

Power PCB Relay RT2 DC and AC (for global markets)

- 2 pole 8A, 2 form C (CO) or 2 form A (NO) contacts
- DC or AC coil
- 5kV/10mm coil-contact, reinforced insulation
- Ambient temperature up to 85°C
- WG version: product in accordance to IEC60335-1
- Reflow version: for THR (Through-Hole Reflow) soldering process



Typical applications
Boiler control, timers, garage door control, POS automation, interface modules.



Approvals

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

Contact Data

| | |
|---|--|
| Contact arrangement | 2 form C (CO) or 2 form A (NO) |
| Rated voltage | 250VAC |
| Max. switching voltage | 400VAC |
| Rated current | 8A, UL: 10A |
| Limiting continuous current | 8A, UL: 10A |
| Limiting making current, max. 4s, duty factor 10% | 15A |
| Breaking capacity max. | 2000VA |
| Contact material | AgNi 90/10, AgNi 90/10 gold plated, AgSnO ₂ |
| Frequency of operation, with/without load | |
| DC coil | 360/72000h ⁻¹ |
| AC coil | 360/36000h ⁻¹ |
| Operate/release time max., DC coil | 8/6ms |
| Bounce time max., DC coil, form A/form B | 4/10ms |
| Electrical endurance | see electrical endurance graph ¹⁾ |

Contact ratings

| Type | Contact | Load | Cycles |
|------------------|---------|--------------------------|--------------------|
| IEC 61810 | | | |
| RT424 DC coil | C (CO) | 8A, 250VAC, cosφ=1, 85°C | 10x10 ³ |
| RT444 AC coil | A (NO) | 8A, 250VAC, cosφ=1, 70°C | 50x10 ³ |
| RT424 AC coil | C (CO) | 8A, 250VAC, cosφ=1, 70°C | 30x10 ³ |

UL 508

| | | | |
|---------------|-------------|---------------------------------|--------------------|
| RT424 DC coil | A/B (NO/NC) | 10A, 250VAC, gen. purpose, 85°C | 20x10 ³ |
| RT424 DC coil | A/B (NO/NC) | 1/2hp, 240VAC, 85°C | 1x10 ³ |
| RT424 DC coil | A/B (NO/NC) | Pilot duty, B300, R300, 85°C | 6x10 ³ |

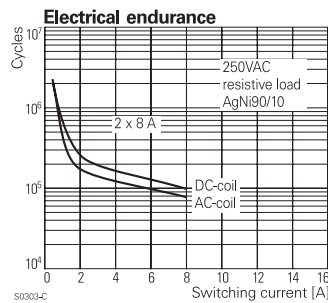
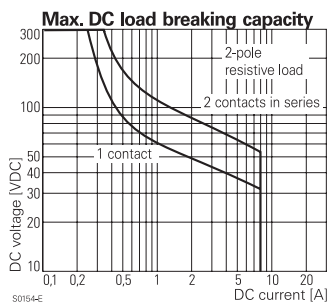
EN60947-5-1

| | | | |
|---------------|-------------|--------------------|-------|
| RTE24 DC coil | A/B (NO/NC) | AC15, 250VAC, 3A | 6.050 |
| RTE24 DC coil | A/B (NO/NC) | DC13, 24VDC, 2A | 6.050 |
| RTE24 DC coil | A/B (NO/NC) | DC13, 250VDC, 0.2A | 6.050 |

EN60730-1

| | | | |
|---------------|-------------|---------------------|---------------------|
| RT424 DC coil | A/B (NO/NC) | 6(2)A, 250VAC, 85°C | 100x10 ³ |
|---------------|-------------|---------------------|---------------------|

1) For reflow solderable versions: actual contact performance may be influenced by the reflow soldering process.



Contact Data (continued)

| | |
|-------------------------|--------------------------------|
| Mechanical endurance | |
| DC coil | >30x10 ⁶ operations |
| DC coil, reflow version | >10x10 ⁶ operations |
| AC coil | >5x10 ⁶ operations |
| AC coil, reflow version | >2x10 ⁶ operations |

Coil Data

| | |
|-------------------------------------|----------------------------|
| Coil voltage range, DC coil/AC coil | 5 to 110VDC / 24 to 230VAC |
| Operative range, IEC 61810 | 2 |
| Coil insulation system according UL | class F |

Coil versions, DC coil

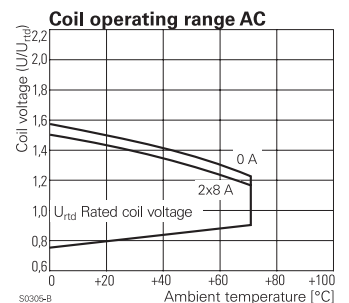
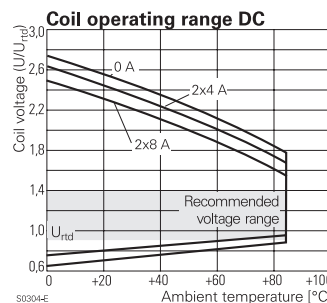
| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ω±10% ²⁾ | Rated coil power mW |
|-----------|-------------------|---------------------|---------------------|-------------------------------------|---------------------|
| 005 | 5 | 3.5 | 0.5 | 62 | 403 |
| 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 |
| 060 | 60 | 42.0 | 6.0 | 8570 ²⁾ | 420 |
| 110 | 110 | 77.0 | 11.0 | 28800 ²⁾ | 420 |

