

## TOS 12VDC/48VDC 0,1A

**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

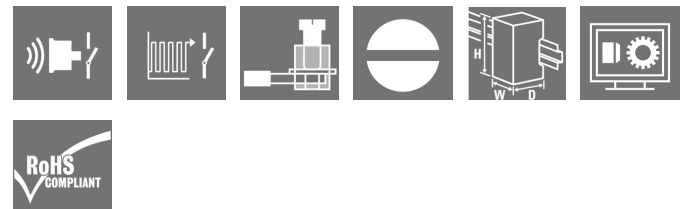
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Similar to illustration

Wear-free potential isolation in terminal block format  
In many applications, it is essential that relays for potential isolation and signal adjustment perform their tasks reliably and permanently. Instead of wear-prone electromechanical solutions, maintenance-free solid-state relays with integrated potential isolation are increasingly being used. TERMOPTO solid-state relays in terminal block format are the perfect solution for the simple and reliable decoupling of digital signals. Besides their particularly compact design, they are distinguished by their PUSH IN connection system, plug-in cross-connections and an optimal price/performance ratio. With TERMOPTO solid-state relays, you save space in the panel, reduce your service costs and sustainably increase plant availability. You also reduce the complexity of the required accessories as you can use components from the Weidmüller portfolio, from cross-connectors to markers.

- Ensures wear- and maintenance-free potential separation in compact terminal block format
- Suitable accessories from the cross-connection to the marker
- Integrated protective circuit for inputs and outputs



### General ordering data

Version	TERMOPTO, Solid-state relay, Rated control voltage: 12 V DC $\pm 20\%$ , Rated switching voltage: 5...48 V DC, Continuous current: 100 mA, Screw connection
Order No.	<a href="#">8950710000</a>
Type	TOS 12VDC/48VDC 0,1A
GTIN (EAN)	4032248742080
Qty.	10 pc(s).

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## Technical data

### Dimensions and weights

Depth	55 mm	Depth (inches)	2.165 inch
Height	74.4 mm	Height (inches)	2.929 inch
Width	6.1 mm	Width (inches)	0.24 inch
Net weight	20.6 g		

### Temperatures

Storage temperature	-40 °C...80 °C	Operating temperature	-20 °C...60 °C
Humidity	5-95% relative humidity, T <sub>u</sub> = 40°C, without condensation		

### Probability of failure

MTTF	2,500 Years
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### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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### Control side

Rated control voltage	12 V DC ± 20 %	Nominal control current	7.8 mA DC
Power rating	< 95 mW	Pull-in/drop-out voltage, typ.	9.6 V / 3 V DC
Status indicator	Green LED	Protective circuit	Varistor, Reverse polarity protection

### Load side

Rated switching voltage	5...48 V DC	Continuous current	0.1 A (DC1)
Voltage drop at max. load	< 1 V	Min. switching current	100 µA
Leakage current	< 10 µA	Switch-on delay	< 13 µs
Switch-off delay	< 42 µs	max. switching frequency (DC control voltage)	3,000 Hz
Load category	DC1	Protective circuit, load side	Free-wheeling diode
Short-circuit-proof	No	Contact type	1 NO contact (Transistor)

### General data

Rail	TS 35				
Test button available	No				
Colour	black				
UL94 flammability rating component	<table border="1"> <tr> <td>Component</td> <td>Housing</td> </tr> <tr> <td>UL94 flammability rating</td> <td>V-0</td> </tr> </table>	Component	Housing	UL94 flammability rating	V-0
Component	Housing				
UL94 flammability rating	V-0				

### 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		

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## Technical data

## Further details of approvals / standards

Standards	DIN EN 50178, IEC 62314, UL508	Certificate no. (cULus)	E223474
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## 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
ETIM 8.0	EC001504	ECLASS 9.0	27-37-16-04
ECLASS 9.1	27-37-16-04	ECLASS 10.0	27-37-16-04
ECLASS 11.0	27-37-16-04		

