

## Special Load PCB Relay RP3SL

- 1 pole 16A, 1 form A (NO) contact
- For high inrush currents up to 120A
- Mono- or bistable
- 4kV/8mm coil-contact

Typical applications  
Lighting control, timers, motor control, building automation.



### Approvals

VDE Cert. No. 40025448 (DC versions only), UL E214024  
Technical data of approved types on request.

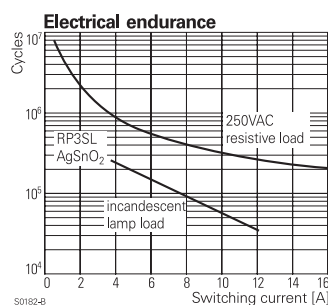
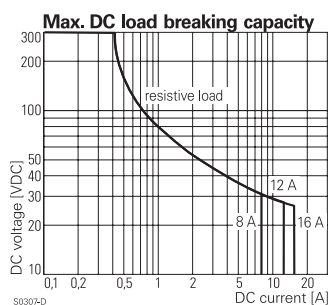
### Contact Data

|                                           |                          |
|-------------------------------------------|--------------------------|
| Contact arrangement                       | 1 form A (NO)            |
| Rated voltage                             | 250VAC                   |
| Max. switching voltage                    | 400VAC                   |
| Rated current                             |                          |
| flux proof version                        | 16A                      |
| wash tight version                        | 12A                      |
| Limiting making current                   |                          |
| max. 4 s, duty factor 10 %                | 25A                      |
| max. 20 ms (incandescent lamp)            | 120A                     |
| Breaking capacity max.                    |                          |
| flux proof version                        | 4000VA                   |
| wash tight version                        | 3000VA                   |
| Contact material                          | AgSnO                    |
| Frequency of operation, with/without load | 960/72000h <sup>-1</sup> |
| Operate/release time max., monostable     | 14/12ms                  |
| Set/reset time max., bistable             | 30/25ms                  |
| Bounce time max.                          |                          |
| monostable                                | 5/7ms                    |
| bistable                                  | 5/15ms                   |

### Contact ratings

| Type            | Contact | Load                        | Cycles              |
|-----------------|---------|-----------------------------|---------------------|
| <b>IEC61810</b> |         |                             |                     |
| RP3SL           | A (NO)  | 16A, 250VAC resistive, 70°C | 50x10 <sup>3</sup>  |
| RP7SL           | A (NO)  | 12A, 250VAC resistive, 70°C | 100x10 <sup>3</sup> |

|                      |                                |
|----------------------|--------------------------------|
| Mechanical endurance |                                |
| monostable           | >20x10 <sup>6</sup> operations |
| bistable             | >1x10 <sup>6</sup> operations  |



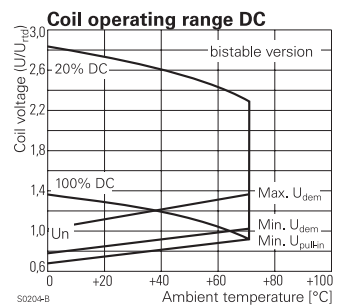
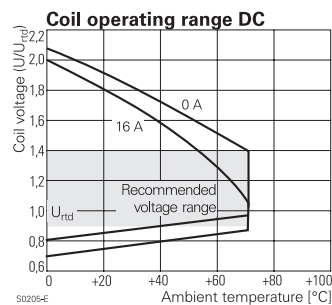
### Coil Data

#### Coil data, monostable coil

|                            |             |
|----------------------------|-------------|
| Coil voltage range         | 5 to 110VDC |
| Operative range, IEC 61810 |             |
| flux proof version         | 2           |
| wash tight version         | 1           |

#### Coil versions, DC coil

| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance $\Omega \pm 10\%$ <sup>1)</sup> | Rated coil power mW |
|-----------|-------------------|---------------------|---------------------|-------------------------------------------------|---------------------|
| 005       | 5                 | 3.8                 | 0.5                 | 54                                              | 500                 |
| 006       | 6                 | 4.5                 | 0.6                 | 68                                              | 500                 |
| 012       | 12                | 9.0                 | 1.2                 | 270                                             | 500                 |
| 024       | 24                | 18.0                | 2.4                 | 1100 <sup>1)</sup>                              | 500                 |
| 048       | 48                | 36.0                | 4.8                 | 4400 <sup>1)</sup>                              | 500                 |
| 060       | 60                | 45.0                | 6.0                 | 6540 <sup>1)</sup>                              | 500                 |



### Coil Data, bistable coil

|                                             | 1 coil               | 2 coils |
|---------------------------------------------|----------------------|---------|
| Coil voltage range                          | 5 to 24VDC           |         |
| Operative range, IEC 61810                  | 1                    |         |
| Reset voltage min/max, % of U <sub>rd</sub> | 70/110%              | 75/120% |
| Min./Max. energization duration             | 20ms/1min at < 50%DF |         |

#### Coil versions, bistable

| Coil code                             | Rated voltage VDC | Set voltage VDC | Reset voltage VDC | Reset R1 $\Omega/W$ | Coil resistance $\Omega \pm 10\%$ <sup>1)</sup> | Rated coil power mW |
|---------------------------------------|-------------------|-----------------|-------------------|---------------------|-------------------------------------------------|---------------------|
| <b>Coil versions, bistable 1 coil</b> |                   |                 |                   |                     |                                                 |                     |
| A05                                   | 5                 | 3.7             | 3.6               | 39/0.5              | 21                                              | 1250                |
| A12                                   | 12                | 9.0             | 8.7               | 220/0.5             | 115                                             | 1250                |
| A24                                   | 24                | 18.0            | 16.7              | 820/0.5             | 460                                             | 1250                |

#### Coil versions, bistable 2 coils

|     |    |      |      |  |                   |      |
|-----|----|------|------|--|-------------------|------|
| F12 | 12 | 9.0  | 9.0  |  | 105 <sup>1)</sup> | 1250 |
| F24 | 24 | 18.0 | 18.0 |  | 460 <sup>1)</sup> | 1250 |

1) Coil resistance  $\pm 15\%$ .

