

Power PCB Relay RT Inrush Power

- 1 pole 16A, 1 form A (NO) contact (AgSnO₂ or W pre-make contact + AgSnO₂)
- Mono- or bistable coil
- 5kV/10mm coil-contact
- Reinforced insulation
- Test tab (manual operator) optional for RTT3T bistable versions
- WG version: product in accordance to IEC60335-1
- RTS3T: Electronic ballast UL508/NEMA 410 rated
- RTSET: 8A Electronic ballast rated

Typical applications

LED lighting systems, filament and incandescent lamp loads, movement detectors, light sensors, intelligent wall sockets, motors (RTS3L), bus system actuators.

Approvals

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

Technical data of approved types on request.

| Contact Data | RT.3T / RTSET | RTS3L |
|---|---|--------------------|
| Contact arrangement | 1 form A (NO) contact | |
| Rated voltage | 250VAC | |
| Max. switching voltage | 480VAC | |
| Rated current | 16A | |
| Limiting continuous current | 16A | 20A |
| Limiting making current, max. 20ms (incand. lamps) | 165A peak | 120A peak |
| max. 200µs | 800A peak | |
| 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 |

In process:

| Type | Contact | Load | Cycles |
|-------|---------|-----------------------------|-------------------|
| RTSET | 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 * |

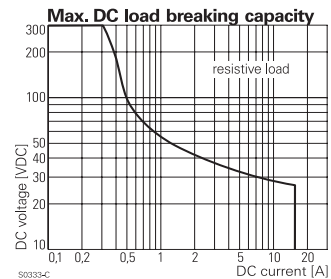
| | | | |
|-------|--------|---------------------------------------|----------------------|
| RTS3T | A (NO) | 2A, 480VAC, magnetic ballast, 80°C | 10x10 ³ * |
| RTS3T | A (NO) | 2A, 480VAC, electronic ballast, 80°C | 10x10 ³ * |
| RTS3T | A (NO) | 3A, 277VAC, electronic ballast, 80°C | 15x10 ³ |
| RTS3T | A (NO) | 5A, 120VAC, electronic ballast, 80°C | 15x10 ³ |
| RTS3T | A (NO) | 5A, 277VAC, electronic ballast, 85°C | 10x10 ³ |
| RTS3T | A (NO) | 5A, 347VAC, electronic ballast, 105°C | 10x10 ³ * |
| RTS3T | A (NO) | 5A, 347VAC, magnetic ballast, 105°C | 10x10 ³ * |
| RTS3T | A (NO) | 3A, 480VAC, magnetic ballast, 105°C | 10x10 ³ * |
| RTSET | A (NO) | 16A, 250VAC, general purpose, 85°C | 5x10 ³ |
| RTSET | A (NO) | 8A, 277VAC, electronic ballast, 85°C | 6x10 ³ |
| RTSET | A (NO) | 5A, 277VAC, electronic ballast, 85°C | 10x10 ³ |
| RTSET | A (NO) | 3A, 277VAC, electronic ballast, 85°C | 20x10 ³ |
| RTSET | A (NO) | 5A, 120VAC, electronic ballast, 85°C | 20x10 ³ |

| | | | |
|-------|--------|---------------------------------------|----------------------|
| RTS3T | A (NO) | 2A, 480VAC, magnetic ballast, 80°C | 10x10 ³ * |
| RTS3T | A (NO) | 2A, 480VAC, electronic ballast, 80°C | 10x10 ³ * |
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| RTS3T | A (NO) | 5A, 277VAC, electronic ballast, 85°C | 10x10 ³ |
| RTS3T | A (NO) | 5A, 347VAC, electronic ballast, 105°C | 10x10 ³ * |
| RTS3T | A (NO) | 5A, 347VAC, magnetic ballast, 105°C | 10x10 ³ * |
| RTS3T | A (NO) | 3A, 480VAC, magnetic ballast, 105°C | 10x10 ³ * |
| RTSET | A (NO) | 16A, 250VAC, general purpose, 85°C | 5x10 ³ |
| RTSET | A (NO) | 8A, 277VAC, electronic ballast, 85°C | 6x10 ³ |
| RTSET | A (NO) | 5A, 277VAC, electronic ballast, 85°C | 10x10 ³ |
| RTSET | A (NO) | 3A, 277VAC, electronic ballast, 85°C | 20x10 ³ |
| RTSET | A (NO) | 5A, 120VAC, electronic ballast, 85°C | 20x10 ³ |

