

**Special Load PCB Relay RP 3 SL**

- 1 pole 16 A, 1 NO contact
- For high inrush currents,
- 120 A / 20 ms inrush peak current
- Mono- or bistable
- 4 kV / 8 mm coil-contact
- RoHS compliant (Directive 2002/95/EC) as per product date code 0404

**Applications**

Lighting control, timers, motor control, building automation



F0147-A

**Approvals**

VDE REG.-Nr. 3736 (DC versions only), **UL** US E214024, **KEMA** 2011340.05 (DC vers. only)  
Technical data of approved types on request

**Contact data**

|   |                             |
|---|-----------------------------|
| Contact configuration   | 1 NO                        |
| Contact set   | single contact              |
| Type of interruption  | micro-disconnection         |
| Rated current   | 16 A                        |
| Rated voltage / max.switching voltage AC                                    | 240/400 VAC                 |
| Limiting continuous current   | 16 A                        |
| Maximum breaking capacity AC  | 4000 VA                     |
| Limiting making capacity, max 4 s, duty factor 10%<br>peak value, max 20 ms | 25 A<br>120 A               |
| Contact material  | AgSnO <sub>2</sub>          |
| Mechanical endurance DC   | > 20x10 <sup>6</sup> cycles |
| bistable  | > 1x 10 <sup>6</sup> cycles |
| Rated frequency of operation with / without load                            | 16 / 1200 min <sup>-1</sup> |

**Contact ratings**

| Type  | Load   | Cycles            |
|-------|--|-------------------|
| RP3SL | 16 A, 250 VAC, 70°C, 16 min <sup>-1</sup> , IEC61810-1 | 5x10 <sup>4</sup> |
| RP3SL | 12 A, 250 VAC, 70°C, 16 min <sup>-1</sup> , IEC61810-1 | 1x10 <sup>5</sup> |

**Coil data**

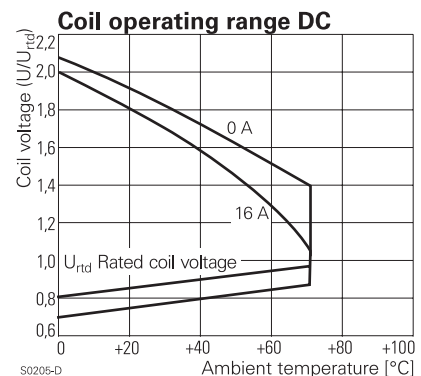
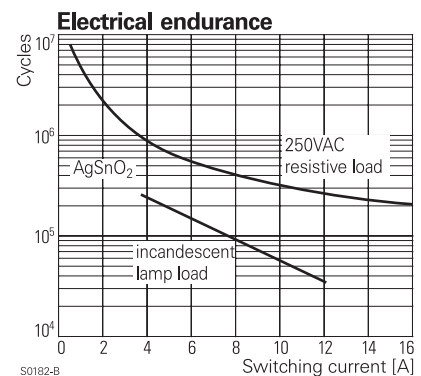
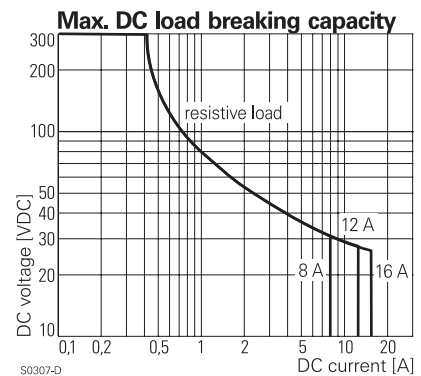
**Coil data, monostable coil**

|                              |             |
|------------------------------|-------------|
| Rated coil voltage range     | 5...110 VDC |
| Coil power                   | typ 520 mW  |
| Operative range RTII / RTIII | 2 / 1       |

