

## Power PCB Relay RPII/1

- 1 pole 8/12/16A, 1 form C (CO) or 1 form A (NO) contact
- 4kV/8mm coil-contact
- Pinning 3.5 or 5mm (8/12A) and 5mm (16A)
- RoHS compliant (Directive 2011/65/EC)

### Typical applications

Power supplies, domestic appliances, heating control, installation



Z

F0146-B

### Approvals

VDE Cert. No. 40025448

UL E214025 (only for AgNi versions)

Technical data of approved types on request

| Contact Data                                | 8A                             | 12A        | 16A                              |
|---------------------------------------------|--------------------------------|------------|----------------------------------|
| Contact arrangement                         | 1 form C (CO) or 1 form A (NO) |            |                                  |
| Rated voltage                               | 250VAC                         |            |                                  |
| Max. switching voltage                      | 400VAC                         |            |                                  |
| Rated current                               | 8A                             | 12A        | 16A                              |
| Limiting making current,<br>max. 4s, df 10% | 16A                            | 20A        | 25A                              |
| Breaking capacity max.                      | 2000VA                         | 3000VA     | 4000VA                           |
| Contact material                            | AgNi0.15                       | AgNi 90/10 | AgNi 90/10<br>AgSnO <sub>2</sub> |
| Frequency of operation, with/without load   | 600/36000h <sup>-1</sup>       |            |                                  |
| Operate/release time typ.                   | 8/2ms                          |            |                                  |
| Bounce time typ., form A/form B             | 2/4ms                          |            |                                  |

### Contact ratings

| Type            | Contact | Load                          | Cycles              |
|-----------------|---------|-------------------------------|---------------------|
| <b>IEC61810</b> |         |                               |                     |
| RP314/RP714     | A (NO)  | 16A, 250 VAC, resistive, 35°C | 100x10 <sup>3</sup> |
| RP314 DC-coil   | A (NO)  | 6A, 250 VAC, cosφ = 0,4, 35°C | 250x10 <sup>3</sup> |
| RP31L DC-coil   | C (CO)  | 16A, 250 VAC, resistive, 35°C | 10x10 <sup>3</sup>  |
| RP414 DC-coil   | A (NO)  | 12A, 250 VAC, resistive, 70°C | 100x10 <sup>3</sup> |
| RP414 REM       | A (NO)  | 12A, 250 VAC, resistive, 35°C | 100x10 <sup>3</sup> |
| RP41N/RP814     | C (CO)  | 12A, 250 VAC, resistive, 35°C | 10x10 <sup>3</sup>  |
| RP411/RP412     | A (NO)  | 8A, 250 VAC, resistive, 35°C  | 100x10 <sup>3</sup> |
| RP411/RP412     | C (CO)  | 8A, 250 VAC, resistive, 35°C  | 10x10 <sup>3</sup>  |

### UL508

|             |       |                                    |                     |
|-------------|-------|------------------------------------|---------------------|
| RP411/RP412 | C(CO) | 8A, 250VAC, general purpose, 40°C  | 6x10 <sup>3</sup>   |
| RP314/RP714 | C(CO) | 16A, 250VAC, general purpose, 40°C | 6x10 <sup>3</sup>   |
| RP314/RP714 | C(CO) | 250VAC, 1.5HP, 40°C                | 6x10 <sup>3</sup>   |
| RP*14/RP*1N | C(CO) | 12A, 250VAC, general purpose, 70°C | 6x10 <sup>3</sup>   |
| RP**4/RP**N | A(NO) | 10A, 250VAC, resistive, 70°C       | 100x10 <sup>3</sup> |

### Mechanical endurance

|                       |                                |
|-----------------------|--------------------------------|
| DC-coil version:      | >20x10 <sup>6</sup> operations |
| REM/bistable version: | >1x10 <sup>6</sup> operations  |

### Coil Data

|                            |             |
|----------------------------|-------------|
| Coil voltage range         | 5 to 110VDC |
| Operative range, IEC 61810 | 2           |

