** | 10x6x5.65mm | 14.5x7.2x10.4mm, stnd<br>14.5x7.2x9.9mm, ovrmld | 14.5x7.2x9.9mm, ovrmld |
| **Link to datasheet** | AXICOM IMD/IME | AXICOM P2 / P2 HIGH DIELECTRIC VERSION | AXICOM P2 LIGHTING |

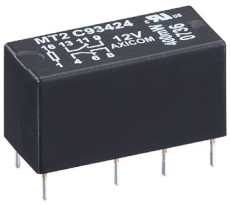
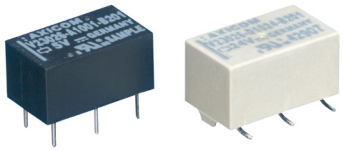
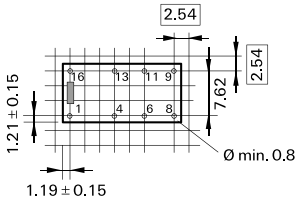
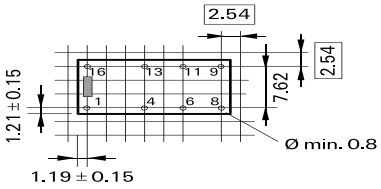
1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

| | Axicom FP2 | Axicom D2N V23105 |
|---|---|---|
| **Key Features** | Slim line 14x9mm<br>2 form C bifurcated contacts<br>High mechanical shock resistance, up to 1500g survival | 2G telecom/signal relay<br>4 coil sensitivities<br>3A UL rating |
| |  |  |
| **Footprint**<br>2) see footnote below |  |  |
| **Applications** | Communication equipment<br>Keyless entry<br>Speaker switch, consumer electronics | Communication equipment<br>Office equipment<br>Measurement and control equipment |
| **Contact Data** | | |
| **Contact arrangement** | 1 form C (CO) | 2 form C, 2 CO<br>Single Contacts |
| **Rated voltage** | 220VDC/250VAC | 250VAC/220VDC |
| **Rated current** | 2A | 3A |
| **Switching power / Max. break** | 60W/62.5VA | 60W/125VA |
| **Min. recommended contact load** | 100µV | 100µV/10µA |
| **Initial contact resistance** | <50mΩ at 10mA | <100mΩ |
| **Coil Data** | | |
| **Magnetic system** | Polarized | Non polarized |
| **Rated coil voltage** | 2 to 24VDC | 3 to 48VDC |
| **Rated coil power**<br>**DC coil/bistable 1 coil/2 coils** | 80mW (high sensitive), 140mW | 150 to 700mW/-/- |
| **Dielectric Strength** | | |
| **Initial dielectric strength** | | |
| between open contacts | 750Vrms | 750Vrms |
| between contact and coil | 1000Vrms | 1000Vrms |
| between adjacent contacts | 1000Vrms | 750Vrms |
| **Initial surge withstand voltage** | | |
| between open contacts | 1100V | 1500V |
| between contact and coil | 1500V | 1500V |
| between adjacent contacts | 1500V | 1500V |
| **Isolation/Cross talk at 100MHz/900MHz** | Cross talk -40.2/-22.3dB | Isolation -39.0/-20.7dB |
| **Insertion loss 100/900MHz** | 0.03dB/0.25dB | -0.02/-0.27dB |
| **Volt. standing wave ratio 100/900MHz** | 1.01/1.07 | 1.04/1.40 |
| Capacitance<br>between open contacts | | max. 2pF |
| **Other Data** | | |
| **Ambient temperature (max.)** | -40 to +85°C | -25 to +85°C |
| **Category of environmental protection** | IP67/RTIII | IP67/RTIII |
| **Terminal type** | THT | THT |
| **Dimension (lwh)** | 14x9x5mm | 20.2x10x11.4mm |
| **Link to datasheet** | AXICOM FP2 | AXICOM D2N V23105 |

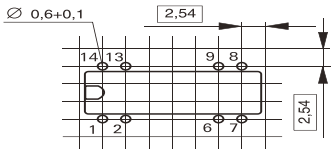
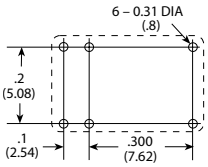
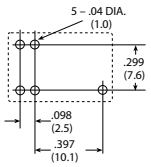
1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

| | Axicom MT2 | Axicom P1 V23026 |
|---|---|---|
| **Key Features** | 2G telecom/signal relay<br>5 coil sensitivities<br>2A UL rating | Very high sensitive relay<br>Low-profile<br>High vibration and shock resistance<br>Version: symmetric pin layout<br>Temperature range up to 85°C<br>1500Vrms across opened contacts |
| |  |  |
| **Footprint**<br>2) see footnote below |  |  |
| **Applications** | Communication equipment<br>Linecard application<br>Measurement and control equipment | Automotive equipment<br>CAN bus<br>Imobilizer |
| **Contact Data** | | |
| **Contact arrangement** | 2 form C, 2 CO<br>Bifurcated contacts | 1 form C, 1 CO<br>Bifurcated contacts |
| **Rated voltage** | 250VAC/220VDC | 150VAC/125VDC |
| **Rated current** | 2A | 1A |
| **Switching power / Max. break** | 60W/62.5VA | 30W/60VA |
| **Min. recommended contact load** | 100µV/1µA | 100µV/1µA |
| **Initial contact resistance** | <70mΩ | <50mΩ |
| **Coil Data** | | |
| **Magnetic system** | Non polarized | Polarized |
| **Rated coil voltage** | 3 to 48VDC | 3 to 24VDC |
| **Rated coil power**<br>**DC coil/bistable 1 coil/2 coils** | 150 to 550mW/-/- | 65 to 130mW/30 to<br>130mW/70 to 200mW |
| **Dielectric Strength** | | |
| **Initial dielectric strength** | | |
| between open contacts | 750Vrms | 500Vrms |
| between contact and coil | 1000Vrms | 1500Vrms |
| between adjacent contacts | 750Vrms | |
| **Initial surge withstand voltage** | | |
| between open contacts | 1500V | |
| between contact and coil | 1500V | 2500V |
| between adjacent contacts | 1500V | |
| **Isolation 100/900MHz** | -31.8/-14.2dB | -30.0/-18.0dB |
| **Insertion loss 100/900MHz** | -0.02/-0.97dB | -0.12/-1.90dB |
| **Volt. standing wave ratio 100/900MHz** | 1.03/1.31 | 1.06/1.75 |
| Capacitance<br>between open contacts | max. 2pF | max. 5pF |
| **Other Data** | | |
| **Ambient temperature (max.)** | -55 to +85°C | -40 to +85°C |
| **Category of environmental protection** | IP67/RTIII | IP67/RTIII |
| **Terminal type** | THT | THT, SMT |
| **Dimension (lwh)** | 20.2x10x11mm | 13x7.6x6.9mm |
| **Link to datasheet** | AXICOM MT2 | AXICOM P1 V23026 |

