

Power PCB Relay RT1

- 1 pole 12A/16A, 1 form C (CO) or 1 form A (NO) contact
- DC or AC coil
- 5kV/10mm coil-contact, reinforced insulation
- Ambient temperature 85°C (DC coil)
- WG version: product in accordance to IEC 60335-1
- Reflow version: for THR (Through-Hole Reflow) soldering process

Typical applications

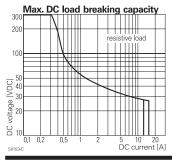
Boiler control, timers, garage door control, POS automation, interface modules

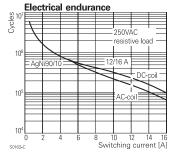
Approvals

VDE Cert. No. 40007571, cULus E214025, cCSAus 1142018; CQC 18002197247

Technical data of approved types on request

| Contact Data | 12A | 16A |
|---|-------------------------|---------------------------------|
| Contact arrangement | 1 form C (CO) | or 1 form A (NO) |
| Rated voltage | OVAC | |
| Max. switching voltage | 40 | OVAC |
| Rated current | 12A | 16A |
| Limiting continuous current | 12A | 16A, UL: 20A |
| Limiting making current | | |
| max. 4s, duty factor 10% | | 30A |
| Breaking capacity max. | 3000VA | 4000VA |
| Contact material | | Ni 90/10 gold plated |
| Frequency of operation, with | | |
| DC coil | | 72000h ⁻¹ |
| AC coil | | 36000h ⁻¹ |
| Operate/release time max., | | /6ms |
| Bounce time max., DC coil, | | /6ms |
| Electrical endurance see electrical endurance graph ¹⁾ | | |
| Contact ratings | | |
| Type Contact | Load | Cycles |
| IEC 61810 | | |
| RT314 DC-coil A (NO) | 16A, 250VAC, cosφ=1 | |
| RT314 DC-coil C (CO) | 16A, 250VAC, cosφ=1 | |
| RT314 DC-coil A (NO) | 10A, 400VAC, cosφ=1 | , |
| RT114 DC-coil A (NO) | 12A, 250VAC, cosφ=1 | , |
| RT114 AC-coil A (NO) | 12A, 250VAC, cosφ=1 | ,70°C 100x10 ³ |
| UL 508 | | |
| RT314 A/B (NO/N | C) 20A, 250VAC, general | purpose, 85°C 6x10 ³ |
| RT334 A (NO) | 16A, 250VAC, gen. pu | rpose, 85°C 50x10 ³ |
| RT314 A (NO) | 1hp, 240VAC, 40°C | 1x10 ³ |
| RT314 A (NO) | FLA/LRA, 4.5/13.1A, 48 | 30VAC, 70°C 100x10 ³ |
| EN60947-4-1 | | |
| RT314 A (NO) | 250V/2A, AC-3 | 6.050 |





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F0144-C

EN60947-5-1

| RT314 DC-coil | A/B (NO/NC) | 2A, 24VDC, DC13 | 6 | .050 |
|---------------|-------------|----------------------|-----|------------------|
| RT314 | A (NO) | 250/3A, AC-15 | 6 | .050 |
| EN60730-1 | | | | |
| RT314 DC-coil | A (NO) | 12(2)A, 250VAC, 85°C | 100 | х10 ³ |

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

Contact Data (continued)

| Nechanical endurance | |
|-------------------------|--------------------------------|
| DC coil | >30x10 ⁶ operations |
| AC coil | >10x10 ⁶ operations |
| AC coil, reflow version | >5x10 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 VELS | | | | | |
|-----------|---------|---------|---------|---------------------|------------|
| Coil | Rated | Operate | Release | Coil | Rated coil |
| code | voltage | voltage | voltage | resistance | power |
| | VDC | VDC | VDC | Ω±10% ²⁾ | 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 |
| 018 | 18 | 12.6 | 1.8 | 770 | 420 |
| 020 | 20 | 14.0 | 2.0 | 952 | 420 |
| 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 50/60 Hz

| Coll vers | sions, AC co | II 50/60 HZ | | | |
|-----------|--------------|-------------|---------|-------------------------|------------|
| Coil | Rated | Operate | Release | Coil | Rated coil |
| code | voltage | voltage | voltage | resistance | power |
| | VAC | VAC | VAC | $\Omega \pm 15\%^{(3)}$ | VA |
| 524 | 24 | 18.0 | 3.6 | 350 ³⁾ | 0.76 |
| 548 | 48 | 36.0 | 7.2 | 1420 | 0.74 |
| 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%.

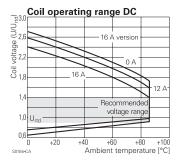
All figures are given for coil without pre-energization, at ambient temperature +23°C, 50 Hz.

