

# TERMOPTO

## TOS 12VDC/230VAC 0,1A

**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

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Germany

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Similar to illustration

TERMOPTO solid-state relay 230 VAC 0.1 A output version,

with AC or DC input, available in different versions:

- With screw connection
- In 6.1 mm width
- With various input protection circuits (free-wheel diode, varistor)
- Pluggable cross-connections
- Enclosed design

### General ordering data

|            |                                                                                                                                                                                                          |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type       | TOS 12VDC/230VAC 0,1A                                                                                                                                                                                    |
| Order No.  | <a href="#">8951110000</a>                                                                                                                                                                               |
| Version    | TERMOPTO, solid-state relays, 1 NO contact (Triac (zero-cross switch)), Rated control voltage: 12 V DC $\pm 20\%$ , Rated switching voltage: 24...230 V AC, Continuous current: 100 mA, Screw connection |
| GTIN (EAN) | 4032248741885                                                                                                                                                                                            |
| Qty.       | 10 pc(s).                                                                                                                                                                                                |

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Catalogue status 24.07.2020 / We reserve the right to make technical changes.

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**Technical data**
**Dimensions and weights**

|            |         |                 |            |
|------------|---------|-----------------|------------|
| Width      | 6.1 mm  | Width (inches)  | 0.24 inch  |
| Height     | 74.4 mm | Height (inches) | 2.929 inch |
| Depth      | 55 mm   | Depth (inches)  | 2.165 inch |
| Net weight | 20.4 g  |                 |            |

**Temperatures**

|                             |                                                                                |                             |                |
|-----------------------------|--------------------------------------------------------------------------------|-----------------------------|----------------|
| Humidity                    | 5-95% relative humidity,<br>$T_u = 40^\circ\text{C}$ , without<br>condensation | Operating temperature, max. | 60 °C          |
| Operating temperature, min. | -20 °C                                                                         | Storage temperature, max.   | 80 °C          |
| Storage temperature, min.   | -40 °C                                                                         | Operating temperature       | -20 °C...60 °C |
| Storage temperature         | -40 °C...80 °C                                                                 |                             |                |

**Probability of failure**

|      |             |
|------|-------------|
| MTTF | 2,500 Years |
|------|-------------|

**Environmental Product Compliance**

|            |                |
|------------|----------------|
| REACH SVHC | Lead 7439-92-1 |
|------------|----------------|

**Control side**

|                       |                    |                          |                                          |
|-----------------------|--------------------|--------------------------|------------------------------------------|
| Rated control voltage | 12 V DC $\pm 20\%$ | Nominal control current  | 3.6 mA DC                                |
| Power rating          | < 45 mW            | Cut-in / dropout voltage | 9.6 V / 3 V DC                           |
| Status indicator      | Green LED          | Protective circuit       | Varistor, Reverse polarity<br>protection |

**Load side**

|                               |                      |                                                  |              |
|-------------------------------|----------------------|--------------------------------------------------|--------------|
| Rated switching voltage       | 24...230 V AC        | Continuous current                               | 100 mA       |
| Load category                 | AC1                  | Switch-on delay                                  | $\leq 10$ ms |
| Switch-off delay              | < 12 ms              | Voltage drop at max. load                        | < 1.8 V      |
| Leakage current               | < 1 mA               | Short-circuit-proof                              | No           |
| Protective circuit, load side | Varistor, RC element | max. switching frequency (DC control<br>voltage) | 10 Hz        |

**Contact data**

|              |                                              |
|--------------|----------------------------------------------|
| Contact type | 1 NO contact (Triac (zero-<br>cross switch)) |
|--------------|----------------------------------------------|

**General data**

|                           |       |        |       |
|---------------------------|-------|--------|-------|
| Rail                      | TS 35 | Colour | black |
| UL 94 flammability rating | V-0   |        |       |

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**Technical data****Insulation coordination**

|                                                  |                                |                                                               |                  |
|--------------------------------------------------|--------------------------------|---------------------------------------------------------------|------------------|
| Rated voltage                                    | 300 V                          | Pollution severity                                            | 2                |
| Surge voltage category                           | III                            | Clearance and creepage distances for control side - load side | > 3 mm           |
| Dielectric strength for control side - load side | 1.2 kV <sub>eff</sub> / 1 min. | Impulse withstand voltage                                     | 4 kV (1.2/50 µs) |
| Protection degree                                | IP20                           |                                                               |                  |

**Further details of approvals / standards**

|           |                                |                         |         |
|-----------|--------------------------------|-------------------------|---------|
| Standards | DIN EN 50178, IEC 62314, UL508 | Certificate no. (cULus) | E223474 |
|-----------|--------------------------------|-------------------------|---------|