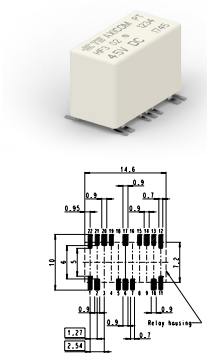
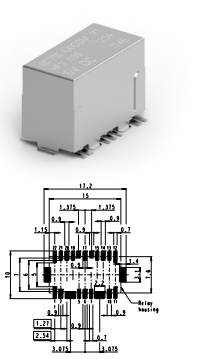
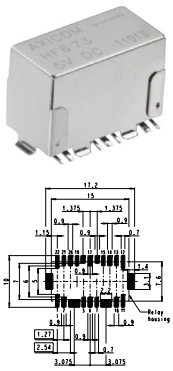
1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

| | Axicom REED DIP/SIL | TSC | OUAZ/T81 |
|---|---|---|---|
| **Key Features** | Direct driving with TTL signals<br>Ultrasonic cleanable<br>High switching speed<br>Clamping diode<br>Electrostatic shield | Designed for thermostat, modem<br>Computer peripherals, video recording and security application<br>Low coil power requirements<br>IC compatibility | Gold overlay silver palladium alloy contact suitable for low loads<br>High density available on PCB due to small size<br>2.54mm terminal pitch same as IC socket terminal pitch<br>Sensitive and standard coils |
| |  |  |  |
| **Footprint**<br>2) see footnote below |  |  |  |
| **Applications** | Incircuit tester<br>Measuring and control systems<br>Alarm and security equipment | Telecommunications<br>Office machine | Telecommunications<br>Logic and process control<br>Vending machines |
| **Contact Data** | | | |
| **Contact arrangement** | 1 form A, 1 NO<br>2 form A, 2 NO<br>1 from C, 1 CO<br>Reed contacts | 1 form C, 1 CO | 1 form C, 1 CO<br>1 form A, 1 NO |
| **Rated voltage** | 175 to 200VAC/VDC | 120VAC, 30VDC | 120VAC/24VDC |
| **Rated current** | 0.25 to 0.5A | 1A | 1A |
| **Switching power / Max. break** | 3 to 10W | 120VA, 24W | 120VA, 30W |
| **Min. recommended contact load** | 10µV/1µA | 1mA at 1VDC | 1mA at 1VDC |
| **Initial contact resistance** | <150mΩ | 50mΩ at 100mA, 6VDC | |
| **Coil Data** | | | |
| **Magnetic system** | Non polarized | DC, sensitive | DC, sensitive |
| **Rated coil voltage** | 5 to 24VDC | 3 to 24VDC | 5 to 24VDC |
| **Rated coil power DC coil/bistable 1 coil/2 coils** | 50 to 300mW/-/- | 150, 300mW | 200, 450mW |
| **Dielectric Strength** | | | |
| **Initial dielectric strength** | | | |
| between open contacts | 140 to 175Vrms | 400Vrms | 500Vrms |
| between contact and coil | 500vdc | 1000Vrms | 1000Vrms |
| between adjacent contacts | 500vdc | | |
| **Initial surge withstand voltage** | | | |
| between open contacts | | | |
| between contact and coil | | 1500Vp (10/160µs) | 1500Vp (10/160µs) |
| between adjacent contacts | | | |
| **Isolation 100/900MHz** | | | |
| **Insertion loss 100/900MHz** | | | |
| **Volt. standing wave ratio 100/900MHz** | | | |
| Capacitance between open contacts | max. 1pF | | |
| **Other Data** | | | |
| **Ambient temperature (max.)** | -20 to +70°C | 40 to +80°C | -40 to +60°C (standard) |
| **Category of environmental protection** | IP67/RTIII | RTIII/IP67 | RTII, RTIII |
| **Terminal type** | THT | THT | THT |
| **Dimension (lwh)** | 19.3x5.7x7.5mm/19.8x5.1x8mm | 12.5x7.5x10mm | 15.4x10.4x11.2mm |
| **Link to datasheet** | AXICOM REED DIP/SIL | TSC | OUAZ/T81 |