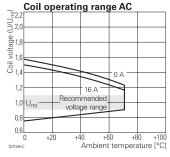
Datasheets and product data is subject to the terms of the disclaimer and all chapters of the 'Definitions' section, available at http://relays.te.com/definitions

Datasheets, product data, 'Definitions' section, application notes and all specifications are subject to change. 1



Power PCB Relay RT1 (Continued)





Other coil voltages on request.

Insulation Data

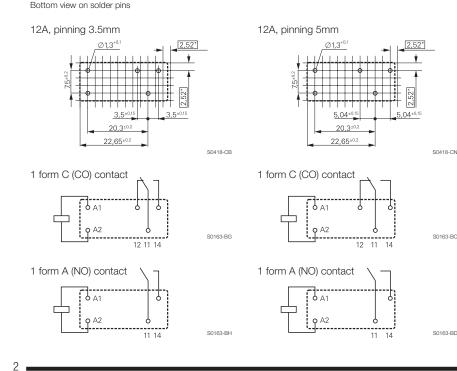
| Initial dielectric strength | |
|------------------------------------|----------------------|
| between open contacts | 1000V _{rms} |
| between contact and coil | 5000V _{rms} |
| Clearance/creepage | |
| between contact and coil | ≥10/10mm |
| Material group of insulation parts | Illa |
| Tracking 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 |
| Category of environmental protecti | ion, IEC 61810 |
| standard version | RTII - flux proof, RTIII - wash tight |
| reflow version | RTII - flux proof |
| Vibration resistance (functional) | |

PCB layout / terminal assignment



form A/form B contact. 30 to 500Hz 20g/5g Shock resistance (destructive) 100g Other Data (continued) Terminal type standard version PCB-THT, plug-in reflow version PCB-THR Mounting distance AC coil: ≥2.5mm Weight 14g 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/20 pcs., box/500 pcs.

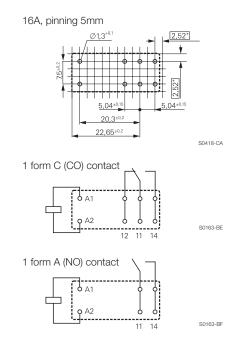
 4) infrared heating not allowed
 5) recommended fluid LS/230

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.





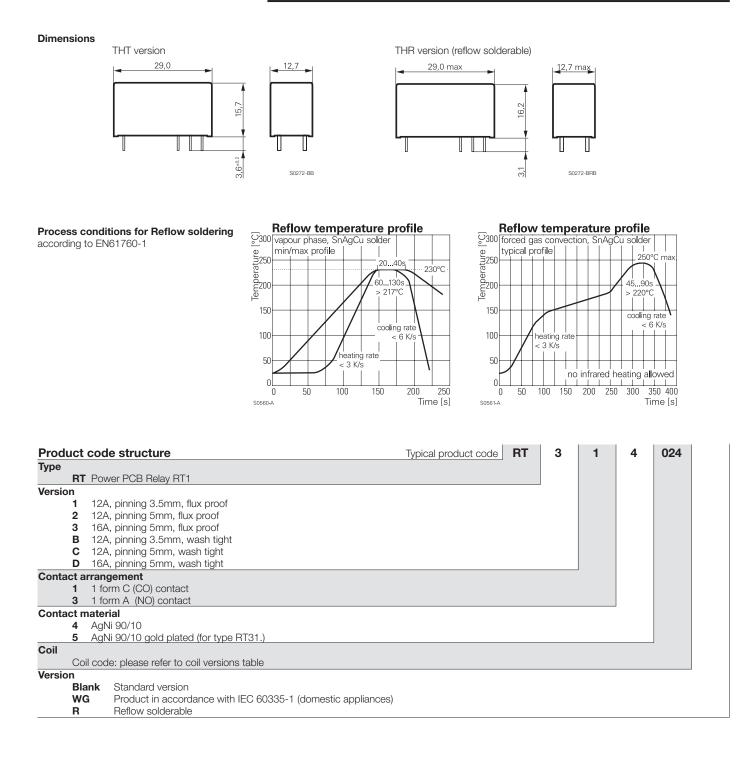
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Power PCB Relay RT1 (Continued)