| | | | |
|-------|--------|---------------------------------------|----------------------|
| RTS3T | A (NO) | 2A, 480VAC, magnetic ballast, 80°C | 10x10 ³ * |
| RTS3T | A (NO) | 2A, 480VAC, electronic ballast, 80°C | 10x10 ³ * |
| RTS3T | A (NO) | 3A, 277VAC, electronic ballast, 80°C | 15x10 ³ |
| RTS3T | A (NO) | 5A, 120VAC, electronic ballast, 80°C | 15x10 ³ |
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| RTSET | A (NO) | 16A, 250VAC, general purpose, 85°C | 5x10 ³ |
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| RTSET | A (NO) | 5A, 277VAC, electronic ballast, 85°C | 10x10 ³ |
| RTSET | A (NO) | 3A, 277VAC, electronic ballast, 85°C | 20x10 ³ |
| RTSET | A (NO) | 5A, 120VAC, electronic ballast, 85°C | 20x10 ³ |

| | | | |
|-------|--------|---------------------------------------|----------------------|
| RTS3T | A (NO) | 2A, 480VAC, magnetic ballast, 80°C | 10x10 ³ * |
| RTS3T | A (NO) | 2A, 480VAC, electronic ballast, 80°C | 10x10 ³ * |
| RTS3T | A (NO) | 3A, 277VAC, electronic ballast, 80°C | 15x10 ³ |
| RTS3T | A (NO) | 5A, 120VAC, electronic ballast, 80°C | 15x10 ³ |
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| RTSET | A (NO) | 16A, 250VAC, general purpose, 85°C | 5x10 ³ |
| RTSET | A (NO) | 8A, 277VAC, electronic ballast, 85°C | 6x10 ³ |
| RTSET | A (NO) | 5A, 277VAC, electronic ballast, 85°C | 10x10 ³ |
| RTSET | A (NO) | 3A, 277VAC, electronic ballast, 85°C | 20x10 ³ |
| RTSET | A (NO) | 5A, 120VAC, electronic ballast, 85°C | 20x10 ³ |

* Special test conditions available on request



Contact Data (continued),

| Mechanical endurance | RT.3T / RTSET | RTS3L |
|-----------------------|--|--------------------------|
| DC coil | >5x10 ⁶ ops. | >10x10 ⁶ ops. |
| bistable version | >3x10 ⁶ / >1x10 ⁶ ops. | >5x10 ⁶ ops. |
| tab manually operated | >1x10 ³ ops. | - |

Coil Data, monostable DC coil

| Coil voltage range | RT.3T | RTSET | RTS3L |
|---|-------------|-------|-------|
| Coil voltage range | 5 to 110VDC | | |
| Operative range, IEC 61810 | 2 | | |
| Coil insulation system according UL1446 | class F | | |

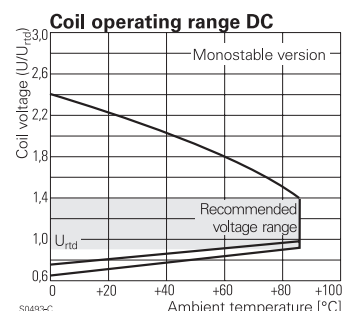
Coil versions, monostable DC coil

| 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.



Power PCB Relay RT Inrush Power (Continued)

Coil Data (continued),

| 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 | |

Coil Data RT.3T RTS3L

Coil versions, bistable

| Coil code | Rated voltage VDC | Set voltage VDC | Reset voltage VDC | Coil resistance $\Omega \pm 10\%$ | Rated coil power mW |
|-----------|-------------------|-----------------|-------------------|-----------------------------------|---------------------|
|-----------|-------------------|-----------------|-------------------|-----------------------------------|---------------------|

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.

Coil Data RTSET

Coil versions, bistable

| Coil code | Rated voltage VDC | Set voltage VDC | Reset voltage VDC | Coil resistance $\Omega \pm 10\%$ | Rated coil power mW |
|-----------|-------------------|-----------------|-------------------|-----------------------------------|---------------------|
|-----------|-------------------|-----------------|-------------------|-----------------------------------|---------------------|

Coil versions, bistable 1 coil

| | | | | | |
|-----|----|------|------|------|-----|
| A03 | 3 | 2.1 | 1.8 | 21 | 429 |
| A12 | 12 | 8.4 | 7.2 | 360 | 400 |
| A24 | 24 | 16.8 | 14.4 | 1440 | 400 |

Coil versions, bistable 2 coils

| | | | | | |
|-----|----|------|------|-----|-----|
| F03 | 3 | 2.1 | 1.8 | 15 | 600 |
| F12 | 12 | 8.4 | 7.2 | 240 | 600 |
| F24 | 24 | 16.8 | 14.4 | 886 | 650 |