1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

| | Axicom HF3 | Axicom HF3S | Axicom HF6 |
|---|---|---|---|
| **Key Features** | High performance RF relay/switch for up to 3GHz<br>Low power consumption ≤70/140 mW<br>50 and 75Ω version<br>Very small design | High performance RF relay/switch for up to 3GHz<br>Low power consumption ≤70/140mW<br>50 and 75Ω version<br>RF power 100W at 2GHz<br>Very small design | High performance RF relay/switch for up to 6GHz<br>Low power consumption ≤70/ 140mW<br>50Ω version<br>Very small design |
| **Footprint**<br>2) see footnote below |  |  |  |
| **Applications** | Cable modems and linecards/CATV<br>Measurement and test equipment ATE<br>Satellite/audio/video tuners | Cable modems and linecards/CATV<br>Measurement and test equipment ATE<br>Satellite/audio/video tuners | Measurement and test equipment ATE<br>Wireless base stations and antennas<br>Wireless infrastructure |
| **Contact Data** | | | |
| Contact arrangement | 1 form C, 1 CO<br>Bridge contacts | 1 form C, 1 CO<br>Bridge contacts | 1 form C, 1 CO<br>Bridge contacts |
| Rated voltage | 250VAC/220VDC | 250VAC/220VDC | 250VAC/220VDC |
| Rated current | 2A | 2A | 2A |
| Switching power / Max. break | 60W/62.5VA/50W (2.5GHz) | 60W/62.5VA/50W (2.5GHz) | 60W/62.5VA/50W (2.5GHz) |
| Min. recommended contact load | 100µV/1µA | 100µV/1µA | 100µV/1µA |
| Initial contact resistance | <100mΩ | <100mΩ | <100mΩ |
| **Coil Data** | | | |
| Magnetic system | Polarized | Polarized | Polarized |
| Rated coil voltage | 3 to 24VDC | 3 to 24VDC | 3 to 24VDC |
| Rated coil power DC coil/bistable 1 coil/2 coils | 140mW/70mW/140mW | 140mW/70mW/140mW | 140mW/70mW/140mW |
| **Dielectric Strength** | | | |
| Initial dielectric strength | | | |
| between open contacts | 600Vrms | 600Vrms | 600Vrms |
| between contact and coil<br>between adjacent contacts | 1000Vrms | 1000Vrms | 1000Vrms |
| Initial surge withstand voltage | | | |
| between open contacts | 1000Vp | 1000Vp | 1000Vp |
| between contact and coil<br>between adjacent contacts | 1500Vp | 1500Vp | 1500Vp |
| Capacitance | | | |
| between open contacts | max. 1pF | max. 1pF | max. 1pF |
| **RF Data** | 0.1/0.9/3GHz | 0.1/0.9/3GHz | 0.9/3/6GHz |
| Isolation | -80/-72/-DB45 | -95/-80/-55dB | -80/-60/-30dB |
| Insertion loss | -0.03/0.12/-0.35dB | -0.03/-0.12/-0.30dB | -0.05/-0.15/-0.80dB |
| Voltage standing wave ratio (VSWR) | 1.05/1.15/1.20 | 1.05/1.10/1.25 | 1.05/1.10/1.40 |
| **Other Data** | | | |
| Ambient temperature (max.) | -55 to +85°C | -55 to +85°C | -55 to +85°C |
| Category of environmental protection | IP67/RTIII | IP67/RTIII | IP67/RTIII |
| Terminal type | SMT | SMT | SMT |
| Dimension (lwh) | 14.6x7.2x10mm | 15x7.6x10.6mm | 15x7.6x10.6mm |
| **Link to datasheet** | AXICOM HF3 | AXICOM HF3S | AXICOM HF6 |

1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

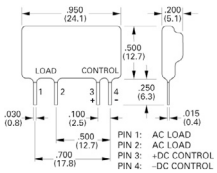
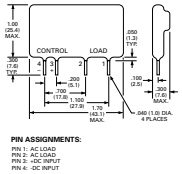
2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

| | Potter & Brumfield SSR | Potter & Brumfield SSRD | Potter & Brumfield SSRT |
|---|---|---|---|
| **Key Features** | Standard “hockey puck” package<br>Inverse parallel SCR output<br>240VAC & 480VAC output types<br>Zero voltage and random voltage turn-on versions<br>4,000Vrms optical isolation<br>Cover design with anti-rotation barriers<br>1 Form A (SPST-NO) | Two independent AC output solid state relays<br>Standard “hockey puck” package<br>Inverse parallel SCR output<br>4000Vrms optical isolation<br>Quick connect style termination<br>2 Form A (2 SPST-NO) | Standard “hockey puck” package<br>TRIAC Output<br>4,000Vrms optical isolation<br>Cover design with anti-rotation barriers<br>1 Form A (SPST-NO) |
| |  |  |  |
| | PCB mount not applicable.<br>Visit TE.com for more information | PCB mount not applicable.<br>Visit TE.com for more information | PCB mount not applicable.<br>Visit TE.com for more information |
| **Typical Applications** | Industrial machinery<br>HVAC<br>Building controls | Industrial machinery<br>HVAC<br>Building controls | Industrial machinery<br>HVAC<br>Building controls |
| **Output Data** | | | |
| Load Voltage | 24 - 280VAC/48 - 660VAC | 24 - 280VAC | 24 - 280VAC |
| Repetitive Blocking Voltage | 600VAC/1200VAC | 600VAC | 600VAC |
| Load Current Range | 25A/50A/125A | 25A/40A | 10A/25A |
| Leakage Current (Off-State) | 5mA | 5mA | 5mA |
| On-State Voltage Drop (Max.) | 1.8V | 1.8V | 1.6V |
| Load Power Factor Rating | 0.5 - 1.0 | 0.5 - 1.0 | 0.5 - 1.0 |
| Thermal Resistance, Junction to Case (R0J-C) (Max.) | 2.35/0.55/0.35 | 2.35/0.86 | 2.4/1.7 |
| **Input Data (AC/DC)** | | | |
| Control Voltage Range VIN | 90 - 280VAC/3 - 32VDC | 4 - 15VDC | 90 - 280VAC/3 - 32VDC |
| Must Operate Voltage VIN(OP) (Min.) | 90VAC/3VDC | 4VDC | 90VAC/3VDC |
| Must release Voltage VIN(REL) (Min.) | 10VAC/1VDC | 1VDC | 10VAC/1VDC |
| Input Current | 2 - 26mA / 3 - 30mA | 15mA @ 8VDC | 25mA/20mA |
| **Dielectric Strength** | | | |
| Isolation: | 4000Vrms | 4000Vrms | 4000Vrms |
| **Other Data** | | | |
| Dimensions | 46.5x57.8x43.4mm | 44.5x57.8x30.15mm | 45x57.5x36.5mm |
| Operating Temperature | –30 to +80°C | –30 to +80°C | –30 to +80°C |
| Mounting | Panel | Panel | Panel |
| UL File No | E29244 | E29244 | E29244 |
| **Link to datasheet** | POTTER & BRUMFIELD SSR | POTTER & BRUMFIELD SSRD | POTTER & BRUMFIELD SSRT |