3



Power PCB Relay RT1 (Continued)

| Product code | Version | Contacts | Contact material | Coil | Version | Part number |
|----------------------|-----------------------|---------------|--------------------------|----------------|----------------------|-------------|
| RT114009 | 12A, | 1 form C (CO) | AgNi 90/10 | 9VDC | Standard | 1393239-9 |
| RT114012 | pinning 3.5mm, | 1 form C (CO) | | 12VDC | 1 | 1419108-1 |
| RT114012WG | flux proof | 1 form C (CO) | | 12VDC | IEC60335-1 compliant | 7-1415538-6 |
| RT114024 | | 1 form C (CO) | | 24VDC | Standard | 1-1393239-3 |
| RT114024WG | | 1 form C (CO) | | 24VDC | IEC60335-1 compliant | 1415539-4 |
| RT114730 | | 1 form C (CO) | | 230VAC | Standard | 1-1393239-9 |
| RT115024 | | 1 form C (CO) | AgNi 90/10 gold pl. | 24VDC | | 2-1393239-1 |
| RT134012 | | 1 form A (NO) | AqNi 90/10 | 12VDC | 1 | 2-1393239-6 |
| RT134024 | | 1 form A (NO) | | 24VDC | 1 | 3-1393239-0 |
| RT214012 | 12A. | 1 form C (CO) | | 12VDC | 1 | 5-1393239-4 |
| RT214024 | pinning 5mm, | 1 form C (CO) | - | 24VDC | 1 | 5-1393239-5 |
| RT214524 | flux proof | 1 form C (CO) | - | 24VAC | 1 | 5-1393239-9 |
| RT214730 | nox proof | 1 form C (CO) | _ | 230VAC | 1 | 1419108-6 |
| T314005 | 16A. | 1 form C (CO) | | 5VDC | | 9-1393239-1 |
| RT314006 | pinning 5mm, | 1 form C (CO) | | 6VDC | | 9-1393239-3 |
| RT314009 | flux proof | 1 form C (CO) | | 9VDC | 1 | 9-1393239-4 |
| RT314012 | liux proor | 1 form C (CO) | - | 12VDC | | 9-1393239-5 |
| RT314012R | | 1 form C (CO) | - | 12VDC | Reflow solderable | 4-1415543-6 |
| RT314012WG | | 1 form C (CO) | - | 12VDC | IEC60335-1 compliant | 8-1415535-6 |
| T314018 | | 1 form C (CO) | - | 18VDC | Standard | 9-1393239-7 |
| T314024 | | 1 form C (CO) | - | 24VDC | | 9-1393239-8 |
| T314024WG | | 1 form C (CO) | - | 24VDC | IEC60335-1 compliant | 1415538-7 |
| T314024WG | | 1 form C (CO) | _ | 48VDC | Standard | 1393240-1 |
| RT314060 | | 1 form C (CO) | - | 60VDC | | 1-1649328-7 |
| RT314110 | | 1 form C (CO) | - | 110VDC | 1 | 1393240-3 |
| RT314524 | | 1 form C (CO) | - | 24VAC | | 1393240-4 |
| RT314548 | | 1 form C (CO) | | 48VAC | 1 | 1393240-5 |
| RT314615 | | 1 form C (CO) | - | 115VAC | - | 1393240-6 |
| RT314730 | | 1 form C (CO) | - | 230VAC | - | 1393240-7 |
| RT314730WG | | 1 form C (CO) | - | 230VAC | IEC60335-1 compliant | 4-1415538-0 |
| RT315024 | | 1 form C (CO) | AgNi 90/10 gold pl. | 24VDC | Standard | 1-1393240-4 |
| RT334009WG | | 1 form A (NO) | AgNi 90/10 AgNi 90/10 | 9VDC | IEC60335-1 compliant | 3-1415538-1 |
| RT334012 | | 1 form A (NO) | | 12VDC | Standard | 4-1393240-5 |
| RT334012WG | | 1 form A (NO) | - | 12VDC | IEC60335-1 compliant | 1-1415527-1 |
| RT334024 | | 1 form A (NO) | - | 24VDC | Standard | 4-1393240-8 |
| RT334048 | | 1 form A (NO) | - | 48VDC | | 5-1393240-0 |
| RTB14005 | 12A. | 1 form C (CO) | - | 5VDC | - | 1-1393238-2 |
| RTB14005 RTB14012 | pinning 3.5mm, | 1 form C (CO) | | 12VDC | 1 | 1-1393238-2 |
| TB14012 | wash tight | 1 form C (CO) | | 24VDC | 4 | 1-1393238-5 |
| | wasn ligni | 1 form C (CO) | - | 24VDC 24VAC | - | |
| RTB14524 | | | - | | 4 | 2-1393238-4 |
| RTB34012 | 104 Energy week tight | 1 form A (NO) | - | 12VDC | 4 | 3-1393238-0 |
| RTC14024 | 12A, 5mm, wash tight | 1 form C (CO) | | 24VDC | 4 | 5-1393238-0 |
| RTD14005 | 16A, | 1 form C (CO) | - | 5VDC | 4 | 5-1393238-9 |
| RTD14012 | pinning 5mm, | 1 form C (CO) | | 12VDC | 4 | 6-1393238-2 |
| RTD14024 | wash tight | 1 form C (CO) | - | 24VDC | | 6-1393238-8 |
| RTD14048 | | 1 form C (CO) | | 48VDC | | 6-1393238-9 |

 RTD14048
 1 form C (CO)
 48VDC

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

 Other types on request

4

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