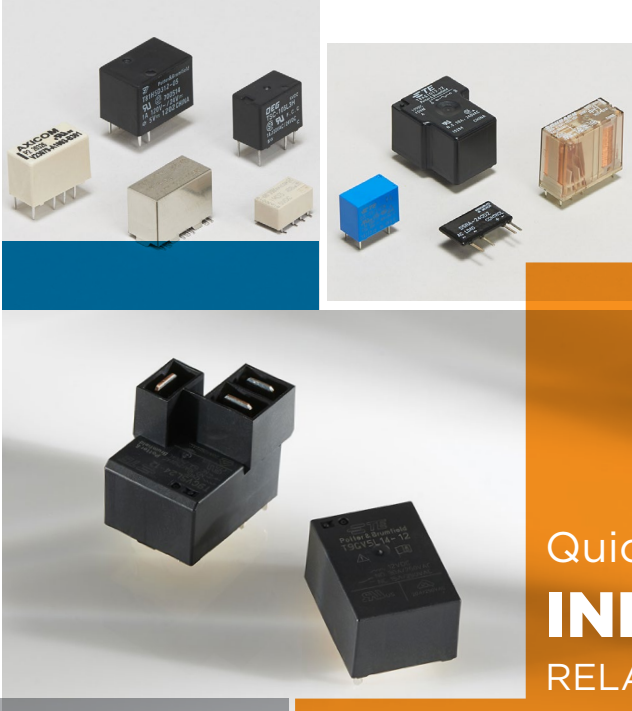




Quick Reference Guide

# 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.



# CONTENTS

## RELAYS, CONTACTORS & CIRCUIT BREAKERS

- Power PCB Relays up to 16A ..... 4
- Power PCB Relays up to 50A+ ..... 11
- Force Guided Relays ..... 14
- Panel Plug-In Relays ..... 16
- Signal Relays ..... 22
- High Frequency Relays ..... 27
- Solid State Relays ..... 28
- Circuit Breakers ..... 33
- Transformers ..... 36

### MOTION CONTROL



# WHAT'S INSIDE

# Power PCB Relays up to 16A

## Relays, Contactors & Circuit Breakers

### Key Features

#### SCHRACK PE

Low height 10.0mm  
Sensitive 200mW coil  
Mono-or bistable coil  
WG type available  
(IEC 60335-1)



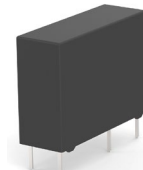
#### SCHRACK RE/REL

Miniature PCB relays  
PCB area 200mm<sup>2</sup>  
Wash tight

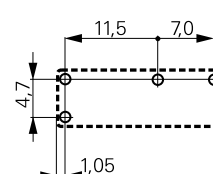
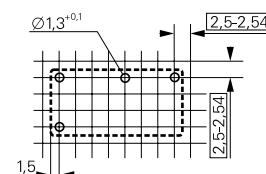
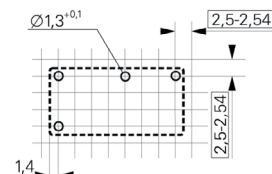


#### PCJ

Slim outline  
Sensitive coil 200mW  
WG type available (IEC 60335-1)  
Ambient temperature up to 105°C



### Footprint



### Applications

Industrial electronics  
White goods  
Measurement and control

PLC; Timers; I/O cards  
Temperature control  
White goods

Home applications  
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               | 1250VA                         | 1500/1250VA           | 750VA/1250VA (WG type) |
| Contact material              | AgNi 90/10, AgSnO <sub>2</sub> | 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/>8 mm  |

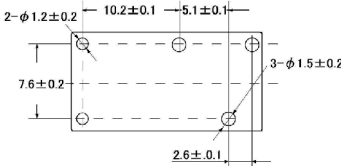
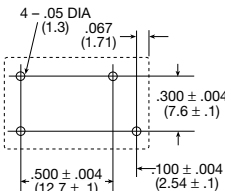
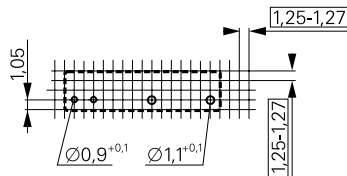
### Other Data

|                                               |             |                             |                        |
|-----------------------------------------------|-------------|-----------------------------|------------------------|
| 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 (lwh)                              | 20x10x10mm  | 20x10x10.6mm/20.7x10.7x12mm | 20.4x7x15mm            |

### Accessories

|                   |                            |                                                           |                     |
|-------------------|----------------------------|-----------------------------------------------------------|---------------------|
| Link to datasheet | <a href="#">SCHRACK PE</a> | <a href="#">SCHRACK RE</a><br><a href="#">SCHRACK REL</a> | <a href="#">PCJ</a> |
|-------------------|----------------------------|-----------------------------------------------------------|---------------------|

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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

| Key Features                                  | PCH                                                                               | OJ/OJE/T77                                                                                         | PCN/PCNH                                                                                                                |
|-----------------------------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
|                                               | Compact size<br>WG type available<br>(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/<br>packaging density<br>RoHS compliant (Directive<br>2002/95/EC) |
| Footprint                                     |  |                   |                                      |
|                                               |  |                  |                                      |
| 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                               | 1400VA/150W (NO)<br>850VA/90W (NC)                                                | 720 to 2500VA/<br>90 to 240W                                                                       | 750VA /1250VA                                                                                                           |
| Contact material                              | AgSnO <sub>2</sub>                                                                | Ag, AgCdO, AgSnO <sub>2</sub>                                                                      | 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                             | <a href="#">PCH</a>                                                               | <a href="#">OJ/OJE</a><br><a href="#">T77</a>                                                      | <a href="#">PCN</a>                                                                                                     |

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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

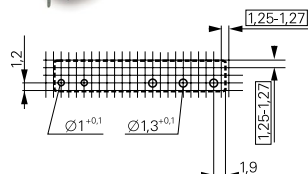
## Key Features

## SCHRACK SNR

5mm wide slim outline  
Strong coil pins for  
DIN-rail socket  
Allows high function/  
packaging density

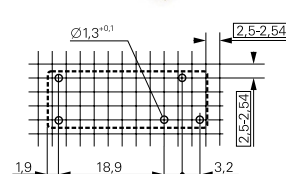
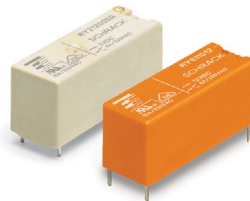


## Footprint



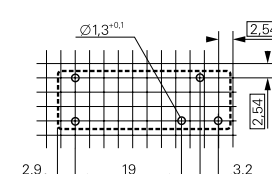
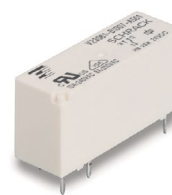
**SCHRACK RYII**

Reflow solderable version  
Low height 12.3mm  
Reinforced insulation  
Pinnings 3.2 and 5mm



## SCHRACK MSR/T75

High inrush currents with  
AgSnO contacts  
4kV/8mm coil-contact  
Reinforced insulation



## Applications

Interface technology  
PLC; Timers  
Heating control

Interface technology  
HVAC, PLC, power supplies  
Domestic appliances

Interface technology  
HVAC, PLC, power supplies  
Domestic appliances

## Contact Data

|                               |                                                     |
|-------------------------------|-----------------------------------------------------|
| Contact arrangement           | 1 form C (CO), 1 form A (NO)                        |
| Rated voltage                 | 250VAC                                              |
| Rated current                 | 6A                                                  |
| Switching power               | 1500VA                                              |
| Contact material              | AgSnO <sub>2</sub> , AgSnO <sub>2</sub> gold plated |
| Min. recommended contact load | 100mA at 12VDC                                      |

1 form C (CO), 1 form A (NO),  
1 from B (NC)  
250VAC  
8A  
2000VA  
AgNi0.15, AgSnO<sub>2</sub>  
1) see footnote below

1 form C (CO)  
1 form A (NO)  
250VAC  
8/10A  
2000VA  
AgNi90/10, AgSnO<sub>2</sub>  
1) see footnote below

### Coil Data

|                    |            |
|--------------------|------------|
| Magnetic system    | DC         |
| Rated coil voltage | 5 to 48VDC |
| Rated coil power   | 170mW      |

DC  
5 to 60VDC  
220mW

DC  
3 to 60VDC  
220mW

## Dielectric Strength

|                                    |          |
|------------------------------------|----------|
| <b>Initial dielectric strength</b> |          |
| between open contacts              | 1000Vrms |
| between contact and coil           | 4000Vrms |
| between adjacent contacts          |          |

1000Vrms  
5000Vrms

1000Vrms  
4000Vrms

**Clearance/creepage**  
between contact and coil      6/8mm

8/8mm

8/8mm

## Other Data

|                                               |                  |
|-----------------------------------------------|------------------|
| Ambient temperature (max.)                    | +85°C            |
| Category of environmental protection IEC61810 | RTIII            |
| Terminal type                                 | THT              |
| Mounting                                      | PCB or on socket |
| Dimensions (lwh)                              | 28x5x15mm        |