1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

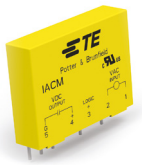
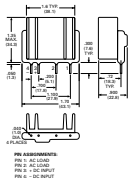
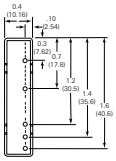
| Key Features | Potter & Brumfield SSRDC | Potter & Brumfield SSRK | Potter & Brumfield SSRM |
|---|---|---|---|
| | Standard "hockey puck" package<br>200VDC FET output<br>12A, 25A and 40A load current options<br>1500VDC optical isolation<br>Cover design with anti-rotation barriers<br>1 Form A (SPST-NO) | 10-30A DIN mount Solid State Relay with integrated heat sink<br>Narrow 22.5mm design<br>Inverse parallel SCR output<br>240VAC & 600VAC output types<br>4,000Vrms optical isolation<br>1 Form A (SPST-NO) | 45A-65A DIN mount Solid State Relay with integrated heat sink<br>44.5mm design<br>Inverse parallel SCR output<br>600VAC output type<br>4,000Vrms optical isolation<br>1 Form A (SPST-NO) |
| |  |  |  |
| | PCB mount not applicable.<br>Visit TE.com for more information | PCB mount not applicable.<br>Visit TE.com for more information | PCB mount not applicable.<br>Visit TE.com for more information |
| **Typical Applications** | Material handling<br>Trains<br>Construction equipment | Industrial machinery<br>HVAC<br>Building controls | Industrial machinery<br>HVAC<br>Building controls |
| **Output Data** | | | |
| Load Voltage | 200VDC | 24 - 280VAC/48 - 660VAC | 48 - 660VAC |
| Repetitive Blocking Voltage | NA | 600VAC/1200VAC | 1200VAC |
| Load Current Range | 10 A/25 A/40 A | 10A/20A/30A | 45A/55A/65A |
| Leakage Current (Off-State) | 12mA | 5mA | 1mA |
| On-State Voltage Drop (Max.) | 2.83VDC | 1.8V/1.6V | 1.7V |
| Load Power Factor Rating | NA | 0.5 - 1.0 | 0.5 - 1.0 |
| Thermal Resistance, Junction to Case (R0J-C) (Max.) | 0.7/0.7/0.5 | - | - |
| **Input Data (AC/DC)** | | | |
| Control Voltage Range VIN | 3 - 32VDC | 90 - 280VAC/3 - 32VDC | 90 - 140VAC/4 - 32VDC |
| Must Operate Voltage VIN(OP) (Min.) | 3.5VDC | 90VAC/3VDC | 90VAC/3VDC |
| Must release Voltage VIN(REL) (Min.) | 1VDC | 10VAC/1VDC | 10VAC/1VDC |
| Input Current | 30mA | 7.5mA - 16mA/18 - 30mA | 15mA/14 - 30mA |
| **Dielectric Strength** | | | |
| Isolation: | 1500VDC | 4000Vrms | 4000Vrms |
| **Other Data** | | | |
| Dimensions | 45x57.8x43.4mm | 22.5x82.3x111.5mm | 22.5x76.2x109.2mm |
| Operating Temperature | –30 to +80°C | –30 to + 80°C | –40 to + 80°C |
| Mounting | Panel | Din Rail | Din Rail |
| UL File No | E29244 | E29244 | E29244 |
| **Link to datasheet** | POTTER & BRUMFIELD SSRDC | POTTER & BRUMFIELD SSRK | POTTER & BRUMFIELD SSRM |

1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

| | Potter & Brumfield SSRA | Potter & Brumfield SSRC |
|---|---|---|
| **Key Features** | 2A Miniature, SIP Solid State Relay<br>Inverse parallel SCR output<br>2500Vrms optical isolation<br>240VAC output<br>1 Form A (SPST-NO) | 5A SIP Solid State Relay<br>Inverse parallel SCR output<br>4000Vrms optical isolation<br>1 Form A (SPST-NO) |
| |  |  |
| **Footprint**<br>2) see footnote below |  |  |
| **Typical Applications** | Industrial machinery<br>HVAC<br>Building controls | Industrial machinery<br>HVAC<br>Building controls |
| **Output Data** | | |
| Load Voltage | 12 - 280VAC | 12 - 280VAC/48 - 660VAC |
| Repetitive Blocking Voltage | 600VAC | 600VAC/1200VAC |
| Load Current Range | 2A | 5A |
| Leakage Current (Off-State) | 0.1mA | 0.1mA |
| On-State Voltage Drop (Max.) | 1.5V | 1.4V |
| Load Power Factor Rating | 0.5 - 1.0 | 0.5 - 1.0 |
| Thermal Resistance, Junction to Case (R0J-C) (Max.) | - | - |
| **Input Data (AC/DC)** | | |
| Control Voltage Range VIN | 4-10VDC | 3 - 15VDC |
| Must Operate Voltage VIN(OP) (Min.) | 4VDC | 4VDC |
| Must release Voltage VIN(REL) (Min.) | 1VDC | 1VDC |
| Input Current | 15mA | 15mA |
| **Dielectric Strength** | | |
| Isolation: | 2500Vrms | 4000Vrms |
| **Other Data** | | |
| Dimensions | 24.1x5.1x12.7mm | 43.1x7.6x25.4mm |
| Operating Temperature | -30 to + 80°C | -30 to + 80°C |
| Mounting | PCB | PCB |
| UL File No | E29244 | E29244 |
| **Link to datasheet** | POTTER & BRUMFIELD SSRA | POTTER & BRUMFIELD SSRC |