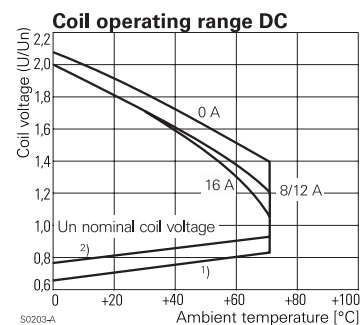
### Coil versions, DC coil

| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ω±10% | Rated coil power mW |
|-----------|-------------------|---------------------|---------------------|-----------------------|---------------------|
| 005       | 5                 | 3.5                 | 0.5                 | 54                    | 500                 |
| 006       | 6                 | 4.2                 | 0.6                 | 68                    | 500                 |
| 012       | 12                | 8.4                 | 1.2                 | 270                   | 500                 |
| 024       | 24                | 16.8                | 2.4                 | 1100 <sup>1)</sup>    | 500                 |
| 048       | 48                | 33.6                | 4.8                 | 4400 <sup>1)</sup>    | 500                 |
| 060       | 60                | 42.0                | 6.0                 | 6540 <sup>1)</sup>    | 500                 |
| 110       | 110               | 77.0                | 11.0                | 23100 <sup>1)</sup>   | 500                 |

1) Coil resistance ±15%.

All figures are given for coil without pre-energization, at ambient temperature +20°C.

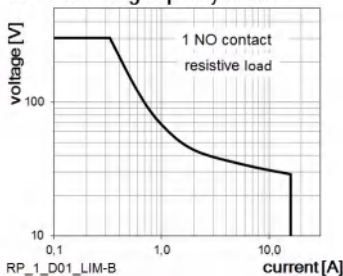
Other coil voltages on request.



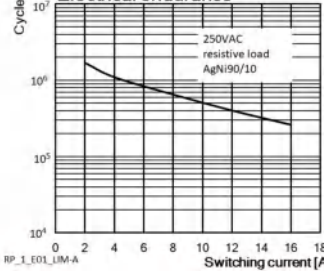
### Coil versions, REM I (1 coil bistable/remanence)

| Coil code | Rated voltage VDC | Resistance Ω±15% | Magnetisation range MIN./ Vdc MAX./Vdc | Demagnetisation range MIN./ Vdc MAX./Vdc |
|-----------|-------------------|------------------|----------------------------------------|------------------------------------------|
| A12       | 12                | 115              | 9 18                                   | 3 4.8                                    |
| A24       | 24                | 460              | 18 36                                  | 6 9.6                                    |
| A48       | 48                | 1748             | 36 72                                  | 12 19.2                                  |

### Max. breaking capacity RPII/1



### Electrical endurance



**Power PCB Relay RPII/1** (Continued)

**Coil versions, REM II (2 coil bistable/remanence)**

| Coil code | Rated voltage VDC | Resistance $\Omega \pm 15\%$ | Magnetisation range MIN./Vdc | MAX./Vdc | Demagnetisation range MIN./Vdc | MAX./Vdc |
|-----------|-------------------|------------------------------|------------------------------|----------|--------------------------------|----------|
| F05       | 5                 | 20                           | 3.7                          | 7.5      | 3.7                            | 6        |
| F12       | 12                | 105                          | 9                            | 18       | 9                              | 14.4     |
| F24       | 24                | 460                          | 18                           | 36       | 18                             | 28.8     |

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

**Insulation Data**

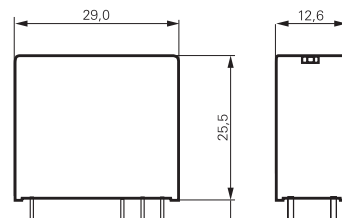
|                                    |                      |
|------------------------------------|----------------------|
| Initial dielectric strength        |                      |
| between open contacts              | 1000V <sub>rms</sub> |
| between contact and coil           | 4000V <sub>rms</sub> |
| Clearance/creepage                 |                      |
| between contact and coil           | $\geq 8/8$ mm        |
| Material group of insulation parts | IIIa                 |

**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)

**Dimensions**

Dimensions in mm



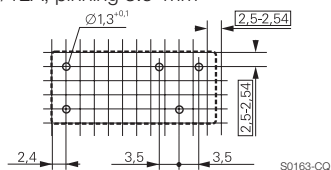
S0273-AA

Monostable and REM I (REM II version has 3 coil terminals)