## Approvals

Approvals



ROHS	Conform
UL File Number Search	E223474

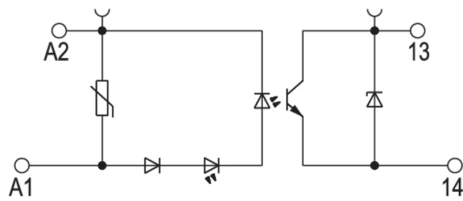
## Downloads

Approval/Certificate/Document of Conformity	<a href="#">EU Konformitätserklärung / EU Declaration of Conformity</a>
Engineering Data	<a href="#">CAD data – STEP</a>
Engineering Data	<a href="#">EPLAN, WSCAD</a>
User Documentation	<a href="#">Beipackzettel / Package Insert – multilingual</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>
Brochures	

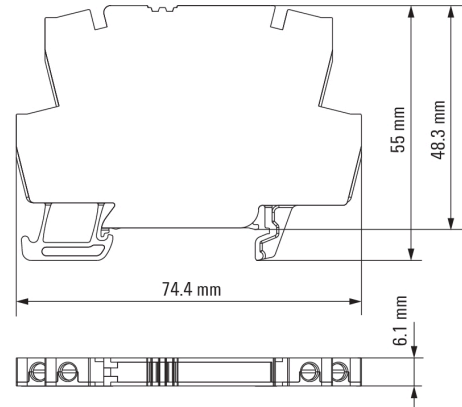
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**Drawings****Wiring diagram**

Schaltsymbol

**Dimensional drawing**

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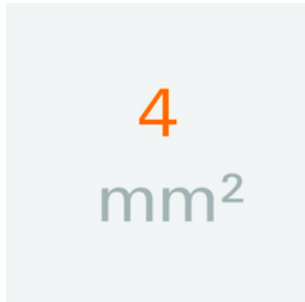
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## Accessories

4 mm<sup>2</sup>

The plug-in cross-connections feature easy handling and quick installation. This saves a great deal of time during installation in comparison with screwed solutions.

## General ordering data

Type	ZQV 4N/4
Order No.	<a href="#">1527970000</a>
GTIN (EAN)	4050118332889
Qty.	60 pc(s).
Type	ZQV 4N/4 RD
Order No.	<a href="#">2460800000</a>
GTIN (EAN)	4050118476224
Qty.	60 pc(s).
Type	ZQV 4N/3 BL
Order No.	<a href="#">1528080000</a>
GTIN (EAN)	4050118333008
Qty.	60 pc(s).
Type	ZQV 4N/10
Order No.	<a href="#">1528090000</a>
GTIN (EAN)	4050118332896
Qty.	20 pc(s).
Type	ZQV 4N/10 BL
Order No.	<a href="#">1528230000</a>
GTIN (EAN)	4050118333138
Qty.	20 pc(s).
Type	ZQV 4N/4 BL
Order No.	<a href="#">1528120000</a>
GTIN (EAN)	4050118332872
Qty.	60 pc(s).
Type	ZQV 4N/3 RD
Order No.	<a href="#">2460810000</a>
GTIN (EAN)	4050118476231
Qty.	60 pc(s).
Type	ZQV 4N/2
Order No.	<a href="#">1527930000</a>
GTIN (EAN)	4050118332766
Qty.	60 pc(s).
Type	ZQV 4N/2 BL
Order No.	<a href="#">1528040000</a>
GTIN (EAN)	4050118332773
Qty.	60 pc(s).
Type	ZQV 4N/3
Order No.	<a href="#">1527940000</a>
GTIN (EAN)	4050118332865
Qty.	60 pc(s).

Creation date January 30, 2022 10:31:03 AM CET

Catalogue status 14.01.2022 / We reserve the right to make technical changes.

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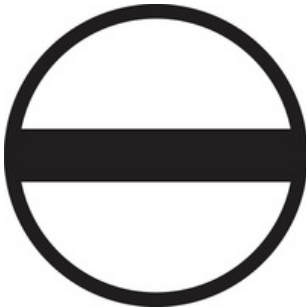
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**Accessories**

Type ZQV 4N/2 RD  
Order No. [2460450000](#)  
GTIN (EAN) 4050118476149  
Qty. 60 pc(s).