+70°C  
RTII, RTIII  
THT, THR  
PCB or on socket  
28.5x10.1x12.3mm

+85°C  
RTII, RTIII  
  
THT  
PCB  
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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

# Power PCB Relays up to 16A

## Relays, Contactors & Circuit Breakers

### Key Features

#### SCHRACK RZ

High performance version available  
Reinforced insulation  
High ambient temperature version (105°C)  
WG type available (IEC 60335-1)  
AgNi and AgSnO contact versions  
THR (reflow) version



#### SCHRACK RT

DC and AC coil  
Mono-or bistable coil  
Reinforced insulation  
WG type available (IEC 60335-1)  
High ambient temperature version (105°C)  
THR (reflow) version  
Sensitive version  
Bifurcated contacts

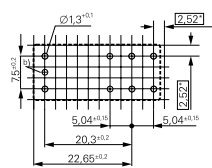
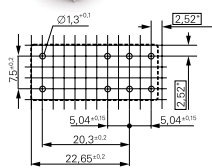
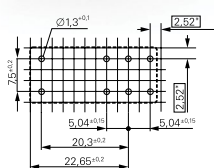


#### SCHRACK RT INRUSH

For inrush peak currents up to 80A  
Mono-or bistable coil  
Reinforced insulation  
WG type available (IEC 60335-1)



### Footprint



### Applications

Household appliances  
HVAC, Home automation  
Machine control, Energy control

HVAC, Home automation,  
Machine control, Energy control  
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 form A (NO)<br>2 form C (CO), 2 form A (NO) | 1 form C (CO)<br>1 form A (NO) |
| Rated voltage                 | 250VAC                         | 250VAC                                                       | 250VAC                         |
| Rated current                 | 16A                            | 2X8/16A                                                      | 16A                            |
| Switching power               | 4000VA                         | 2X2000/4000VA                                                | 4000VA                         |
| Contact material              | AgNi90/10, AgSnO <sub>2</sub>  | AgNi90/10, AgSnO <sub>2</sub>                                | AgNi90/10, AgSnO <sub>2</sub>  |
| 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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.



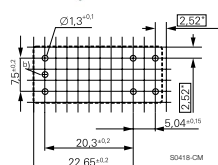
## Key Features

**SCHRACK RTX**

Inrush peak currents up to 370A  
Bistable coil  
Reinforced insulation  
16A rated fluorescent load acc.  
EN60669-1  
8A electronic ballast acc. UL508  
1 1/2 HP motor load acc. UL508

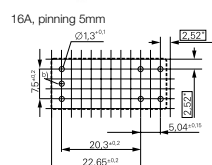


## Footprint



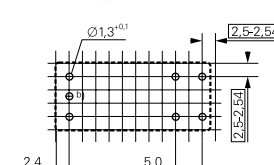
## SCHRACK RT iPOWER

High Inrush peak currents up to 165A  
(20ms) and 800A (200µs)  
Mono- or bistable coil  
RTS3T: 5A Electronic ballast acc. UL508  
RTSET: 8A Electronic ballast acc. UL508  
Test tab (manual operator) optional  
for RTT3T bistable versions



## SCHRACK RP3SL

Inrush peak currents up to 120A (20ms)  
Mono- or bistable coil  
Sealed version available



## Applications

- Lighting control systems
- Motion sensors
- Home automation applications

LED lighting systems, Lighting control, Movement detectors  
Filament and incandescent lamp  
Motor control

- Lighting control
- Motor control
- Building automation

## Contact Data

|                                      |                                           |                                                                   |                    |
|--------------------------------------|-------------------------------------------|-------------------------------------------------------------------|--------------------|
| <b>Contact arrangement</b>           | 1 from A (NO)                             | 1 from A (NO)                                                     | 1 form A, 1 NO     |
| <b>Rated voltage</b>                 | 250VAC                                    | 250VAC                                                            | 250VAC             |
| <b>Rated current</b>                 | 16A                                       | 16A                                                               | 16A                |
| <b>Switching power</b>               | 4000VA                                    | 4000VA                                                            | 4000VA             |
| <b>Contact material</b>              | W (pre-make contact) + AgSnO <sub>2</sub> | W (pre-make contact) + AgSnO <sub>2</sub> ,<br>AgSnO <sub>2</sub> | AgSnO <sub>2</sub> |
| <b>Min. recommended contact load</b> | 1) see footnote below                     | 1) see footnote below                                             | 100mA at 12VDC     |

### Coil Data

|                           |             |              |             |
|---------------------------|-------------|--------------|-------------|
| <b>Magnetic system</b>    | Bistable    | DC, bistable | DC          |
| <b>Rated coil voltage</b> | 5 to 48VDC  | 5 to 11VDC   | 6 to 110VDC |
| <b>Rated coil power</b>   | 650mW/665mW | 400mW        | 500mW       |

### Dielectric Strength

|                                    |            |          |          |
|------------------------------------|------------|----------|----------|
| <b>Initial dielectric strength</b> |            |          |          |
| between open contacts              | 1250Vrms   | 1250Vrms | 2000Vrms |
| between contact and coil           | 5000Vrms   | 5000Vrms | 4000Vrms |
| between adjacent contacts          |            |          |          |
| <b>Clearance/creepage</b>          |            |          |          |
| 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),<br>29x12.7x16.0mm (RTS3L) | 29x12.6x25.5mm |

## Accessories

|                   |                             |                                   |                               |
|-------------------|-----------------------------|-----------------------------------|-------------------------------|
| Link to datasheet | <a href="#">SCHRACK RTX</a> | <a href="#">SCHRACK RT IPOWER</a> | <a href="#">SCHRACK RP3SL</a> |
|-------------------|-----------------------------|-----------------------------------|-------------------------------|

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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.



## Key Features

### SCHRACK RP-2POLE 1.5MM

2 pole 8A  
1.5mm contact gap per pole  
Creepage distance complies with IEC 60950  
Sealed version available



### SCHRACK PB/PBH

Compact and simple design gives high process security  
High ambient temperature version up to 105°C (PBH)  
WG type acc. IEC 60335-1

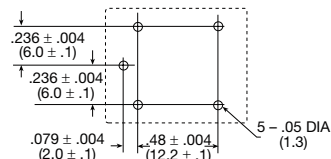
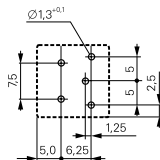
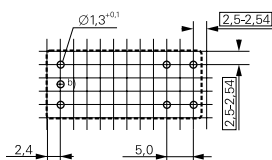


### SCHRACK ORWH

Compact relay with 1 form A and 1 form C contact arrangement  
10A switching capacity



## Footprint



## Applications

Domestic appliances  
UPS  
Solar Inverter

White goods  
Small home appliances  
Heating temperature controllers

Appliances  
HVAC  
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               | 2000VA             | 2500VA                         | 2770VA/360W                    |
| Contact material              | AgSnO <sub>2</sub> | 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 | <a href="#">SCHRACK RP-2POLE 1.5MM</a> | <a href="#">SCHRACK PB</a><br><a href="#">SCHRACK PBH</a> | <a href="#">SCHRACK ORWH</a> |
|-------------------|----------------------------------------|-----------------------------------------------------------|------------------------------|

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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

# Power PCB Relays up to 50A+

Relays, Contactors & Circuit Breakers

## Key Features

### Potter & Brumfield T9G

High breaking capacity  
PCB and Quick connect connections  
4kV/8mm coil-contact  
Minimum Board space  
(29mm x 21.5mm)  
UL-class F as standard

### Potter & Brumfield T9A

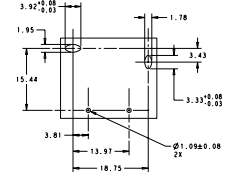
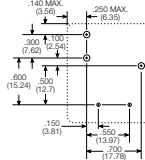
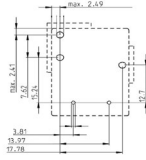
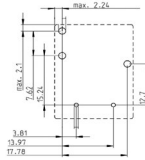
High breaking capacity  
PCB and Quick connect connections  
and chassis mount version  
UL-class F as standard  
Open version available

### Potter & Brumfield T9S/T9V

1 pole 35A (T9S) / 40A (T9V)  
Contact gap 1.5mm/1.8mm min.  
Ambient temperature up to 85°C at 35A  
Production in accordance to IEC 60335-1  
RoHS compliant (Directive 2002/95/EC)