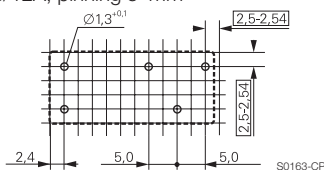
**PCB layout / terminal assignment**

Bottom view on solder pins  
Dimensions in mm

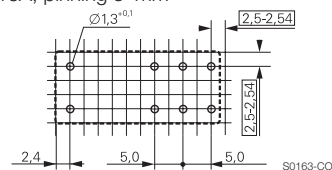
8/12A, pinning 3.5 mm



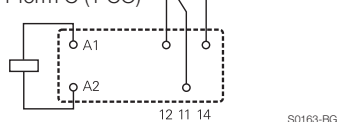
8/12A, pinning 5 mm



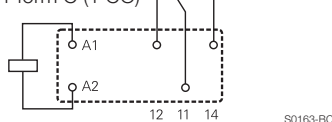
16A, pinning 5 mm



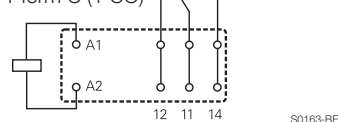
1 form C (1 CO)



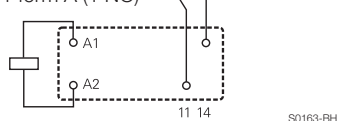
1 form C (1 CO)



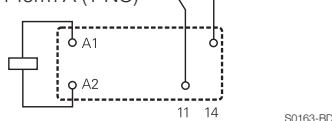
1 form C (1 CO)



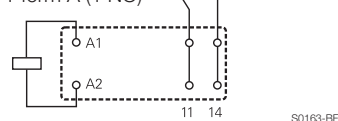
1 form A (1 NO)



1 form A (1 NO)



1 form A (1 NO)



**Product code structure**

Typical product code **RP 3 1 4 024**

**Type**

**RP** Power PCB Relay RPII/1

**Version**

**3** 16A, flux proof **7** 16A, wash tight  
**4** 8/12A, flux proof **8** 8/12A, wash tight

**Contact arrangement**

**1** 1 form C contact (1 CO) **3** 1 form A contact (1 NO) **5** 1 form B contact (1 NC)

**Contact material and pinning**

**1** AgNi0.15, 8A, pinning 5mm **0** Discontinued: AgCdO, pinning 5mm<sup>2)</sup> **4** AgNi 90/10, pinning 5mm  
**2** AgNi0.15, 8A, pinning 3.5mm **8** Discontinued: AgCdO, 8/12A, pinning 3.5mm<sup>2)</sup> **N** AgNi 90/10, 12A, pinning 3,5mm  
**L** AgSnO<sub>2</sub>, pinning 5mm

**Coil**

Coil code: please refer to coil versions table

2) AgCdO contacts are discontinued and replaced with AgNi contacts (see PCN E-18-003947)

