# 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**

F0307-A

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
Technical data of approved types on request.

## Contact Data

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

### Contact ratings

| Type | Contact | Load | Cycles |
|---|---|---|---|
| **IEC 61810** | | | |
| RT31C | A (NO) | 16A, 250VAC, resistive, 85°C | 50x10$^3$ |
| RTB7D | C (CO) | 12A, 250VAC, resistive, 85°C | 1x10$^3$ |
| RTB7D | C (CO) | 5A, 250VAC, resistive, 85°C | 100x10$^3$ |
| **UL 508** | | | |
| RT31C | A (NO) | 16A, 250VAC, general purpose, 85°C | 50x10$^3$ |
| RT31C | C (CO) | 16A, 250VAC, general purpose, 40°C | 6x10$^3$ |
| RTB7D | C (CO) | 12A, 250VAC, general purpose, 40°C | 6x10$^3$ |
| RTB7D | A (NO) | 5A, 250VAC, general purpose, 85°C | 100x10$^3$ |

| | |
|---|---|
| Mechanical endurance | |
| 12A version | >30x10$^6$ operations |
| 16A version | >10x10$^6$ 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%[3] | 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[3] | 420 |
| 110 | 110 | 77.0 | 11.0 | 28800[3] | 420 |

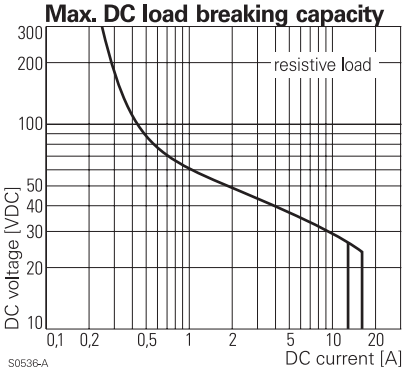
3) Coil resistance ±12%.
All figures are given for coil without pre-energization, at ambient temperature +23°C.
Other coil voltages on request.

### Coil versions, 12A version

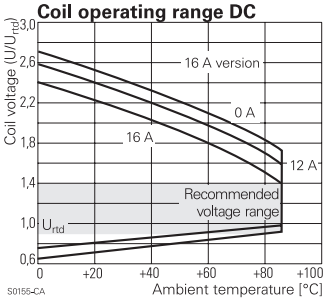
| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ω±10% | Rated coil power mW |
|---|---|---|---|---|---|
| 005 | 5 | 3.5 | 0.5 | 125 | 200 |
| 006 | 6 | 4.2 | 0.6 | 190 | 190 |
| 012 | 12 | 8.4 | 1.2 | 690 | 210 |
| 024 | 24 | 16.8 | 2.4 | 2980 | 190 |
| 048 | 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.

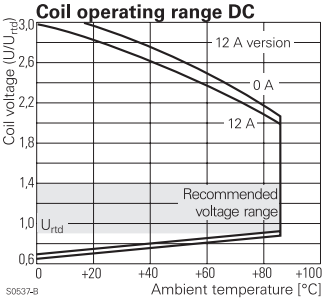
**Max. DC load breaking capacity**




**Coil operating range DC**




**Coil operating range DC**






10-2014, Rev. 1014
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Catalog and product specification according to IEC 61810-1 and to be used only together with the 'Definitions' section.

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Catalog product data, 'Definitions' section, application notes and all specifications are subject to change.

## Power PCB Relay RT1 bifurcated (Continued)

### Insulation Data

| | |
|---|---|
| Initial dielectric strength | |
| between open contacts | $1000V_{rms}$ |
| between contact and coil | $5000V_{rms}$ |
| 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 | |
| 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)

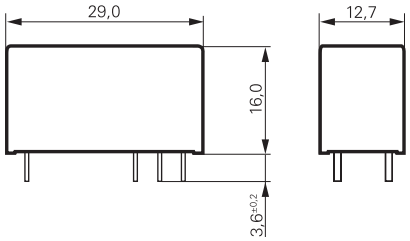
| | |
|---|---|
| Terminal type | PCB-THT, plug-in |
| Mounting distance | ≥5mm |
| Weight | 14g |
| Resistance to soldering heat THT, IEC 60068-2-20 | |
| RTII | 270°C/10s |
| RTIII | 260°C/5s |
| Packaging/unit | tube/20 pcs., box/500 pcs. |

### 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.

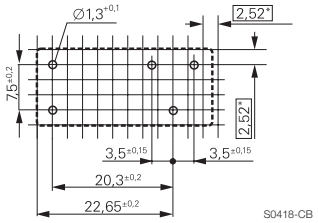
**Dimensions**



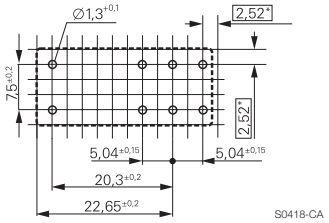

**PCB layout / terminal assignment**

Bottom view on solder pins

12A, pinning 3.5mm

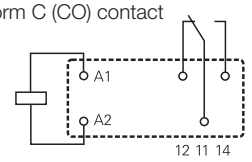



16A, pinning 5mm

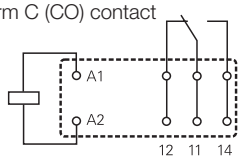



*) With the recommended PCB hole sizes a grid pattern from 2.5mm to 2.54mm can be used.

1 form C (CO) contact




1 form C (CO) contact




### 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
**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 |
|---|---|---|---|---|---|---|
| RT31C012 | 16A, pinning 5mm | 1 form C (CO) | AgNi 90/10 | DC coil | 12 VDC | 1415900-2 |
| RT31C024 | flux proof | bifurcated contact | | | 24 VDC | 1415900-7 |
| RTB7D012 | 12A, 3.5mm | | AgNi 90/10 | | 12 VDC | 1415900-5 |
| RTB7D024 | wash tight | | gold plated | | 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.



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