## Footprint



| 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 (1 NO)                                                                          |
| Rated voltage                                 | 250VAC                                                      | 250VAC                                                | 277VAC (1.5mm gap), 250VAC (1.8mm gap)                                                   |
| Rated current                                 | 30A                                                         | 30A                                                   | 35A (T9S), 40A (T9V)                                                                     |
| Switching power                               |                                                             | 7500VA                                                | 9695VA (T9S), 10000VA (T9V)                                                              |
| Contact material                              | AgSnO <sub>2</sub>                                          | 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                            | 6.4mm / 9.5mm (UL)                                          |                                                       |                                                                                          |
| between contact and coil                      | 8mm / 8mm (IEC)                                             | 3.1/6.3mm                                             | 3/4mm                                                                                    |
| Other Data                                    |                                                             |                                                       |                                                                                          |
| Ambient temperature (max.)                    | +105°C                                                      | +85°C                                                 | +85°C                                                                                    |
| Category of environmental protection IEC61810 | RTII, RTIII                                                 | RTO, 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                             | <a href="#">Potter &amp; Brumfield T9G</a>                  | <a href="#">Potter &amp; Brumfield T9A</a>            | <a href="#">Potter &amp; Brumfield T9V</a><br><a href="#">Potter &amp; Brumfield T9S</a> |

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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

# Power PCB Relays up to 50A+

Relays, Contactors & Circuit Breakers

## Key Features

### Potter & Brumfield T92

Switching capacity 7500VA  
DC or AC coil  
4kV/8mm coil-contact  
PCB or Quik connect connections  
or chassis mount



### PCF

Quick connect terminal for load (PCF only)  
Height 26.5mm  
Meet 4kV dielectric voltage between coil and contact  
Ambient temperature 85°C

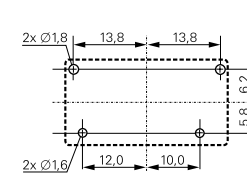
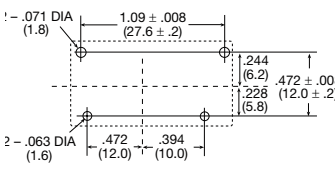
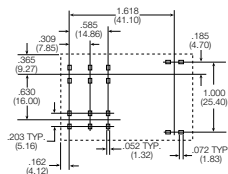


### PCFN SOLAR

Specially designed to meet the requirements for the solar  
Contact gap 1.5mm/1.8mm min.  
200mW hold power



## Footprint



| Applications                                  | HVAC<br>Residential/ commercial appliances<br>Industrial controls | Appliances<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                               | 7500VAC                                                           | 6370VA                                | 7200VA                     |
| Contact material                              | AgCdO, AgSnInO                                                    | Visit TE.com for more information     | AgSnO <sub>2</sub>         |
| 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                             | <a href="#">Potter &amp; Brumfield T92</a>                        | <a href="#">PCF</a>                   | <a href="#">PCFN SOLAR</a> |

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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

## Key Features

### EW60

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

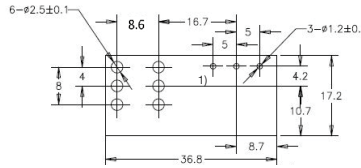


### EW100/120

1 pole 120A, 1 form A (NO) contact  
Polarized bistable with two coils latching  
4KV/ 8mm coil - contact  
Reinforced insulation



## Footprint



Visit [TE.com](http://TE.com) for more information

## Applications

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

Energy counter, prepaid power meter

## Contact Data

|                               |                                                               |                                                               |
|-------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|
| Contact arrangement           | 1 form A (1 NO)                                               | 1 form A (1 NO)                                               |
| Rated voltage                 | 440VAC                                                        | 250VAC                                                        |
| Rated current                 | 60A                                                           | 100A/120A                                                     |
| Switching power               | 15000VA                                                       | 30000VA                                                       |
| Contact material              | AgSnO <sub>2</sub>                                            | AgSnO <sub>2</sub>                                            |
| Min. recommended contact load | Visit <a href="http://TE.com">TE.com</a> for more information | Visit <a href="http://TE.com">TE.com</a> for more information |

## Coil Data

|                    |            |            |
|--------------------|------------|------------|
| Magnetic system    | Bistable   | Bistable   |
| Rated coil voltage | 5 to 24VDC | 6 to 24VDC |
| Rated coil power   | 1.5W/3W    | 4.5W       |

## Dielectric Strength

|                             |          |          |
|-----------------------------|----------|----------|
| Initial dielectric strength |          |          |
| between open contacts       | 1500Vrms | 2000Vrms |
| between contact and coil    | 4000Vrms | 4000Vrms |
| between adjacent contacts   |          |          |
| Clearance/creepage          |          |          |
| between contact and coil    | ≥6/9mm   | ≥10/10mm |

## Other Data

|                                               |                  |                                                               |
|-----------------------------------------------|------------------|---------------------------------------------------------------|
| Ambient temperature (max.)                    | +70°C            | +70°C                                                         |
| Category of environmental protection IEC61810 | RTI              | RTII - flux proof                                             |
| Terminal type                                 | PCB              | PCB, Copper                                                   |
| Mounting                                      | PCB              | Visit <a href="http://TE.com">TE.com</a> for more information |
| Dimensions (lwh)                              | 36.8x17.2x30.4mm | 36.8x21.8x41.9mm                                              |

## Accessories

|                   |                      |                           |
|-------------------|----------------------|---------------------------|
| Link to datasheet | <a href="#">EW60</a> | <a href="#">EW100/120</a> |
|-------------------|----------------------|---------------------------|

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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

## Power PCB Relays up to 50A+

Relays, Contactors & Circuit Breakers

### Key Features

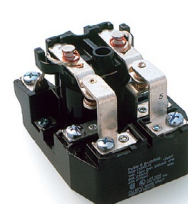
#### IHV

Hermetically sealed - intrinsically safe  
Designed accordance to AIAQ QS9000  
No Position sensitive  
RoHS compliance



#### Potter & Brumfield PRD

Contact ratings to 50A  
Magnetic blowout available for switching DC loads  
SPDT auxiliary switch available  
Class B insulation system



### Footprint

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

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

### Applications

DC charging, Solar Inverter, Energy Store Station  
BMS, Electrical Forklift, AGV, Rail Transit  
Circuit protection and Safety in Industrial Machinery

Industrial controls  
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)<br>600VAC, 28/125VDC |
| Rated voltage                 | 450VDC / 750VDC                   | 50A                                                                                                               |
| Rated current                 | 50A/100A/150A/200A/250A/350A      | 12000VA                                                                                                           |
| Switching power               |                                   | Ag, AgCdO                                                                                                         |
| Contact material              |                                   | 1A at 12VDC/VAC                                                                                                   |
| Min. recommended contact load | Visit TE.com for more information |                                                                                                                   |

### 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 |                                   | 2000Vrms |
| 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 O/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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

## Force Guided Relays

Relays, Contactors & Circuit Breakers

### Key Features

#### SCHRACK SR2M

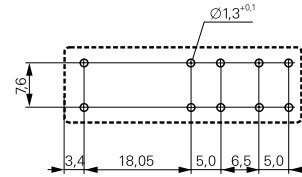
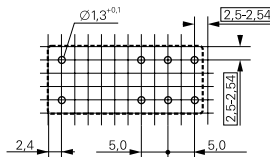
2 pole relay with force guided contacts according to EN50205  
Reinforced insulation between poles

#### SCHRACK SR4 D/M

4 pole relay with force guided contacts according to EN50205  
Compact design, space efficient



### Footprint



### Applications

Safety modules  
Process technology  
Elevator and Escalator control

Safety modules  
Process technology  
Elevator and Escalator control

### Contact Data

|                               |                                                      |                                                                        |
|-------------------------------|------------------------------------------------------|------------------------------------------------------------------------|
| Contact arrangement           | 1 form A + 1 form 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               | 1500VA                                               | 2000VA                                                                 |
| Contact material              | AgNi                                                 | AgSnO <sub>2</sub>                                                     |
| 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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

## Relays, Contactors & Circuit Breakers

- Safety modules
- Process technology
- Elevator and Escalator control

10mA at 5VDC

## 700mW

$\geq 3/4\text{mm}$  and  $\geq 5.5/5.5\text{mm}$

55.5x33.8x10.8mm

**SCHRACK SRL7**

PAGE 15



## Panel Plug-In Relays

Relays, Contactors & Circuit Breakers

### Key Features

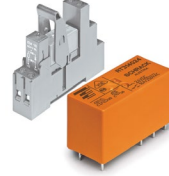
#### SCHRACK SLIM INTERFACE SNR

Strong coil pins for DIN-rail socket  
LED and protection circuit standard  
4kV coil-contact, 6/8mm clearance/  
creepage  
System width only 6.2 mm



#### SCHRACK INTERFACE RELAY RT

Strengthened pins designed to plug  
into DIN-rail-sockets  
Cadmium-free contacts  
Complete interface solutions available  
Modular concept socket/relay/module

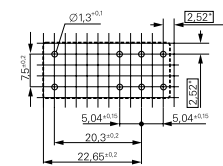
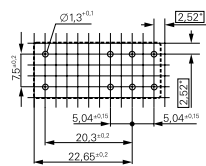
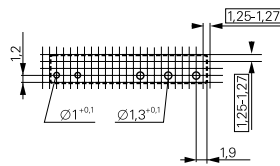


