



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	<b>2</b> 8
Circuit Breakers	33
Transformers	36

#### MOTION CONTROL



# WHAT'S INSIDE



#### **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

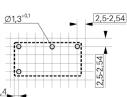
#### **PCJ**

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

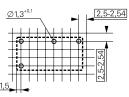


#### **Footprint**

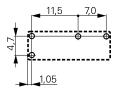
2) see footnote below











**Applications** 

Industrial electronics

AgNi 90/10, AgSnO

1) see footnote below

1000Vrms

Measurement and control

White goods

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

Home applications

**HVAC** 

#### **Contact Data**

1 form C (CO) Contact arrangement Rated voltage 250VAC Rated current 5A (CO) 6A (NO) Switching power / Max. break 1250VA

Contact material

Min. recommended contact load

1 form A (NO) 1 form A (NO) 250VAC 250VAC 6/5A

1500/1250VA AgNi 0.15, AgNi 90/10

1) see footnote below

3A/5A (WG type)

750VA/1250VA (WG type) AaNi

100mA at 5VDC

750Vrms

#### 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

Other Data	,		
between contact and coil	3.2/4mm	4/4mm	8/>8mm
Clearance/creepage			
between adjacent contacts			
between contact and coil	4000Vrms	4000/3000Vrms	4000Vrms

+ 85°C +70°C (RE)/ + 85°C (REL) + 85/ +105°C (WG type) Ambient temperature (max.) Category of environmental RTIII(RE), RTII(REL) RTII, RTIII RTII, RTIII protection IEC61810 Terminal type THT THT THT Mounting **PCB** PCB **Dimensions** 20x10x10mm 20x10x10.6mm/20.7x10.7x12mm 20.4x7x15mm Accessories Link to datasheet **SCHRACK PE SCHRACK RE PCJ SCHRACK REL** 

1000Vrms

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



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,; 100mA at 12VDC. Please contact technical support for detailed technical data.

# Relays, Contactors & Circuit Breakers

#### **Key Features**

#### **PCH**

Compact size

WG type available (IEC 60335-1) TV-3 ratings for NO contact

#### OJ/OJE/T77

Miniature size

Sensitive coil 200mW 4kV coil-contacts (OJ/OJT) Meet UL TV-5 ratings (OJT)

#### **PCN/PCNH**

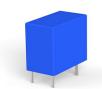
1 pole 3A/5A Only 5mm wide

Allows high function/packaging density

RoHS compliant (Directive 2002/95/EC)



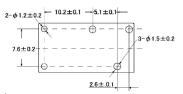


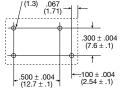


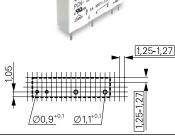


### **Footprint**

2) see footnote below







Applications	App	licati	ions
--------------	-----	--------	------

**Appliances** 

**HVAC** 

Refrigerators, microwave ovens

**Appliances HVAC** Industrial control PLC Temperature control

I/O modules

#### **Contact Data**

1 form C (CO), 1 form A (NO) Contact arrangement 1 form A (NO) 1 form A (NO) 277VAC/30VDC 250VAC/28VDC Rated voltage 250VAC Rated current 3/5/10A 3/5/8/10A 3A/5A Switching power / Max. break 1400VA/150W (NO) 720 to 2500VA/

850VA/90W (NC)

Contact material AgSnO<sub>2</sub> 100mA at 5VDC Min. recommended contact load

90 to 240W Ag, AgCdO, AgSnO, 1) see footnote below 750VA /1250VA AgNi gold plated

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

Accessories				
Dimensions (lwh)	20x10x15.2mm	18.2x10.2x14.7mm	20x5x12.5mm	
Mounting	PCB	PCB	PCB	
Terminal type	THT	THT	THT	
Category of environmental protection IEC61810	RTII, RTIII	RTII, RTIII	RTIII	
Ambient temperature (max.)	+70°C (standard)/+85°C (WG type)	up to 85°C	+85°C	

Link to datasheet **PCH** OJ/OJE **PCN** <u>T77</u>



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



#### **SCHRACK SNR**

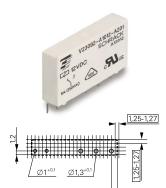
5mm wide slim outline Strong coil pins for DIN-rail socket Allows high function/ packaging density

#### **SCHRACK RYII**

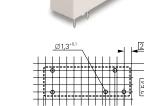
Reflow solderable version Low height 12.3mm Reinforced insulation Pinnings 3.2mm and 5mm

#### **SCHRACK MSR/T75**

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







# **Footprint**

2) see footnote below

**Applications** Interface technology

Interface technology HVAC, PLC, Power supplies Domestic appliances

Interface technology HVAC, PLC, Power supplies Domestic appliances

PLC, timers, Heating control

#### **Contact Data**

Contact arrangement 1 form C (CO), 1 form A (NO) 1 form C (CO), 1 form A (NO), 1 from B (NC) Rated voltage 250VAC 250VAC Rated current 6A 8A Switching power / Max. break 1500VA

Contact material AgSnO<sub>2</sub>, AgSnO<sub>2</sub> gold plated 100mA at 12VDC

Min. recommended contact load

1 form C (CO) 1 form A (NO) 250VAC 8/10A 2000VA 2000VA AgNi0.15, AgSnO<sub>2</sub>, AgNi 0.15 gold plated AgNi90/10, AgSnO

1) see footnote below 1) see footnote below

#### Coil Data

Magnetic system DC DC DC Rated coil voltage 5 to 48VDC 5 to 60VDC 3 to 60VDC Rated coil power 170/217mW (223 - 257)mW (212-262)mW

#### **Dielectric Strength**

Initial dielectric strength between open contacts 1000Vrms 1000Vrms 1000Vrms between contact and coil 4000Vrms 5000Vrms 4000Vrms between adjacent contacts

Clearance/creepage

8/8mm 8/8mm between contact and coil 6/8mm

#### Other Data

Dimensions (lwh)

Ambient temperature (max.) +85°C +70°C +85°C Category of environmental RTIII RTII, RTIII RTII. RTIII protection IEC61810 THT Terminal type THT, THR THT Mounting PCB or on socket PCB PCB or on socket

Accessories DIN rail sockets PCB sockets

28x5x15mm

Link to datasheet **SCHRACK SNR SCHRACK RYII** SCHRACK MSR

28.5x10.1x12.3mm

28.6x10x15mm



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.

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

#### 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**

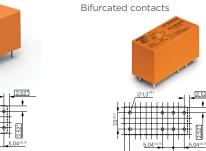
DC and AC coil Mono-or bistable coil

Reinforced insulation WG type available (IEC 60335-1)

High ambient temperature version

(105°C)

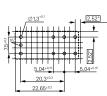
THR (reflow) version Sensitive version



#### **SCHRACK RT INRUSH**

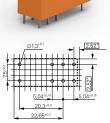
For inrush peak currents up to 80A Mono-or bistable coil Reinforced insulation WG type available (IEC 60335-1)





#### Footprint

2) see footnote below



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

**Applications** 

Ambient temperature (max.)	+85°C +105°C (HOT type) +70°C (transparent cover type)	+75°C (AC type) +85°C	+85°C
Other Data			
Clearance/creepage between contact and coil	>10/10mm	>10/10mm	>10/10mm
between adjacent contacts		2500Vrms	
between contact and coil	5000Vrms	5000Vrms	5000Vrms
Initial dielectric strength between open contacts	1000Vrms	1000Vrms	1000Vrms
Dielectric Strength			
Rated coil power	400mW	400mW/0.75VA	400mW
Magnetic system Rated coil voltage	DC 5 to 48VDC	DC, AC, bistable 5 to 110VDC/24 to 230VAC	DC, bistable 5 to 11VDC
Coil Data	DC	DC AC histolia	DC histolia
Min. recommended contact load	1) see footnote below	1) see footnote below	1) see footnote below
Contact material	AgNi90/10, AgSnO <sub>2</sub>	AgNi90/10, AgSnO <sub>2</sub>	AgNi90/10, AgSnO <sub>2</sub>
Switching power / Max. break	4000VA	2X2000/4000VA	4000VA
Rated current	16A	2X8/16A	16A
Rated voltage	1 form A (NO) 250VAC	2 form C (CO), 2 form A (NO) 250VAC	1 from A (NO) 250VAC
Contact arrangement	1 form C (CO)	1 form C (CO), 1 from A (NO)	1 form C (CO)

RTII, RTIII

PCB or on socket

29x12.7x15.7mm

SCHRACK RT

THT, THR (DC and AC type)

PCB and DIN rail sockets

29x12.7x15.7mm

SCHRACK RZ

RTII, RTIII

THT

PCB

PCB or socket

29x12.7x15.7mm

**SCHRACK RT INRUSH** 

RTII



Category of environmental

protection IEC61810 Terminal type

Dimensions (lwh)

Accessories
Link to datasheet

Mounting

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.; 100mA at 12VDC. Please contact technical support for detailed technical data.

