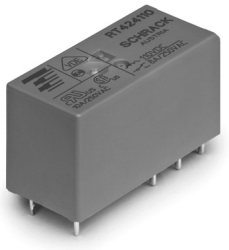
# Power PCB Relay RT2

- **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**



F0149-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

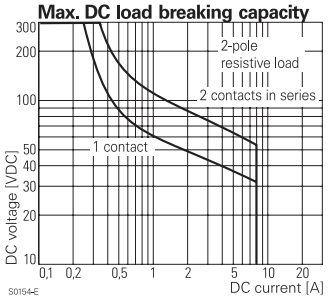
| | |
|---|---|
| Contact arrangement | 2 form C (CO) or 2 form A (NO) |
| Rated voltage | 250VAC |
| Max. switching voltage | 400VAC |
| Rated current | 8A, UL: 10A |
| Limiting continuous current | 8A, UL: 10A |
| Limiting making current, max. 4s, duty factor 10% | 15A |
| Breaking capacity max. | 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

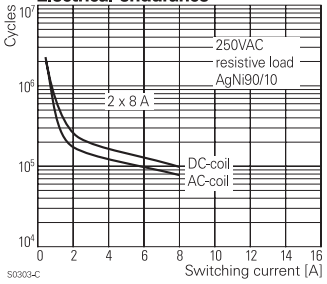
| Type | Contact | Load | Cycles |
|---|---|---|---|
| **IEC 61810** | | | |
| RT424 DC coil | C (CO) | 8A, 250VAC, cosφ=1, 85°C | 10x10$^3$ |
| RT444 AC coil | A (NO) | 8A, 250VAC, cosφ=1, 70°C | 50x10$^3$ |
| RT424 AC coil | C (CO) | 8A, 250VAC, cosφ=1, 70°C | 30x10$^3$ |
| **UL 508** | | | |
| RT424 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.

**Max. DC load breaking capacity**




**Electrical endurance**




## 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 |

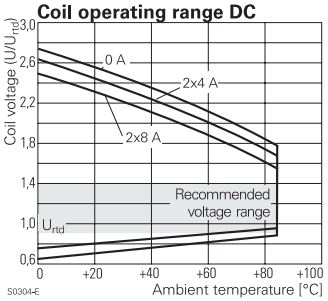
2) Coil resistance ±12%. All figures are given for coil without pre-energization, at ambient temperature +23°C. Other coil voltages on request.

### Coil versions, AC coil 50Hz

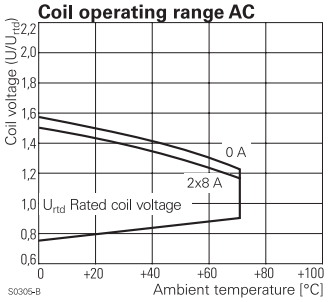
| Coil code | Rated voltage VAC | Operate voltage VAC | Release voltage VAC | Coil resistance Ω±15%[3)] | Rated coil power VA |
|---|---|---|---|---|---|
| 524 | 24 | 18.0 | 3.6 | 350[3)] | 0.76 |
| 615 | 115 | 86.3 | 17.3 | 8100 | 0.76 |
| 620 | 120 | 90.0 | 18.0 | 8800 | 0.75 |
| 700 | 200 | 150.0 | 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.

**Coil operating range DC**




**Coil operating range AC**



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# Power PCB Relay RT2 (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/customersupport/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)

| | |
|---|---|
| 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

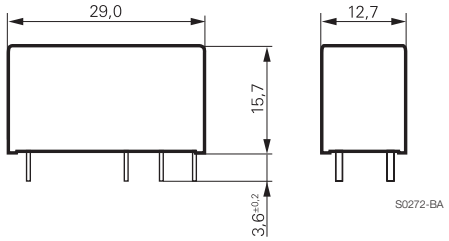
## Accessories

| | |
|---|---|
| For details see datasheet | Accessories Industrial Power Relay RT |

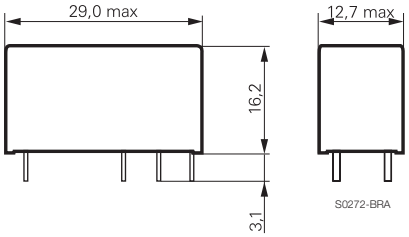
NOTE: indicated contact ratings and electrical endurance data for direct wiring of relays (according IEC 61810-1); for relays mounted on sockets deratings may apply.