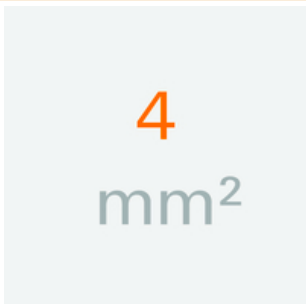
Type ZQV 4N/10 RD  
Order No. [2460740000](#)  
GTIN (EAN) 4050118476163  
Qty. 20 pc(s).

**Slotted screwdriver**

Slotted screwdriver with rounded blade SD DIN 5265, ISO 2380/2, output to DIN 5264, ISO 2380/1. ChromTop tip, SoftFinish grip

**General ordering data**

Type	SDS 0.6X3.5X100	Version
Order No.	<a href="#">2749340000</a>	Screwdriver, Blade width (B): 3.5 mm, Blade length: 100 mm, Blade thickness (A): 0.6 mm
GTIN (EAN)	4050118895568	
Qty.	1 pc(s).	

**4 mm<sup>2</sup>**

The plug-in cross-connections feature easy handling and quick installation. This saves a great deal of time during installation in comparison with screwed solutions.

**General ordering data**

Type	ZQV 4N/20 RT	Version
Order No.	<a href="#">1909150000</a>	Accessories, Cross-connector, 32 A
GTIN (EAN)	4032248535934	
Qty.	20 pc(s).	
Type	ZQV 4N/3 SW	Version
Order No.	<a href="#">1794000000</a>	Accessories, Cross-connector, 32 A
GTIN (EAN)	4032248233793	
Qty.	60 pc(s).	
Type	ZQV 4N/10 SW	Version
Order No.	<a href="#">1794060000</a>	Accessories, Cross-connector, 32 A
GTIN (EAN)	4032248234059	
Qty.	20 pc(s).	

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## Accessories

Type	ZQV 4N/20 SW	Version
Order No.	<a href="#">1909120000</a>	Accessories, Cross-connector, 32 A
GTIN (EAN)	4032248535804	
Qty.	20 pc(s).	
Type	ZQV 4N/4 SW	Version
Order No.	<a href="#">1794030000</a>	Accessories, Cross-connector, 32 A
GTIN (EAN)	4032248233915	
Qty.	60 pc(s).	
Type	ZQV 4N/20 GE	Version
Order No.	<a href="#">1909020000</a>	Accessories, Cross-connector, 32 A
GTIN (EAN)	4032248535644	
Qty.	20 pc(s).	
Type	ZQV 4N/2 SW	Version
Order No.	<a href="#">1793970000</a>	Accessories, Cross-connector, 32 A
GTIN (EAN)	4032248233762	
Qty.	60 pc(s).	
Type	ZQV 4N/20 BL	Version
Order No.	<a href="#">1909100000</a>	Accessories, Cross-connector, 32 A
GTIN (EAN)	4032248535774	
Qty.	20 pc(s).	

## Blank



WS markers are the perfect match for the W-series connectors. Thanks to their system compatibility, the WS tags can also be used with the I-series and the Z-series. The large marking surfaces do not only permit long character strings but also multi-line text. WS markers are ideal for labels with long, customised character strings. Thanks to the proven MultiCard format, printing with PrintJet CONNECT oder/or Plotter is possible.

- Can be fitted in strips or individually
- Markers in proven MultiCard format

**For custom printing:** Please send us a file of our labeling software M-Print PRO or M-Print PRO Online (without installation) for your labeling specifications.

## General ordering data

Type	WS 12/6 MC NE WS	Version
Order No.	<a href="#">1609900000</a>	WS, Terminal marker, 12 x 6 mm, Pitch in mm (P): 6.00 Weidmueller,
GTIN (EAN)	4008190203467	Allen-Bradley, white
Qty.	600 pc(s).	