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

#### **SCHRACK RTX**

Inrush peak currents up to 370A Bistable coil

Reinforced insulation

16A rated fluorescent load acc. EN60669-1

8A electronic ballast acc. UL508 11/2 HP motor load acc. UL508

#### **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**

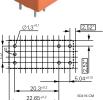
Inrush peak currents up to 120A (20ms)

Mono-or bistable coil Sealed version available



#### **Footprint**

2) see footnote below









#### **Applications**

Lighting control systems

Motion sensors

Home automation applications

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

Motor control

1 from A (NO)

Lighting control Motor control **Building automation** 

#### **Contact Data**

Contact arrangement 1 from A (NO) Rated voltage 250VAC Rated current 16A Switching power / Max. break 4000VA Contact material

W (pre-make contact) + AgSnO<sub>2</sub>

1) see footnote below

16A 4000VA W (pre-make contact) + AgSnO<sub>2</sub>

AgSnO<sub>2</sub>

10/10mm

250VAC

1) see footnote below

1 form A, 1 NO 250VAC 16A

4000VA AgSnO<sub>2</sub>

100mA at 12VDC

#### contact load Coil Data

Min. recommended

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

#### **Dielectric Strength**

between contact and coil

Initial dielectric strength			
between open contacts	1250Vrms	1250Vrms	2000Vrms
between contact and coil	5000Vrms	5000Vrms	4000Vrms
between adjacent contacts			
Clearance/creepage			

## Other Data

Ambient temperature (max.) +70°C RTS3L/RTS3T +105°C, RTSET +85°C +70°C Category of environmental RTII RTII RTII, RTIII protection IEC61810 THT THT THT Terminal type Mounting PCB РСВ РСВ Dimensions (lwh) 29.1x12.7x16mm 29x12.7x15.7mm (RTS3T), 29x12.6x25.5mm 29x12.7x16.0mm (RTS3L)

#### Accessories

Link to datasheet **SCHRACK RTX SCHRACK RT IPOWER** SCHRACK RP3SL

min. 6/6mm

8/8mm



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.

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

## Relays, Contactors & Circuit Breakers

#### **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

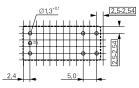






## **Footprint**

2) see footnote below



1,25 5,0 6,25 **Applications** 

Domestic appliances

UPS

Solar Inverter

White goods Small home appliances Heating temperature controllers

HVAC

**Appliances** 

Emergency lighting

**Contact Data** 

Contact arrangement	2 form A, 2 NO	1 form C (CO) 1 form A (NO)	1 form C (CO) 1 form A (NO)
Rated voltage	250VAC	250VAC	277VAC/28VDC
Rated current	8A	10A	10A
Switching power / Max. break	2000VA	2500VA	2770VA/360W
Contact material	AgSnO <sub>2</sub>	AgNi90/10, AgSnO	AgZnO, AgNi
Min. recommended contact load	100mA at 12VDC	1) see footnote below	100mA at 5VDC
Cail Data			'

#### 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

Accessories				
Dimensions (lwh)	29x12.6x25.5mm	15x15x20mm	19.0x15.5x15.8mm	
Mounting	PCB	PCB	PCB	
Terminal type	THT	THT	THT	
Category of environmental protection IEC61810	RTII, RTIII	RTII	RTII, RTIII	
Ambient temperature (max.)	+40°C	+85°C/+105°C	+85°C	

Link to datasheet	SCHRACK RP-2POLE 1.5MM	SCHRACK PB	SCHRACK ORWH
		SCHRACK PBH	



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.

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

#### **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 and chassis mount version UL-class F as standard Open version available

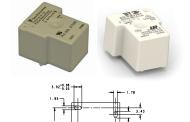
#### Potter & Brumfield T9S/T9V

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**

2) see footnote below





HVAC Appliances

Photovoltaic inverter Electrical vehicle loading stations Electrical vehicle

#### **Applications**

HVAC, Appliances Industrial control Energy management

#### **Contact Data**

Contact arrangement 1 form C (1 CO) 1 form B (1 NC) 1 form A (1 NO)

Rated voltage 250VAC

Rated current Switching power / Max. break

Contact material

Min. recommended contact load

30A

AgSnO<sub>2</sub> 1A at 12VAC/VDC Industrial controls

1 form C (1 CO) 1 form B (1 NC) 1 form A (1 NO)

250VAC

30A 7500VA

AgCdO, AgSnInO 1A at 5VDC or 12VAC 1 form A (1NO)

277VAC (1.5mm gap), 250VAC (1.8mm gap)

35A (T9S), 40A (T9V)

9695VA (T9S), 10000VA (T9V)

AgNi

1A at 5VDC/12VAC

#### Coil Data

Magnetic system DC DC Monostable 6 to 48VDC Rated coil voltage 5 to 110VDC 12VDC Rated coil power 900mW 1W/900mW 2.25W

#### **Dielectric Strength**

Initial dielectric strength between open contacts 1500Vrms between contact and coil 4000Vrms

between adjacent contacts

between contact and coil

Clearance/creepage

6.4mm / 9.5mm (UL)

8mm / 8mm (IEC)

1500Vrms 2500Vrms

3.1/6.3mm

2500Vrms 4000Vrms

3/4mm

## Other Data

Ambient temperature (max.) Category of environmental protection IEC61810 Terminal type

+105°C RTII, RTIII +85°C RTO, RTI, RTII, RTIII

+85°C RTII/RTIII PCB

THT/Quick connect PCB

THT/Quick connect PCB, panel mount 32.3x27.4x20.4mm

PCB 32x27x20mm

#### Accessories

Mounting Dimensions (lwh)

Link to datasheet Potter & Brumfield T9G Potter & Brumfield T9A Potter & Brumfield T9V Potter & Brumfield T9S

29x21.5x15.7mm

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



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.

#### **Potter & Brumfield T92**

Switching capacity 7500VA DC or AC coil 4kV/8mm coil-contact PCB or quick 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 solar Contact gap 1.5mm/1.8mm min. 200mW hold power





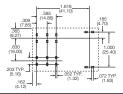
1.09 ± .008

(6.2) .472 ± .00; 1.228 (12.0 ± .2) (5.8)



## **Footprint**

2) see footnote below



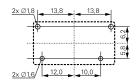
Residential/commercial appliances

Industrial controls

Applicances

HVAC

Office machines



Photovoltaic Inverter

Applications	HVAC

#### **Contact Data**

Contact arrangement 2 form C (2 CO) 1 form A (1 NO) 1 form A (1 NO) 2 form A (2 NO)

Rated voltage 400VAC 250VAC 277VAC Rated current 30A 25A 26A Switching power / Max. break 6370VA 7200VA 7500VAC Contact material AgCdO, AgSnInO Visit **TE.com** for more information AgSnO<sub>2</sub> Min. recommended 500mA (NO)/100mA (NC) 100mA at 5VDC 100mA at 5VDC

contact load at 12VAC

#### **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

#### Clearance/creepage

between adjacent contacts

between contact and coil 8/9.5mm 6.7/>8mm 6.1/6.1mm

### Other Data

DC Coil +85°C; AC Coil +65°C +85°C Ambient temperature (max.) +85°C Category of environmental RTI, RTII, RTIII RTII RTII protection IEC61810

Terminal type THT/Quick connect THT/Quick connect (#250) PCB-THT Mounting Panel mount, PCB PCB PCB

Dimensions (lwh) 52.3x34.6x30.8mm 30.4x16x26.5mm 30.4x16x26.5mm

#### Accessories

Link to datasheet Potter & Brumfield T92 **PCF PCFN SOLAR** 



2000Vrms



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

#### **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

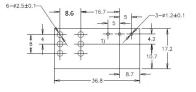
1 pole 120A, 1 form A (NO) contact Polarized bistable with two coils latching 4KV/ 8mm coil - contact Reinforced insulation





#### **Footprint**

2) see footnote below



Visit **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 / Max. break	15000VA	30000VA
Contact material	AgSnO <sub>2</sub>	AgSnO <sub>2</sub>
Min. recommended contact load	Visit <b>TE.com</b> for more information	Visit <b>TE.com</b> 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 <b>TE.com</b> for more information
Dimensions (lwh)	36.8×17.2×30.4mm	36.8x21.8x41.9mm
Accessories		
Link to datasheet	EW60	EW100/120

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



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.

