

# Miniature Power PCB Relay T7N / T7N-WG

1pole 10A



F0189-B

## Features

- 1C/O or 1N/O contact
- Creepage/clearance to VDE 0435 and VDE 0700
- Sensitive 360 mW coil available
- Version T7N-WG with tracking resistance CTI 325

## Applications

Domestic appliances, heating control, building control, measurement&control

T7N:



T7N-WG:



Technical data of approved types on request

| Contact data                              | T7N                            | T7N-WG |
|---|--------------------------------|--------|
| Configuration                             | 1 C/O contact or 1 N/O contact |        |
| Type of contact                           | single contact                 |        |
| Rated current N/O contact / N/C contact   | 10 / 5 A                       |        |
| Continuous thermal load                   | 10 A                           |        |
| Rated voltage / max.breaking voltage AC   | 250 Vac / 250 Vac              |        |
| Maximum breaking capacity AC              | 2500 VA                        |        |
| Make current (max. 4 s at duty cycle 10%) | 35 A                           |        |
| Contact material                          | AgCdO, AgSnO <sub>2</sub>      | AgCdO  |

## Contact ratings

| Type  | Load                          | Operations          |
|-------|-------------------------------|---------------------|
| AgCdO | 10 A, 240 Vac                 | 100x10 <sup>3</sup> |
| AgCdO | 5 A, 240 Vac, resistive       | 2x10 <sup>5</sup>   |
| AgCdO | 2 A, 120 Vac, cosφ=0.5, 60 °C | 1.4x10 <sup>6</sup> |

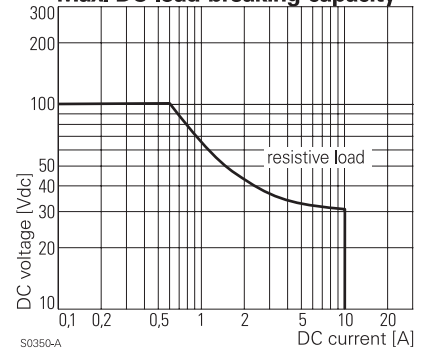
| Coil data            | T7N standard          | T7N-WG                | T7N-WG sensitive      |
|----------------------|-----------------------|-----------------------|-----------------------|
| Nominal voltage      | 6...48 Vdc            | 6...36 Vdc            | 6...36 Vdc            |
| Nominal coil power   | 360 mW                | 450 mW                | 360 mW                |
| Operate power        | 176 mW                | 253 mW                | 176 mW                |
| Operate category     | 1 / c                 | 2 / b                 | 2 / b                 |
| Operate voltage max. | 70 % U <sub>nom</sub> | 70 % U <sub>nom</sub> | 70 % U <sub>nom</sub> |
| Non-release voltage  | 50 % U <sub>nom</sub> | 50 % U <sub>nom</sub> | 50 % U <sub>nom</sub> |
| Release voltage min. | 10 % U <sub>nom</sub> | 10 % U <sub>nom</sub> | 10 % U <sub>nom</sub> |

## Coil versions

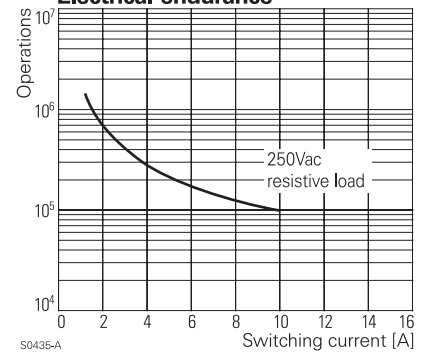
| Coil code  | Nominal voltage Vdc | Pull-in voltage Vdc | Release voltage Vdc | Maximum voltage Vdc | Coil resistance Ω | Coil current mA |
|--|---------------------|---------------------|---------------------|---------------------|-------------------|-----------------|
| <b>version T7N-WG</b>                            |                     |                     |                     |                     |                   |                 |
| 12   | 12                  | 8.4                 | 1.2                 | 25.0                | 320±10%           | 37.5            |
| 24   | 24                  | 16.8                | 2.4                 | 50.0                | 1280±10%          | 18.8            |
| 36   | 36                  | 25.2                | 3.6                 | 73.0                | 2880±10%          | 12.5            |
| <b>version T7N standard and T7N-WG sensitive</b> |                     |                     |                     |                     |                   |                 |
| 06   | 6                   | 4.2                 | 0.6                 | 12.5                | 100±10%           | 60.0            |
| 12   | 12                  | 8.4                 | 1.2                 | 25.0                | 400±10%           | 30.0            |
| 24   | 24                  | 16.8                | 2.4                 | 50.0                | 1600±10%          | 15.0            |
| 36   | 36                  | 25.2                | 3.6                 | 73.0                | 3600±10%          | 10.0            |
| 48   | 48                  | 33.6                | 4.8                 | 100.0               | 6400±10%          | 7.0             |

