

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 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 ⁻¹ | |
| 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 |
|--------------------|-------------|------------------------------------|---------------------|
| IEC 61810 | | | |
| RT314 DC-coil | A (NO) | 16A, 250VAC, cosφ=1, 85°C | 30x10 ³ |
| RT314 DC-coil | C (CO) | 16A, 250VAC, cosφ=1, 85°C | 10x10 ³ |
| RT314 DC-coil | A (NO) | 10A, 400VAC, cosφ=1, 85°C | 150x10 ³ |
| RT114 DC-coil | A (NO) | 12A, 250VAC, cosφ=1, 85°C | 50x10 ³ |
| RT114 AC-coil | A (NO) | 12A, 250VAC, cosφ=1, 70°C | 100x10 ³ |
| UL 508 | | | |
| RT314 | A/B (NO/NC) | 20A, 250VAC, general purpose, 85°C | 6x10 ³ |
| RT334 | A (NO) | 16A, 250VAC, gen. purpose, 85°C | 50x10 ³ |
| RT314 | A (NO) | 1hp, 240VAC, 40°C | 1x10 ³ |
| 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 ³ |

Contact Data (continued)

Contact ratings

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

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

Mechanical endurance >30x10⁶ operations

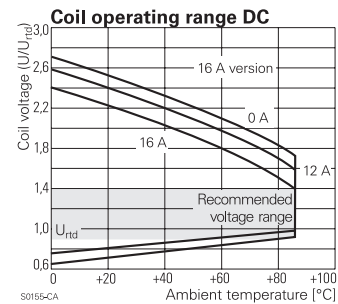
Coil Data

| | |
|-------------------------------------|-------------|
| Coil voltage range | 5 to 110VDC |
| Operative system, 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 _{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 (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. |

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

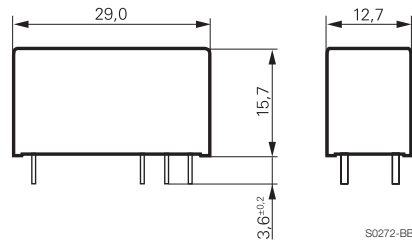
| | |
|--------------------------------------|---------------------------------------|
| Ambient temperature | -40 to 85°C |
| Category of environmental protection | |
| IEC 61810 | RTII - flux proof, RTIII - wash tight |
| Vibration resistance (functional) | |
| form A/form B contact, 30 to 500Hz |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

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

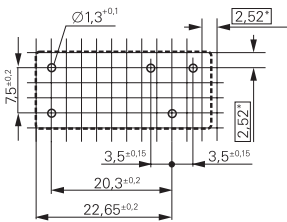


PCB layout / terminal assignment

Bottom view on solder pins

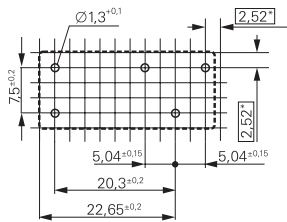
*) With the recommended PCB hole sizes a grid pattern from 2.5mm to 2.54mm can be used.

12A, pinning 3.5mm



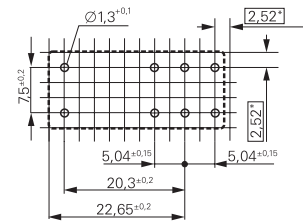
S0418-CB

12A, pinning 5mm



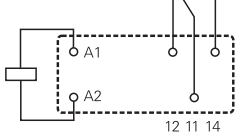
S0418-CN

16A, pinning 5mm



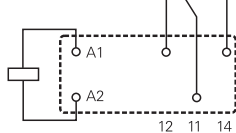
S0418-CA

1 form C (CO) contact



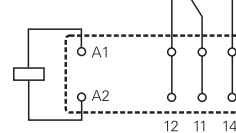
S0163-BG

1 form C (CO) contact



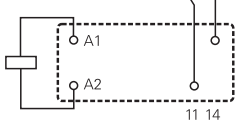
S0163-BC

1 form C (CO) contact



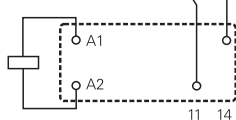
S0163-BE

1 form A (NO) contact



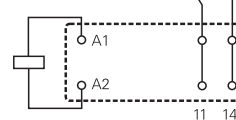
S0163-BH

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 | | <ul style="list-style-type: none"> 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 | | <ul style="list-style-type: none"> 1 1 form C (CO) contact 3 1 form A (NO) contact | | | | | | |
| Contact material | | <ul style="list-style-type: none"> 4 AgNi 90/10 | | | | | | |
| Coil | | Coil code: please refer to coil versions table | | | | | | |
| Version | | <ul style="list-style-type: none"> 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 | 16A, pinning 5mm, flux proof | 1 form C (CO) contact | | 12VDC | 5-1415020-1 |
| RT134024F | | 1 form A (NO) contact | | 24VDC | 2-1393242-1 |
| RT314005F | 12A, pinning 3.5mm, flux proof | 1 form C (CO) contact | | 5VDC | 1419108-8 |
| RT314012F | | 1 form A (NO) contact | | 12VDC | 2-1393237-2 |
| RT314024F | 12A, pinning 3.5mm, wash tight | 1 form C (CO) contact | | 24VDC | 2-1393237-3 |
| RT334012F | | 1 form A (NO) contact | | 12VDC | 2-1393237-5 |
| RT334024F | 16A, pinning 3.5mm, wash tight | 1 form C (CO) contact | | 24VDC | 2-1393237-7 |
| RTB14005F | | 1 form A (NO) contact | | 5VDC | 2-1419108-4 |
| RTB14012F | 16A, pinning 5mm, flux proof | 1 form C (CO) contact | | 12VDC | 2-1419108-5 |
| RTB14024F | | 1 form A (NO) contact | | 24VDC | 2-1419108-6 |
| RTB34012F | 12A, pinning 3.5mm, wash tight | 1 form C (CO) contact | | 12VDC | 2-1419108-7 |
| RTD14005F | | 1 form A (NO) contact | | 5VDC | 2-1419108-8 |
| RTD14012F | 16A, pinning 3.5mm, wash tight | 1 form C (CO) contact | | 12VDC | 2-1419108-9 |
| RTD14024F | | 1 form A (NO) contact | | 24VDC | 3-1419108-1 |
| RTD34012F | 12A, pinning 3.5mm, wash tight | 1 form C (CO) 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

Mouser Electronics

Authorized Distributor

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[TE Connectivity:](#)

[RTD14012F](#)