

## Power PCB Relay RT1

- 1 pole 12A/16A, 1 form C (CO) or 1 form A (NO) contact
- Sensitive coil 400mW
- 5kV/10mm coil-contact, reinforced insulation
- Ambient temperature 85°C

### Typical applications

Boiler control, timers, garage door control, POS automation, interface modules



### Approvals

VDE REG.-Nr. 6106, UL E214025, cCSAus 14385  
Technical data of approved types on request

| Contact Data                                        | 12A                            | 16A          |
|-----------------------------------------------------|--------------------------------|--------------|
| Contact arrangement                                 | 1 form C (CO) or 1 form A (NO) |              |
| Rated voltage                                       | 250VAC                         |              |
| Max. switching voltage                              | 400VAC                         |              |
| Rated current                                       | 12A                            | 16A          |
| Limiting continuous current                         | 12A                            | 16A, UL: 20A |
| Limiting making current<br>max. 4s, duty factor 10% | 25A                            | 30A          |
| Breaking capacity max.                              | 3000VA                         | 4000VA       |
| Contact Material                                    | AgNi 90/10                     |              |
| Frequency of operation, with/without load           | 360/72000h <sup>-1</sup>       |              |
| Operate/release time max., DC coil                  | 8/6ms                          |              |
| Bounce time max., DC coil, form A/form B            | 4/6ms                          |              |

### Contact ratings

| Type             | Contact | Load                      | Cycles              |
|------------------|---------|---------------------------|---------------------|
| <b>IEC 61810</b> |         |                           |                     |
| RT314 DC-coil    | A (NO)  | 16A, 250VAC, cosφ=1, 85°C | 30x10 <sup>3</sup>  |
| RT314 DC-coil    | C (CO)  | 16A, 250VAC, cosφ=1, 85°C | 10x10 <sup>3</sup>  |
| RT314 DC-coil    | A (NO)  | 10A, 400VAC, cosφ=1, 85°C | 150x10 <sup>3</sup> |
| RT114 DC-coil    | A (NO)  | 12A, 250VAC, cosφ=1, 85°C | 50x10 <sup>3</sup>  |
| RT114 AC-coil    | A (NO)  | 12A, 250VAC, cosφ=1, 70°C | 100x10 <sup>3</sup> |

### UL 508

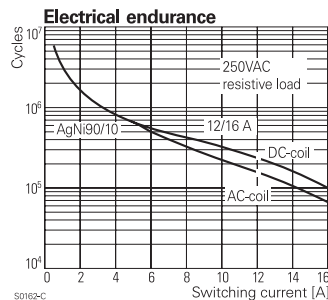
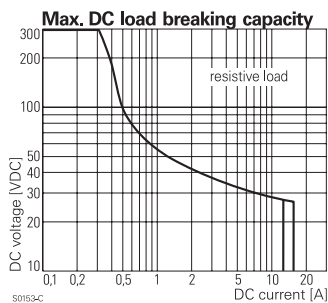
|       |             |                                    |                    |
|-------|-------------|------------------------------------|--------------------|
| RT314 | A/B (NO/NC) | 20A, 250VAC, general purpose, 85°C | 6x10 <sup>3</sup>  |
| RT334 | A (NO)      | 16A, 250VAC, gen. purpose, 85°C    | 50x10 <sup>3</sup> |
| RT314 | A (NO)      | 1hp, 240VAC, 40°C                  | 1x10 <sup>3</sup>  |

### EN60947-5-1

|               |             |                 |       |
|---------------|-------------|-----------------|-------|
| RT314 DC-coil | A/B (NO/NC) | 2A, 24VDC, DC13 | 6.050 |
|---------------|-------------|-----------------|-------|

### EN60730-1

|               |        |                      |                     |
|---------------|--------|----------------------|---------------------|
| RT314 DC-coil | A (NO) | 12(2)A, 250VAC, 85°C | 100x10 <sup>3</sup> |
|---------------|--------|----------------------|---------------------|



### Contact Data (continued)

#### Contact ratings

| Type     | Load                              | Cycles             |
|----------|-----------------------------------|--------------------|
| RT3, RTD | 1 HP @ 480VAC* motor              | 6x10 <sup>3</sup>  |
| RT3, RTD | 1 HP @ 240VAC* motor              | 6x10 <sup>3</sup>  |
| RT3, RTD | 1/2 HP @ 120VAC* motor            | 6x10 <sup>3</sup>  |
| RT3, RTD | 60 LRA/10 FLA @ 250VAC* motor     | 30x10 <sup>3</sup> |
| RT3, RTD | TV-5 @ 120VAC* Tungsten           | 25x10 <sup>3</sup> |
| RT3, RTD | A300, 720VA @ 240VAC* Pilot Duty  | 30x10 <sup>3</sup> |
| RT3, RTD | B300, 360VA @ 240VAC** Pilot Duty | 30x10 <sup>3</sup> |