**Power PCB Relay RPII/1** (Continued)

| Product Code | Version         | Contacts              | Cont. Material     | Pinning | Coil Version | Coil   | Part Number |
|--------------|-----------------|-----------------------|--------------------|---------|--------------|--------|-------------|
| RP314005     | 16A, flux proof | 1 form C (CO) contact | AgNi 90/10         | 5 mm    | monostable   | 5VDC   | 8-1415546-4 |
| RP314006     |                 |                       |                    |         |              | 6VDC   | 8-1415546-5 |
| RP314010     |                 |                       |                    |         |              | 10VDC  | 8-1415546-6 |
| RP314012     |                 |                       |                    |         |              | 12VDC  | 8-1415546-7 |
| RP314024     |                 |                       |                    |         |              | 24VDC  | 8-1415546-8 |
| RP314048     |                 |                       |                    |         |              | 48VDC  | 8-1415546-9 |
| RP314110     |                 |                       |                    |         |              | 110VDC | 9-1415546-0 |
| RP314F12     |                 |                       |                    |         | REM II       | 12VDC  | 8-1415546-1 |
| RP314F24     |                 |                       |                    |         |              | 24VDC  | 8-1415546-2 |
| RP31L012     |                 |                       | AgSnO <sub>2</sub> |         | monostable   | 12VDC  | 7-1415071-1 |
| RP31L024     |                 |                       |                    |         |              | 24VDC  | 8-1415071-1 |
| RP31L048     |                 |                       |                    |         |              | 48VDC  | 2-1415044-1 |
| RP334012     |                 | 1 form A (NO) contact | AgNi 90/10         |         |              | 12VDC  | 9-1415546-1 |
| RP334024     |                 |                       |                    |         |              | 24VDC  | 9-1415546-2 |
| RP334048     |                 |                       |                    |         |              | 48VDC  | 9-1415546-4 |
| RP354012     |                 | 1 form B (NC) contact |                    |         |              | 12VDC  | 9-1415546-5 |
| RP411012     | 8A, flux proof  | 1 form C (CO) contact | AgNi0.15           |         |              | 12VDC  | 9-1393230-4 |
| RP411024     |                 |                       |                    |         |              | 24VDC  | 9-1393230-5 |
| RP411048     |                 |                       |                    |         |              | 48VDC  | 9-1393230-6 |
| RP411060     |                 |                       |                    |         |              | 60VDC  | 9-1393230-7 |
| RP411110     |                 |                       |                    |         |              | 110VDC | 9-1393230-8 |
| RP431012     |                 | 1 form A (NO) contact |                    |         |              | 12VDC  | 4-1393231-5 |
| RP412012     |                 | 1 form C (CO) contact |                    | 3,5 mm  |              | 12VDC  | 1-1393231-1 |
| RP412024     |                 |                       |                    |         |              | 24VDC  | 1-1393231-2 |
| RP412F12     |                 |                       |                    |         | REM II       | 24VDC  | 1393231-6   |
| RP414012     | 12A, flux proof | 1 form C (CO) contact | AgNi 90/10         | 5 mm    | monostable   | 12VDC  | 1415547-4   |
| RP414024     |                 |                       |                    |         |              | 24VDC  | 1415547-5   |
| RP414A24     |                 |                       |                    |         | REM I        | 24VDC  | 9-1415546-6 |
| RP414F24     |                 |                       |                    |         | REM II       | 24VDC  | 9-1415546-7 |
| RP41N024     |                 |                       |                    | 3,5 mm  | monostable   | 24VDC  | 1-1415547-7 |
| RP434024     |                 | 1 form A (NO) contact |                    | 5 mm    |              | 24VDC  | 9-1415546-3 |
| RP43N024     |                 |                       |                    | 3,5 mm  |              | 24VDC  | 7-1415547-0 |
| RP45N024     |                 | 1 form B (NC) contact |                    |         |              | 24VDC  | 7-1415547-1 |
| RP714006     | 16A, wash tight | 1 form C (CO) contact |                    | 5 mm    |              | 6VDC   | 9-1415546-8 |
| RP714012     |                 |                       |                    |         |              | 12VDC  | 9-1415546-9 |
| RP714024     |                 |                       |                    |         |              | 24VDC  | 1415547-1   |
| RP714048     |                 |                       |                    |         |              | 48VDC  | 1415547-2   |
| RP734012     |                 | 1 form A (NO) contact |                    |         |              | 12VDC  | 1415547-6   |
| RP734020     |                 |                       |                    |         |              | 20VDC  | 1415547-7   |
| RP734024     |                 |                       |                    |         |              | 24VDC  | 1415547-8   |
| RP734036     |                 |                       |                    |         |              | 36VDC  | 1415547-9   |
| RP734A12     |                 |                       |                    |         | REM I        | 12VDC  | 1415547-3   |
| RP814012     | 12A, wash tight | 1 form C (CO) contact |                    |         | monostable   | 12VDC  | 1-1415547-0 |
| RP814024     |                 |                       |                    |         |              | 24VDC  | 1-1415547-1 |
| RP814048     |                 |                       |                    |         |              | 48VDC  | 1-1415547-2 |

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