**Coil versions, DC-coil**

| Coil code  | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ω | Rated coil power mW |
|------------|-------------------|---------------------|---------------------|-------------------|---------------------|
| <b>012</b> | <b>12</b>         | <b>9.0</b>          | <b>1.2</b>          | <b>270±10%</b>    | <b>533</b>          |
| <b>024</b> | <b>24</b>         | <b>18.0</b>         | <b>2.4</b>          | <b>1100±15%</b>   | <b>524</b>          |
| 048        | 48                | 36.0                | 4.8                 | 4400±15%          | 524                 |
| 060        | 60                | 45.0                | 6.0                 | 6540±15%          | 550                 |

All figures are given for coil without preenergization, at ambient temperature +23°C  
Other coil voltages on request



| Coil data, bistable coils                      | 1 coil            | 2 coils    |
|--|-------------------|------------|
| Rated coil voltage range                       | 5...24 VDC        |            |
| Coil power                                     | typ 1,25 W        |            |
| Operative range                                | 1                 |            |
| Reset voltage minimum / maximum, % of $U_{rd}$ | 70% / 110%        | 75% / 120% |
| Minimum energization duration                  | 20 ms             |            |
| Maximum energization duration                  | 1 min at < 50% DF |            |

**Coil versions, bistable DC-coil**

| Coil code                | Rated voltage VDC | Operate voltage VDC | Reset voltage VDC | Reset R1 $\Omega$ / W | Coil resistance $\Omega$ | Rated coil power mW |
|--------------------------|-------------------|---------------------|-------------------|-----------------------|--------------------------|---------------------|
| <b>bistable, 1 coil</b>  |                   |                     |                   |                       |                          |                     |
| A05                      | 5                 | 3.7                 | 3.6               | 39/0.5                | 21±10%                   | 1190                |
| A12                      | 12                | 9.0                 | 8.7               | 220/0.5               | 115±10%                  | 1252                |
| A24                      | 24                | 18.0                | 16.7              | 820/0.5               | 460±10%                  | 1252                |
| <b>bistable, 2 coils</b> |                   |                     |                   |                       |                          |                     |
| F12                      | 12                | 9.0                 | 9.0               |                       | 105±15%                  | 1371                |
| F24                      | 24                | 18.0                | 18.0              |                       | 460±15%                  | 1252                |

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

**Insulation**

|   |                       |       |
|---|-----------------------|-------|
| Dielectric strength coil-contact circuit  | 4000 V <sub>rms</sub> |       |
| open contact circuit                      | 2000 V <sub>rms</sub> |       |
| Clearance / creepage coil-contact circuit | ≥ 8 / 8 mm            |       |
| Material group of insulation parts        | ≥ IIIa                |       |
| Tracking index of relay base              | PTI 250 V             |       |
| Insulation to IEC 60664-1                 |                       |       |
| Type of insulation coil-contact circuit   | basic                 |       |
| open contact circuit                      | functional            |       |
| Rated insulation voltage                  | 250 V                 |       |
| Pollution degree                          | 3                     | 2     |
| Rated voltage system                      | 240 V                 | 400 V |
| Overvoltage category                      | III                   |       |