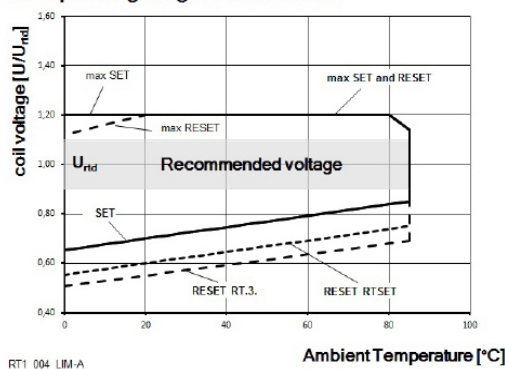
All figures are given for coil without pre-energization, at ambient temperature +23°C.
Other coil voltages on request.

Bistable coils - operation

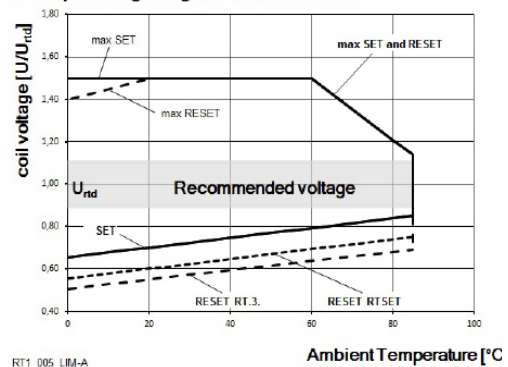
| Version | 1 coil | | | 2 coils | | |
|----------------|--------|----|--|---------|----|----|
| Coil terminals | A1 | A2 | | A1 | A3 | A2 |
| Operate | + | - | | + | - | |
| Reset | - | + | | - | + | |

Contact position not defined at delivery

Coil operating range: 1 bistable coil



Coil operating range: 2 bistable coils



Insulation Data

| | |
|------------------------------------|---------------------|
| Initial dielectric strength | |
| between open contacts | 1250V _{ms} |
| between contact and coil | 5000V _{ms} |
| Clearance/creepage | |
| between contact and coil | ≥10/10mm |
| Material group of insulation parts | IIla |
| 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

Ambient temperature RT.3T / RTS3L

| | |
|--------------------|--------------|
| monostable DC coil | -40 to 105°C |
| bistable 1 coil | -10 to 105°C |
| bistable 2 coils | -40 to 105°C |

Ambient temperature RTSET

| | |
|--------------------|-------------|
| monostable DC coil | -40 to 85°C |
| bistable 1 coil | -10 to 85°C |
| bistable 2 coils | -40 to 85°C |

| | RT.3T / RTSET | RTS3L |
|---|--------------------------------|-------|
| Category of environmental protection | IEC 61810 | |
| | RTII - flux proof | |
| RTIII - wash tight available upon request | | |
| 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 | 270°C/10s | |
| IEC 60068-2-20 | | |

| | RT.3T / RTSET | RTS3L |
|------------------|----------------------------|----------------------------|
| 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 RTS.

For details see datasheet [Accessories Industrial Power Relay RT](#)
Socket available for 1 coil version only.

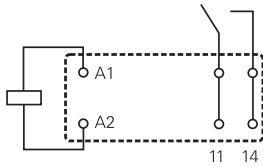
NOTE: indicated contact ratings and electrical endurance data for direct wiring of relays (according IEC 61810-1); for relays mounted on sockets deratings may apply.

Power PCB Relay RT Inrush Power (Continued)

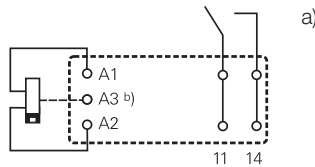
Terminal assignment

Bottom view on solder pins

monostable version



bistable version

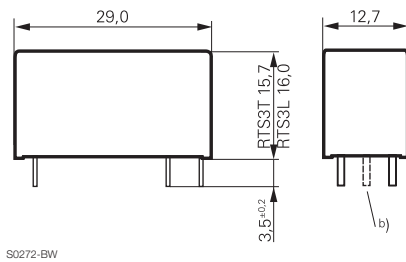


a) Indicated contact position during or after coil energization with reset voltage.

