

Power PCB Relay RT1 Inrush Power

- 1 pole 16A, 1 form A (NO) contact (W pre-make contact + AgSnO₂)
- 165A/20ms inrush peak current
- Mono- or bistable coil
- 5kV/10mm coil-contact
- Reinforced insulation
- Test tab (manual operator) optional
- WG version: product in accordance to IEC60335-1

Typical applications

Lighting systems, movement sensors, filament and incandescent lamp loads, motors.



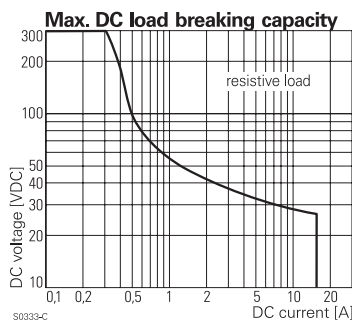
Approvals

VDE Cert. No. 40007571, UL E214025, cCSAus 1142018
Technical data of approved types on request.

| Contact Data | RT.3T | RTS3L |
|--|--|--------------------|
| Contact arrangement | 1 form A (NO) contact | |
| Rated voltage | 250VAC | |
| Max. switching voltage | 400VAC | |
| Rated current | 16A | |
| Limiting continuous current | 16A, UL: 20A (RTS3L) | |
| Limiting making current, max. 20ms (incand. lamps) | 165A | 120A |
| Breaking capacity max. | 4000VA | |
| Contact material | W (pre-make cont.) +AgSnO ₂ | AgSnO ₂ |
| Contact style | pre-make contact | single contact |
| Frequency of operation, with/without load | 360/3600h ⁻¹ | |
| Operate/release time max., DC coil | 10/5ms | |
| Operate/Reset time max., bistable version | 10/10ms | |
| Bounce time max. | 4ms | |

Contact ratings

| Type | Contact | Load | Cycles |
|-------------------------|-----------------------------|--|---------------------|
| IEC 61810 | | | |
| RTS3L | A (NO) | 20A, 250VAC resistive, 70°C | 20x10 ³ |
| RTS3L monostable A (NO) | 16A, 250VAC resistive, 85°C | | 100x10 ³ |
| RTS3T | A (NO) | 16A, 250VAC resistive, 85°C | 5x10 ³ |
| UL 508 | | | |
| RTS3L | A (NO) | 20A, 250VAC, general purpose, 70°C | 20x10 ³ |
| RTS3L | A (NO) | 16A, 250VAC, resistive, 85°C | 50x10 ³ |
| RTS3L | A (NO) | TV8, 240VAC, 40°C | 25x10 ³ |
| RTS3L | A (NO) | 1.5hp, 240VAC, 70°C | 30x10 ³ |
| RTS3T | A (NO) | 1200W Tungsten, 120VAC/277VAC, 60Hz, 50°C | 6x10 ³ |
| RTS3T | A (NO) | 620W Discharge lamps (standard ballast), 120VAC/277VAC, 60Hz, 50°C | 6x10 ³ |



Contact Data (continued)

| | | |
|-----------------------|-------------------------|--------------------------|
| Mechanical endurance | | |
| DC coil | >5x10 ⁶ ops. | >10x10 ⁶ ops. |
| bistable version | >3x10 ⁶ ops. | >5x10 ⁶ ops. |
| tab manually operated | >1x10 ⁶ ops. | - |

Coil Data, monostable DC coil

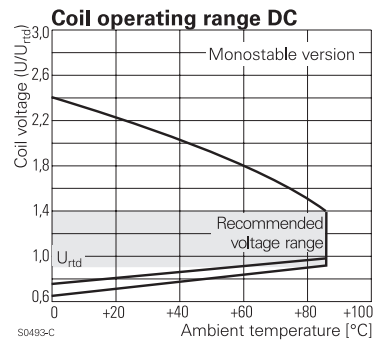
| | |
|---|-------------|
| Coil voltage range | 5 to 110VDC |
| Operative range, IEC 61810 | 2 |
| Coil insulation system according UL1446 | class F |

Coil versions, monostable DC coil

| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ω±10% ¹⁾ | 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 | 203 | 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 ¹⁾ | 420 |
| 110 | 110 | 77.0 | 11.0 | 28800 ¹⁾ | 420 |

1) Coil resistance ±12%.