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

Coil versions, AC coil 50Hz

| Coil code | Rated voltage VAC | Operate voltage VAC | Release voltage VAC | Coil resistance Ω±15% ³⁾ | Rated coil power VA |
|-----------|-------------------|---------------------|---------------------|-------------------------------------|---------------------|
| 524 | 24 | 18.0 | 3.6 | 350 ³⁾ | 0.76 |
| 615 | 115 | 86.3 | 17.3 | 8100 | 0.76 |
| 620 | 120 | 90.0 | 18.0 | 8800 | 0.75 |
| 700 | 200 | 150.0 | 30.0 | 24350 | 0.76 |
| 730 | 230 | 172.5 | 34.5 | 32500 | 0.74 |

3) Coil resistance ±10%. All figures are given for coil without pre-energization, at ambient temperature +23°C, 50Hz. Other coil voltages on request.



Power PCB Relay RT2 DC and AC (for global markets) (Continued)

Insulation Data

| | |
|------------------------------------|----------------------|
| Initial dielectric strength | |
| between open contacts | 1000V _{rms} |
| between contact and coil | 5000V _{rms} |
| between adjacent contacts | 2500V _{rms} |
| Clearance/creepage | |
| between contact and coil | ≥10/10mm |
| between adjacent contacts | ≥3/4mm |
| Material group of insulation parts | IIIa |
| Tracking index of relay base | PTI 250V |
| reflow version | PTI 175V |

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

| | |
|---|---------------------------------------|
| Resistance to heat and fire | |
| WG version or reflow version | according EN60335, par30 |
| Ambient temperature | |
| DC coil | -40 to 85°C |
| AC coil | -40 to 70°C |
| AgSnO ₂ contacts | -40 to 70°C |
| Category of environmental protection, IEC 61810 | |
| standard version | RTII - flux proof, RTIII - wash tight |
| reflow version | RTII - flux proof |
| Vibration resistance (functional), form A/form B contact, 30 to 300Hz | 20g/5g |
| Shock resistance (destructive) | 100g |

Other Data (continued)

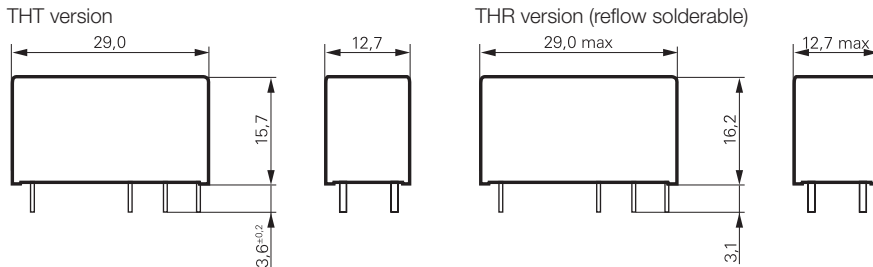
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|--|---|
| Terminal type | PCB-THT, plug-in |
| reflow version | PCB-THR |
| Mounting distance, AC coil | ≥2.5mm |
| Weight | 13g |
| Resistance to soldering heat THT, IEC 60068-2-20 | |
| RTII | 270°C/10s |
| RTIII | 260°C/5s |
| Resistance to soldering heat THR | |
| reflow soldering (for reflow version) | forced gas convection ⁴⁾ or vapour phase ⁵⁾ |
| temperature profile | according EN61730 |
| Packaging/unit | tube/20pcs., box/500pcs. |

4) infrared heating not allowed.
5) recommended fluid LS/230.

Accessories

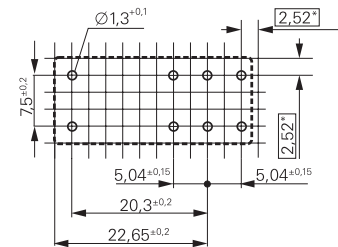
For details see datasheet [Accessories Industrial Power Relay RT](#)
NOTE: indicated contact ratings and electrical endurance data for direct wiring of relays (according IEC 61810-1); for relays mounted on sockets deratings may apply.