#### **IHV**

Hermetically sealed - intrinsically safe Designed accordance to AIAG QS9000 No position sensitive RoHS compliance



PCB mount not applicable. Visit <u>TE.com</u> for more information

### **Potter & Brumfield PRD**

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



PCB mount not applicable. Visit <u>TE.com</u> 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) 1 form C (1 CO) 1 form X (NO-DM) 2 form A (2 NO) 2 form C (2 CO)
Rated voltage	450VDC / 750VDC	600VAC, 28/125VDC
Rated current	50A/100A/150A/200A/250A/350A	50A
Switching power / Max. break		12000VA
Contact material		Ag, AgCdO
Min. recommended contact load	Visit <b>TE.com</b> for more information	1A at 12VDC/VAC
Coil Data		
Magnetic system	DC	DC, AC
Rated coil voltage	12VDC, 24VDC or PWM	6 to 110VDC/6 to 480VAC
Rated coil power	Visit <u>TE.com</u> for more information	2W/9.8VA
Dielectric Strength		
Initial dielectric strength		
between open contacts		2000Vrms
between contact and coil	2000Vrms	2000Vrms
between adjacent contacts		2000Vrms
Clearance/creepage		
between contact and coil	Visit <u>TE.com</u> for more information	>8mm
Other Data		
Ambient temperature (max.)	+85°C	DC +80°C 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 <u>TE.com</u> for more information	85.7X63.8X63.5mm
Accessories		Dust cover
Link to datasheet		Potter & Brumfield PRD

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.



#### **SCHRACK SR2M**

2 pole relay with force guided contacts according to EN50205

Reinforced insulation between poles

#### SCHRACK SR4 D/M

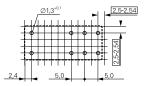
4 pole relay with force guided contacts according to EN50205

Compact design, space efficient



#### Footprint

2) see footnote below





Applications	Safety modules	Safety modules
P.P	Process technology	Process technology
	Elevator and Escalator control	Elevator and Escalator control

Elevator and Escalator control		Elevator and Escalator control	
Contact Data			
Contact arrangement	1 form A + 1 from B (1 NO + 1 NC) 2 form C (2 CO)	3 form A + 1 form B (3 NO + 1 NC) 2 form A + 2 form B (2 NO + 2 NC)	
Rated voltage	250VAC	250VAC	
Rated current	6A	8A	
Switching power / Max. break	1500VA	2000VA	
Contact material	AgNi	AgSnO <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			
nitial 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	



<sup>1)</sup> Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

#### **SCHRACK SR6**

4/6 pole relay with force guided contacts according to EN50205

Reinforced insulation between all contacts depending on version

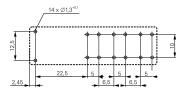
#### **SCHRACK SRL7**

7 pole relay with force guided contacts according to EN50205



#### Footprint

2) see footnote below



17	48							
17	8					3.7	254	16.75
9.6 14.2	7.4	7.4	7.4	7.4	8.4	Ι,		
	3 9.6	9.6 14.2 7.4	3 96 142 7.4 7.4	3 9.6	3 9.6 14.2 7.4 7.4 7.4 7.4	3 9.6 14.2 7.4 7.4 7.4 7.4 8.4	3 96 142 7.4 7.4 7.4 7.4 8.4	3 9.6 4.2 7.4 7.4 7.4 7.4 8.4

Applications	Safety modules	Safety modules
	Process technology	Process technology
	Elevator and escalator control	Elevator and escalator control

	Elevator and escalator control	Lievator and escalator control
Contact Data		
Contact arrangement	3 form A + 1 form B (3 NO + 1 NC) 2 form A + 2 form B (2 NO + 2 NC) 3 form A + 3 form B (3 NO + 3 NC) 4 form A + 2 form B (4 NO + 2 NC) 5 form A + 1 form B (5 NO + 1 NC)	2 form B + 5 form A (2 NC + 5 NO)
Rated voltage	250VAC	250VAC
Rated current	8A	6A
Switching power / Max. break	2000VA	1500VA
Contact material	AgSnO <sub>2</sub>	Ag alloy
Min. recommended contact load	10mA at 5VDC	10mA at 5VDC
Coil Data		
Magnetic system	DC	DC
Rated coil voltage	5 to 110VDC	5 to 110VDC
Rated coil power	1200/800mW	700mW
Dielectric Strength		
Initial dielectric strength		
between open contacts	1500Vrms	1000Vrms
between contact and coil	4000Vrms	2500/4000Vrms
between adjacent contacts	3000/4000Vrms	2500/4000Vrms
Clearance/creepage		
between contact and coil	5.5/5.5mm, 15/15mm	≥3/4mm and ≥5.5/5.5mm
Other Data		
Ambient temperature (max.)	+70°C	+85°C
Category of environmental protection IEC61810	RTIII	RTII
Terminal type	THT	THT
Mounting	PCB	PCB
Dimensions (lwh)	55x16.5x16.5mm	55.5x33.8x10.8mm
Accessories		
Link to datasheet	SCHRACK SR6	SCHRACK SRL7



<sup>1)</sup> Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

#### SCHRACK SLIM INTERFACE SCHRACK INTERFACE **RELAY RT SNR**

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

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

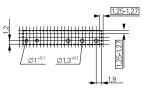


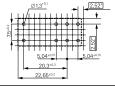


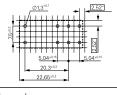


## **Footprint**

2) see footnote below







**Applications** Interface technology

Panel board

Mechanical engineering

Panel board Mechanical engineering Machine Industry

Panel boards Mechanical engineering

#### **Contact Data**

Contact arrangement	1 form C, (CO)	1 form C, (1 CO) 2 form C, (2 CO)	1 form C, (1 CO) 2 form C, (2 CO)
Rated voltage	250VAC	240VAC	240VAC
Rated current	6A	8/16A	8/16A
Switching power / Max. break	1500VA	2000/4000VA	2000/4000VA
Contact material	AgSnO <sub>2</sub> , AgSnO <sub>2</sub> Au plated	AgSnO <sub>2</sub> , AgNi90/10 AgNi90/10 Au plated	AgNi90/10
Min. recommended	1) see footnote below	1) see footnote below	10mA at 12VDC

### contact load Coil Data

Link to datasheet

Magnetic system	DC	DC, AC	DC, AC
Rated coil voltage	5 to 60VDC	5 to 110VDC/24 to 230VAC	12 to 110VDC/24 to 230VAC
Rated coil power	170mW	400mW/0.75VA	400mW/0.75VA
Dielectric Strength			
Initial dielectric strength			
between open contacts	1000Vrms	1000Vrms	1000Vrms
between contact and coil	4000Vrms	4000/5000Vrms	4000/5000Vrms
between adjacent contacts		2500Vrms	2500Vrms
Clearance/creepage			
between contact and coil	≥6/8mm	≥8/8mm	≥8/8mm
Other Data			
Ambient temperature (max.)	Relay +85°C, in socket +55°C	+70/+85°C	+70/+85°C
Category of environmental protection IEC61810	RTIII	RTII	RTII
Terminal type	Plug-in	Plug-in	Plug-in
Mounting	Socket	Socket	Socket
Dimensions (lwh)	28x5x15mm	29x13x15.7mm	29x13x26.7mm
Accessories	DIN rail sockets, jumper bars	DIN rail and PCB sockets, clips, marking tags, modules, ju	DIN rail and PCB sockets, mper clips, marking tags, modules,

bars

SCHRACK INTERFACE RELAY RT

**SCHRACK SLIM INTERFACE SNR** 

jumper bars



SCHRACK INTERFACE RELAY XT

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.

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

#### **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



top flange

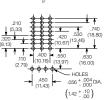
DC and AC coils

LED versions available

**Potter & Brumfield K10** 

Mounting options include socket, PCB,

# **Footprint** 2) see footnote below





Ø1,3 <sup>r41</sup>	.28555 (7.24) - (14.2
/	Industrial controls
/	Motor controls

Applications	Coin changers	Machine industry	Industrial controls
	Audio equipment	Elevator industry	Motor controls
	Ultrasonic test equipment	Building management	Industrial timers
Contact Data			
Contact arrangement	1, 2, 3, 4, 6, 8 form C (CO)	2 form C (2 CO) 3 form C (3 CO) 4 form C (4 CO)	2 form C (2 CO)
Rated voltage	115VAC, 115VDC	240VAC	120/240VAC
Rated current	0.5/2/3/7.5A	1/2/5/6/10/12A	10/15A
Switching power / Max. break	862VA max.	1500/2500/3000VA	1800/2500VA
Contact material	Ag, AgCdO, Ag w/ Au overlay	AgNi90/10, AgNi90/10 Au plated	AgCdO, AgNi90/10
Min. recommended contact load	Dry circuit to 300mA at 12VDC	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 $\underline{\text{TE.com}}$ 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

<sup>1)</sup> Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.