**Connection data**

|                                                                                         |                     |                                                                                         |                     |
|-----------------------------------------------------------------------------------------|---------------------|-----------------------------------------------------------------------------------------|---------------------|
| Wire connection method                                                                  | Screw connection    | Stripping length, rated connection                                                      | 9 mm                |
| Tightening torque, min.                                                                 | 0.4 Nm              | Tightening torque, max.                                                                 | 0.6 Nm              |
| Clamping range, rated connection                                                        | 2.5 mm <sup>2</sup> | Clamping range, min.                                                                    | 0.5 mm <sup>2</sup> |
| Clamping range, max.                                                                    | 4 mm <sup>2</sup>   | Wire connection cross section AWG, min.                                                 | AWG 20              |
| Wire connection cross section AWG, max.                                                 | AWG 12              | Wire cross-section, solid, min.                                                         | 0.5 mm <sup>2</sup> |
| Wire cross-section, solid, max.                                                         | 4 mm <sup>2</sup>   | Wire connection cross-section, finely stranded, min.                                    | 0.5 mm <sup>2</sup> |
| Wire connection cross section, finely stranded, max.                                    | 2.5 mm <sup>2</sup> | Wire cross-section, finely stranded, min. (AWG)                                         | AWG 20              |
| Wire cross-section, finely stranded, max. (AWG)                                         | AWG 12              | Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, min. | 0.5 mm <sup>2</sup> |
| Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, max. | 1.5 mm <sup>2</sup> | Conductor cross-section, flexible, AEH (DIN 46228-1), min.                              | 0.5 mm <sup>2</sup> |
| Conductor cross-section, flexible, AEH (DIN 46228-1), max.                              | 1.5 mm <sup>2</sup> | Blade size                                                                              | 0.6 x 3.5 mm        |

**Classifications**

|             |             |            |             |
|-------------|-------------|------------|-------------|
| ETIM 6.0    | EC001504    | ETIM 7.0   | EC001504    |
| eClass 9.0  | 27-37-16-04 | eClass 9.1 | 27-37-16-04 |
| eClass 10.0 | 27-37-16-04 |            |             |

**Approvals**

Approvals



ROHS

Conform

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## Technical data

### Downloads

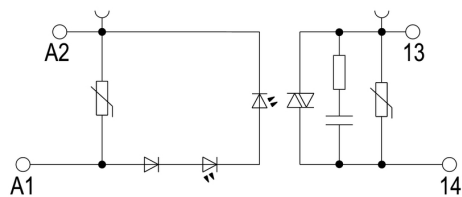
|                                             |                                                                         |
|---------------------------------------------|-------------------------------------------------------------------------|
| Approval/Certificate/Document of Conformity | <a href="#">EU Konformitätserklärung / EU Declaration of Conformity</a> |
| Brochure/Catalogue                          | <a href="#">CAT 4.2 ELECTR 18/19 EN</a>                                 |
| Engineering Data                            | <a href="#">EPLAN, WSCAD</a>                                            |
| Engineering Data                            | <a href="#">STEP</a>                                                    |
| User Documentation                          | <a href="#">Beipackzettel / Package Insert – multilingual</a>           |

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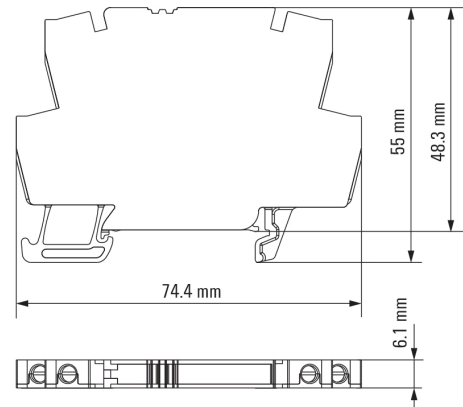
## Drawings

### Wiring diagram



Schaltsymbol

### Dimensional drawing

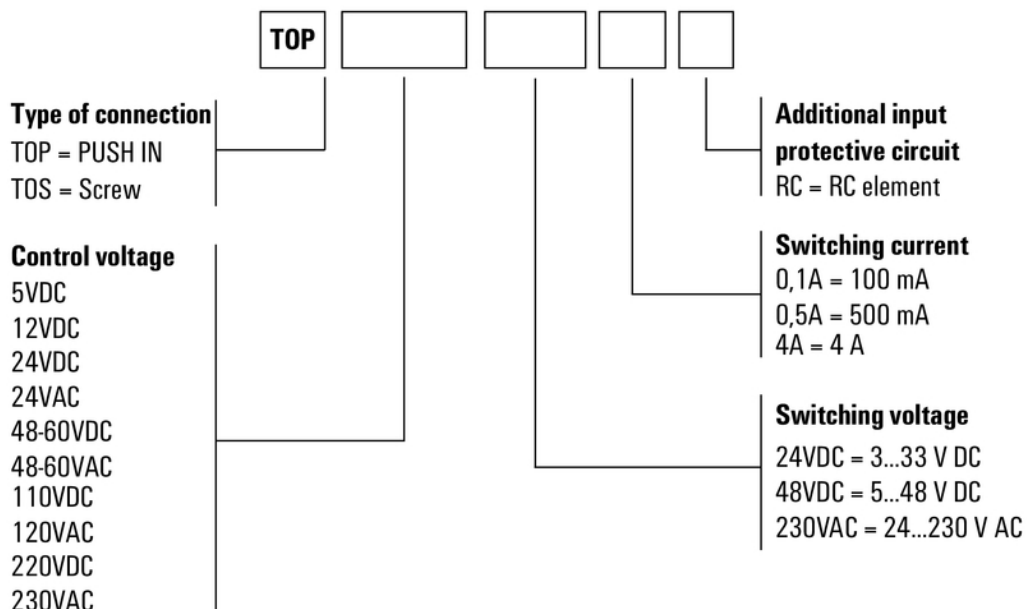


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## Drawings

## Miscellaneous



Type codes