#### SCHRACK INTERFACE RELAY XT

Manual test tab, optionally lockable  
Mechanical and electrical indicator  
Reinforced insulation  
4kV/8mm dielectric strength between  
coil and contact



### Footprint



| 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                               | 1500VA                                                        | 2000/4000VA                                                               | 2000/4000VA                                                               |
| Contact material                              | AgSnO <sub>2</sub> , AgSnO <sub>2</sub> Au plated             | AgSnO <sub>2</sub> , 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,<br>clips, marking tags, modules,<br>jumper bars | DIN rail and PCB sockets,<br>clips, marking tags, modules,<br>jumper bars |
| Link to datasheet                             | <a href="#">SCHRACK SLIM INTERFACE SNR</a>                    | <a href="#">SCHRACK INTERFACE RELAY RT</a>                                | <a href="#">SCHRACK INTERFACE RELAY XT</a>                                |

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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

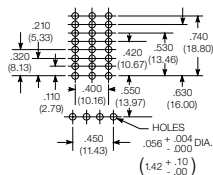
## Panel Plug-In Relays

Relays, Contactors & Circuit Breakers

### Key Features

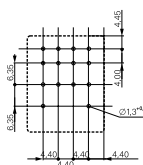
#### Potter & Brumfield R10

Broad range of coil options provide sensitivity ranging from 25 to 750mW  
Various contacts switch from dry circuit to 7.5A  
Many mounting and termination options



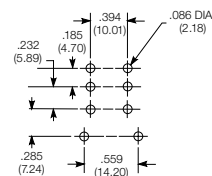
#### SCHRACK PT/ Potter & Brumfield KH

Sensitive coil  
Low height 29/33mm  
Manual test tab, optionally lockable  
Mechanical indicator  
optional LED, protection diode



#### Potter & Brumfield K10

Mounting options include socket, PCB, top flange  
DC and AC coils  
LED versions available



### Footprint

### Applications

Coin changers  
Audio equipment  
Ultrasonic test equipment

Machine industry  
Elevator industry  
Building management

Industrial controls  
Motor controls  
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               | 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 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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

## Panel Plug-In Relays

Relays, Contactors & Circuit Breakers

### Key Features

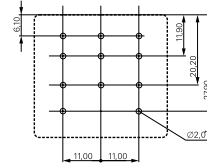
#### Potter & Brumfield KRPA/MT

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



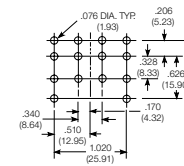
#### SCHRACK RM2/3/7

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

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

### Applications

Mechanical engineering  
Elevator control, Plant control  
Baggage handling

Elevator control  
Power supplies

HVAC  
Pump motor controls  
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 form Z (CO-DM/DB) |
| Rated voltage                 | 240VAC                                                       | 400VAC                             | 240VAC                                                                                                                           |
| Rated current                 | 4/10A                                                        | 10/16A                             | 10/15A                                                                                                                           |
| Switching power               | 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, AgSnOInO)                                                                             |

### 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<br>RTI | +50/+70°C<br>RTI                                   | DC +50/+70/+95°C<br>AC +45/+55/+70°C<br>RTI        |
| Category of environmental protection IEC61810 |                                     |                                                    |                                                    |
| 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](#)  
[SCHRACK MT](#)

[SCHRACK RM2/3/7](#)

[Potter & Brumfield KUIP KUGP](#)  
[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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

## Panel Plug-In Relays

Relays, Contactors & Circuit Breakers

### Key Features

#### SCHRACK RM8/C/D

Power relay with push-on and solder terminals  
Various mounting options  
Indicator lamps and mechanical indicator  
Optional push to test button



#### Potter & Brumfield KUHP

Power relay with push-on and solder terminals  
Various mounting options  
Designed to meet VDE space requirements  
Class B coil insulation



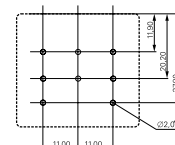
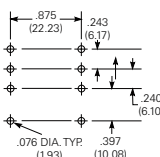
#### SCHRACK RM5/6/B 3MM

3mm contact gap  
DC or AC coil  
Push-to-test button  
Plug-in version, PCB terminals or chassis or DIN-rail mount



### Footprint

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



| 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                               | 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, RTO                                                        | 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                             | <a href="#">SCHRACK RM8C/D</a><br><a href="#">SCHRACK RM 8</a>                                  | <a href="#">Potter &amp; Brumfield KUHP</a>                     | <a href="#">SCHRACK RM5/6/B 3MM</a>                |

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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

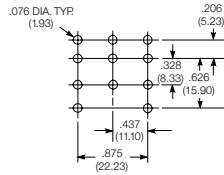
## Panel Plug-In Relays

Relays, Contactors & Circuit Breakers

### Key Features

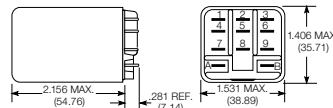
#### Potter & Brumfield KUGP

3mm contact gap  
DC or AC coil  
Plug-in version, PCB terminals  
or chassis mount



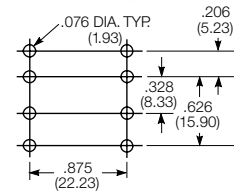
#### Potter & Brumfield KUL

Magnetic latching  
Single and dual coils  
Panel mounting



#### Potter & Brumfield KUEP

10A relay with various contact  
arrangements  
Magnetic blowout for 150VDC  
load switching  
Indicator lamp option



### Footprint

### Applications

Voltage control units

Alarm systems  
Machine tools  
Battery chargers

DC load switching 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                  | 2400VA                                                                   |                                                       | 1500W/2400VA                                           |
| Contact material                 | Ag, AgCdO                                                                | Ag, AgCdO                                             | AgCdO, AgSnOInO                                        |
| Min. recommended<br>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<br>protection IEC61810 | RTI                                         | RTI                       | RTI                                          |
| Terminal type                                    | THT, Plug-in, solder, Quick connect,<br>PCB | .187 Quick connect/solder | Quick connect/solder and PCB                 |
| Mounting                                         | Socket, PCB, bracket, flange mount          | Socket, bracket           | Socket, PCB, bracket and top flange<br>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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

# Panel Plug-In Relays

Relays, Contactors & Circuit Breakers

## Key Features

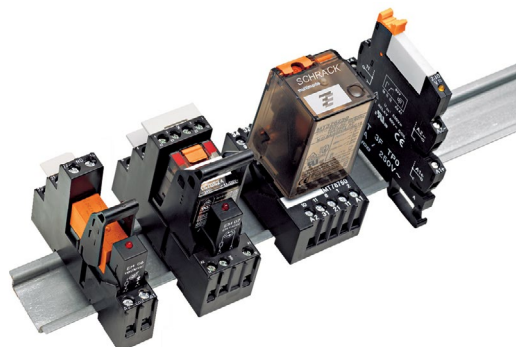
### ACCESSORIES

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

## Footprint Footprint



## 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               |                                                                          | 1500 to 4000VA                                                           |
| Contact material              |                                                                          |                                                                          |
| 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 |
|-------------|-------------------------------|------------------|

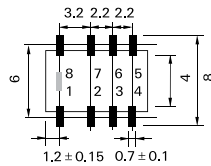
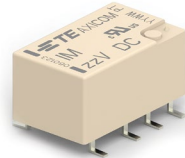
|                   |                                                                                                                                                                                                                           |                                                                                                                                                             |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Link to datasheet | <a href="#">ACCESSORIES SLIM INTERFACE RELAY SNR</a><br><a href="#">ACCESSORIES INDUSTRIAL POWER RELAY RT</a><br><a href="#">ACCESSORIES MINIATURE RELAY PT</a><br><a href="#">ACCESSORIES INTERFACE PLUG-IN RELAY XT</a> | <a href="#">RELAY PACKAGE RT</a><br><a href="#">RELAY PACKAGE PT</a><br><a href="#">RELAY PACKAGE SNR</a><br><a href="#">ACCESSORIES MULTIMODE RELAY MT</a> |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|

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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

### Key Features

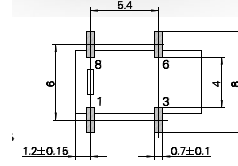
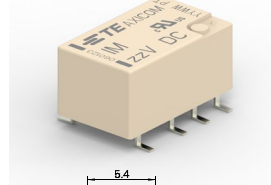
#### Axicom IM

4G telecom/signal relay/ switching relay  
Slim line 10x6mm, Low profile 5.65mm  
Switching power 60W/62.5VA  
Switching voltage 220VDC/250VAC  
Monostable + Bistable  
Low rated coil power  
High dielectric version  
High current version upto 5 A  
High contact stability version  
Bifurcated contacts + single contact