**Footprint** 2) see footnote below

#### **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

Class B coil insulation

#### Potter & Brumfield KUP/ **KUMP/KUIP**

Wide selection of termination and mounting styles

Broad range of contact forms PC terminals available

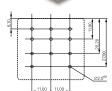
Push to test button and indicator lamps

Class B coil insulation



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







	.0	76 DIA. TY (1.93)	/P .20	
÷	<b>+</b>			626 5.90)
.340		1.020		

		11,00 11,00	(25.91)
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) 2 form C (2 CO) 3 form C (3 CO)	2 form C (2 CO) 3 form C (3 CO)	1, 2, 3, 4 form C (CO) 1, 2, 3 form A (NO) 2, 3 form B (NC) 1 form X (NO-DM) 1 form Y (NC-DB) 1 from Z (CO-DM/DB)
Rated voltage	240VAC	400VAC	240VAC
Rated current	4/10A	10/16A	10/15A
Switching power / Max. break	500/2400/2500VA	3800/6000VA	2400/4155VA
Contact material	AgCdO, AgNi90/10, AgNi90/10 Au plated	AgCdO, AgNi90/10 in preparation	Ag, AgCdO, AgSnOInO
Min. recommended contact load	1) see footnote below	100mA at 12VDC	100mA at 12VDC(Ag) 300mA at 12VDC (AgCdO, AnSnOInO)
Coil Data			
Magnetic system	DC, AC	DC, AC	DC, AC
Rated coil voltage	6 to 220VDC/6 to 240VAC	6 to 220VDC/6 to 400VAC	5 to 110VDC/6 to 240VAC
Rated coil power	760mW to 1.3W/0.74 to 2.3VA	1.2 to 1.8W/2 to 2.8VA	1.2 to 1.8W/2 to 2.7VA
Dielectric Strength			
Initial dielectric strength			
between open contacts	1000/1500Vrms	1500Vrms	1200Vrms
between contact and coil	1000/2500Vrms	2500Vrms	2200/3750Vrms
between adjacent contacts	1000/2500Vrms	2500Vrms	2200Vrms
Clearance/creepage			
between contact and coil	≥2.8/4mm	≥4/14.9mm	Visit <b>TE.com</b> for more information
Other Data			
Ambient temperature (max.)	DC +60/+70°C AC +50/+55°C	+50/+70°C	DC +50/+70/+95°C AC +45/+55/+70°C
Category of environmental protection IEC61810	RTI	RTI	RTI
Terminal type	Plug-in	THE Dividing colder Oviety connect	THE Blug-in colder Quick connect
Mounting	Plug-in Socket	THT, Plug-in, solder, Quick connect	THT, Plug-in, solder, Quick connect
. rounding	SOCKEL	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

<sup>1)</sup> Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.



Footprint
2) see footnote below

#### 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



PCB mount not applicable.
Visit <u>TE.com</u> for more information

38.5x35.5x48.5mm

SCHRACK RM8C/D

**SCHRACK RM 8** 

No sockets









Applications	Cleaning equipment Heating equipment Cooling equipment	Baggage handling motors Industrial pumps Commercial ovens	Power supplies Pump control
Contact Data			
Contact arrangement	1 form C (1 CO) 2 form C (2 CO) 1 form Z contact (1 NO + 1 NC) 1 form X contact (1 NO)	1 form C (1 CO) 2 form C (2 CO)	2 form A (2 NO) 3 form A (3NO)
Rated voltage	400VAC	240VAC, 50/60Hz; 28VDC	240/400VAC
Rated current	25/30/32A	20/30A	10/16A
Switching power / Max. break	6000/7500VA	4800/7200VA	3800/6000VA
Contact material	AgCdO, AgNi90/10	AgCdO, AgSnOInO	AgCdO, AgNi90/10 in preparation
Min. recommended contact load	100mA at 12VDC	300mA at 12VDC	100mA at 12VDC
Coil Data			
Magnetic system	DC, AC	DC, AC	DC, AC
Rated coil voltage	6 to 220VDC/6 to 400VAC	6 to 110VDC 50/60Hz. 6 to 277VAC	C 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 <u>TE.com</u> for more information	≥4/14.9mm
Other Data			
Ambient temperature (max.)	DC +60/+65°C	DC +45°C	+50/+60°C
	AC +40°C	AC +75°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 TH
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

38.9x35.7x48.4mm

Potter & Brumfield KUHP

No sockets



Dimensions (lwh)

Link to datasheet

**Accessories** 

38.5x35.5x48.5mm

DIN rail and PCB sockets, clips

SCHRACK RM5/6/B 3MM

<sup>1)</sup> Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

#### **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

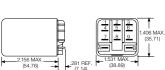


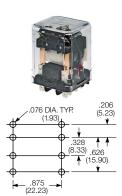
#### **Footprint**

2) see footnote below

between contact and coil







Applications	Voltage control units	Alarm systems Machine tools Battery chargers	DC load switvhing in industrial controls
Contact Data			
Contact arrangement	1 form C (1 CO)	1 form C (1 CO)	1 form X (NO-DM)
	2 form A (2 NO)	2 form C (2 CO)	2 form A (2 NO)
	2 form C (2 CO)	3 form C (3 CO)	2 form C (2 CO)
	3 form C (3 CO)		
Rated voltage	240/400VAC	28/240VAC	150VDC/240VAC
Rated current	10A	10A	10A
Switching power / Max. break	2400VA		1500W/2400VA
Contact material	Ag, AgCdO	Ag, AgCdO	AgCdO, AgSnOInO
Min. recommended contact load	100mA at 12VDC (Ag) 300mA at 12VDC (AgCdO)	100mA at 12VDC (Ag) 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			

Other Data			
Ambient temperature (max.)	DC +75°C AC +70°C	DC +70°C AC +50/+70°C	AC +55/+70°C DC +50/+70°C
Category of environmental protection IEC61810	RTI	RTI	RTI
Terminal type	THT, Plug-in, solder, Quick connect, PCB	.187 Quick connect, solder	Quick connect, solder and PCB
Mounting Dimensions (lwh)	Socket, PCB, bracket, flange mount 38.9x35.7x48.4mm	Socket, bracket 38.9x35.7x54.8mm	Socket, PCB, bracket and top flange mount 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

<sup>1)</sup> Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

>8mm

Visit <u>**TE.com**</u> for more information Visit <u>**TE.com**</u> for more information

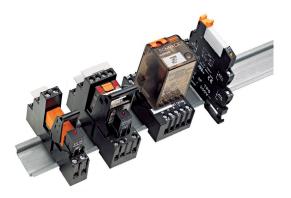


#### **ACCESSORIES**

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

#### **SETS**

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



#### **Applications**

Contact Data		
Contact arrangement	1 form C (1 CO)	1 form C (1 CO)
	2 form C (2 CO)	2 form C (2 CO)
	3 form C (3 CO)	3 form C (3 CO)
	4 form C (4 CO)	4 form C (4 CO)
Rated voltage	240/250VAC	240/250VAC
Rated current	6 to 16A	6 to 16A
Switching power / Max. break		1500 to 4000VA
Min. recommended contact load		1) see footnote below
Coil Data		
Magnetic system		DC, AC
Rated coil voltage		6 to 220VDC/6 to 230VAC
Rated coil power		170 to 700mW/0.4 to 1VA
Dielectric Strength		
Initial dielectric strength		-
between open contacts		
between contact and coil		
between adjacent contacts		
Clearance/creepage		
between contact and coil		
Other Data		
Ambient temperature (max.)		
Category of environmental protection IEC61810	IP20	
Terminal type	Screw, screwless, plate mount, PCB	Screw, screwless
Mounting		
Dimensions (lwh)		
Accessories	PCB, panel mount and DIN rail	DIN, panel mount
Link to datasheet	ACCESSORIES SLIM INTERFACE RELAY SNR	RELAY PACKAGE RT
	ACCESSORIES INDUSTRIAL POWER RELAY RT	RELAY PACKAGE PT
	ACCESSORIES MINIATURE RELAY PT	RELAY PACKAGE SNR
	ACCESSORIES INTERFACE PLUG-IN RELAY XT	ACCESSORIES MULTIMODE RELAY MT

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.



