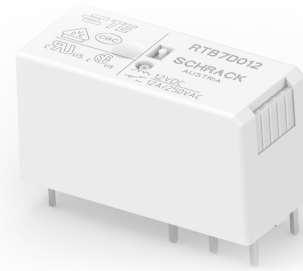


## Power PCB Relay RT1 bifurcated

- 1 pole 12/16A, 1 form C (CO) contact
- Sensitive DC coil, 200 or 400mW
- 5kV/10mm coil-contact, reinforced insulation
- Ambient temperature 85°C

Typical applications  
Switching from dry circuit up to 16A, including arc-less switching, with extra high reliability



### Approvals

VDE Cert. No. 40007571, UL E214025, cCSAus 1142018  
CQC 18002197247

Technical data of approved types on request.

### Contact Data

|                                           |                             |           |
|-------------------------------------------|-----------------------------|-----------|
| Contact arrangement                       | 1 form C (CO) <sup>1)</sup> |           |
| Rated voltage                             | 250VAC                      |           |
| Max. switching voltage                    | 400VAC                      |           |
| Rated current                             | 12A <sup>2)</sup>           | 16A       |
| Limiting making current, max. 4s, df 10%  | 16A                         | 16A       |
| Breaking capacity max.                    | 3000VA                      | 4000VA    |
| Contact material                          | AgNi90/10                   | AgNi90/10 |
|                                           | gold plated                 |           |
| Contact style                             | twin (bifurcated) contact   |           |
| Frequency of operation, with/without load | 360/36000h <sup>-1</sup>    |           |
| Operate/release time max.                 | 10/5ms                      |           |
| Bounce time max., form A/form B           | 4/9ms                       |           |

### Contact ratings

| Type                              | Contact | Load                               | Cycles                         |
|-----------------------------------|---------|------------------------------------|--------------------------------|
| <b>IEC 61810</b>                  |         |                                    |                                |
| RT31C                             | A (NO)  | 16A, 250VAC, resistive, 85°C       | 50x10 <sup>3</sup>             |
| RTB7D                             | C (CO)  | 12A, 250VAC, resistive, 85°C       | 1x10 <sup>3</sup>              |
| RTB7D                             | C (CO)  | 5A, 250VAC, resistive, 85°C        | 100x10 <sup>3</sup>            |
| <b>UL 61810-1 (former UL 508)</b> |         |                                    |                                |
| RT31C                             | A (NO)  | 16A, 250VAC, general purpose, 85°C | 50x10 <sup>3</sup>             |
| RT31C                             | C (CO)  | 16A, 250VAC, general purpose, 40°C | 6x10 <sup>3</sup>              |
| RTB7D                             | C (CO)  | 12A, 250VAC, general purpose, 40°C | 6x10 <sup>3</sup>              |
| RTB7D                             | A (NO)  | 5A, 250VAC, general purpose, 85°C  | 100x10 <sup>3</sup>            |
| Mechanical endurance              |         |                                    |                                |
| 12A version                       |         |                                    | >30x10 <sup>6</sup> operations |
| 16A version                       |         |                                    | >10x10 <sup>6</sup> operations |

1) 1 form A (NO) contact available on request.

2) Recommended for switching load range ≤5A.

### Coil Data

|                                     |             |
|-------------------------------------|-------------|
| Coil voltage range                  |             |
| 12A version                         | 5 to 60VDC  |
| 16A version                         | 5 to 110VDC |
| Operative range, IEC 61810          | 2           |
| Coil insulation system according UL | class F     |

### Coil versions, 16A version

| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ω±10% <sup>3)</sup> | Rated coil power mW |
|-----------|-------------------|---------------------|---------------------|-------------------------------------|---------------------|
| 005       | 5                 | 3.5                 | 0.5                 | 62                                  | 403                 |
| 006       | 6                 | 4.2                 | 0.6                 | 90                                  | 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                 |
| 060       | 60                | 42.0                | 6.0                 | 8570 <sup>3)</sup>                  | 420                 |
| 110       | 110               | 77.0                | 11.0                | 28800 <sup>3)</sup>                 | 420                 |

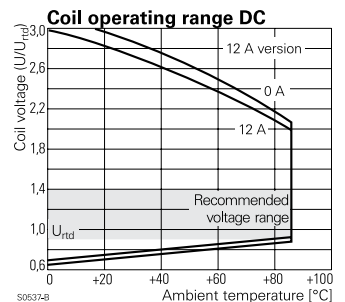
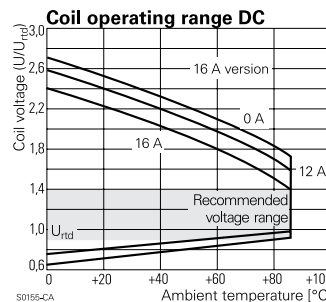
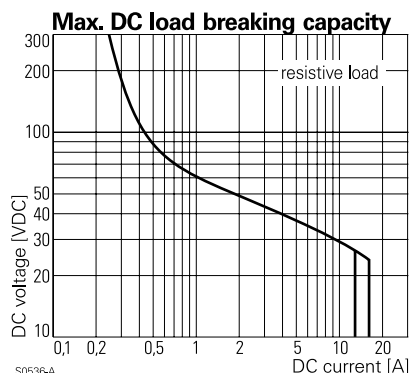
3) Coil resistance ±12%.