\*) form A (NO) contact only, \*\*) form B (NC) contact only

Mechanical endurance >30x10<sup>6</sup> operations

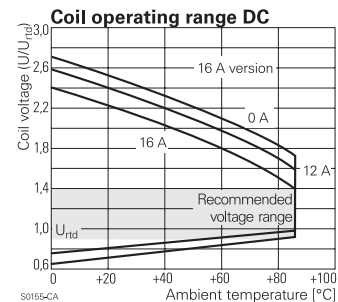
### Coil Data

|                                     |             |
|-------------------------------------|-------------|
| Coil voltage range                  | 5 to 110VDC |
| Operative range, IEC 61810          | 2           |
| Coil insulation system according UL | class F     |

### 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                 | 62                    | 403                 |
| 006       | 6                 | 4.2                 | 0.6                 | 90                    | 400                 |
| 009       | 9                 | 6.3                 | 0.9                 | 200                   | 400                 |
| 012       | 12                | 8.4                 | 1.2                 | 360                   | 400                 |
| 024       | 24                | 16.8                | 2.4                 | 1440                  | 400                 |
| 048       | 48                | 33.6                | 4.8                 | 5520                  | 417                 |

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



**Power PCB Relay RT1** (Continued)

**Insulation Data**

|                                    |                      |
|------------------------------------|----------------------|
| Initial dielectric strength        |                      |
| between open contacts              | 1000V <sub>rms</sub> |
| between contact and coil           | 5000V <sub>rms</sub> |
| Clearance/creepage                 |                      |
| between contact and coil           | ≥10/10mm             |
| Material group of insulation parts | IIIa                 |
| Tracking index of relay base       | PTI 250V             |

**Other Data**

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

|                                      |                                       |
|--------------------------------------|---------------------------------------|
| Ambient temperature                  | -40 to 85°C                           |
| Category of environmental protection | IEC 61810                             |
|                                      | RTII - flux proof, RTIII - wash tight |
| Vibration resistance (functional)    |                                       |
| form A/form B contact, 30 to 500Hz   | 20g/5g                                |
| Shock resistance (destructive)       | 100g                                  |

**Other Data** (continued)

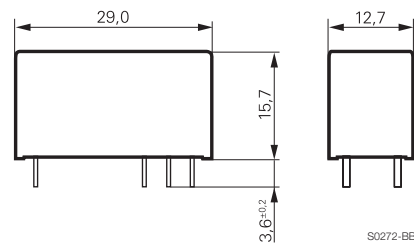
|                              |                            |
|------------------------------|----------------------------|
| Terminal type                | PCB-THT, plug-in           |
| Weight                       | 14g                        |
| Resistance to soldering heat | THT, IEC 60068-2-20        |
| RTII                         | 270°C/10s                  |
| RTIII                        | 260°C/5s                   |
| Packaging/unit               | tube/20 pcs., box/500 pcs. |

**Accessories**

For details see datasheet [Accessories Industrial Power Relay RT](#)

NOTE: Indicated contact ratings and electrical endurance data for direct wiring of relays (according IEC 61810-1); for relays mounted on sockets deratings may apply.

**Dimensions**

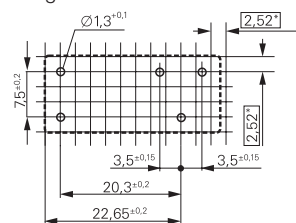


**PCB layout / terminal assignment**

Bottom view on solder pins

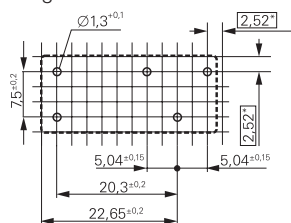
\*) With the recommended PCB hole sizes a grid pattern from 2.5mm to 2.54mm can be used.