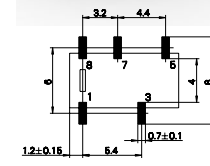
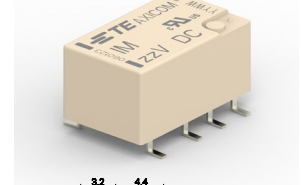
#### Axicom IMB

4G telecom/signal relay/ switching relay  
Slim line 10x6mm, Low profile 5.65mm  
Switching power 60W/62.5VA  
Switching voltage 220VDC/250VAC  
Monostable + Bistable  
Very high dielectric version  
Bifurcated contacts



#### Axicom IMC

4G telecom/signal relay/ switching relay  
Slim line 10x6mm, Low profile 5.65mm  
Switching power 60W/62.5VA  
Switching voltage 220VDC/250VAC  
Monostable + Bistable  
High dielectric version  
High current version upto 4 A  
Bifurcated contacts



### Footprint

### Applications

Telecommunication, access and transmission equipment  
Thermostat controls, Fire and security equipment  
Measurement and Test equipment, Industrial Controls, Medical equipment

Telecommunication, access and transmission equipment  
Thermostat controls, Fire and security equipment  
Measurement and Test equipment, Industrial Controls, Medical equipment

Telecommunication, access and transmission equipment  
Thermostat controls, Fire and security equipment  
Measurement and Test equipment, Industrial Controls, Medical equipment

### Contact Data

|                               |                                                       |                                       |                                       |
|-------------------------------|-------------------------------------------------------|---------------------------------------|---------------------------------------|
| Contact arrangement           | 2 form C, 2CO<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               | 60W/62.5VA                                            | 60W/62.5VA                            | 60W/62.5VA                            |
| Contact material              | 100μV/1μA                                             | 100μV/1μA                             | 100μV/1μA                             |
| Min. recommended contact load | <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                | 50 to 200mW/- | 140mW/-/-    | 140mW/-/-    |
| DC coil/bistable 1 coil/2 coils |               |              |              |

### 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 2500Vp   | 3500V         | 1500 to 2200Vp   |
| between contact and coil             | 2000 to 2500Vp   | 4900V         | 2500 to 3000Vp   |
| between adjacent contacts            | 1000 to 2500Vp   |               |                  |
| 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 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](#)

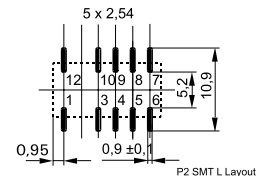
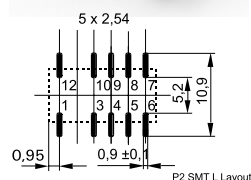
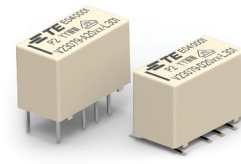
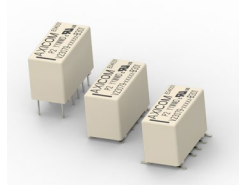
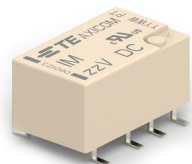
[Axicom IMB](#)

[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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.



Small Signal Relay  
Slim line 15x7.5mm  
Switching current max. 5A  
High Dielectric Strength 3kV  
VDE certified for LED tubes



LED Tubes  
Office Equipment  
Security systems, Set top boxes

|                                      |                                                         |                                       |                                       |
|--------------------------------------|---------------------------------------------------------|---------------------------------------|---------------------------------------|
| <b>Contact arrangement</b>           | 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 |
| <b>Rated voltage</b>                 | 250VAC/220VDC                                           | 250VAC/220VDC                         | 250VAC/220VDC                         |
| <b>Rated current</b>                 | 2A                                                      | 2A                                    | 2A                                    |
| <b>Switching power</b>               | 60W/62.5VA                                              | 60W/62.5VA                            | 60W/62.5VA                            |
| <b>Contact material</b>              | 100μV/1μA                                               | 100μV/1μA                             | 100μV/1μA                             |
| <b>Min. recommended contact load</b> | <50mΩ at 10mA/20mV                                      | <50mΩ                                 | <50mΩ                                 |

|                                 |              |                  |             |
|---------------------------------|--------------|------------------|-------------|
| Magnetic system                 | Polarized    | Polarized        | Polarized   |
| Rated coil voltage              | 1.5 to 24VDC | 2.4 to 24VDC     | 3 to 24VDC  |
| Rated coil power                | 140mW/-/-    | 140mW/70mW/140mW | 200mW/140mW |
| DC coil/bistable 1 coil/2 coils |              |                  |             |

|                                        |               |                  |               |
|----------------------------------------|---------------|------------------|---------------|
| <b>Initial dielectric strength</b>     |               |                  |               |
| between open contacts                  | 1000Vrms      | 1000 to 1500Vrms | 1500Vrms      |
| between contact and coil               | 1800Vrms      | 1500Vrms         | 3000Vrms      |
| between adjacent contacts              | 1000Vrms      | 1000 to 1500Vrms | 1500Vrms      |
| <b>Initial surge withstand voltage</b> |               |                  |               |
| between open contacts                  | 1500Vp        | 2500Vp           |               |
| between contact and coil               | 2500Vp        | 2500Vp           | 6000Vrms      |
| between adjacent contacts              | 1500Vp        | 2500Vp           |               |
| <b>Isolation 100/900MHz</b>            |               |                  |               |
| <b>Insertion loss 100/900MHz</b>       | -37.0/-18.8dB | -39.0/-20.7dB    | -39.0/-20.7dB |
| <b>Volt. standing wave ratio</b>       | -0.03/-0.33dB | -0.02/-0.27dB    | -0.02/-0.27dB |
| <b>100/900MHz</b>                      | 1.6/1.49      | 1.4/1.40         | 1.4/1.40      |
| <b>Capacitance</b>                     |               |                  |               |
| between open contacts                  | max. 1pF      | max. 1pF         | max. 1pF      |

|                                      |              |                                                   |                        |
|--------------------------------------|--------------|---------------------------------------------------|------------------------|
| Ambient temperature (max.)           | -40 to +85°C | -40 to +85°C                                      | -40 to +85°C           |
| Category of environmental protection | IP67/RTV     | IP67/RTIII                                        | IP67/RTIII             |
| Terminal type                        | THT, SMT     | THT, SMT                                          | THT, SMT               |
| Dimension LWH                        | 10x6x5.65mm  | 14.5x7.2x10.4mm, stand.<br>14.5x7.2x9.9mm, overm. | 14.5x7.2x9.9mm, overm. |

## Axicom P2 LIGHTING

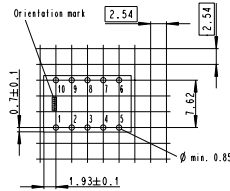
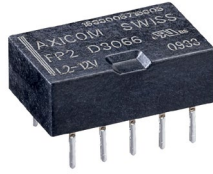
1) Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 10mA at 12VDC; AgCdO and AgSnO<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.



## Key Features

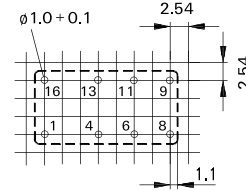
## Axicom FP2

Slim Line 14X9mm  
2 form C bifurcated contacts  
High mechanical shock resistance,  
up to 1500g survival



## Axicom D2N V23105

2G telecom/signal relay  
4 coil sensitivities  
3A UL rating



## Footprint

## Applications

Communication equipment  
keyless entry  
Speaker switch, consumer electronics

|                                   |
|-----------------------------------|
| Communication equipment           |
| Office equipment                  |
| 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               | 60W/62.5VA    | 60W/125VA                         |
| Contact material              | 100ΩV         | 100μV/10μA                        |
| Min. recommended contact load | <50mΩ at 10mA | <100mΩ                            |

## Coil Data

|                                 |                              |                  |
|---------------------------------|------------------------------|------------------|
| Magnetic system                 | Polarized                    | Non polarized    |
| Rated coil voltage              | 2 to 24VDC                   | 3 to 48VDC       |
| Rated coil power                | 80mW (high sensitive), 140mW | 150 to 700mW/-/- |
| DC coil/bistable 1 coil/2 coils |                              |                  |

### Dielectric Strength

|                                             |               |               |
|---------------------------------------------|---------------|---------------|
| <b>Initial dielectric strength</b>          |               |               |
| between open contacts                       | 750Vrms       | 750Vrms       |
| between contact and coil                    | 1000Vrms      | 1000Vrms      |
| between adjacent contacts                   | 1000Vrms      | 750Vrms       |
| <b>Initial surge withstand voltage</b>      |               |               |
| between open contacts                       | 1100Vp        | 1500Vp        |
| between contact and coil                    | 1500Vp        | 1500Vp        |
| between adjacent contacts                   | 1500Vp        | 1500Vp        |
| <b>Isolation 100/900MHz</b>                 | -40.2/-22.3dB | -39.0/-20.7dB |
| <b>Insertion loss 100/900MHz</b>            | 0.03dB/0.25dB | -0.02/-0.27dB |
| <b>Volt. standing wave ratio 100/900MHz</b> | 1.01/1.07     | 1.04/1.40     |
| <b>Capacitance</b>                          |               |               |
| between open contacts                       | max. 1pF      | max. 2pF      |