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



Coil Data, bistable coils

| | 1 coil | 2 coils |
|---|-------------------------------|---------|
| Magnetic system | polarized, bistable | |
| Coil voltage range | 3 to 24VDC | |
| Operative range, IEC 61810 | 2 | |
| Limiting voltage, % of rated coil voltage | 120% | 150% |
| Min./Max. energization duration | 30ms/1min at <10% duty factor | |
| Coil insulation system according UL1446 | class F | |

Power PCB Relay RT1 Inrush Power (Continued)

Coil Data (continued)

Coil versions, bistable

| Coil code | Rated voltage VDC | Set voltage VDC | Reset voltage VDC | Coil resistance $\Omega \pm 10\%$ | Rated coil power mW |
|-----------|-------------------|-----------------|-------------------|-----------------------------------|---------------------|
| A03 | 3 | 2.1 | 1.7 | 21 | 429 |
| A12 | 12 | 8.4 | 6.6 | 360 | 400 |
| A24 | 24 | 16.8 | 13.2 | 1440 | 400 |

Coil versions, bistable 1 coil

| | | | | | |
|-----|----|------|------|------|-----|
| A03 | 3 | 2.1 | 1.7 | 21 | 429 |
| A12 | 12 | 8.4 | 6.6 | 360 | 400 |
| A24 | 24 | 16.8 | 13.2 | 1440 | 400 |

Coil versions, bistable 2 coils

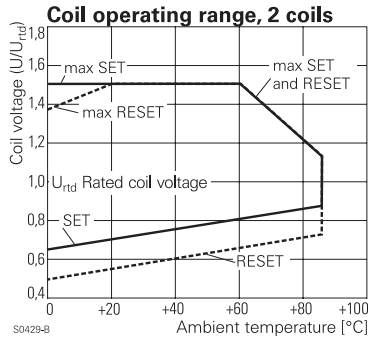
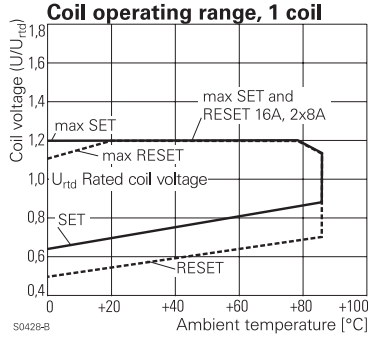
| | | | | | |
|-----|----|------|------|-----|-----|
| F03 | 3 | 2.1 | 1.7 | 15 | 600 |
| F12 | 12 | 8.4 | 6.6 | 240 | 600 |
| F24 | 24 | 16.8 | 13.2 | 886 | 650 |

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

Bistable coils - operation

| Version | 1 coil | | 2 coils | | |
|----------------|--------|----|---------|----|----|
| Coil terminals | A1 | A2 | A1 | A3 | A2 |
| Operate | + | - | - | + | - |
| Reset | - | + | - | + | - |

Contact position not defined at delivery



Insulation Data

| | |
|------------------------------------|----------------------|
| Initial dielectric strength | |
| between open contacts | 1250V _{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

| | RT.3T | RTS3L |
|---|--------------------------------|-------------------------------|
| 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 | | |
| monostable DC coil | | -40 to 85°C |
| bistable 1 coil | | -10 to 85°C |
| bistable 2 coils | | -40 to 85°C |
| Category of environmental protection | | |
| IEC 61810 | | RTII - flux proof |
| Vibration resistance (functional), monostable version | 10g | 20g |
| Shock resistance (destructive) | | 100g |
| Terminal type | PCB-THT, plug-in ²⁾ | |
| Weight, without / with test tab | 14/16g | 14g/- |
| Resistance to soldering heat THT | | |
| IEC 60068-2-20 | 270°C/10s | |
| Packaging/unit | | |
| without test tab | tube/20 pcs., box/500 pcs. | tube/20 pcs., box/500 pcs. |
| with test tab | tray/25 pcs., box/100 pcs. | - - |

2) RTT3T or bistable 2 coil version: PCB mounting only. See Accessories.

Accessories RTS3.

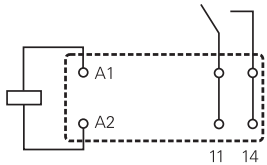
For details see datasheet [Accessories Industrial Power Relay RT](#)
Socket available for 1 coil version only.
NOTE: indicated contact ratings and electrical endurance data for direct wiring of relays (according IEC 61810-1); for relays mounted on sockets deratings may apply.

Power PCB Relay RT1 Inrush Power (Continued)

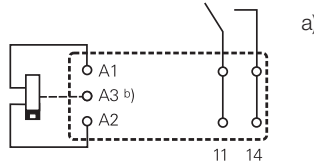
Terminal assignment

Bottom view on solder pins

monostable version



bistable version

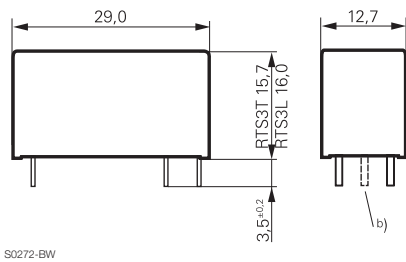


a) Indicated contact position during or after coil energization with reset voltage.