#### **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 up to 5 A High contact stability version

#### **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

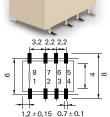
#### **Axicom IMC**

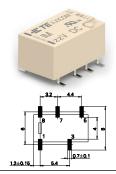
4G telecom/signal relay/switching relay Slim line 10x6mm, low-profile 5.65mm Switching power 60W/62.5VA Switching voltage 220VDC/250VAC Monostable + Bistable High dielectric version High current version up to 4 A Bifurcated contacts



#### Footprint

2) see footnote below





#### **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**

1 form A, 1 NO
Bifurcated contacts
250VAC/220VDC
2A
60W/62.5VA
100µV/1µA
<100mΩ at 10mA/30mV

1 form C, 1 CO
Bifurcated contacts
250VAC/220VDC
2/4A
60W/62.5VA
100μV/1μA
<50mΩ at 10mA/ 30mV

Polarized

1.5 to 24VDC

140mW/-/-

#### Coil Data

Magnetic systemPolarizedPolarizedRated coil voltage1.5 to 24VDC1.5 to 24VDCRated coil power50 to 200mW-/-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 1000 to 2500V 3500V 1500 to 2200V between open contacts between contact and coil 2000 to 2500V 4900V 2500 to 3000V 1000 to 2500V between adjacent contacts 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 1.06/1.49 Volt. standing wave ratio 1.06/1.49 1.06/1.49 100/900MHz Capacitance max. 1pF max. 1pF max. 1pF between open contacts

#### Other Data

Ambient temperature (max.) Category of environmental protection	-40 to +85°C	-40 to +85°C	-40 to +85°C
	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

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.

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



#### **Axicom IMD/IME**

4G telecom/signal relay/switching relay Slim line 10x6mm, low-profile 5.65mm Switching power 60W/62.5VA Switching voltage 220VDC/250VAC Monostable

Bifurcated contacts

#### Axicom P2 / P2 HIGH **DIELECTRIC VERSION**

Small Signal relay Slim line 15x7.5mm Switching current max. 5A High dielectric version Meets Telcordia Technologies Inc. requirements

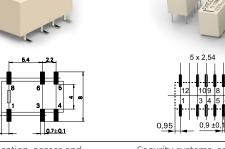
#### **Axicom P2 LIGHTING**

Small signal relay Slim line 15x7.5mm Switching current max. 5A High dielectric strength 3kV VDE certified for LED tubes



#### **Footprint**

2) see footnote below



P2 SMT L Layout LED tubes Office equipment Security systems, set top boxes

Telecommunication, access and transmission equipment, fire and security equipment

Thermostat controls

Measurement and test equipment, Industrial controls, medical equipment

Security systems, consumer electronics, thermostats Home automation systems, communication systems Set top boxes, office equipment

**Contact Data** 

**Applications** 

Contact arrangement 2 form B, 2 NC 2 form A, 2 NO Bifurcated contacts Rated voltage 250VAC/220VDC

Rated current 2Δ Switching power / Max, break 60W/62.5VA

Min. recommended contact load

100μV/1μΑ <50m $\Omega$  at 10mA/20mV Initial contact resistance

2 form C, 2 CO Bifurcated contacts

250VAC/220VDC

2Δ 60W/62.5VA

100μV/1μΑ <50m $\Omega$  at 10mA/20mV 2 form C, 2 CO Bifurcated contacts

250VAC/220VDC

2Δ

60W/62.5VA 100μV/1μΑ

<50m $\Omega$  at 10mA/20mV

Coil Data

Magnetic system Polarized Polarized Polarized Rated coil voltage 1.5 to 24VDC 2.4 to 24VDC 3 to 12VDC Rated coil power 140mW/-/-140mW/70mW/140mW DC coil / bistable 1 coil/2 coils

140mW - 1 coil version

**Dielectric Strength** 

Initial dielectric strength between open contacts between contact and coil between adjacent contacts Initial surge withstand voltage

between open contacts between contact and coil between adjacent contacts

Isolation 100/900MHz Insertion loss 100/900MHz Volt. standing wave ratio 100/900MHz

Capacitance between open contacts

1000Vrms 1800Vrms 1000Vrms

1500V 2500V 1500V

max. 1pF

37.0/18.8dB 0.03/0.33dB 1.6/1.49

1000 to 1500Vrms 1500Vrms

1000 to 1500Vrms 2000 to 2500Vrms

2500V 2500V 1500Vrms 3000Vrms 1500Vrms

6000Vrms

Other Data

Ambient temperature (max.) Category of environmental protection Terminal type Dimension (lwh)

-40 to +85°C IP67/RTV THT, SMT 10x6x5.65mm RTIII

-40 to +85°C THT, SMT 14.5x7.2x10.4mm, stnd 14.5x7.2x9.9mm, ovrmld

-40 to +85°C RTIII THT, SMT

14.5x7.2x9.9mm, ovrmld

Axicom P2 LIGHTING

Link to datasheet Axicom IMD/IME

Axicom P2 / P2 HIGH **DIELECTRIC VERSION** 

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.





#### **Axicom FP2**

Slim line 14x9mm 2 form C bifurcated contacts High mechanical shock resistance, up to 1500g survival

#### Axicom D2N V23105

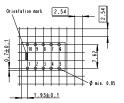
2G telecom/signal relay 4 coil sensitivities 3A UL rating





#### **Footprint**

2) see footnote below



**Applications** Communication equipment

Keyless entry

Speaker switch, consumer electronics

Communication equipment

Office equipment

ø1.0 + 0.1

Measurement and control equipment

## **Contact Data**

Contact arrangement 1 form C (CO) Rated voltage 220VDC/250VAC Rated current 2A

Switching power / Max. break 60W/62.5VA Min. recommended contact load 100μV Initial contact resistance  $<50m\Omega$  at 10mA

Single Contacts 250VAC/220VDC 3A 60W/125VA  $100\mu V/10\mu A$ 

<100mΩ

2 form C, 2 CO

#### **Coil Data**

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

#### **Dielectric Strength**

Initial dielectric strength between open contacts

between contact and coil between adjacent contacts Initial surge withstand voltage

DC coil/bistable 1 coil/2 coils

between open contacts between contact and coil between adjacent contacts

Isolation/Cross talk at 100MHz/900MHz Insertion loss 100/900MHz

Volt. standing wave ratio 100/900MHz Capacitance between open contacts

1000Vrms 1000Vrms 1100V

750Vrms

1500V 1500V

Cross talk -40.2/-22.3dB

0.03dB/0.25dB 1.01/1.07

750Vrms 1000Vrms 750Vrms

1500V

1500V 1500V Isolation -39.0/-20.7dB

-0.02/-0.27dB

1.04/1.40 max. 2pF

#### Other Data

Ambient temperature (max.) -40 to +85°C -25 to +85°C Category of environmental protection IP67/RTIII IP67/RTIII Terminal type THT THT Dimension (lwh) 14x9x5mm 20.2x10x11.4mm

Link to datasheet **Axicom FP2** Axicom D2N V23105

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



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>3</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

#### **Axicom MT2**

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

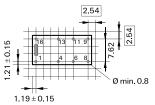
#### **Axicom P1 V23026**

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



# **Footprint**

2) see footnote below



		2.54	
1.21±0.15	19 ± 0.15	3 11 9 4 6 8	Ø min. 0.8

Applications	Communication equipment Linecard application Measurement and control equipment	Automotive equipment CAN bus Imobilizer
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 / Max. break	60W/62.5VA	30W/60VA
Min. recommended contact load	100μV/1μΑ	100μV/1μΑ
Initial contact resistance	<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	450017	
between open contacts	1500V	05001/
between contact and coil	1500V	2500V
between adjacent contacts	1500V	70.0 / 10.0 ID
Isolation 100/900MHz	-31.8/-14.2dB	-30.0/-18.0dB
Insertion loss 100/900MHz	-0.02/-0.97dB	-0.12/-1.90dB 1.06/1.75
Volt. standing wave ratio 100/900MHz Capacitance	1.03/1.31 max. 2pF	•
between open contacts	παλ. ΖρΓ	max. 5pF
Other Data		
Ambient temperature (max.)	-55 to +85°C	-40 to +85°C
Category of environmental protection	IP67/RTIII	IP67/RTIII
Terminal type	THT	THT, SMT
Dimension (lwh)	20.2x10x11mm	13x7.6x6.9mm
Link to datasheet	Axicom MT2	Axicom P1 V23026



<sup>1)</sup> Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

#### **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

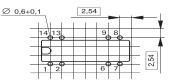


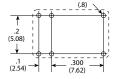




## **Footprint**

2) see footnote below





6 – 0.31 DIA

### **Applications**

Incircuit tester

Telecommunications Office machine

Telecommunications Logic and process control Vending machines

Measuring and control systems Alarm and security equipment

#### **Contact Data**

Contact arrangement 1 form A, 1 NO 1 form C, 1 CO 1 form C, 1 CO 2 form A, 2 NO 1 form A, 1 NO 1 from C, 1 CO Reed contacts

