

TERMOPTO TOS 24VDC/24VDC 4A

Weidmüller Interface GmbH & Co. KG
 Klingenbergstraße 16
 D-32758 Detmold
 Germany
 Fon: +49 5231 14-0
 Fax: +49 5231 14-292083
 www.weidmueller.com



The TERMOPTO solid-state relay module is used in industrial applications where electrical isolation and signal conditioning without switching amplification is sufficient. The compact design in terminal-block format saves space on the terminal rail and offers the option of a pluggable cross-connection.

The option between 10 input voltages and 3 output voltages as well as screw or PUSH IN connection enables 60 versions for various applications.

The integrated protective circuit ensures sufficient protection in applications with ohmic as well as slightly inductive and capacitive loads. For purely inductive, capacitive or comparable loads with high switch-on and switch-off peaks, such as solenoid valves or filament lamps, ensure that the module is dimensioned appropriately or an additional safeguard is used.

General ordering data

Type	TOS 24VDC/24VDC 4A
Order No.	1275100000
Version	TERMOPTO, Solid-state relay, Rated control voltage: 24 V DC $\pm 20\%$, Rated switching voltage: 3...33 V DC, Rated switching current: 4 A, Screw connection
GTIN (EAN)	4050118065053
Qty.	10 pc(s).

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Technische Daten
Dimensions and weights

Width	6.1 mm	Height	74.5 mm
Depth	55 mm	Net weight	18.7 g

Temperatures

Humidity	5–95% rel. humidity, $T_u = 40^\circ\text{C}$, no condensation	Operating temperature	-20 °C...+60 °C
Storage temperature	-40 °C...+80 °C		

Probability of failure

MTTF	1,188 Years
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control side

Cut-in dropout voltage	16.8 V / 9.6 V DC	Rated control voltage	24 V DC $\pm 20\%$
Nominal control current	7 mA DC	Power rating	$\leq 170\text{ mW}$
Input frequency	$\leq 10\text{ Hz}$	Protective circuit, control side	Varistor, rev. polarity protection
Status display on control side	Green LED		

Load side

Solid-state type	Transistor	Rated switching voltage	3...33 V DC
Continuous current	4 A	Rated switching current	4 A
Switch-on delay	$< 13\ \mu\text{s}$	Switch-off delay	$< 200\ \mu\text{s}$
Load category	DC1	Leakage current	$< 10\ \mu\text{A}$
Protective circuit, load side	Integrated free-wheel diode	Voltage drop at max. load	90 mV
Load side status indicator	No	Short-circuit-proof	No

General data

Solid-state type	Transistor	No. of poles	1
Wire connection method	Screw connection	Humidity	5–95% rel. humidity, $T_u = 40^\circ\text{C}$, no condensation
UL 94 flammability rating	V-0	Standards	DIN EN 50178, IEC 62314, UL508
Wire cross-section, solid, max.	2.5 mm ²	Wire connection cross section, finely stranded, max.	2.5 mm ²

Insulation coordination

Rated voltage	300 V	Clearance and creepage distances for control side - load side	$> 3\text{ mm}$
Dielectric strength for control side - load side	1.2 kV _{eff} / 1 min.	Impulse withstand voltage	4 kV (1.2/50 μs)
Pollution severity	2	Surge voltage category	III

Further details of approvals

Standards	DIN EN 50178, IEC 62314, UL508
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Technische Daten

Connection data

Clamping range, rated connection	2.5 mm ²	Clamping range, rated connection, max.	2.5 mm ²
Clamping range, rated connection, min.	0.5 mm ²	Conductor cross-section, flexible, AEH (DIN 46228-1), max.	1.5 mm ²
Conductor cross-section, flexible, AEH (DIN 46228-1), min.	0.5 mm ²	Cross-section for connected conductor, finely stranded with wire-end ferrules and plastic collars DIN 46228/4, rated connection, min.	0.5 mm ²
Stripping length, rated connection	9 mm	Wire connection cross section, finely stranded, max.	2.5 mm ²
Wire connection cross-section, finely stranded with wire-end ferrules and plastic collars DIN 46228/4, rated connection, max.	1.5 mm ²	Wire connection cross-section, finely stranded, min.	0.5 mm ²
Wire connection method	Screw connection	Wire cross-section, finely stranded, max. (AWG)	AWG 12
Wire cross-section, finely stranded, min. (AWG)	AWG 20	Wire cross-section, solid, max.	2.5 mm ²
Wire cross-section, solid, min.	0.5 mm ²		

Classifications

ETIM 3.0	EC001504	eClass 5.1	27-27-09-90
eClass 6.2	27-27-09-90	eClass 7.1	27-27-09-90

Product information

Descriptive text technical data Accessories and dimensioned drawings: refer to the TERMOPTO Accessories page.

Approvals

Approvals



ROHS Conform

Downloads

Declaration of Conformity [K305_02_11.pdf](#)

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Zeichnungen**24 V DC**