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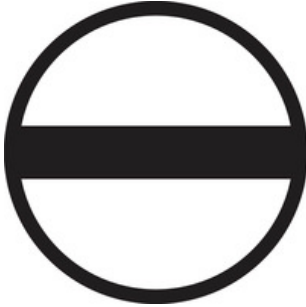
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## Accessories

## Slotted screwdriver

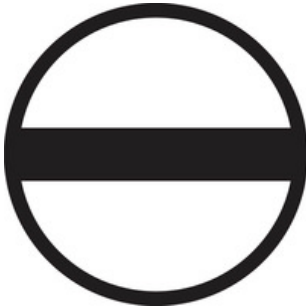


VDE insulated screwdriver sets, for working on live parts up to 1000 V AC and 1500 V DC, DIN EN 60900. IEC 900. Each piece is "GS" safety tested. Blade made from fully hardened, high-alloy chromium-vanadium-molybdenum steel, gun-metal finish.

## General ordering data

Type	SDIS SLIM 0.6X3.5X100	Version
Order No.	<a href="#">2749610000</a>	Mounting tool, Blade width (B): 3.5 mm, Blade length: 100 mm, Blade
GTIN (EAN)	4050118896350	thickness (A): 0.6 mm
Qty.	1 pc(s).	

## Slotted screwdriver



VDE insulated slot-head screwdriver, SDI DIN 7437, ISO 2380/2, drive output acc. to DIN 5264, ISO 2380/1. SoftFinish grip

## General ordering data

Type	SDIS 0.6X3.5X100	Version
Order No.	<a href="#">2749810000</a>	Screwdriver, Blade width (B): 3.5 mm, Blade length: 100 mm, Blade
GTIN (EAN)	4050118897012	thickness (A): 0.6 mm
Qty.	1 pc(s).	



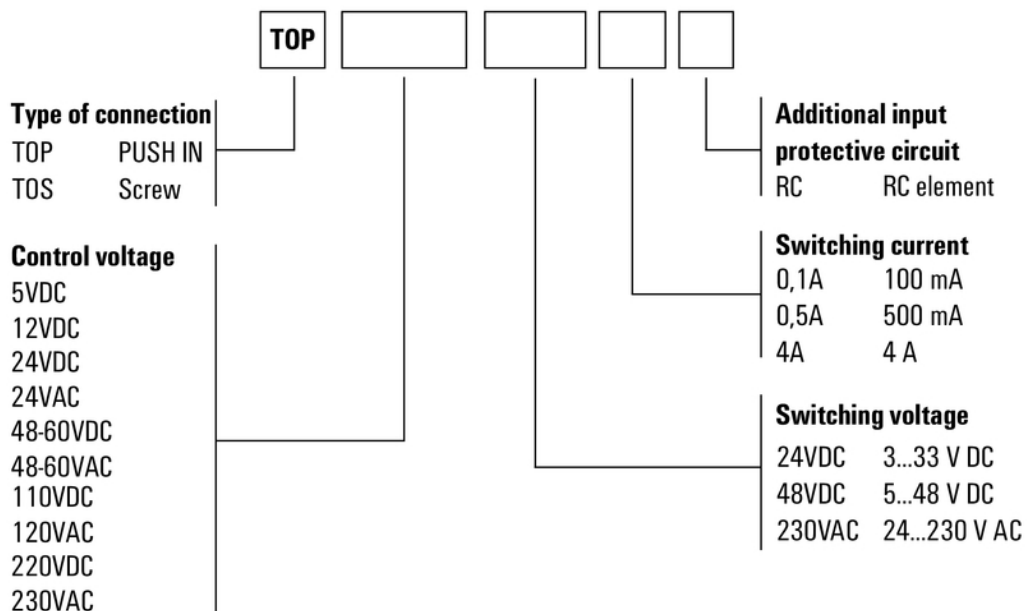
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**Drawings**

**Miscellaneous**



Type codes

# Mouser Electronics

Authorized Distributor

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