## Other Data

|                                      |              |                |
|--------------------------------------|--------------|----------------|
| Ambient temperature (max.)           | -40 to +85°C | -25 to +85°C   |
| Category of environmental protection | RTIII        | IP67/RTIII     |
| Terminal type                        | THT          | THT            |
| Dimension LWH                        | 14x9x5mm     | 20,2x10x11,4mm |

**Link to datasheet**

## Axicom FP2

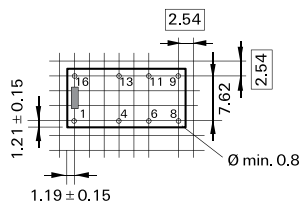
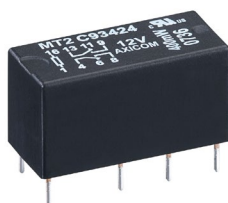
Axicom D2N V23105

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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

### Key Features

#### Axicom MT2

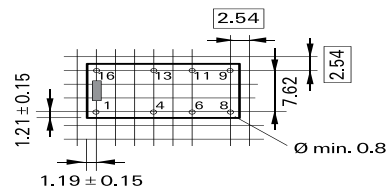
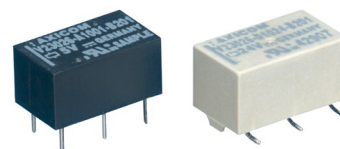
2G telecom/signal relay  
5 coil sensitivities  
2A UL rating



### Footprint

#### Axicom P1 V23026

Very high sensitive relay  
Low profile  
High vibration and shock resistance  
Version: symmetric pin layout  
Temperature range up to 85°C  
1500Vrms across opened contacts



### Applications

Communication equipment  
Linecard application  
Measurement and control equipment

Automotive equipment  
CAN bus  
Immobilizer

### Contact Data

#### Contact arrangement

2 form C, 2 CO  
Bifurcated contacts

1 form C, 1 CO  
Bifurcated contacts

#### Rated voltage

250VAC/220VDC

150VAC/125VDC

#### Rated current

2A

1A

#### Switching power

60W/62.5VA

30W/60VA

#### Contact material

100µV/1µA

100µV/1µA

#### Min. recommended contact load

<70mΩ

<50mΩ

### Coil Data

#### Magnetic system

Non polarized

Polarized

#### Rated coil voltage

3 to 48VDC

3 to 24VDC

#### Rated coil power

150 to 550mW/-/-

65 to 130mW/30 to

#### DC coil/bistable 1 coil/2 coils

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

1500Vp

2500Vp

between contact and coil

1500Vp

between adjacent contacts

1500Vp

#### 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

max. 2pF

max. 5pF

between open contacts

### 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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

### Key Features

#### Axicom REED DIP/SIL

Direct driving with TTL signals  
Ultrasonic cleanable  
High switching speed  
Clamping diode  
Electrostatic shield



#### TSC

Designed for thermostat, modem  
Computer peripherals, video  
recording and security application  
Low coil power requirements  
IC compatibility

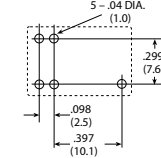
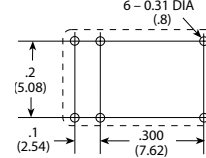
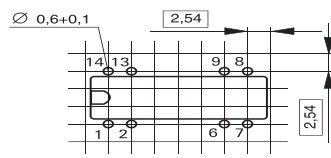


#### OUAZ/T81

Gold overlay silver palladium alloy  
contact suitable for low loads  
High density available on PCB due to  
small size  
2.54mm terminal pitch same as IC  
socket terminal pitch  
Sensitive and standard coils



### Footprint



| 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 form 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                      | 3 to 10W                                                                          | 120VA, 24W                           | 120VA, 30W                                                          |
| Contact material                     | 10μV/1μA                                                                          | 1mA at 1VDC                          | 1mA at 1VDC                                                         |
| Min. recommended contact load        | <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                     | 50 to 300mW/-/-                                                                   | 150, 300mW                           | 200, 450mW                                                          |
| DC coil/bistable 1 coil/2 coils      |                                                                                   |                                      |                                                                     |
| 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                    | <a href="#">Axicom REED DIP/SIL</a>                                               | <a href="#">TSC</a>                  | <a href="#">OUAZ/T81</a>                                            |

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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

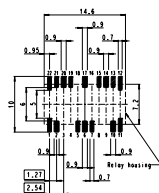
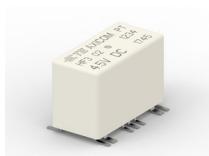
# High Frequency Relays

## Relays, Contactors & Circuit Breakers

### Key Features

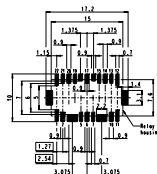
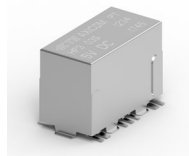
#### Axicom HF3

High performance RF relay/ switch for up to 3GHz  
Low power consumption  $\leq 70/140$  mW  
50 and 75 $\Omega$  version  
Very small design



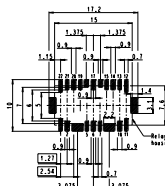
#### Axicom HF3S

High performance RF relay/ switch for up to 3GHz  
Low power consumption  $\leq 70/140$  mW  
50 and 75 $\Omega$  version  
RF power 100W at 2GHz  
Very small design



#### Axicom HF6

High performance RF relay/ switch for up to 6GHz  
Low power consumption  $\leq 70/140$  mW  
50 $\Omega$  version  
Very small design



### Footprint

### Applications

Cable modems and linecards/CATV  
Measurement and test equipment  
ATE  
Satellite/audio/video tuners

Cable modems and linecards/CATV  
Measurement and test equipment  
ATE  
Satellite/audio/video tuners

Measurement and test equipment  
ATE  
Wireless base stations and antennas  
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               | 60W/62.5VA/50W (2.5GHz)           | 60W/62.5VA/50W (2.5GHz)           | 60W/62.5VA/50W (2.5GHz)           |
| Min. recommended contact load | 100 $\mu$ V/1 $\mu$ A             | 100 $\mu$ V/1 $\mu$ A             | 100 $\mu$ V/1 $\mu$ A             |
| Initial contact resistance    | <100m $\Omega$                    | <100m $\Omega$                    | <100m $\Omega$                    |

### Coil Data

|                                 |                  |                  |                  |
|---------------------------------|------------------|------------------|------------------|
| Magnetic system                 | Polarized        | Polarized        | Polarized        |
| Rated coil voltage              | 3 to 24VDC       | 3 to 24VDC       | 3 to 24VDC       |
| Rated coil power                | 140mW/70mW/140mW | 140mW/70mW/140mW | 140mW/70mW/140mW |
| DC coil/bistable 1 coil/2 coils |                  |                  |                  |

### Dielectric Strength

|                                 |          |          |          |
|---------------------------------|----------|----------|----------|
| Initial dielectric strength     |          |          |          |
| between open contacts           | 600Vrms  | 600Vrms  | 600Vrms  |
| between contact and coil        | 1000Vrms | 1000Vrms | 1000Vrms |
| between adjacent contacts       |          |          |          |
| Initial surge withstand voltage |          |          |          |
| between open contacts           | 1000Vp   | 1000Vp   | 1000Vp   |
| between contact and coil        | 1500Vp   | 1500Vp   | 1500Vp   |
| between adjacent contacts       |          |          |          |
| 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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