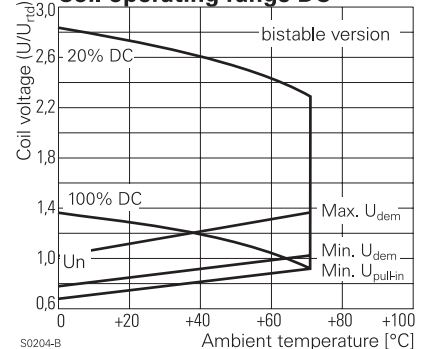
**Other data**

|  |   |  |
|--|---|--|
| RoHS - Directive 2002/95/EC                                | compliant as per product date code 0404 |  |
| Flammability class according to UL94                       | V-2                                     |  |
| Ambient temperature range RTII - flux proof                | -40...+70°C                             |  |
| RTIII - wash tight   | -40...+35°C                             |  |
| Operate- / release time DC coil                            | typ 8 / 2 ms                            |  |
| Operate- / reset time bistable coils                       | typ 6 / 2 ms                            |  |
| Bounce time  | typ 2 ms                                |  |
| Vibration resistance (function), opening of closed contact | 20 g                                    |  |
| Shock resistance (destruction)                             | 100 g                                   |  |
| Category of protection                                     | RTII - flux proof, RTIII - wash tight   |  |
| Mounting   | pcb or on socket                        |  |
| Mounting distance 12A / 16A                                | 0 / 3 mm                                |  |
| Resistance to soldering heat flux proof version            | 270 °C / 10 s                           |  |
| wash tight version   | 260°C / 5 s                             |  |
| Relay weight   | 18 g                                    |  |
| Packaging unit monostable, bistable 1 coil                 | 20 / 500 pcs                            |  |
| bistable 2 coils   | 100 pcs                                 |  |

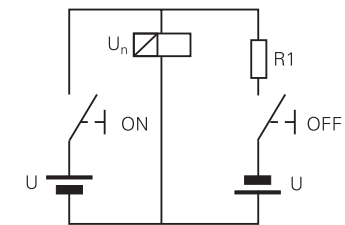
**Accessories**

For monostable and bistable 1 coil version, details see accessories RT

**Coil operating range DC**



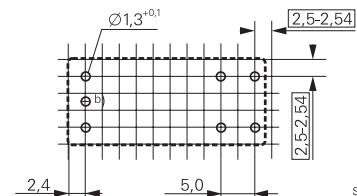
Circuit scheme for bistable 1 coil



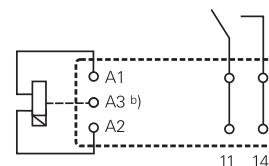
S0328-A

**PCB layout / terminal assignment**

Bottom view on solder pins



S0163-CR



S0163-CS

Bistable versions:

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

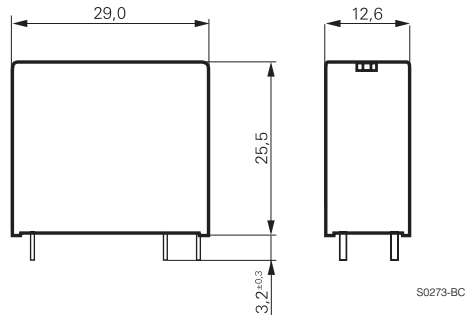
2-coil versions:

Operate A2, A3  
Reset A1, A3

b) for 2 coil version only

**Special Load PCB Relay RP 3 SL** (Continued)

**Dimensions**



**Product key**

|  |  |          |  |                     |          |  |  |  |
|--|--|----------|--|---------------------|----------|--|--|--|
| Type                                     | <b>R</b>                                       | <b>P</b> |  | <b>S</b>            | <b>L</b> |  |  |  |
| Version                                  | <b>3 flux proof</b>                            |          |  | <b>7 wash tight</b> |          |  |  |  |
| Contact configuration / contact material | <b>SL</b> 1 NO contact, AgSnO <sub>2</sub>     |          |  |                     |          |  |  |  |
| Coil                                     | Coil code: please refer to coil versions table |          |  |                     |          |  |  |  |

Preferred types in bold print

| Product key | Version    | Contacts           | Coil     | Coil   | Part number |
|-------------|------------|--------------------|----------|--------|-------------|
| RP3SL005    | 16 A       | 1 NO contact       | DC-coil  | 5 VDC  | 0-1393230-7 |
| RP3SL012    | flux proof | AgSnO <sub>2</sub> |          | 12 VDC | 0-1393230-9 |
| RP3SL024    |            |                    |          | 24 VDC | 1-1393230-1 |
| RP3SLA12    |            |                    | bistable | 12 VDC | 0-1393230-3 |
| RP3SLA24    |            |                    | 1-coil   | 24 VDC | 0-1393230-4 |
| RP3SLF12    |            |                    | bistable | 12 VDC | 0-1393230-5 |
| RP3SLF24    |            |                    | 2-coils  | 24 VDC | 0-1393230-6 |
| RP7SL012    | 16 A       |                    | DC-coil  | 12 VDC | 6-1393231-5 |
| RP7SL024    | wash tight |                    |          | 24 VDC | 6-1393231-6 |