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

### Coil versions, 12A version

| 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                 | 125                   | 200                 |
| 006       | 6                 | 4.2                 | 0.6                 | 190                   | 190                 |
| 012       | 12                | 8.4                 | 1.2                 | 690                   | 210                 |
| 024       | 24                | 16.8                | 2.4                 | 2980                  | 190                 |
| 048       | 48                | 33.6                | 4.8                 | 10470                 | 220                 |
| 060       | 60                | 42.0                | 6.0                 | 16980                 | 210                 |

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



**Power PCB Relay RT1 bifurcated** (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/customer-support/rohssupportcenter](http://www.te.com/customer-support/rohssupportcenter)

|                                                                       |                    |
|-----------------------------------------------------------------------|--------------------|
| Ambient temperature, DC coil                                          | -40 to 85°C        |
| Category of environmental protection, IEC 61810                       |                    |
| 12A version                                                           | RTIII - wash tight |
| 16A version                                                           | RTII - flux proof  |
| Vibration resistance (functional), form A/form B contact, 30 to 500Hz |                    |
| 12A version                                                           | 15/3g              |
| 16A version                                                           | 15/4g              |
| Shock resistance (destructive)                                        | 100g               |

**Other data** (continued)

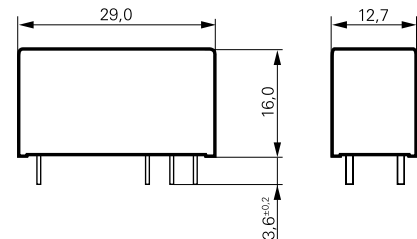
|                                                  |                            |
|--------------------------------------------------|----------------------------|
| Terminal type                                    | PCB-THT, plug-in           |
| Mounting distance                                | ≥5mm                       |
| 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.

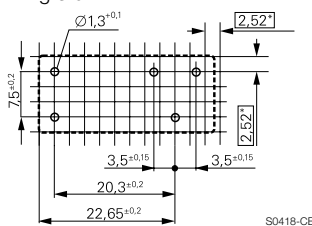
**Dimensions**



**PCB layout / terminal assignment**

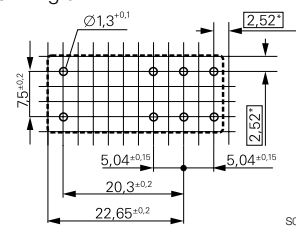
Bottom view on solder pins

12A, pinning 3.5mm



S0418-CB

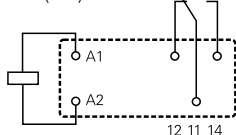
16A, pinning 5mm



S0418-CA

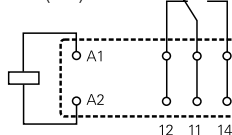
\*) With the recommended PCB hole sizes a grid pattern from 2.5mm to 2.54mm can be used.

1 form C (CO) contact



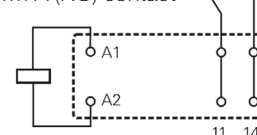
S0163-BG

1 form C (CO) contact



S0163-BE

1 form A (NO) contact



S0163-BF

**Product code structure**

Typical product code **RT B 7 D 012**

|                  |                                                |                                          |
|------------------|------------------------------------------------|------------------------------------------|
| Type             | RT Power PCB Relay RT1 bifurcated              |                                          |
| Version          | 3 16A, pinning 5mm, flux proof                 | B 12A, pinning 3.5mm, wash tight         |
| Configuration    | 1 1 form C (CO) contact, 16A, 400mW coil       | 3 1 form A (NO) contact, 16A, 400mW coil |
|                  | 7 1 form C (CO) contact, 12A, 200mW coil       |                                          |
| Contact material | C AgNi 90/10, 16A version                      | D AgNi 90/10 gold plated, 12A version    |
| Coil             | Coil code: please refer to coil versions table |                                          |

Version with 1 form A (NO) contact available on request.

| Product code | Version          | Contacts           | Cont. material | Coil  | Coil   | Part Number |
|--------------|------------------|--------------------|----------------|-------|--------|-------------|
| RT33C024     | 16A, pinning 5mm | 1 form A (NO) bif. | AgNi 90/10     | 400mW | 24 VDC | 8-1415541-5 |
| RT31C012     | flux proof       | 1 form C (CO)      |                | 400mW | 12 VDC | 1415900-2   |
| RT31C024     |                  | bifurcated contact |                | 400mW | 24 VDC | 1415900-7   |
| RTB7D012     | 12A, 3.5mm       |                    | AgNi 90/10     | 210mW | 12 VDC | 1415900-5   |
| RTB7D024     | wash tight       |                    | gold plated    | 190mW | 24 VDC | 1415900-6   |

Other types on request

This list represents the most common types and does not show all variants covered by this data sheet.