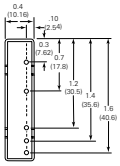
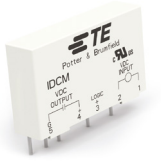
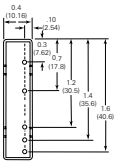
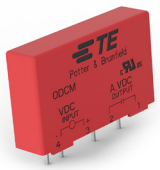
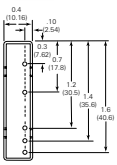
1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

| | Potter & Brumfield SSRF | Potter & Brumfield IACM |
|---|---|---|
| **Key Features** | 25A SIP Solid State Relay with integrated heat sink<br>Inverse parallel SCR output<br>4000Vrms optical isolation<br>1 Form A (SPST-NO) | Slim Solid State AC Input Module<br>Color coded by function - Yellow<br>4000V Vrms optical isolation<br>Compatible with 2IO series mounting boards<br>1 Form A (SPST-NO) |
| |  |  |
| **Footprint**<br>2) see footnote below |  |  |
| **Typical Applications** | Industrial machinery<br>HVAC<br>Building controls | Industrial machinery<br>HVAC<br>Building controls |
| **Output Data** | | |
| Load Voltage | 12 - 280VAC/48 - 660VAC | 30VDC |
| Repetitive Blocking Voltage | 600VAC/1200VAC | - |
| Load Current Range | 10A (CC)/25A (FAC) | 50mA |
| Leakage Current (Off-State) | 0.1mA | 10uA |
| On-State Voltage Drop (Max.) | 1.6V | 0.2VDC |
| Load Power Factor Rating | 0.5 - 1.0 | - |
| Thermal Resistance, Junction to Case (R0J-C) (Max.) | - | - |
| **Input Data (AC/DC)** | | |
| Control Voltage Range VIN | 3 - 15VDC | 24VAC/120VAC/240VAC |
| Must Operate Voltage VIN(OP) (Min.) | 4VDC | 18VAC/90VAC/280VAC |
| Must release Voltage VIN(REL) (Min.) | 1VDC | 10VAC/60VAC/60VAC |
| Input Current | 15mA | 1-5mA |
| **Dielectric Strength** | | |
| Isolation: | 4000Vrms | 4000Vrms |
| **Other Data** | | |
| Dimensions | 43.1x22.8x34.3mm | 43.5x10.3x25.5mm |
| Operating Temperature | -30 to + 80°C | -30 to 100°C |
| Mounting | PCB | PCB |
| UL File No | E29244 | E29244 |
| **Link to datasheet** | POTTER & BRUMFIELD SSRF | POTTER & BRUMFIELD IACM |

1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

| Key Features | Potter & Brumfield OACM | Potter & Brumfield IDCM | Potter & Brumfield ODCM |
|---|---|---|---|
| | Slim Solid State AC Output Module<br>Color coded by function - black<br>4000Vrms optical isolation<br>Compatible with 2IO series mounting boards<br>1 Form A (SPST-NO) | Slim Solid State DC Input Module<br>Color coded by function - white<br>4000Vrms optical isolation<br>Compatible with 2IO series mounting boards<br>1 Form A (SPST-NO) | Slim Solid State AC Output Module<br>Color coded by function - red<br>4000Vrms optical isolation<br>Compatible with 2IO series mounting boards<br>1 Form A (SPST-NO) |
| **Footprint**<br>2) see footnote below |   |   |   |
| **Typical Applications** | Industrial machinery<br>HVAC<br>Building controls | Industrial machinery<br>HVAC<br>Building controls | Industrial machinery<br>HVAC<br>Building controls |
| **Output Data** | | | |
| Load Voltage | 24 - 280VAC | 30VDC | 60VDC |
| Repetitive Blocking Voltage | 600VAC | - | - |
| Load Current Range | 3A/5A | 50mA | 3A |
| Leakage Current (Off-State) | 5mA | 10uA | 0.5mA |
| On-State Voltage Drop (Max.) | 1.6VAC | 0.2VDC | 1.5VDC |
| Load Power Factor Rating | - | - | - |
| Thermal Resistance, Junction to Case (RθJ-C) (Max.) | - | - | - |
| **Input Data (AC/DC)** | | | |
| Control Voltage Range VIN | 3 - 8VDC / 3 - 15VDC | 3 - 32VDC/10 - 60VDC | 5VDC/15VDC/24VDC |
| Must Operate Voltage VIN(OP) (Min.) | 3VDC | 3VDC/10VDC | 3VDC/9VDC/18VDC |
| Must release Voltage VIN(REL) (Min.) | 1VDC | 1VDC/1VDC | 1VDC |
| Input Current | 8mA | 10mA | 20mA |
| **Dielectric Strength** | | | |
| Isolation: | 4000Vrms | 4000Vrms | 4000Vrms |
| **Other Data** | | | |
| Dimensions | 43.5x10.3x25.5mm | 43.5x10.3x25.5mm | 43.5x10.3x25.5mm |
| Operating Temperature | -30 to 100°C | -30 to 100°C | -30 to 100°C |
| Mounting | PCB | PCB | PCB |
| UL File No | E29244 | E29244 | E29244 |
| **Link to datasheet** | POTTER & BRUMFIELD OACM | POTTER & BRUMFIELD IDCM | POTTER & BRUMFIELD ODCM |