### Dimensions

THT version

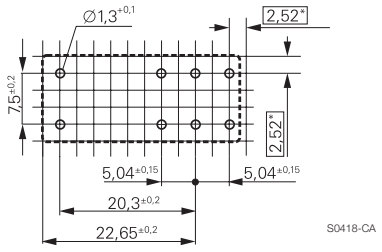



THR version (reflow solderable)




### PCB layout / terminal assignment

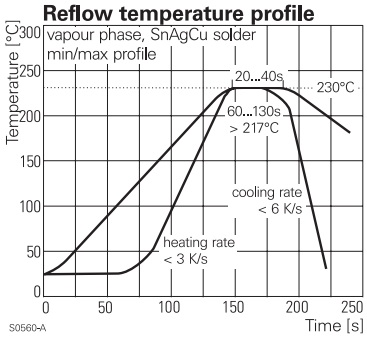
Bottom view on solder pins

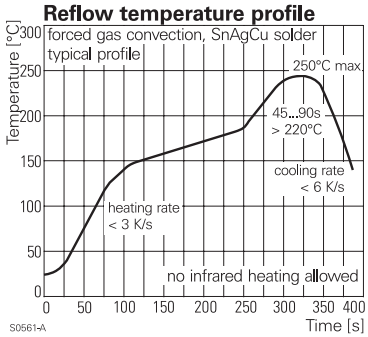



*) With the recommended PCB hole sizes a grid pattern from 2.5mm to 2.54mm can be used.

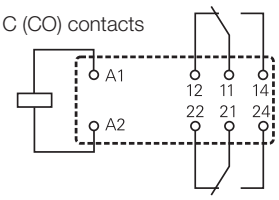
### Process conditions for Reflow soldering

according to EN61760-1

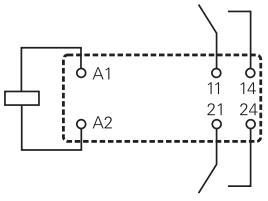



2 form C (CO) contacts




2 form A (NO) contacts



## Power PCB Relay RT2 (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, pinning 5mm, flux proof | 2 form C (CO) contacts | AgSnO | 230VAC | Standard | 4-1393243-3 |
| RT424005 | | | AgNi 90/10 | 5VDC | | 5-1393243-9 |
| RT424006 | | | | 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 gold plated | 3VDC | | 7-1415525-1 |
| RT425005 | | | | 5VDC | | 8-1393243-0 |
| RT425012 | | | | 12VDC | | 8-1393243-2 |
| RT425024 | | | | 24VDC | | 8-1393243-5 |
| RT444012 | | 2 form A (NO) contacts | AgNi 90/10 | 12VDC | | 9-1393243-7 |
| RT444024 | | | | 24VDC | | 9-1393243-9 |
| RTE24005 | 8A, pinning 5mm, wash tight | 2 form C (CO) contacts | | 5VDC | | 1393243-1 |
| RTE24006 | | | | 6VDC | | 1393243-2 |
| RTE24012 | | | | 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 gold plated | 5VDC | | 1-1393243-9 |
| RTE25012 | | | | 12VDC | | 2-1393243-0 |
| RTE25024 | | | | 24VDC | | 2-1393243-1 |
| RTE25524 | | | | | | 2-1393243-4 |
| RTE43009 | | 2 form A (NO) contacts | AgSnO | 9VDC | | 4-1415535-1 |
| RTE44009 | | | 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