

## 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 <sub>2</sub> |
| Frequency of operation, with/without load         |                                                        |
| DC coil                                           | 360/72000h <sup>-1</sup>                               |
| AC coil                                           | 360/36000h <sup>-1</sup>                               |
| 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 <sup>1)</sup>           |

### Contact ratings

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

### UL 508

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

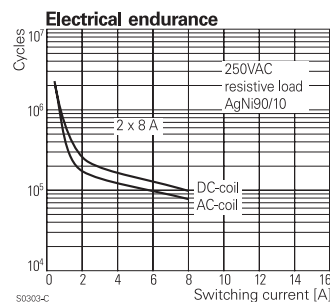
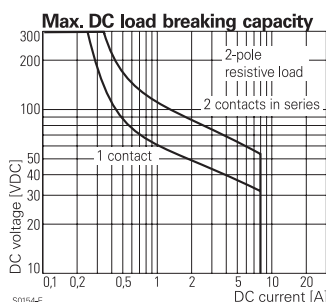
### EN60947-5-1

|               |             |                    |       |
|---------------|-------------|--------------------|-------|
| 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 <sup>3</sup> |
|---------------|-------------|---------------------|---------------------|

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



### Contact Data (continued)

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

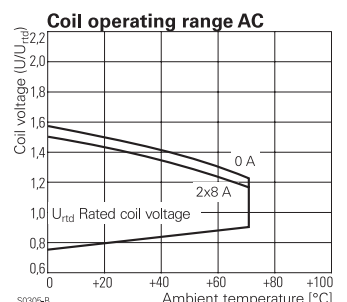
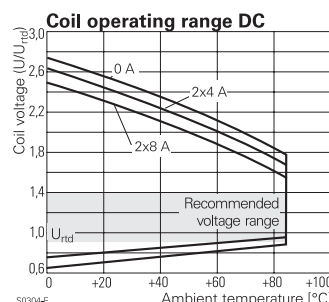
| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ω±10% <sup>2)</sup> | Rated coil power mW |
|-----------|-------------------|---------------------|---------------------|-------------------------------------|---------------------|
| 005       | 5                 | 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 <sup>2)</sup>                  | 420                 |
| 110       | 110               | 77.0                | 11.0                | 28800 <sup>2)</sup>                 | 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% <sup>3)</sup> | Rated coil power VA |
|-----------|-------------------|---------------------|---------------------|-------------------------------------|---------------------|
| 524       | 24                | 18.0                | 3.6                 | 350 <sup>3)</sup>                   | 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 <sub>rms</sub> |
| between contact and coil           | 5000V <sub>rms</sub> |
| between adjacent contacts          | 2500V <sub>rms</sub> |
| 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](http://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 <sub>2</sub> 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 <sup>4)</sup> or vapour phase <sup>5)</sup> |
| temperature profile                              | according EN61730                                                 |
| Packaging/unit                                   | tube/20pcs., box/500pcs.                                          |

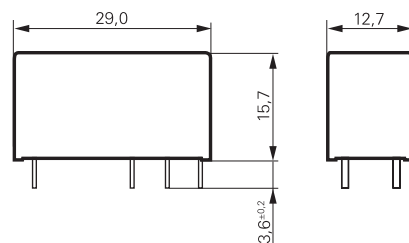
4) infrared heating not allowed.  
5) recommended fluid LS/230.

**Accessories**

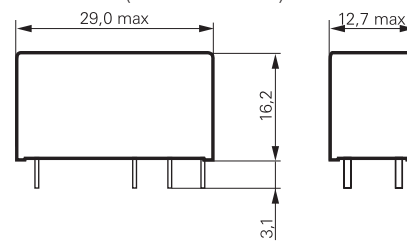
For details see datasheet [Accessories Industrial Power Relay RT](#)  
NOTE: indicated contact ratings and electrical endurance data for direct wiring of relays (according IEC 61810-1); for relays mounted on sockets deratings may apply.

**Dimensions**

THT version

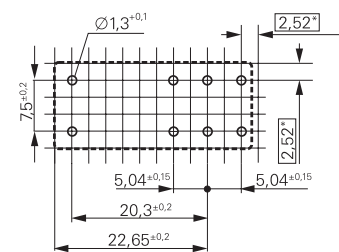


THR version (reflow solderable)



**PCB layout / terminal assignment**

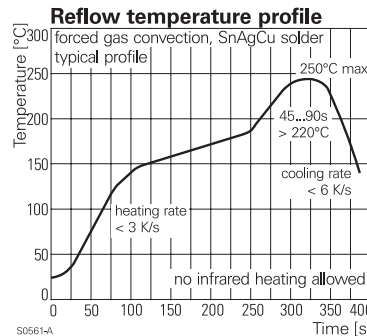
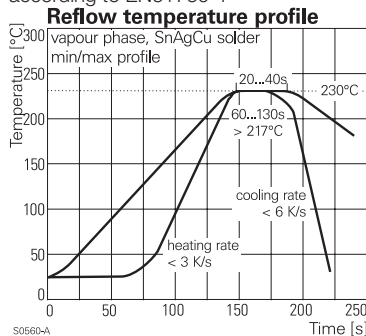
Bottom view on solder pins



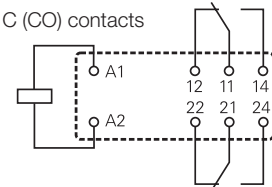
\*) With the recommended PCB hole sizes a grid pattern from 2.5mm to 2.54mm can be used.

**Process conditions for Reflow soldering**

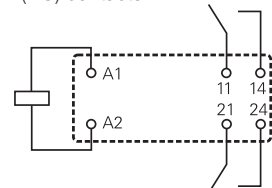
according to EN61760-1



2 form C (CO) contacts



2 form A (NO) contacts



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

| Product code structure |                                                              | Typical product code |   |   |   |     |
|------------------------|--------------------------------------------------------------|----------------------|---|---|---|-----|
| Type                   | RT Power PCB Relay RT2                                       | RT                   | 4 | 2 | 4 | 024 |
| 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) contacts | AgSnO            | 230VAC | Standard             | 4-1393243-3 |
| RT424005     | pinning 5mm, |                        | 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) contacts | AgNi 90/10       | 12VDC  |                      | 9-1393243-7 |
| RT444024     |              |                        |                  | 24VDC  |                      | 9-1393243-9 |
| RTE24005     | 8A,          | 2 form C (CO) contacts |                  | 5VDC   |                      | 1393243-1   |
| RTE24006     | pinning 5mm, |                        |                  | 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) 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.