1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

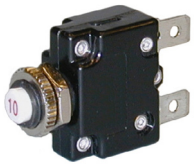
| | Potter & Brumfield W28 | Potter & Brumfield W23/W31 |
|---|---|---|
| **Key Features** | Thermal Overload / Trip Free Operation<br>Replaces slow blow glass cartridge fuse and holder<br>Button provides visible trip indication<br>Push-to-reset<br>Snap-in mounting<br>UL 1077, CSA, VDE, CCC (16A/20A not VDE) | Thermal Overload / Trip Free Operation<br>Toggle or Push/Pull Actuation<br>Cannot be reset against overload<br>On/Off switching option<br>UL 1077, CSA |
| |  |  |
| | PCB mount not applicable.<br>Visit TE.com for more information | PCB mount not applicable.<br>Visit TE.com for more information |
| **Typical Applications** | HVAC (Transformers), General Aviation, Medical, Marine<br>Power Supplies, Lighting, Surge Protection<br>Audio, Pool and Spa, Appliances, Industrial Controls | Generators, General Aviation, Medical, Marine<br>Power Supplies, Lighting, Surge Protection<br>Audio, Pool and Spa, Appliances, Industrial Controls |
| **Operational Data** | | |
| **Type** | Thermal | Thermal |
| **Number of Poles** | 1 | 1 |
| **Circuit function** | Series trip | Series trip |
| **Ambient temperature (max.)** | -20 to +60 °C | -20 to +65°C |
| **Terminal type** | Standard quick connect .250in x .032in | #8-32 screw |
| **Mounting** | Snap-in | Thru-hole 3/8"-24 threaded bushing |
| **Manual operation Actuator** | Push-to-reset | Push/pull W23 and toggle W31 |
| **Dimension L*W*H** | 39.0 x 15.9 x 13.7mm | 40.6x17.5x35.2mm |
| **Electrical Data** | | |
| **Dielectric strength** | 1500Vrms | 1500Vrms |
| **Insulation Resistance** | | |
| **Max Operating Voltages** | 32VDC 250VAC, 50/60Hz | 50VDC 240VAC to (400Hz) |
| **Rated current** | 0.5A to 20A | 1A to 50A |
| **Interrupt capacity** | 1,000 amps at 250VAC, 50/60 Hz. and 32VDC in accordance with UL standard 1077. | **With 4X Max. Series Fuse Protection**<br>0.5-50 amp models — 1000 amps at 240VAC.<br>30-50 amp models — 1000 amps at 50VDC.<br>**Without 4X Max. Series Fuse Protection**<br>0.5-25 amp models — 2000 amps at 50VDC.<br>10-20 amp models — 2000 amps at 120VAC |
| **Calibration** | Will continuously carry 100% of rating. 3-20 amp models – may trip between 101% and 134%, but must trip at 135% of rating within one hour at +25°C.<br>0.25-2 amp models – may trip between 101% and 174%, but must trip at 175% of rating within one hour at +25°C. | Continuously carry 100% of rating, may trip between 101% and 134% of rating at 25°C. Must trip at 135% in one hour. |
| **Resetable Overload Capacity** | Six times rated current for 0.25 through 2 amp models. Ten times rated current for 3 through 20 amp models. | Ten times rated current. |
| **Reset Time** | 180 seconds max. for 0.25 through 2 amp models.<br>5 to 30 seconds for 3 through 20 amp models. | |
| **Accessories** | Protective boot, push-on lockwasher | Hex nut, lockwasher, knurl nut |
| **Link to datasheet** | POTTER & BRUMFIELD W28 | POTTER & BRUMFIELD W23/W31 |

1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

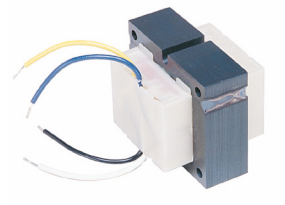
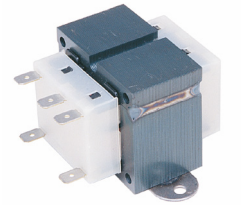
2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