Rated voltage Rated current Switching power / Max. break Min. recommended contact load Initial contact resistance

175 to 200VAC/VDC 0.25 to 0.5A 3 to 10W 10μV/1μΑ  $<150 m\Omega$ 

120VAC, 30VDC 1A 120VA, 24W 1mA at 1VDC 50mΩ at 100mA, 6VDC

120VAC/24VDC 1A 120VA, 30W 1mA at 1VDC

#### **Coil Data**

Magnetic system DC, sensitive DC, sensitive Non polarized 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 500vdc 1000Vrms 1000Vrms between contact and coil between adjacent contacts 500vdc Initial surge withstand voltage between open contacts

between contact and coil 1500Vp (10/160μs) between adjacent contacts

1500Vp (10/160µs)

## between open contacts

100/900MHz Capacitance

Isolation 100/900MHz Insertion loss 100/900MHz Volt. standing wave ratio

Other Data Ambient temperature (max.) -20 to +70°C 40 to +80°C -40 to +60°C (standard) Category of environmental RTIII/IP67 IP67/RTIII RTII RTIII protection THT THT Terminal type 19.3x5.7x7.5mm/19.8x5.1x8mm 12.5x7.5x10mm 15.4x10.4x11.2mm Dimension (lwh)

Link to datasheet Axicom REED DIP/SIL **TSC** OUAZ/T81

max. 1pF

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



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>3</sub>: 100mA at 12VDC. Please contact technical support for detailed technical data.

#### **Axicom HF3**

High performance RF relay/switch for up to 3GHz Low power consumption

≤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 ≤70/140mW 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 ≤70/140mW  $50\Omega$  version Very small design







## **Footprint**

2) see footnote below



Cable modems and linecards/CATV

Satellite/audio/video tuners

100μV/1μΑ

<100mΩ

Cable modems and linecards/CATV Measurement and test equipment

Satellite/audio/video tuners

Measurement and test equipment

Wireless base stations and antennas

Wireless infrastructure

# **Applications**

Measurement and test equipment ATE

**Contact Data** 

Contact arrangement 1 form C, 1 CO Bridge contacts 250VAC/220VDC Rated voltage Rated current 60W/62.5VA/50W (2.5GHz)

Switching power / Max. break Min. recommended contact load Initial contact resistance

1 form C, 1 CO Bridge contacts 250VAC/220VDC

60W/62.5VA/50W (2.5GHz) 100μV/1μΑ <100m $\Omega$ 

1 form C, 1 CO Bridge contacts 250VAC/220VDC

60W/62.5VA/50W (2.5GHz)

100μV/1μΑ <100mΩ

#### 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 600Vrms 600Vrms between open contacts 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 0.1/0.9/3GHz 0.1/0.9/3GHz 0.9/3/6GHz **RF Data** 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 1.05/1.15/1.20 1.05/1.10/1.25 1.05/1.10/1.40 (VSWR) Other Data Ambient temperature (max.) -55 to +85°C -55 to +85°C -55 to +85°C Category of environmental IP67/RTIII IP67/RTIII IP67/RTIII protection

SMT

15x7.6x10.6mm

**Axicom HF3S** 

14.6x7.2x10mm

**Axicom HF3** 

15x7.6x10.6mm

**Axicom HF6** 

SMT



Terminal type

Dimension (lwh) Link to datasheet

Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi9.0/10: 10mA at 12VDC: AgCdO and AgSnO.; 100mA at 12VDC. Please contact technical support for detailed technical data.

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

#### **Potter & Brumfield SSR**

Standard "hockey puck" package Inverse parallel SCR output 240VAC & 480VAC output types Zero voltage and random voltage turn-on versions 4,000Vrms optical isolation Cover design with anti-rotation

1 Form A (SPST-NO)

barriers

#### **Potter & Brumfield SSRD**

Two independent AC output solid state relays

Standard "hockey puck" package Inverse parallel SCR output 4000Vrms optical isolation Quick connect style termination 2 Form A (2 SPST-NO)

#### **Potter & Brumfield SSRT**

Standard "hockey puck" package TRIAC Output 4,000Vrms optical isolation Cover design with anti-rotation barriers 1 Form A (SPST-NO)



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



PCB mount not applicable.
Visit <u>TE.com</u> for more information



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

Typical Applications	Industrial machinery	Industrial machinery	Industrial machinery
	HVAC	HVAC	HVAC
	Building controls	Building controls	Building controls

	Building controls	Building controls	Building controls
Output Data			
Load Voltage	24 - 280VAC/48 - 660VAC	24 - 280VAC	24 - 280VAC
Repetitive Blocking Voltage	600VAC/1200VAC	600VAC	600VAC
Load Current Range	25A/50A/125A	25A/40A	10A/25A
Leakage Current (Off-State)	5mA	5mA	5mA
On-State Voltage Drop (Max.)	1.8V	1.8V	1.6V
Load Power Factor Rating	0.5 - 1.0	0.5 - 1.0	0.5 - 1.0
Thermal Resistance, Junction to Case (ROJ-C) (Max.)	2.35/0.55/0.35	2.35/0.86	2.4/1.7
Input Data (AC/DC)			
Control Voltage Range VIN	90 - 280VAC/3 - 32VDC	4 - 15VDC	90 - 280VAC/3 - 32VDC
Must Operate Voltage VIN(OP) (Min.)	90VAC/3VDC	4VDC	90VAC/3VDC
Must release Voltage VIN(REL) (Min.)	10VAC/1VDC	1VDC	10VAC/1VDC
Input Current	2 - 26mA / 3 - 30mA	15mA @ 8VDC	25mA/20mA
Dielectric Strength			
Isolation:	4000Vrms	4000Vrms	4000Vrms
Other Data			
Dimensions	46.5x57.8x43.4mm	44.5x57.8x30.15mm	45x57.5x36.5mm
Operating Temperature	-30 to +80°C	-30 to +80°C	-30 to +80°C
Mounting	Panel	Panel	Panel
UL File No	E29244	E29244	E29244
Link to datasheet	Potter & Brumfield SSR	Potter & Brumfield SSRD	Potter & Brumfield SSRT



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.

#### **Potter & Brumfield SSRDC**

Standard "hockey puck" package 200VDC FET output 12A, 25A and 40A load current options 1500VDC optical isolation Cover design with anti-rotation barriers

#### **Potter & Brumfield SSRK**

10-30A DIN mount Solid State Relay with integrated heat sink Narrow 22.5mm design Inverse parallel SCR output 240VAC & 600VAC output types 4,000Vrms optical isolation 1 Form A (SPST-NO)

#### **Potter & Brumfield SSRM**

45A-65A DIN mount Solid State Relay with integrated heat sink 44.5mm design Inverse parallel SCR output 600VAC output type 4,000Vrms optical isolation 1 Form A (SPST-NO)



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

Typic		

Material handling Trains

1 Form A (SPST-NO)

Construction equipment

Industrial machinery **HVAC Building controls** 

HVAC

Industrial machinery **Building controls** 

#### **Output Data**

Load Voltage Repetitive Blocking Voltage **Load Current Range** Leakage Current (Off-State) On-State Voltage Drop (Max.) Load Power Factor Rating Thermal Resistance, Junction to Case (ROJ-C) (Max.)

200VDC 10 A/25 A/40 A 12mA 2.83VDC NA 0.7/0.7/0.5

24 - 280VAC/48 - 660VAC 600VAC/1200VAC 10A/20A/30A 5mA 1.8V/1.6V 0.5 - 1.0

90 - 280VAC/3 - 32VDC

7.5mA - 16mA/18 - 30mA

48 - 660VAC 1200VAC 45A/55A/65A 1mA 1.7V 0.5 - 1.0

#### Input Data (AC/DC)

Control Voltage Range VIN Must Operate Voltage VIN(OP) (Min.) Must release Voltage VIN(REL) (Min.) Input Current

3.5VDC 1VDC

30mA

1500VDC

3 - 32VDC

10VAC/1VDC

90VAC/3VDC

90VAC/3VDC 10VAC/1VDC

4000Vrms

15mA/14 - 30mA

90 - 140VAC/4 - 32VDC

#### **Dielectric Strength**

Link to datasheet

Other Data

Isolation:

**Dimensions** 45x57.8x43.4mm **Operating Temperature** -30 to +80°C Mounting Panel UL File No E29244

4000Vrms

22.5x82.3x111.5mm -30 to +80°C Din Rail F29244

Potter & Brumfield SSRK

22.5x76.2x109.2mm -40 to +80°C

Din Rail E29244

Potter & Brumfield SSRM

Potter & Brumfield SSRDC



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.