12A, pinning 3.5mm



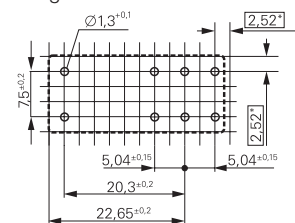
S0418-CB

12A, pinning 5mm



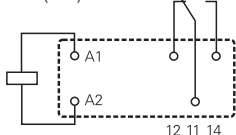
S0418-CN

16A, pinning 5mm



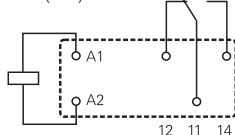
S0418-CA

1 form C (CO) contact



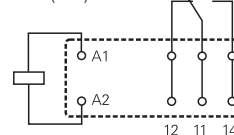
S0163-BG

1 form C (CO) contact



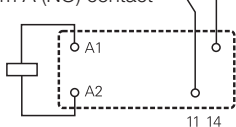
S0163-BC

1 form C (CO) contact



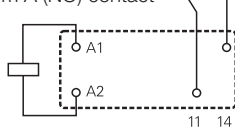
S0163-BE

1 form A (NO) contact



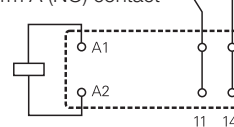
S0163-BH

1 form A (NO) contact



S0163-BD

1 form A (NO) contact



S0163-BF

**Power PCB Relay RT1** (Continued)

| Product code structure                         |                                 | Typical product code |  | RT | 3 | 1 | 4 | 024 | F |
|------------------------------------------------|---------------------------------|----------------------|--|----|---|---|---|-----|---|
| Type                                           |                                 |                      |  |    |   |   |   |     |   |
| RT                                             | Power PCB Relay RT1             |                      |  |    |   |   |   |     |   |
| Version                                        |                                 |                      |  |    |   |   |   |     |   |
| 1                                              | 12A, pinning 3.5mm, flux proof  |                      |  |    |   |   |   |     |   |
| 2                                              | 12A, pinning 5mm, flux proof *) |                      |  |    |   |   |   |     |   |
| 3                                              | 16A, pinning 5mm, flux proof    |                      |  |    |   |   |   |     |   |
| B                                              | 12A, pinning 3.5mm, wash tight  |                      |  |    |   |   |   |     |   |
| D                                              | 16A, pinning 5mm, wash tight    |                      |  |    |   |   |   |     |   |
| Contact arrangement                            |                                 |                      |  |    |   |   |   |     |   |
| 1                                              | 1 form C (CO) contact           |                      |  |    |   |   |   |     |   |
| 3                                              | 1 form A (NO) contact           |                      |  |    |   |   |   |     |   |
| Contact material                               |                                 |                      |  |    |   |   |   |     |   |
| 4                                              | AgNi 90/10                      |                      |  |    |   |   |   |     |   |
| Coil                                           |                                 |                      |  |    |   |   |   |     |   |
| Coil code: please refer to coil versions table |                                 |                      |  |    |   |   |   |     |   |
| Version                                        |                                 |                      |  |    |   |   |   |     |   |
| F                                              | Standard version                |                      |  |    |   |   |   |     |   |

| Product code | Version                        | Contacts              | Contact material | Coil  | Part number |
|--------------|--------------------------------|-----------------------|------------------|-------|-------------|
| RT114012F    | 12A, pinning 3.5mm, flux proof | 1 form C (CO) contact | AgNi 90/10       | 12VDC | 1419108-2   |
| RT114024F    |                                | 1 form A (NO) contact |                  | 24VDC | 1419108-3   |
| RT134012F    |                                | 1 form A (NO) contact |                  | 12VDC | 5-1415020-1 |
| RT134024F    | 16A, pinning 5mm, flux proof   | 1 form C (CO) contact |                  | 24VDC | 2-1393242-1 |
| RT314005F    |                                | 1 form C (CO) contact |                  | 5VDC  | 1419108-8   |
| RT314012F    |                                | 1 form C (CO) contact |                  | 12VDC | 2-1393237-2 |
| RT314024F    | 12A, pinning 3.5mm, wash tight | 1 form A (NO) contact |                  | 24VDC | 2-1393237-3 |
| RT334012F    |                                | 1 form A (NO) contact |                  | 12VDC | 2-1393237-5 |
| RT334024F    |                                | 1 form C (CO) contact |                  | 24VDC | 2-1393237-7 |
| RTB14005F    | 16A, pinning 3.5mm, wash tight | 1 form C (CO) contact |                  | 5VDC  | 2-1419108-4 |
| RTB14012F    |                                | 1 form C (CO) contact |                  | 12VDC | 2-1419108-5 |
| RTB14024F    |                                | 1 form A (NO) contact |                  | 24VDC | 2-1419108-6 |
| RTD14005F    | 16A, pinning 3.5mm, wash tight | 1 form A (NO) contact |                  | 12VDC | 2-1419108-7 |
| RTD14012F    |                                | 1 form C (CO) contact |                  | 5VDC  | 2-1419108-8 |
| RTD14024F    |                                | 1 form C (CO) contact |                  | 12VDC | 2-1419108-9 |
| RTD34012F    |                                | 1 form A (NO) contact |                  | 24VDC | 3-1419108-1 |
| RTD34024F    |                                | 1 form A (NO) contact |                  | 12VDC | 3-1419108-6 |
| RTD34024F    |                                | 1 form A (NO) contact |                  | 24VDC | 3-1419108-9 |

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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### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

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