| | Potter & Brumfield W33 | Potter & Brumfield W51 | Potter & Brumfield W54 |
|---|---|---|---|
| **Key Features** | Thermal overload/trip free Operation<br>Optional indicator lamp<br>Optional auxiliary switch<br>Combines on/off switching and circuit protection in a single unit<br>UL 1077, CSA | Thermal overload/trip free operation<br>Rocker actuated with switch overload sensing<br>Optional indicator lamp<br>Combines power switching and circuit protection in a single unit<br>Compact design<br>PCB termination options<br>UL1077, cUL, VDE, CCC | Thermal overload/trip free operation<br>Push to reset<br>Visual trip indication<br>Multiple termination options<br>UL 1077, UL 1500, cUL, VDE, CCC, CSA. (>30A not UL1500 or CSA) (>20A not VDE) |
| |  |  |  |
| | PCB mount not applicable.<br>Visit TE.com for more information | PCB mount not applicable.<br>Visit TE.com for more information | PCB mount not applicable.<br>Visit TE.com for more information |
| **Typical applications** | Generators, General Aviation, Medical, Marine<br>Power Supplies, Lighting, Surge Protection<br>Audio, pool and spa, appliances, Industrial controls | Generators, General Aviation, Medical, Marine<br>Power Supplies, Lighting, Surge Protection<br>Audio, pool and spa, appliances, Industrial controls | Generators, general aviation, medical, marine<br>Power supplies, lighting, surge protection<br>Audio, pool and spa, appliances, Industrial controls |
| **Operational Data** | | | |
| **Type** | Thermal | Thermal | Thermal |
| **Number of Poles** | 1-2 | 1 | 1 |
| **Circuit function** | Series trip both poles; series trip 1 pole/switch only 1 pole; switch only 2 poles | Series trip | Series trip |
| **Ambient temperature (max.)** | -20 to +65 °C | 0°C to + 60 °C for 10-20A models<br>0°C to + 50 °C for 5-8A models | 0 to 60 °C |
| **Terminal type** | Standard quick connect 250in x .032in and solder option | Standard quick connect 250inx.032in/solder option/PCB | Standard quick connect 250inx.032in and #8-32 screw |
| **Mounting** | Snap-in | Snap-in, PCB | 3/8"-24, M11-1.0, M12-1.0 threaded bushing |
| **Manual operation Actuator** | Rocker | Rocker | Push-to-reset |
| **Dimension L*W*H** | 43.8 x 24.9 x 48.0mm | 21.8 x 15.2 x 32.0mm | 31.0 x 14.6 x 35.0mm (W54)<br>22.6 x 14.6 x 29.2mm (W57) |
| **Electrical Data** | | | |
| **Dielectric strength** | 2000Vrms | 1500VAC | 1500VAC |
| **Insulation Resistance** | | 100M Ω | 100MΩ |
| **Max Operating Voltages** | 50VDC<br>250VAC | 50VDC<br>125/250VAC (model dependent) | 50VDC<br>250VAC |
| **Rated current** | 2A to 20A | 5A to 20A | 5A to 40A |
| **Interrupt capacity** | 1000A at 50VDC, 250VAC/60Hz and 125/250VAC 400Hz; 1500A at 25/250VAC/60Hz | 1,000 amps in accordance with UL standard 1077 | 1,000 amps in accordance with UL standard 1077 |
| **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 | 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 | 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 |
| **Resetable OverloadCapacity** | Ten times rated current | Ten times rated current. Switch Endurance Cycling: Typically 6,000 operations at 100% of rating | Ten times rated current. |
| **Reset Time** | | 60 Seconds | 60 Seconds |
| **Accessories** | | | Protective boot, knurl nut, hex nut, lockwasher, nameplate |
| **Link to datasheet** | POTTER & BRUMFIELD W33 | POTTER & BRUMFIELD W51 | POTTER & BRUMFIELD W54 |

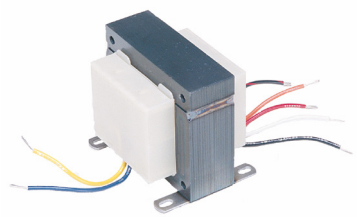
1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

| | Potter & Brumfield W57 | Potter & Brumfield W58 | Potter & Brumfield W6/W9 |
|---|---|---|---|
| **Key Features** | Thermal overload/trip free operation<br>Push to reset<br>Compact design<br>Cannot be manually tripped<br>PCB termination options<br>UL 1077, UL 1500, cUL, VDE, CCC. (3A,4A,20A no VDE) | Thermal overload/trip free operation<br>Push to reset<br>Cannot be manually tripped<br>Visual trip indication<br>UL 1077, UL 1500, CSA. (30A not UL or CSA) | Magnetic hydraulic actuation/trip-free operation<br>Several delay curve options<br>Fungus and moisture resistant<br>UL 1077, UL 1500, CSA, VDE |
| |  |  |   |
| | PCB mount not applicable.<br>Visit TE.com for more information | PCB mount not applicable.<br>Visit TE.com for more information | PCB mount not applicable.<br>Visit TE.com for more information |
| **Applications** | Generators, general aviation, medical, marine<br>Power supplies, lighting, surge protection<br>Audio, pool and spa, appliances, Industrial controls | Generators, general aviation, medical, marine<br>Power supplies, lighting, surge protection<br>Audio, pool and spa, appliances, Industrial controls | HVAC (transformers), general aviation, medical, marine<br>Power supplies, lighting, surge protection<br>Audio, pool and spa, appliances, Industrial controls |
| **Operational Data** | | | |
| **Type** | Thermal | Thermal | Magnetic/hydraulic |
| **Number of Poles** | 1 | 1 | 1-4 |
| **Circuit function** | Series trip | Series trip | Series trip |
| **Ambient temperature (max.)** | 0 to 60°C | -25 to 65°C | -40 to +85 °C |
| **Terminal type** | Standard quick connect .250in x .032in and #8-32 screw and PCB option | Standard quick connect .250in x .032in and #8-32 screw | W6-Standard Quick Connect .250in x .032in and #8-32 or #10/32 screw. W9- #10/32 stud terminations |
| **Mounting** | 3/8"-24, M11-1.0, M12-1.0 threaded bushing | 7/16"-28, 15/32"-32, 3/8"-24 threaded bushing" | 6-32, M3 tapped holes |
| **Manual operation Actuator** | Push-to-reset | Push-to-reset | Toggle |
| **Dimension L*W*H** | 31.0 x 14.6 x 35.0mm (W54)<br>22.6 x 14.6 x 29.2mm (W57) | 34.9 x 16.8 x 34.9mm | 41.7 x 19.0 x 50.8mm (W6 per pole)<br>46.9 x 19.0 x 63.5mm (W9 per pole) |
| **Electrical Data** | | | |
| **Dielectric strength** | 1500VAC | 1500Vrms | 50/60 Hz, 1,500V: DC, 1100V |
| **Insulation Resistance** | | | 100 megohms at 500VDC |
| **Max Operating Voltages** | 50VDC, 250VAC 50/60 Hz | 50VDC, 250VAC | 65VDC, 277VAC, 480VAC - 3Ø wye |
| **Rated current** | 3A to 20A | 0.5A to 30A | 0.20A to 50A |
| **Interrupt capacity** | 1000 amps in accordance with UL standard 1077 | 2000 amps at 50VDC (0.5 - 30 amp models) 1000 amps at 250VAC (0.5 - 30amp models). Note: 30 amp model not UL or CSA | up to 5000A with UL 1077, CSA, VDE. Up to 3000A for UL 1500 |
| **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 | Breaker will continuously carry 100% of rated load. It may trip between 101% and 145% of rated load, but must trip at 145% at 25°C | Breakers will hold 100% rated current. May trip between 101% and 124% rated load (134% for AC/DC units) Must trip at 125% rated load (135% for AC/DC units) |
| **Resetable Overload Capacity** | Ten times rated current | Ten times rated current | Ten times rated current |
| **Reset Time** | 60 Seconds | | 60 Seconds |
| **Accessories** | Protective boot, knurl nut, hex nut, lockwasher, nameplate | Protective boot, knurl nut, hex nut, lockwasher | Toggle guard (W6 only) |
| **Link to datasheet** | POTTER & BRUMFIELD W57 | POTTER & BRUMFIELD W58 | POTTER & BRUMFIELD W6/W9 |