All figures are given for coil without pre-energization, at ambient temperature +23°C, duty factor 20%. Other coil voltages on request.

**Special Load PCB Relay RP3SL (Continued)**

**Insulation Data**

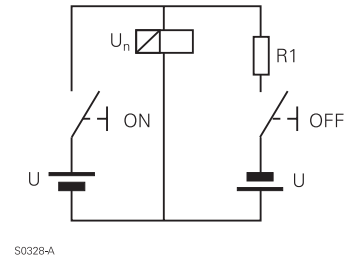
|                                    |                      |
|------------------------------------|----------------------|
| Initial dielectric strength        |                      |
| between open contacts              | 2000V <sub>rms</sub> |
| between contact and coil           | 4000V <sub>rms</sub> |
| Clearance/creepage                 |                      |
| between contact and coil           | ≥8/8mm               |
| Material group of insulation parts | IIIa                 |
| Tracking index of relay base       | PTI250V              |

**Other Data**

Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at [www.te.com/customer-support/rohssupportcenter](http://www.te.com/customer-support/rohssupportcenter)

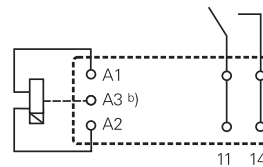
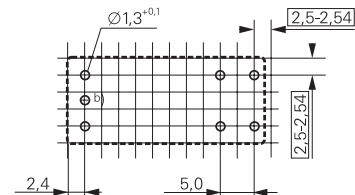
|                                                   |                                       |
|---------------------------------------------------|---------------------------------------|
| Ambient temperature                               |                                       |
| flux proof version                                | -40 to +70°C                          |
| wash tight version                                | -40 to +35°C                          |
| Category of environmental protection              |                                       |
| IEC 61810                                         | RTII - flux proof, RTIII - wash tight |
| Vibration resistance (functional), form A contact | 20g                                   |
| Shock resistance (destructive)                    | 100g                                  |
| Terminal type                                     | PCB-THT                               |
| Mounting distance, 12A/16A                        | 0mm/≥3mm                              |
| Weight                                            | 18g                                   |
| Resistance to soldering heat THT, IEC 60068-2-20  |                                       |
| flux proof version                                | 270°C/10s                             |
| wash tight version                                | 260°C/5s                              |
| Packaging/unit                                    |                                       |
| monostable and bistable 1 coil version            | tube/20 pcs., box/500 pcs.            |
| bistable 2coil version                            | tray/25 pcs., box/100 pcs.            |

**Circuit scheme for bistable 1 coil**



**PCB layout / terminal assignment**

Bottom view on solder pins

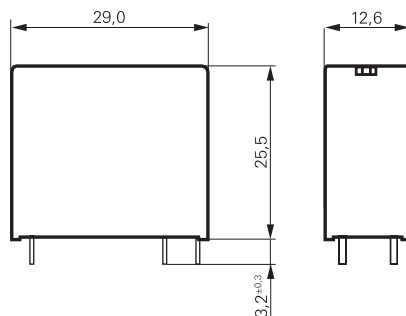


Bistable versions:  
Indicated contact position during or after coil energization with reset voltage.

2-coil versions:  
Operate A2, A3  
Reset A1, A3

b) for 2 coil version only

**Dimensions**



## Special Load PCB Relay RP3SL (Continued)

### Product code structure

Typical product code **RP 3 SL 012**

|                                          |                                                |              |  |
|------------------------------------------|------------------------------------------------|--------------|--|
| Type                                     | RP Special Load PCB Relay RP 3 SL              |              |  |
| Version                                  | 3 Flux proof                                   | 7 Wash tight |  |
| Contact configuration / contact material | SL 1 form A contact (1 NO), AgSnO <sub>2</sub> |              |  |
| Coil                                     | Coil code: please refer to coil versions table |              |  |

| Product code | Version               | Contact material | Coil version     | Coil  | Part number |
|--------------|-----------------------|------------------|------------------|-------|-------------|
| RP3SL005     | 1 form A (NO) contact | AgSnO            | DC coil          | 5VDC  | 1393230-7   |
| RP3SL012     | 16A                   |                  |                  | 12VDC | 1393230-9   |
| RP3SL018     | flux proof            |                  |                  | 18VDC | 1-1393230-0 |
| RP3SL024     |                       |                  |                  | 24VDC | 1-1393230-1 |
| RP3SL048     |                       |                  |                  | 48VDC | 1-1393230-2 |
| RP3SL060     |                       |                  |                  | 60VDC | 1-1393230-3 |
| RP3SLA06     |                       |                  | Bistable 1 coil  | 6VDC  | 1393230-2   |
| RP3SLA24     |                       |                  |                  | 24VDC | 1393230-4   |
| RP3SLF12     |                       |                  | Bistable 2 coils | 12VDC | 1393230-5   |

This list represents the most common types and does not show all variants covered by this datasheet.  
Other types on request.

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