b) for 2 coil version only

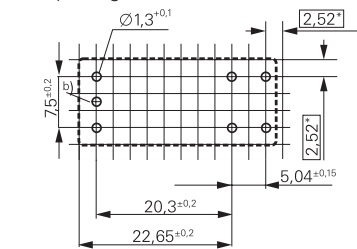
Dimensions / PCB layout

version without test tab



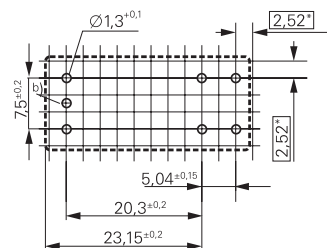
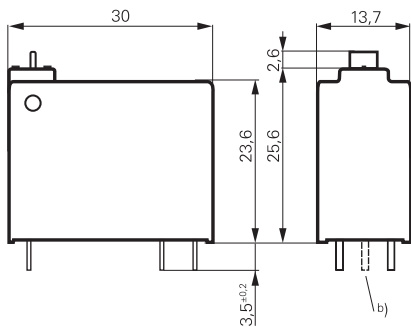
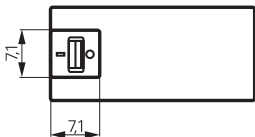
S0272-BW

16A, pinning 5mm



b) for 2 coil version only

version with test tab



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

Power PCB Relay RT1 Inrush Power (Continued)

| | | | | | | | | | | |
|-------------------------------|--|--------------------------------------|----------|--|--|-----------|----------|----------|----------|------------|
| Product code structure | | Typical product code | | | | RT | S | 3 | T | A12 |
| Type | RT | Power PCB Relay RT1 Inrush Power | | | | | | | | |
| Version | S | Without test tab | T | With test tab (manual operator) for contact material, T' and bistable coil only | | | | | | |
| Contact configuration | 3 | 1 form A (NO) contact | | | | | | | | |
| Contact material | L | AgSnO ₂ | T | Tungsten (W) pre-make + AgSnO ₂ | | | | | | |
| Coil | Coil code: please refer to coil versions table | | | | | | | | | |
| Version | Blank | Standard Version | | | | | | | | |
| | WG | Product in accordance to IEC 60335-1 | | | | | | | | |

| Product code | Version | Contacts | Contact material | Coil version | Coil | Version | Part number | | | | |
|--------------|----------------------------------|--------------------------|---------------------------------|-----------------------------------|-------------------------|----------|--------------------|-------------|-------|-------------------------|-------------|
| RTS3L005 | Without test tab, 16mm high | 1 form A (NO) contact | AgSnO ₂ | Monostable | 5VDC | Standard | 1-1415898-8 | | | | |
| RTS3L006 | | | | | 6VDC | | 4-1415898-4 | | | | |
| RTS3L012 | Without test tab, 15.7mm high | | W pre-make + AgSnO ₂ | Monostable | 12VDC | | 1-1415898-9 | | | | |
| RTS3L024 | | | | | 24VDC | | 1-1415898-4 | | | | |
| RTS3LA12 | | | | | Bistable, 1 coil | | 12VDC | 2-1415898-3 | | | |
| RTS3LF12 | | | | | Bistable, 2 coils | | | 2-1415898-5 | | | |
| RTS3T005 | | | | | 5VDC | | 1-1415898-6 | | | | |
| RTS3T012 | | | | | 12VDC | | 1415898 | | | | |
| RTS3T024 | 24VDC | 1415898-1 | | | | | | | | | |
| RTS3T048 | 48VDC | 1-1415898-1 | | | | | | | | | |
| RTS3T060 | 60VDC | 1-1415898-2 | | | | | | | | | |
| RTS3TA05 | With test tab, 23.6mm high | | | Bistable, 1 coil | 5VDC | | 1-1415898-5 | | | | |
| RTS3TA06 | | | | 6VDC | 3-1415898-1 | | | | | | |
| RTS3TA12 | | | | 12VDC | 1415898-2 | | | | | | |
| RTS3TF03 | | | | Bistable, 2 coils | 3VDC | | 1415898-4 | | | | |
| RTS3TF12 | | | | 12VDC | 1415898-5 | | | | | | |
| RTS3TF24 | | | | 24VDC | 1415898-6 | | | | | | |
| RTT3TA12 | | | | Bistable, 1 coil | 12VDC | | 1415898-7 | | | | |
| RTT3TF24 | | | | Bistable, 2 coils | 24VDC | | 1-1415898-0 | | | | |
| RTS3L012WG | | | | Without test tab, 15.7 mm high | 1form A (NO) contact | | AgSnO ₂ | Monostable | 12VDC | IEC60335-1 compliant | 2-1415898-7 |
| RTS3L024WG | | | | | | | | | 24VDC | | 5-1415898-1 |
| RTS3T012WG | 12VDC | 5-1415898-6 | | | | | | | | | |
| RTS3TA24WG | Bistable 1 coil | 24VDC | 4-1415898-7 | | | | | | | | |

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