1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

| Key Features | 4000 SERIES WIRE LEAD CLASS II CONTROL TRANSFORMERS | 4000 SERIES QUICK CONNECT CLASS II CONTROL TRANSFORMERS |
|---|---|---|
| | 5VA to 75VA<br>UL 5085-3, formerly UL 1585<br>Inherently/non-inherently energy limited<br>Wire lead terminations<br>Custom specification/design available | 5VA to 75VA<br>UL 5085-3, formerly UL 1585<br>Inherently/non-inherently energy limited<br>Quick connect terminals<br>Custom specification/design available |
| |  |  |
| | Visit TE.com for more information | Visit TE.com for more information |
| **Typical Applications** | HVAC<br>Industrial and residential<br>Motor control | HVAC<br>Industrial and residential<br>Motor control |
| **Specifications** | | |
| Primary Voltage- AC | 120, 208, 240, 277, 380, 415, 480, 575 | 120, 208, 240, 277, 380, 415, 480, 575 |
| Secondary Voltage- DC | 12 or 24 | 12 or 24 |
| Insulation Class | UL Class B (130°C) | UL Class B (130°C) |
| Wire Size | Standard 18 AWG stranded, 12in | N/A |
| QC size | N/A | standard .250in x .032in |
| Terminations | Same side - opposite side | Type BB Same side<br>Type AB Opposite side<br>Type AE Laydown |
| Frequency | 50/60 Hz | 50/60 Hz |
| Mounting Options | Type K Foot Mount<br>Type G Panel Mount<br>Plate Mount | Type K Foot Mount<br>Type G Panel Mount<br>Plate Mount |
| **Other Data** | | |
| Secondary Fusing Requirement | 60VA-75VA non-inherently energy limited | Internal fuse or integral circuit breaker<br>75VA standard models come with integral circuit breaker |
| Shielding | Internal fuse or integral circuit breaker | |
| Dielectric Strength | 75VA standard models come with integral circuit breaker | |
| **Link to datasheet** | 4000 SERIES WIRE LEAD CLASS II CONTROL TRANSFORMERS | 4000 SERIES QUICK CONNECT CLASS II CONTROL TRANSFORMERS |

1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

| | 4700 SERIES GENERAL PURPOSE POWER TRANSFORMERS | 4900 SERIES PRINTED CIRCUIT MOUNT POWER TRANSFORMERS |
|---|---|---|
| **Key Features** | 60VA to 150VA<br>UL 5085-1,-2 formerly UL 50<br>Non-fused<br>Wire leads or quick connects<br>Custom specification/design available | 1.1VA to 36VA<br>UL 5085-1,-2 formerly UL 506<br>Drop in replacement<br>Split bobbin design<br>Signal or dual primary voltage<br>Custom specification/design available |
| |  |  |
| | Visit TE.com for more information | Visit TE.com for more information |
| **Applications** | HVAC<br>Industrial<br>Motor control | Industrial controls, garage door openers<br>small power supplies, control boards<br>lighting/monitoring controls, vending machines |
| **Specifications** | | |
| Primary Voltage- AC | 120, 208, 240, 230, 277, 460, 480, 575 | Single 115VAC, 6-pin<br>Dual 115/230VAC, 8-pin |
| Secondary Voltage- DC | 24 | Series 10-120VCT<br>Parallel 6-60VAC |
| Insulation Class | UL Class B (130°C) | UL Class B (130°C) |
| Wire Size | Standard 18 AWG stranded, 12in | N/A |
| QC size | Standard .250in x .032in | N/A |
| Terminations | Type BB same side<br>Type AB opposite side | PCB through hole design |
| Frequency | 50/60 Hz | 50/60 Hz |
| Mounting Options | Type K foot mount | PCB through hole design |
| **Other Data** | | |
| Secondary Fusing Requirement | | |
| Shielding | | Electrostatic shielding not required due to split bobbin |
| Dielectric Strength | | 1500Vrms |
| **Link to datasheet** | 4700 SERIES GENERAL PURPOSE POWER TRANSFORMERS | 4900 SERIES PRINTED CIRCUIT MOUNT POWER TRANSFORMERS |

1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC: AgCdO and $AgSnO_2$: 100mA at 12VDC. Please contact technical support for detailed technical data.

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