



Bistable Power PCB Relay TRK 28

**650 mW rated power (2 coils) or
400 mW rated power (1 coil)
16 A, 250 V_{AC} contact load
5 KV test voltage between coil and contact
Flammability class V-0**



- Small dimensions 29 x 12.7 x 15.7 mm
- Reduced coil power
- Low self-heating (impuls energization)
- Ambient temperature up to +105°C
- High insulation resistance
- Non-flammable material V-0
- High inrush currents with AgSnO₂ contacts
- Clearance/creepage ≥ 10 mm
- Direct instalation on PCB
- Washable version Qc/2
- Plastic bars packing

Application

Relay TRK28 is a polarized, bistabile, electromagnetic relay for DC coil energizing with one change-over contact system. Small dimensions and low self-heating of this relays enable high density of electronic components on PC board.

As a switching element with ability of galvanic separation it is designed to control power devices in industrial automatisation, automotive industry, safety and alarm devices, office equipment and for general purposes.

In case of full load on contacts and operating with max. switching rate and max. ambient temperature it is recommended to open the vent hole provided for this purpose, after relay is mounted on the PCB and the cleaning process is completed.

Technical Data

Contact data

| | |
|--------------------------|---|
| Form | 1 Change-over, 1 Make, 1 Break |
| Contact material | Ag Sn O ₂ , AgNi10 |
| Rated current | 16 A |
| Max. operating voltage | 400 V AC, 300V DC |
| Max. switching power | 4000 VA, 380 W |
| Min. switching load | 5V DC, 100 mA |
| Contact resistance: | ≤ 100 mΩ (100mA, 24V _{AC}) - new relay |
| Max. operating frequency | 360 operations/h - rated load 36000 operations/h - min. load |
| Capacitance cont.-cont. | ≤ 1,5 pF |
| Mechanical life | ≥ 2x10 ⁶ |
| Electrical life | ≥ 3x10 ⁴ (NO contact, 250V/16A AC) at 85°C |

General coil data for energizing at 20°C

Rated power: abt. 650 mW
 Max. coil temperature: 155° C
 Operative range: class 2, IEC 61810 - 1
 Operate voltage: $U_{op} \leq 70\% U_n$
 Release voltage: $U_{re} \leq 70\% U_n$
 Minimum energization duration: 20 ms
 Maximum energization duration: 30 s at < 10% DF

Other data

Test voltage (1 min.):
 contact - coil ≥ 5 kV_{rms}, 50 Hz
 contact - contact ≥ 1 kV_{rms}, 50 Hz
 Creepage distances:
 contact - coil ≥ 10 mm
 Clearances:
 contact - coil ≥ 10mm
 Impulse voltage test (1,2/50 μs):
 contact - coil ≥ 5 kV_{imp}
 Operate time at U_n : abt. 6 ms
 Release time: abt. 6 ms
 Insulation resistance (500 V_{DC}): > 10³ MΩ
 Vibrations resistance (10-200Hz): 5 gn(NO)/3gn(NC)
 Shock resistance (11 ms)
 functional: 10 gn
 destructive: 100 gn
 Ambient temperature for operating: - 40°C to + 85°C
 option up to +105 °C
 for storage: - 40°C to + 95°C
 Protection degree: IP 67, IEC 529
 Seal test: (1min), IEC60068-2-17: Qc/2
 Flammability class: V-0, UL 94
 Mounting position: optional
 Relay weight: abt. 9.8 g

Unless otherwise stated the relays are wash tight according to Qc2 IEC 60068-2-17, tested with a water immersion test at 70°C for 1 min.

2 coils

| Coil rated voltage | Coil resistance at 20°C | Operative coil voltage range at 20°C | | |
|--------------------------|-------------------------|--------------------------------------|------------------------|------------------|
| | | Operate voltage | Reset voltage | Rated coil power |
| U_n (V _{DC}) | $R_n(\Omega) \pm 10\%$ | $U_{op} \leq (V_{DC})$ | $U_{re} \leq (V_{DC})$ | (mW) |
| 3 | 13.8 | 2.1 | 2.1 | 650 |
| 5 | 38 | 3.5 | 3.5 | 650 |
| 12 | 221 | 8.4 | 8.4 | 650 |
| 24 | 886 | 16.8 | 16.8 | 650 |
| 48 | 3544 | 33.6 | 33.6 | 650 |