#### **Potter & Brumfield SSRA**

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

#### **Potter & Brumfield SSRC**

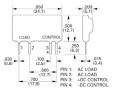
5A SIP Solid State Relay Inverse parallel SCR output 4000Vrms optical isolation 1 Form A (SPST-NO)





## **Footprint**

2) see footnote below



1.00 (25.4) MAX. 300 (7.4) TVE	CONTROL  4 3 2	1.70 (40.1)	.000 (1.3) TYP: 	JA- 300 (7.6) MAX. AGES
PIN A	SSIGNMENTS:			
PIN 2: PIN 3:	AC LOAD AC LOAD +DC INPUT -DC INPUT			

Typical Applications	Industrial machinery	Industrial machinery
	HVAC	HVAC
	Building controls	Building controls
Output Data		
Load Voltage	12 - 280VAC	12 - 280VAC/48 - 660VAC
Repetitive Blocking Voltage	600VAC	600VAC/1200VAC
Load Current Range	2A	5A
Leakage Current (Off-State)	0.1mA	0.1mA
On-State Voltage Drop (Max.)	1.5V	1.4V
Load Power Factor Rating	0.5 - 1.0	0.5 - 1.0
Thermal Resistance, Junction to Case (ROJ-C) (Max.)	-	-
Input Data (AC/DC)		
Control Voltage Range VIN	4-10VDC	3 - 15VDC
Must Operate Voltage VIN(OP) (Min.)	4VDC	4VDC
Must release Voltage VIN(REL) (Min.)	1VDC	1VDC
Input Current	15mA	15mA
Dielectric Strength		
Isolation:	2500Vrms	4000Vrms
Other Data		
Dimensions	24.1x5.1x12.7mm	43.1x7.6x25.4mm
Operating Temperature	-30 to + 80°C	-30 to + 80°C
Mounting	PCB	PCB
UL File No	E29244	E29244
Link to datasheet	Potter & Brumfield SSRA	Potter & Brumfield SSRC



<sup>1)</sup> Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

#### **Potter & Brumfield SSRF**

25A SIP Solid State Relay with integrated heat sink

Inverse parallel SCR output 4000Vrms optical isolation 1 Form A (SPST-NO)

#### **Potter & Brumfield IACM**

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









# 2) see footnote below

**Footprint** 

Typical Applications	Industrial machinery	Industrial machinery
	HVAC	HVAC
	Building controls	Building controls
Output Data		
Load Voltage	12 - 280VAC/48 - 660VAC	30VDC
Repetitive Blocking Voltage	600VAC/1200VAC	-
Load Current Range	10A (CC)/25A (FAC)	50mA
Leakage Current (Off-State)	0.1mA	10uA
On-State Voltage Drop (Max.)	1.6V	0.2VDC
Load Power Factor Rating	0.5 - 1.0	-
Thermal Resistance, Junction to Case (ROJ-C) (Max.)	-	-
Input Data (AC/DC)		
Control Voltage Range VIN	3 - 15VDC	24VAC/120VAC/240VAC
Must Operate Voltage VIN(OP) (Min.)	4VDC	18VAC/90VAC/280VAC
Must release Voltage VIN(REL) (Min.)	1VDC	10VAC/60VAC/60VAC
Input Current	15mA	1-5mA
Dielectric Strength		
Isolation:	4000Vrms	4000Vrms
Other Data		
Dimensions	43.1x22.8x34.3mm	43.5x10.3x25.5mm
Operating Temperature	-30 to + 80°C	-30 to 100°C
Mounting	PCB	PCB
UL File No	E29244	E29244
Link to datasheet	Potter & Brumfield SSRF	Potter & Brumfield IACM



<sup>1)</sup> Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

#### **Potter & Brumfield OACM**

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





# Footprint

2) see footnote below







Typical Applications	Industrial machinery	Industrial machinery	Industrial machinery
	HVAC	HVAC	HVAC
	Building controls	Building controls	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 (ROJ-C) (Max.)			
Input Data (AC/DC)			
Control Voltage Range VIN	3 - 8VDC / 3 - 15VDC	3 - 32VDC/10 - 60VDC	5VDC/15VDC/24VDC
Must Operate Voltage VIN(OP) (Min.)	3VDC	3VDC/10VDC	3VDC/9VDC/18VDC
Must release Voltage VIN(REL) (Min.)	1VDC	1VDC/1VDC	1VDC
Input Current	8mA	10mA	20mA
Dielectric Strength			
Isolation:	4000Vrms	4000Vrms	4000Vrms
Other Data			
Dimensions	43.5x10.3x25.5mm	43.5x10.3x25.5mm	43.5x10.3x25.5mm
Operating Temperature	-30 to 100°C	-30 to 100°C	-30 to 100°C
Mounting	PCB	PCB	PCB
UL File No	E29244	E29244	E29244
Link to datasheet	Potter & Brumfield OACM	Potter & Brumfield IDCM	Potter & Brumfield ODCM



<sup>1)</sup> Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi90/10: 2) Footprint images are representative. For a complete selection, refer to the TE data sheet via the link above.

#### 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







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**

Thermal	Thermal
1	1
Series trip	Series trip
-20 to +60 °C	-20 to +65°C
Standard quick connect .250in x .032in	#8-32 screw
Snap-in	Thru-hole 3/8"-24 threaded bushing
Push-to-reset	Push/pull W23 and toggle W31
39.0 x 15.9 x 13.7mm	40.6x17.5x35.2mm
	Series trip -20 to +60 °C Standard quick connect .250in x .032in Snap-in Push-to-reset

#### Electrical Data

Electrical Data		
Dielectric strength Insulation Resistance	1500Vrms	1500Vrms
Max Operating Voltages	32VDC 250VAC, 50/60Hz	50VDC 240VAC to (400Hz)
Rated current	0.5A to 20A	1A to 50A
Interrupt capacity	1,000 amps at 250VAC, 50/60 Hz. and 32VDC in accordance with UL standard 1077.	With 4X Max. Series Fuse Protection 0.5-50 amp models — 1000 amps at 240VAC. 30-50 amp models — 1000 amps at 50VDC. Without 4X Max. Series Fuse Protection 0.5-25 amp models — 2000 amps at 50VDC.
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.	10-20 amp models — 2000 amps at 120VAC Continuously carry 100% of rating, may trip between 101% and 134% of rating at 25°C. Must trip at 135% in one hour.
Resetable Overload Capacity	Six times rated current for 0.25 through 2 amp	Ten times rated current.

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.

Accessories

Protective boot, push-on lockwasher

Hex nut, lockwasher, knurl nut

Link to datasheet

Potter & Brumfield W28

Potter & Brumfield W23/W31



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.

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

#### Potter & Brumfield W33

Thermal overload/trip free Operation Thermal overload/trip free operation Optional indicator lamp Optional auxiliary switch Combines on/off switching and circuit Optional indicator lamp protection in a single unit UL 1077, CSA

#### Potter & Brumfield W51

Rocker actuated with switch overload sensing

Combines power switching and circuit protection in a single unit Compact design

PCB termination options UL1077, cUL, VDE, CCC



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

#### 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)



PCB mount not applicable. Visit  $\underline{\text{TE.com}}$  for more information

#### **Typical applications**

Generators, General Aviation, Medical, Marine Power Supplies, Lighting, Surge Protection Audio, pool and spa, appliances, Industrial controls

Visit **TE.com** for more information

PCB mount not applicable.

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 0°C to + 50 °C for 5-8A models	0 to 60 °C
Terminal type	Standard quick connect 250in x .032in and solder option	Standard quick connect 250inx.032in/solder option/PCB	Standard quick connect 250inx.032in and #8-32 screw
Mounting	Snap-in	Snap-in, PCB	3/8"-24, M11-1.0, M12-1.0 threaded bushing
Manual operation Actuator	Rocker	Rocker	Push-to-reset
Dimension L*W*H	43.8 x 24.9 x 48.0mm	21.8 x 15.2 x 32.0mm	31.0 x 14.6 x 35.0mm (W54) 22.6 x 14.6 x 29.2mm (W57)

Accessories

Link to datasheet

Electrical Data			
Dielectric strength	2000Vrms	1500VAC	1500VAC
Insulation Resistance		100M Ω	100ΜΩ
Max Operating Voltages	50VDC 250VAC	50VDC 125/250VAC (model dependent)	50VDC 250VAC
Rated current	2A to 20A	5A to 20A	5A to 40A
Interrupt capacity	1000A at 50VDC, 250VAC/60Hz and 125/250VAC 400Hz; 1500A at 25/250VAC/60Hz	1,000 amps in accordance with UL standard 1077	1,000 amps in accordance with UL standard 1077
Calibration	Will continuously carry 100% of rating. May trip between 101% and 134%, but must trip at 135% of rating within one hour at +25°C 150% for 5-8A models	Will continuously carry 100% of rating. May trip between 101% and 134%, but must trip at 135% of rating within one hour at +25°C. 150% for 5-8A models	Will continuously carry 100% of rating. May trip between 101% and 134%, but must trip at 135% of rating within one hour at +25°C
Resetable OverloadCapacity	Ten times rated current	Ten times rated current. Switch Endurance Cycling: Typically 6,000 operations at 100% of rating	Ten times rated current.
Reset Time		60 Seconds	60 Seconds

Potter & Brumfield W51

Potter & Brumfield W33



Protective boot, knurl nut, hex

nut, lockwasher, nameplate

Potter & Brumfield W54

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.