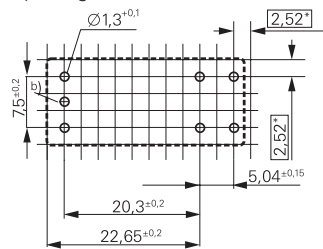
b) for 2 coil version only

Dimensions / PCB layout

version without test tab

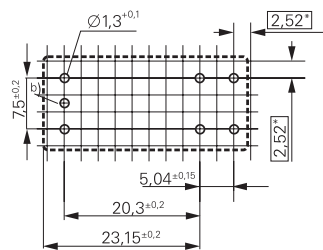
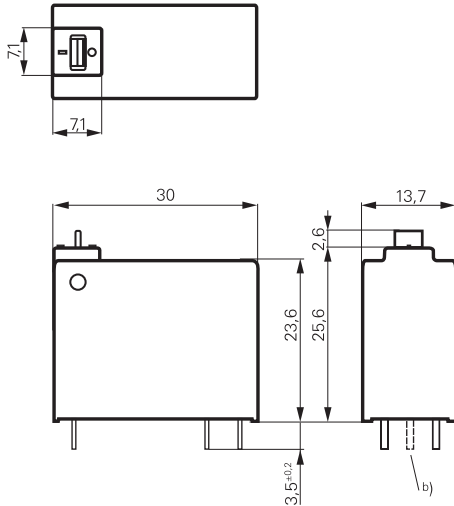


16A, pinning 5mm



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 RT 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 version ,RTT3T' bistable coil only

Contact configuration
3 1 form A (NO) contact

E 1 form A(NO) ,electronic ballast' contact

Contact material
L AgSnO₂
T Tungsten (W) pre-make + AgSnO₂
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 | | | | | 12VDC | | 1-1415898-9 |
| RTS3L024 | | | | | 24VDC | | 1-1415898-4 |
| RTS3LA12 | | | | Bistable, 1 coil | 12VDC | | 2-1415898-3 |
| RTS3LF12 | | | | | 12VDC | | 2-1415898-5 |
| RTS3LF24 | | | | Bistable, 2 coils | 24VDC | | 2-1415898-6 |
| RTS3T005 | | | | | 24VDC | | 2-1415898-6 |
| RTS3T012 | Without test tab, 15.7mm high | | W pre-make + AgSnO ₂ | Monostable | 5VDC | | 1-1415898-6 |
| RTS3T024 | | | | | 12VDC | | 1415898 |
| RTS3L048 | | | | | 24VDC | | 1415898-1 |
| RTS3T048 | | | | | 48VDC | | 2-1415898-1 |
| RTS3T060 | | | | | 48VDC | | 1-1415898-1 |
| RTS3TA05 | | | | | 60VDC | | 1-1415898-2 |
| RTS3TA06 | | | | | 5VDC | | 1-1415898-5 |
| RTS3TA12 | | | | | 6VDC | | 3-1415898-1 |
| RTS3TF03 | | | | Bistable, 1 coil | 12VDC | | 1415898-2 |
| RTS3TF12 | | | | | 12VDC | | 1415898-4 |
| RTS3TF24 | | | | | 3VDC | | 1415898-4 |
| RTT3TA12 | | | | | 12VDC | | 1415898-5 |
| RTT3TF12 | With test tab, 23.6mm high | | | Bistable, 2 coils | 24VDC | | 1415898-6 |
| RTT3TF24 | | | | | 12VDC | | 1415898-7 |
| RTS3L012WG | | | | | 24VDC | | 1-1415898-0 |
| RTS3L024WG | | | | | 24VDC | | 1-1415898-0 |
| RTS3T012WG | Without test tab, 15.7 mm high | 1 form A (NO) contact | AgSnO ₂ | Monostable | 12VDC | IEC60335-1 compliant | 2-1415898-7 |
| RTS3TA24WG | | | | | 24VDC | | 5-1415898-1 |
| RTSET005 | | | | | 12VDC | | 5-1415898-6 |
| RTSET012 | | | | | 24VDC | | 4-1415898-7 |
| RTSET024 | Without test tab, 15.7mm high | 1 form A (NO) contact | W pre-make + AgSnO ₂ | Monostable | 5VDC | Standard | 7-1415898-7 |
| RTSETA12 | | | | | 12VDC | | 7-1415898-9 |
| RTSETA24 | | | | | 24VDC | | 8-1415898-0 |
| RTSETF12 | | | | | 12VDC | | 8-1415898-6 |
| RTSETF24 | | | | Bistable, 1 coil | 12VDC | | 8-1415898-6 |
| | | | | | 24VDC | | 8-1415898-7 |
| | | | | | 12VDC | | 9-1415898-1 |
| | | | | | 24VDC | | 9-1415898-3 |

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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[1-1415898-0](#)