Dimensions



PCB layout / terminal assignment

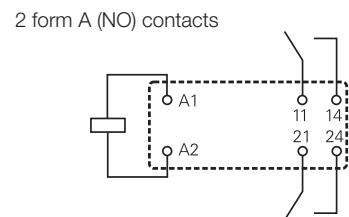
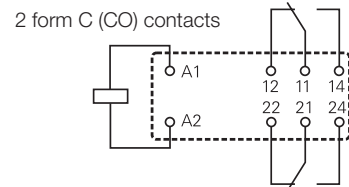
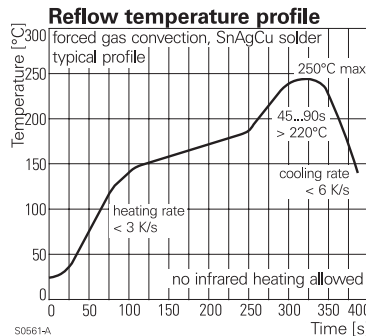
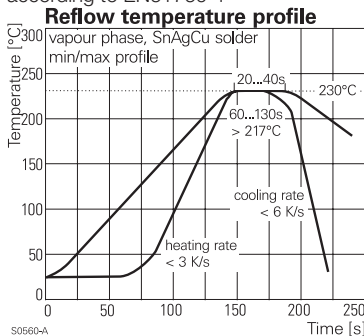
Bottom view on solder pins



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

Process conditions for Reflow soldering

according to EN61760-1



Power PCB Relay RT2 DC and AC (for global markets) (Continued)

| | | | | | | | |
|-------------------------------|--|---|-----------|----------|----------|----------|------------|
| Product code structure | | Typical product code | RT | 4 | 2 | 4 | 024 |
| Type | | RT Power PCB Relay RT2 | | | | | |
| Version | | 4 8A, pinning 5mm, flux proof E 8A, pinning 5mm, wash tight (not for Reflow version) | | | | | |
| Contact arrangement | | 2 2 form C (CO) contacts 4 2 form A (NO) contacts | | | | | |
| Contact material | | 3 AgSnO 4 AgNi 90/10 5 AgNi 90/10 gold plated | | | | | |
| Coil | | Coil code: please refer to coil versions table | | | | | |
| Version | | Blank Standard version WG Product in accordance with IEC 60335-1 (domestic appliances) R Reflow solderable | | | | | |

| Product code | Version | Contacts | Contact material | Coil | Version | Part number |
|--------------|--------------|---------------|------------------|--------|----------------------|-------------|
| RT423730 | 8A, | 2 form C (CO) | AgSnO | 230VAC | Standard | 4-1393243-3 |
| RT424005 | pinning 5mm, | contacts | AgNi 90/10 | 5VDC | | 5-1393243-9 |
| RT424006 | flux proof | | | 6VDC | | 6-1393243-1 |
| RT424012 | | | | 12VDC | | 6-1393243-3 |
| RT424012WG | | | | | IEC60335-1 compliant | 7-1415538-8 |
| RT424024 | | | | 24VDC | Standard | 6-1393243-8 |
| RT424024WG | | | | | IEC60335-1 compliant | 7-1415538-7 |
| RT424048 | | | | 48VDC | Standard | 7-1393243-0 |
| RT424060 | | | | 60VDC | | 7-1393243-3 |
| RT424110 | | | | 110VDC | | 7-1393243-5 |
| RT424524 | | | | 24VAC | | 7-1393243-6 |
| RT424615 | | | | 115VAC | | 7-1393243-8 |
| RT424730 | | | | 230VAC | | 7-1393243-9 |
| RT425003 | | | AgNi 90/10 | 3VDC | | 7-1415525-1 |
| RT425005 | | | gold plated | 5VDC | | 8-1393243-0 |
| RT425012 | | | | 12VDC | | 8-1393243-2 |
| RT425024 | | | | 24VDC | | 8-1393243-5 |
| RT444012 | | 2 form A (NO) | AgNi 90/10 | 12VDC | | 9-1393243-7 |
| RT444024 | | contacts | | 24VDC | | 9-1393243-9 |
| RTE24005 | 8A, | 2 form C (CO) | | 5VDC | | 1393243-1 |
| RTE24006 | pinning 5mm, | contacts | | 6VDC | | 1393243-2 |
| RTE24012 | wash tight | | | 12VDC | | 1393243-4 |
| RTE24024 | | | | 24VDC | | 1-1393243-0 |
| RTE24048 | | | | 48VDC | | 1-1393243-1 |
| RTE24110 | | | | 110VDC | | 1-1393243-4 |
| RTE24524 | | | | 24VAC | | 1-1393243-5 |
| RTE24615 | | | | 115VAC | | 1-1393243-7 |
| RTE24730 | | | | 230VAC | | 1-1393243-8 |
| RTE25005 | | | AgNi 90/10 | 5VDC | | 1-1393243-9 |
| RTE25012 | | | gold plated | 12VDC | | 2-1393243-0 |
| RTE25024 | | | | 24VDC | | 2-1393243-1 |
| RTE25524 | | | | | | 2-1393243-4 |
| RTE43009 | | 2 form A (NO) | AgSnO | 9VDC | | 4-1415535-1 |
| RTE44009 | | contacts | AgNi 90/10 | | | 3-1393243-1 |
| RTE44730 | | | | 230VAC | | 3-1393243-5 |

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

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