#### Potter & Brumfield W57

(3A,4A,20A no VDE)

Thermal overload/trip free operation Push to reset Compact design Cannot be manually tripped PCB termination options UL 1077, UL 1500, cUL, VDE, CCC.

#### **Potter & Brumfield W58**

Thermal overload/trip free operation Push to reset Cannot be manually tripped Visual trip indication UL 1077, UL 1500, CSA. (30A not UL or CSA)

#### Potter & Brumfield W6/W9

UL 1077, UL 1500, CSA, VDE

Magnetic hydraulic actuation/trip-free operation
Several delay curve options
Fungus and moisture resistant



PCB mount not applicable.
Visit <u>TE.com</u> for more information



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



PCB mount not applicable. Visit <u>TE.com</u> for more information

#### **Applications**

Generators, general aviation, medical, marine Power supplies, lighting, surge protection Audio, pool and spa, appliances, Industrial controls

22.6 x 14.6 x 29.2mm (W57)

Generators, general aviation, medical, marine Power supplies, lighting, surge protection Audio, pool and spa, appliances, Industrial controls HVAC (transformers), general aviation, medical, marine Power supplies, lighting, surge protection Audio, pool and spa, appliances, Industrial controls

46.9 x 19.0 x 63.5mm (W9 per pole)

Potter & Brumfield W6/W9

#### **Operational Data**

Type Magnetic/hydraulic Thermal Thermal **Number of Poles** 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 Standard quick connect W6-Standard Quick Connect Terminal type Standard quick connect .250in x .032in and #8-32 or #10/32 .250in x .032in and #8-32 screw .250in x .032in and #8-32 screw and PCB option screw. W9- #10/32 stud terminations Mounting 3/8"-24, M11-1.0, 7/16"-28, 15/32"-32, 6-32, M3 tapped holes M12-1.0 threaded bushing 3/8"-24 threaded bushing" Manual operation Actuator Push-to-reset Push-to-reset Togale Dimension L\*W\*H 31.0 x 14.6 x 35.0mm (W54) 34.9 x 16.8 x 34.9mm 41.7 x 19.0 x 50.8mm (W6 per pole)

Electrical Data			
Dielectric strength Insulation Resistance	1500VAC	1500Vrms	50/60 Hz, 1,500V: DC, 1100V 100 megohms at 500VDC
Max Operating Voltages	50VDC, 250VAC 50/60 Hz	50VDC, 250VAC	65VDC, 277VAC, 480VAC - 3Ø wye
Rated current	3A to 20A	0.5A to 30A	0.20A to 50A
Interrupt capacity	1000 amps in accordance with UL standard 1077	2000 amps at 50VDC (0.5 - 30 amp models) 1000 amps at 250VAC (0.5 - 30amp models). Note: 30 amp model not UL or CSA	up to 5000A with UL 1077, CSA, VDE. Up to 3000A for UL 1500
Calibration	Will continuously carry 100% of rating. May trip between 101% and 134%, but must trip at 135% of rating within one hour at +25°C	Breaker will continuously carry 100% of rated load. It may trip between 101% and 145% of rated load, but must trip at 145% at 25°C	Breakers will hold 100% rated current. May trip between 101% and 124% rated load (134% for AC/DC units) Must trip at 125% rated load (135% for AC/DC units)
Resetable Overload Capacity Reset Time	Ten times rated current 60 Seconds	Ten times rated current	Ten times rated current 60 Seconds

lockwasher

Potter & Brumfield W58

Protective boot, knurl nut, hex nut, Toggle guard (W6 only)

lockwasher, nameplate

Potter & Brumfield W57

Protective boot, knurl nut, hex nut,



Accessories

Link to datasheet

Recommended minimum load indication for contact material: AU and gold plated: 1mA at 6VDC; AgNi0.15 and AgNi9.0/10: 10mA at 12VDC: AgCdO and AgSnO.; 100mA at 12VDC. Please contact technical support for detailed technical data.

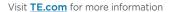
#### 4000 SERIES WIRE LEAD CLASS II CONTROL TRANSFORMERS

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 Quick connect terminals Custom specification/design available







Visit **TE.com** for more information

Typical Applications	HVAC	HVAC
21	Industrial and residential	Industrial and residential
	Motor control	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
		Type AB Opposite side
		Type AE Laydown
Frequency	50/60 Hz	50/60 Hz
Mounting Options	Type K Foot Mount	Type K Foot Mount
	Type G Panel Mount	Type G Panel Mount
	Plate Mount	Plate Mount
Other Data		
Secondary Fusing Requirement	60VA-75VA non-inherently energy limited	Internal fuse or integral circuit breaker 75VA standard models come with integral
		circuit breaker
Shielding	Internal fuse or integral circuit breaker	circuit broaker
Dielectric Strength	75VA standard models come with integral	
	circuit breaker	
Link to datasheet	4000 SERIES	4000 SERIES
	WIRE LEAD CLASS II	QUICK CONNECT CLASS II
	CONTROL TRANSFORMERS	CONTROL TRANSFORMERS



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.

# 4700 SERIES GENERAL PURPOSE POWER TRANSFORMERS

60VA to 150VA UL 5085-1,-2 formerly UL 50 Non-fused Wire leads or quick connects Custom specification/design available



Visit  $\underline{\text{TE.com}}$  for more information

# 4900 SERIES PRINTED CIRCUIT MOUNT POWER TRANSFORMERS

1.1VA to 36VA
UL 5085-1,-2 formerly UL 506
Drop in replacement
Split bobbin design
Signal or dual primary voltage
Custom specification/design available



Visit **TE.com** for more information

Applications	HVAC	Industrial controls, garage door openers
	Industrial	small power supplies, control boards
	Motor control	lighting/monitoring controls, vending machines
Specifications		
Primary Voltage- AC	120, 208, 240, 230, 277, 460, 480, 575	Single 115VAC, 6-pin Dual 115/230VAC, 8-pin
Secondary Voltage- DC	24	Series 10-120VCT 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 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

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.



#### te.com

 $\ensuremath{\text{@}}$  2019 TE Connectivity. All Rights Reserved.

Axicom, Potter & Brumfield, SCHRACK, TE, TE Connectivity, and TE Connectivity (logo) are trademarks. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

While TE has made every reasonable effort to ensure the accuracy of the information in this brochure, TE does not guarantee that it is error-free, nor does TE make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. TE reserves the right to make any adjustments to the information contained herein at any time without notice. TE expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. The dimensions in this catalog are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice. Consult TE for the latest dimensions and design specifications.

1-1773969-4 02/20 JN



# **X-ON Electronics**

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Industrial Relays category:

Click to view products by TE Connectivity manufacturer:

Other Similar products are found below:

6-1618400-7 686-117111 686-120111 EV250-4A-02 EV250-6A-01 FCA-125-CX8 FCA-410-138 8-1618393-1 GCA63A220VAC60HZ
GCA63A277VAC60HZ GCA63A600VAC60HZ ACC530U20 ACC730U30 1395832-1 RMIA210230AC RMIA45024AC 1423675-8
B07B032AC1-0329 B329 1617807-1 N417 P25-E5019-1 P30C42A12D1-120 2-1618398-1 PBO-18A1218 2307497 RPYA00324LT
RPYA003A120LT KR-4539-1 RT334012WG S160156115 2944795 ACC1230U20 ACC530U10 ACC730-8025B FCA-410-167 2071229-5
2-1616126-3 2-1618002-9 2297109 GCA32A24VDC GCA800A100VACDC GCA95A208VAC60HZ GCA95A24VAC50HZ
GCA95A48VDC GPBR CF30D20012 2946366 2980759 HFW12111S02