2 coils – operation

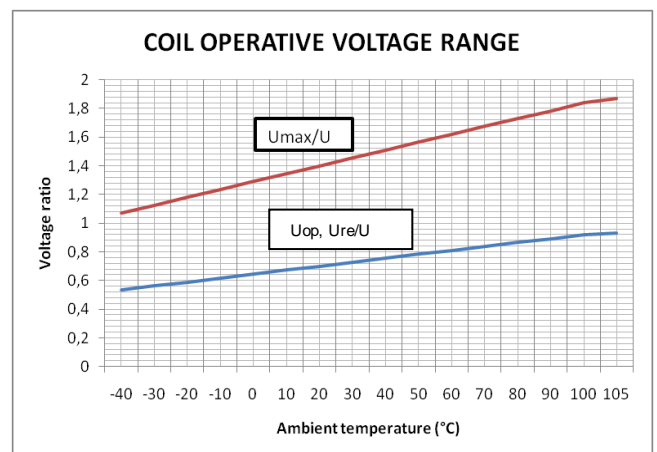
| Coil terminal | A1 | A3 | A2 |
|---------------|----|----|----|
| Set | | + | - |
| Reset | - | + | |

1 coil

| Coil rated voltage | Coil resistance at 20°C | Operative coil voltage range at 20°C | | |
|--------------------------|-------------------------|--------------------------------------|------------------------|------------------|
| | | Operate voltage | Reset voltage | Rated coil power |
| U_n (V _{DC}) | $R_n(\Omega) \pm 10\%$ | $U_{op} \leq (V_{DC})$ | $U_{re} \leq (V_{DC})$ | (mW) |
| 3 | 22,5 | 2.1 | 2.1 | 400 |
| 5 | 62,5 | 3.5 | 3.5 | 400 |
| 12 | 360 | 8.4 | 8.4 | 400 |
| 24 | 1440 | 16.8 | 16.8 | 400 |
| 48 | 5760 | 33.6 | 33.6 | 400 |

1 coil – operation

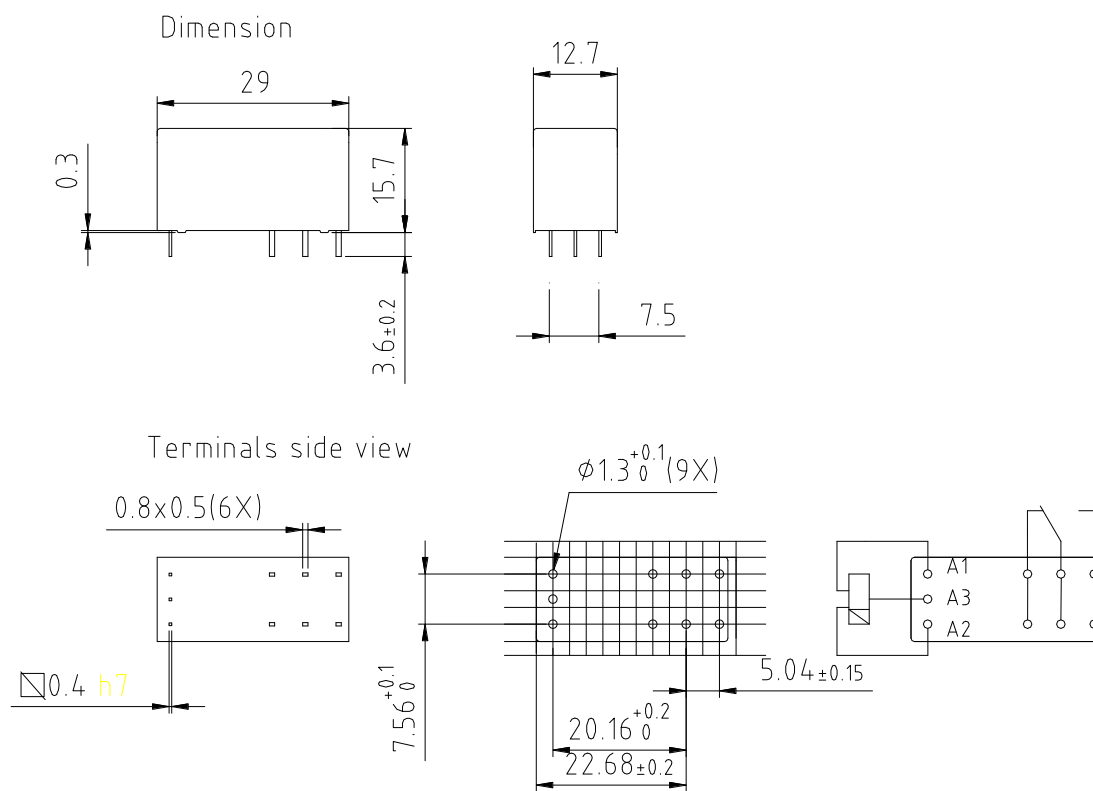
| Coil terminal | A1 | | A2 |
|---------------|----|--|----|
| Set | + | | - |
| Reset | - | | + |



Ordering data

| | TRK 28 | X | X | XXX DC |
|--|--------|---|---|--------|
| Basic designation | | | | |
| Contact material: 0 - AgNi10 2 - AgSnO ₂ | | | | |
| Contact form: 1 - Make (SPST-NO) 2 - Break (SPST-NC) 3 - Change over (SPDT) | | | | |
| Coil rated voltage: - D and voltage for 2 coils (D24 DC) | | | | |

Dimensions and terminals layout



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