## Solid State Relays

Relays, Contactors & Circuit Breakers

| Key Features                                        | Potter & Brumfield SSR                                                                                                                                                                                                                              | Potter & Brumfield SSRD                                                                                                                                                                                 | Potter & Brumfield SSRT                                                                                                                          |
|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                     | Standard "hockey puck" package<br>Inverse parallel SCR output<br>240VAC & 480VAC output types<br>Zero voltage and random voltage turn-on versions<br>4,000V rms 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>4000V rms optical isolation<br>Quick connect style termination<br>2 Form A (2 SPST-NO) | Standard "hockey puck" package<br>TRIAC Output<br>4,000V rms optical isolation<br>Cover design with anti-rotation barriers<br>1 Form A (SPST-NO) |
|                                                     |                                                                                                                                                                    |                                                                                                                        |                                                               |
| Footprint                                           | PCB mount not applicable. Visit TE.com for more information                                                                                                                                                                                         | PCB mount not applicable. Visit TE.com for more information                                                                                                                                             | PCB mount not applicable. 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                                                                                                                                                                                                 | 10 A/25 A                                                                                                                                        |
| 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                                                                                                                                                                                                                                          | 4 VDC                                                                                                                                                                                                   | 90VAC/3VDC                                                                                                                                       |
| Must release Voltage VIN(REL) (Min.)                | 10VAC/1VDC                                                                                                                                                                                                                                          | 1VDC                                                                                                                                                                                                    | 10 VAC/1VDC                                                                                                                                      |
| Input Current                                       | 2 - 26 mA / 3 - 30 mA                                                                                                                                                                                                                               | 15mA @ 8VDC                                                                                                                                                                                             | 25 mA/20 mA                                                                                                                                      |
| Dielectric Strength                                 |                                                                                                                                                                                                                                                     |                                                                                                                                                                                                         |                                                                                                                                                  |
| Isolation:                                          | 4000Vrms                                                                                                                                                                                                                                            | 4000Vrms                                                                                                                                                                                                | 4000Vrms                                                                                                                                         |
| Other Data                                          |                                                                                                                                                                                                                                                     |                                                                                                                                                                                                         |                                                                                                                                                  |
| Dimensions                                          | 46.5x57.8x43.4 mm                                                                                                                                                                                                                                   | 44.5x57.8x30.15 mm                                                                                                                                                                                      | 45x57.5x36.5 mm                                                                                                                                  |
| Operating Temperature                               | -30 to +80°C                                                                                                                                                                                                                                        | -30 to +80°C                                                                                                                                                                                            | -30 to +80°C                                                                                                                                     |
| Mounting                                            | Panel                                                                                                                                                                                                                                               | Panel                                                                                                                                                                                                   | Panel                                                                                                                                            |
| UI File No                                          | E29244                                                                                                                                                                                                                                              | E29244                                                                                                                                                                                                  | E29244                                                                                                                                           |
| Link to datasheet                                   | <a href="#">Potter &amp; Brumfield SSR</a>                                                                                                                                                                                                          | <a href="#">Potter &amp; Brumfield SSRD</a>                                                                                                                                                             | <a href="#">Potter &amp; Brumfield SSRT</a>                                                                                                      |

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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

## Solid State Relays

Relays, Contactors & Circuit Breakers

| Key Features                                        | Potter & Brumfield SSRDC                                                                                                                                                                      | Potter & Brumfield SSRK                                                                                                                                                                                    | Potter & Brumfield SSRM                                                                                                                                                                    |
|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                     | Standard “hockey puck” package<br>200V DC FET Output<br>12A, 25A and 40A load current options<br>1500V DC 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 & 600 VAC output types<br>4,000V rms 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>600 VAC output type<br>4,000V rms optical isolation<br>1 Form A (SPST-NO) |
|                                                     |                                                                                                              |                                                                                                                           |                                                                                                         |
| Footprint                                           | PCB mount not applicable. Visit TE.com for more information                                                                                                                                   | PCB mount not applicable. Visit TE.com for more information                                                                                                                                                | PCB mount not applicable. Visit TE.com for more information                                                                                                                                |
| Typical Applications                                | Material Handling<br>Tranes<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)                         | 12 mA                                                                                                                                                                                         | 5mA                                                                                                                                                                                                        | 1mA                                                                                                                                                                                        |
| On-State Voltage Drop (Max.)                        | 2.83 VDC                                                                                                                                                                                      | 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 - 32 VDC                                                                                                                                                                                    | 90 - 280VAC/3 - 32VDC                                                                                                                                                                                      | 90 - 140VAC/4 - 32VDC                                                                                                                                                                      |
| Must Operate Voltage VIN(OP) (Min.)                 | 3.5 VDC                                                                                                                                                                                       | 90VAC/3VDC                                                                                                                                                                                                 | 90VAC/3VDC                                                                                                                                                                                 |
| Must release Voltage VIN(REL) (Min.)                | 1 VDC                                                                                                                                                                                         | 10VAC/1VDC                                                                                                                                                                                                 | 10VAC/1VDC                                                                                                                                                                                 |
| Input Current                                       | 30 mA                                                                                                                                                                                         | 7.5mA - 16 mA/18 - 30 mA                                                                                                                                                                                   | 15 mA/14 - 30 mA                                                                                                                                                                           |
| Dielectric Strength                                 |                                                                                                                                                                                               |                                                                                                                                                                                                            |                                                                                                                                                                                            |
| Isolation:                                          | 1500 VDC                                                                                                                                                                                      | 4000Vrms                                                                                                                                                                                                   | 4000Vrms                                                                                                                                                                                   |
| Other Data                                          |                                                                                                                                                                                               |                                                                                                                                                                                                            |                                                                                                                                                                                            |
| Dimensions                                          | 45x57.8x43.4 mm                                                                                                                                                                               | 22.5x82.3x111.5 mm                                                                                                                                                                                         | 22.5x76.2x109.2 mm                                                                                                                                                                         |
| Operating Temperature                               | -30 to +80°C                                                                                                                                                                                  | -30 to +80°C                                                                                                                                                                                               | -40 to +80°C                                                                                                                                                                               |
| Mounting                                            | Panel                                                                                                                                                                                         | Din Rail                                                                                                                                                                                                   | Din Rail                                                                                                                                                                                   |
| UI File No                                          | E29244                                                                                                                                                                                        | E29244                                                                                                                                                                                                     | E29244                                                                                                                                                                                     |
| Link to datasheet                                   | <a href="#">Potter &amp; Brumfield SSRDC</a>                                                                                                                                                  | <a href="#">Potter &amp; Brumfield SSRK</a>                                                                                                                                                                | <a href="#">Potter &amp; Brumfield SSRM</a>                                                                                                                                                |

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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

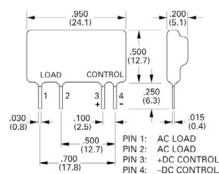
## Solid State Relays

Relays, Contactors & Circuit Breakers

### Key Features

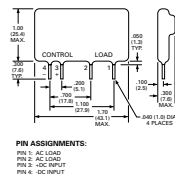
#### Potter & Brumfield SSRA

2A Miniature, SIP Solid State Relay  
Inverse parallel SCR output  
2500V rms optical isolation  
240VAC output  
1 Form A (SPST-NO)



#### Potter & Brumfield SSRC

5A SIP Solid State Relay  
Inverse parallel SCR output  
4000V rms optical isolation  
1 Form A (SPST-NO)



### Footprint

### Typical Applications

Industrial Machinery  
HVAC  
Building Controls

Industrial Machinery  
HVAC  
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)                                      | 0.1 mA      | 0.1 mA                  |
| 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 (R <sub>ΘJ-C</sub> ) (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             |
| UI 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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.



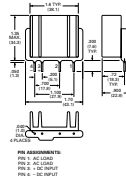
## Solid State Relays

Relays, Contactors & Circuit Breakers

### Key Features

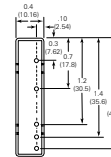
#### Potter & Brumfield SSRF

25A SIP Solid State Relay with integrated heat sink  
Inverse parallel SCR output  
4000V rms optical isolation  
1 Form A (SPST-NO)



#### Potter & Brumfield IACM

Slim Solid State AC Input Module  
Color coded by function - Yellow  
4000V rms optical isolation  
Compatible with 2IO series mounting boards  
1 Form A (SPST-NO)



### Footprint

### Typical Applications

Industrial Machinery  
HVAC  
Building Controls

Industrial Machinery  
HVAC  
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)                                      | 0.1 mA                  | 10uA   |
| On-State Voltage Drop (Max.)                                     | 1.6V                    | 0.2VDC |
| Load Power Factor Rating                                         | 0.5 - 1.0               | -      |
| Thermal Resistance, Junction to Case (R <sub>θJ-C</sub> ) (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      | 1-5 mA              |

### Dielectric Strength

|            |          |          |
|------------|----------|----------|
| Isolation: | 4000Vrms | 4000Vrms |
|------------|----------|----------|

### Other Data

|                       |                  |                   |
|-----------------------|------------------|-------------------|
| Dimensions            | 43.1x22.8x34.3mm | 43.5x10.3x25.5 mm |
| Operating Temperature | -30 to + 80°C    | -30 to 100°C      |
| Mounting              | PCB              | PCB               |
| UI 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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

# Solid State Relays

Relays, Contactors & Circuit Breakers

## Key Features

### Potter & Brumfield OACM

Slim Solid State AC Output Module  
Color coded by function - Black  
4000V rms optical isolation  
Compatible with 2IO series mounting boards  
1 Form A (SPST-NO)

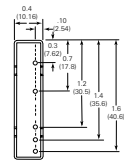
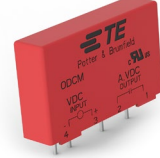
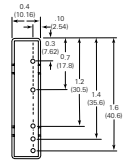
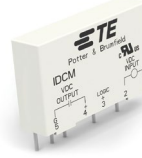
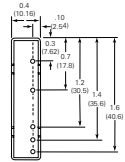
### Potter & Brumfield IDCM

Slim Solid State DC Input Module  
Color coded by function - White  
4000V rms optical isolation  
Compatible with 2IO series mounting boards  
1 Form A (SPST-NO)