All figures are given for coil without preenergization, at ambient temperature +20°C  
Other coil voltages on request

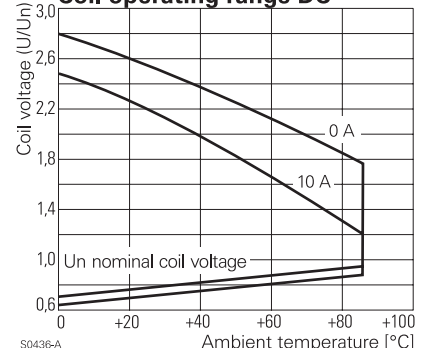
## Max. DC load breaking capacity



## Electrical endurance



## Coil operating range DC



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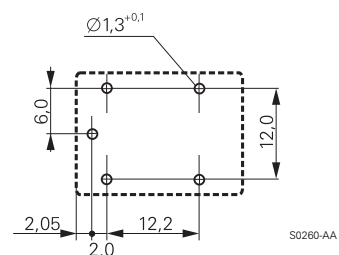
| Insulation                              | T7N                                | T7N-WG                |
|---|------------------------------------|-----------------------|
| Dielectric strength                     | coil-contacts                      | 2000 V <sub>rms</sub> |
|   | open contact circuit               | 1000 V <sub>rms</sub> |
| Surge voltage resistance coil-contacts  | 4000 V <sub>rms</sub> (1.2 / 50µs) |                       |
| Clearance / creepage                    | 2 / 3 mm                           | 3 / 4 mm              |
| Insulation to IEC 60664                 |                                    |                       |
| Voltage rating                          | 250 V                              |                       |
| Pollution degree                        | 3                                  |                       |
| Overvoltage category                    | III                                |                       |
| Insulation to VDE 0110b (2/79)          |                                    |                       |
| Insulation category / reference voltage | C / 250                            |                       |
| Insulation resistance                   | 100x10 <sup>6</sup> Ω              |                       |
| Tracking resistance of relay base       | CTI 225                            | CTI 325               |

| Other data                                   |  |
|--|--|
| Flammability class according to UL 94        | V-0  |
| Ambient temperature                          | -40...+85 °C                                 |
| Mechanical life                              | 10x10 <sup>6</sup> operations                |
| Max. switching rate at rated- / minimum load | 30 min <sup>-1</sup> / 300 min <sup>-1</sup> |
| Operate- / release time                      | 10 / 5 ms                                    |
| Bounce time N/O contact / N/C contact        | 0.6 / 17 ms                                  |
| Vibration resistance                         | >10 g  |
| Shock resistance (function)                  | >10 g  |
| Shock resistance (destruction)               | >100 g                                       |
| Category of protection (IEC 61810)           | RT III - wash tight                          |
| Relay weight                                 | 11 g   |
| Packaging unit                               | 500 pcs.                                     |