### Potter & Brumfield ODCM

Slim Solid State AC Output Module  
Color coded by function - Red  
4000V rms optical isolation  
Compatible with 2IO series mounting boards  
1 Form A (SPST-NO)

## Footprint



## Typical Applications

Industrial Machinery  
HVAC  
Building Controls

Industrial Machinery  
HVAC  
Building Controls

Industrial Machinery  
HVAC  
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 (R0J-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            | 43.5x10.3x25.5 mm | 43.5x10.3x25.5 mm | 43.5x10.3x25.5 mm |
| Operating Temperature | -30 to 100°C      | -30 to 100°C      | -30 to 100°C      |
| Mounting              | PCB               | PCB               | PCB               |
| UI 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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

# Circuit Breakers

## Relays, Contactors & Circuit Breakers

### Key Features

#### Potter & Brumfield W28

Thermal Overload / Trip Free Operation  
Replaces slow blow glass cartridge fuse and holder  
Button provides visible trip indication  
Push-to-reset  
Snap-in mounting  
UL 1077, CSA, VDE, CCC (16A/20A not VDE)



#### Potter & Brumfield W23/W31

Thermal Overload / Trip Free Operation  
Toggle or Push/Pull Actuation  
Cannot be reset against overload  
On/Off switching option  
UL 1077, CSA



### Footprint

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

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

### Typical Applications

HVAC (Transformers), General Aviation, Medical, Marine Power Supplies, Lighting, Surge Protection  
Audio, Pool and Spa, Appliances, Industrial Controls

Generators, General Aviation, Medical, Marine Power Supplies, Lighting, Surge Protection  
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. | <b>With 4X Max. Series Fuse Protection</b><br>0.5-50 amp models — 1000 amps at 240VAC.<br>30-50 amp models — 1000 amps at 50VDC.<br><b>Without 4X Max. Series Fuse Protection</b><br>0.5-25 amp models — 2000 amps at 50VDC.<br>10-20 amp models — 2000 amps at 120VAC<br>Continuously carry 100% of rating, may trip between 101% and 134% of rating at 25°C. Must trip at 135% in one hour. |

### 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.  
0.25-2 amp models - may trip between 101% and 174%, but must trip at 175% of rating within one hour at +25°C.

### Resettable Overload Capacity

Six times rated current for 0.25 through 2 amp models. Ten times rated current for 3 through 20 amp models.

### Reset Time

180 seconds max. for 0.25 through 2 amp models.  
5 to 30 seconds for 3 through 20 amp models.

Ten times rated current.

### 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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

## Circuit Breakers

Relays, Contactors & Circuit Breakers

### Key Features

#### Potter & Brumfield W33

Thermal Overload / Trip Free Operation  
Optional Indicator Lamp  
Optional auxiliary switch  
Combines on/off switching and circuit protection in a single unit  
UL 1077, CSA



#### Potter & Brumfield W51

Thermal Overload / Trip Free Operation  
Rocker actuated with switch overload sensing  
Optional Indicator Lamp  
Combines power switching and circuit protection in a single unit  
Compact Design  
PCB Termination options  
UL1077, cUL, VDE, CCC



#### Potter & Brumfield W54

Thermal Overload / Trip Free Operation  
Push to Reset  
Visual Trip Indication  
Multiple termination options  
UL 1077, UL 1500, cUL, VDE, CCC, CSA. (>30A not UL1500 or CSA) (>20A not VDE)



### Footprint

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

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

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

### Typical applications

Generators, General Aviation, Medical, Marine  
Power Supplies, Lighting, Surge Protection  
Audio, Pool and Spa, Appliances, Industrial Controls

Generators, General Aviation, Medical, Marine  
Power Supplies, Lighting, Surge Protection  
Audio, Pool and Spa, Appliances, Industrial Controls

Generators, General Aviation, Medical, Marine  
Power Supplies, Lighting, Surge Protection  
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 250in x .032in/Solder option/PCB            | Standard Quick Connect 250in x .032in and #8-32 screw 3/8"-24, M11-1.0, M12-1.0 threaded bushing |
| Mounting                   | Snap-in                                                                            | Snap-in, PCB                                                       |                                                                                                  |
| 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. |
| Resettable 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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

# Circuit Breakers

## Relays, Contactors & Circuit Breakers

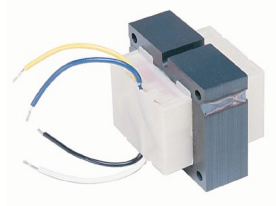
|                              | Potter & Brumfield W57                                                                                                                                                                       | Potter & Brumfield W58                                                                                                                                        | Potter & Brumfield W6/W9                                                                                                                                     |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Key Features</b>          | 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.<br>(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             |
|                              |                                                                                                             |                                                                              |                                                                           |
| <b>Footprint</b>             | PCB mount not applicable. Visit TE.com for more information                                                                                                                                  | PCB mount not applicable. Visit TE.com for more information                                                                                                   | PCB mount not applicable. Visit TE.com for more information                                                                                                  |
| <b>Applications</b>          | 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 |
| <b>Operational Data</b>      |                                                                                                                                                                                              |                                                                                                                                                               |                                                                                                                                                              |
| 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<br>.250in x .032in and #8-32 screw and PCB option                                                                                                                     | Standard Quick Connect<br>.250in x .032in and #8-32 screw                                                                                                     | W6-Standard Quick Connect<br>.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)                                                                                     |
| <b>Electrical Data</b>       |                                                                                                                                                                                              |                                                                                                                                                               |                                                                                                                                                              |
| 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           | 1,000 amps in accordance with UL standard 1077.                                                                                                                                              | 2,000 amps at 50VDC (0.5 - 30 amp models).1,000 amps at 250VAC (0.5 - 30 amp models).<br>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) |
| Resettable Overload Capacity | Ten times rated current.                                                                                                                                                                     | Ten times rated current.                                                                                                                                      | Ten times rated current.                                                                                                                                     |
| Reset Time                   | 60 Seconds                                                                                                                                                                                   |                                                                                                                                                               | 60 Seconds                                                                                                                                                   |
| <b>Accessories</b>           | Protective boot, knurl nut, hex nut, lockwasher, nameplate                                                                                                                                   | Protective boot, knurl nut, hex nut, lockwasher                                                                                                               | Toggle guard (W6 only)                                                                                                                                       |
| <b>Link to datasheet</b>     | <a href="#">Potter &amp; Brumfield W57</a>                                                                                                                                                   | <a href="#">Potter &amp; Brumfield W58</a>                                                                                                                    | <a href="#">Potter &amp; Brumfield W6/W9</a>                                                                                                                 |

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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

### Key Features

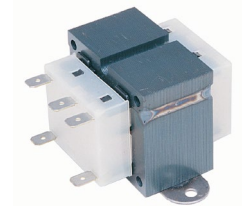
#### 4000 SERIES WIRE LEAD CLASS II CONTROL TRANSFORMERS

5VA to 75VA  
UL 5085-3, formerly UL 1585  
Inherently/Non-Inherently Energy limited  
Wire Lead Terminations  
Custom Specification/Design available



#### 4000 SERIES QUICK CONNECT CLASS II CONTROL TRANSFORMERS

5VA to 75VA  
UL 5085-3, formerly UL 1585  
Inherently/Non-Inherently Energy limited  
Quik Connect Terminals  
Custom Specification/Design available



### Footprint

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### Typical Applications

Heating and Air Conditioning  
Industrial and Residential  
Motor Control

Heating and Air Conditioning  
Industrial and Residential  
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<br>Energy Limited                 | Internal fuse or integral Circuit Breaker<br>75VA standard models come with integral<br>circuit breaker |
| Shielding                    | Internal fuse or integral Circuit Breaker                  |                                                                                                         |
| Dielectric Strength          | 75VA standard models come with integral<br>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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

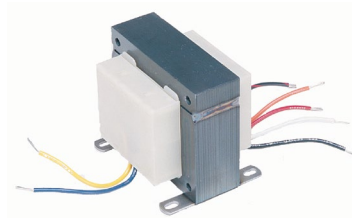
## Transformers

Relays, Contactors & Circuit Breakers

### Key Features

#### 4700 SERIES GENERAL PURPOSE POWER TRANSFORMERS

60VA to 150VA  
UI 5085-1,-2 formaly UL 50  
Non-Fused  
Wire leads or Quick Connects  
Custom Specification/Design available



#### 4900 SERIES PRINTED CIRCUIT MOUNT POWER TRANSFORMERS

1.1VA to 36VA  
UI 5085-1,-2 formaly UL 506  
Drop in Replacement  
Split Bobbin Design  
Singal or Dual Primary Voltage  
Custom Specification/Design available



### Footprint

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### Applications

Heating and Air Conditioning  
Industrial  
Motor Control

Industrial Controls, Garage door openers  
Small power supplies, Control Boards  
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<sub>2</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.



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