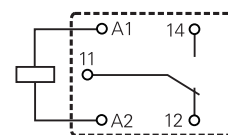
## PCB layout / terminal assignment

View on solder pins

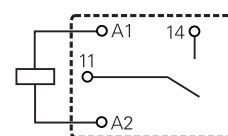
Dimensions in mm



S0260-AA



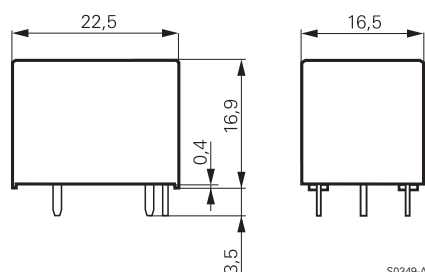
S0260-AB



S0260-AC

## Dimensions

Dimensions in mm



S0349-A

## Product key

|                        |  |   |   |  |  |  |  |  |  |
|------------------------|--|---|---|--|--|--|--|--|--|
| Type                   | T  | 7 | N | S  |  |  |  |  |  |
| Version                | S wash tight                                   |   |   |  |  |  |  |  |  |
| Contacts               | 1 1 N/O contact                                |   |   | 5 1 C/O contact                                  |  |  |  |  |  |
| Coil version           | H DC coil 450mW                                |   |   | D DC coil 360mW                                  |  |  |  |  |  |
| Contact material       | 1 AgCdO  |   |   | 4 AgSnO <sub>2</sub> (T7N standard version only) |  |  |  |  |  |
| Coil                   | coil code: please refer to coil versions table |   |   |  |  |  |  |  |  |
| Version                | Blank  |   |   | T7N standard version                             |  |  |  |  |  |
|                        | WG-A   |   |   | version for domestic appliances                  |  |  |  |  |  |
| Other types on request |  |   |   |  |  |  |  |  |  |

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| Product key     | Version               | Cont-material | Cont.configuration | Coil   | Part number |
|-----------------|-----------------------|---------------|--------------------|--------|-------------|
| T7N S1D1-06     | wash tight<br>CTI 225 | AgCdO         | 1 N/O contact      | 6 Vdc  | 0-1393186-3 |
| T7N S1D1-12     |                       |               |                    | 12 Vdc | 5-1440006-4 |
| T7N S1D1-24     |                       |               |                    | 24 Vdc | 5-1440006-6 |
| T7N S1D1-48     |                       |               |                    | 48 Vdc | 5-1440006-8 |
| T7N S1D4-06     |                       | AgSnO         |                    | 6 Vdc  | 6-1440005-2 |
| T7N S1D4-12     |                       |               |                    | 12 Vdc | 7-1440006-2 |
| T7N S1D4-24     |                       |               |                    | 24 Vdc | 7-1440006-4 |
| T7N S1D4-48     |                       |               |                    | 48 Vdc | 7-1440006-6 |
| T7N S5D1-06     |                       | AgCdO         | 1 C/O contact      | 6 Vdc  | 4-1440006-2 |
| T7N S5D1-12     |                       |               |                    | 12 Vdc | 4-1440006-4 |
| T7N S5D1-24     |                       |               |                    | 24 Vdc | 4-1440006-7 |
| T7N S5D1-48     |                       |               |                    | 48 Vdc | 4-1440006-9 |
| T7N S5D4-06     |                       | AgSnO         |                    | 6 Vdc  | 6-1440006-1 |
| T7N S5D4-12     |                       |               |                    | 12 Vdc | 6-1440006-3 |
| T7N S5D4-24     |                       |               |                    | 24 Vdc | 6-1440006-5 |
| T7N S5D4-48     |                       |               |                    | 48 Vdc | 6-1440006-7 |
| T7NS5H1-06-WG-A | wash tight<br>CTI 325 | AgCdO         |                    | 6 Vdc  | 7-1440006-9 |
| T7NS5H1-12-WG-A |                       |               |                    | 12 Vdc | 8-1440006-0 |
| T7NS5H1-24-WG-A |                       |               |                    | 24 Vdc | 8-1440006-2 |
| T7NS5H1-36-WG-A |                       |               |                    | 36 Vdc | 8-1440006-3 |
| T7NS5H1-48-WG-A |                       |               |                    | 48 Vdc | 8-1440006-4 |