

## TOS 12VDC/48VDC 0,5A

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 26  
 D-32758 Detmold  
 Germany

www.weidmuller.com



Similar to illustration

- 1 NO contact (Transistor)
- 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: 0.5 A, Screw connection
Order No.	<a href="#">8950910000</a>
Type	TOS 12VDC/48VDC 0,5A
GTIN (EAN)	4032248741755
Qty.	10 items

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## Technical data

## Approvals

Approvals



ROHS Conform

UL File Number Search [UL Website](#)

Certificate no. (cULus) E223474

## Dimensions and weights

Depth	55 mm	Depth (inches)	2.1654 inch
Height	74.4 mm	Height (inches)	2.9291 inch
Width	6.1 mm	Width (inches)	0.2402 inch
Net weight	20.9 g		

## Temperatures

Storage temperature	-40 °C...80 °C	Ambient temperature	-20 °C...60 °C
Operating temperature		Humidity	5-95% relative humidity, Tu = 40°C, without condensation

## Probability of failure

MTTF 2500 a

## Environmental Product Compliance

RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	7a, 7cl
REACH SVHC	Lead 7439-92-1
SCIP	9e2cbc49-76d9-4611-b8ec-5b4f549a0aa9

## Control side

Rated control voltage	12 V DC $\pm$ 20 %	Rated control voltage (control input)	12 V DC $\pm$ 20 %
Nominal control current	7.8 mA DC	Power rating	<95 mW
Status indicator	Green LED	Protective circuit	Varistor, Reverse polarity protection
Input frequency	200 Hz		

## Load side

Rated switching voltage	5...48 V DC	Continuous current	0.5 A (DC1)
Rated switching current	500 mA	Load category	DC1
Max. switching voltage, DC	48 V	Switch-on delay	<20 $\mu$ s
Switch-off delay	<200 $\mu$ s	Voltage drop at max. load	<1 V
Leakage current	<10 $\mu$ A	Short-circuit-proof	No
Protective circuit, load side	Free-wheeling diode	Contact type	1 NO contact (Transistor)
max. switching frequency (DC control voltage)	200 Hz		

## General data

Mounting rail TS 35

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Test button available	No		
Colour	black		
UL94 flammability rating component	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 kVeff / 1 min.	Impulse withstand voltage	4 kV (1.2/50 µs)
Protection degree	IP20		

### Further details of approvals / standards

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 8.0	EC001504	ETIM 9.0	EC001504
ETIM 10.0	EC001504	ECLASS 14.0	27-37-16-04
ECLASS 15.0	27-37-16-04		

Drawings

Wiring diagram



Schaltsymbol

Dimensional drawing



**Miscellaneous**



Type codes

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## Accessories

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### Cross-connections



The distribution or multiplication of a potential to adjoining terminal blocks is realized via a cross-connection. Additional wiring effort can be easily avoided. Even if the poles are broken out, contact reliability in the terminal blocks is still ensured. Our portfolio offers pluggable and screwable cross-connection systems for modular terminal blocks.

### General ordering data

Type	ZQV 4N/20 GE	Version
Order No.	<a href="#">1909020000</a>	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248535644	
Qty.	20 ST	
Type	ZQV 4N/20 RT	Version
Order No.	<a href="#">1909150000</a>	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248535934	
Qty.	20 ST	
Type	ZQV 4N/20 BL	Version
Order No.	<a href="#">1909100000</a>	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248535774	
Qty.	20 ST	
Type	ZQV 4N/2 SW	Version
Order No.	<a href="#">1793970000</a>	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248233762	
Qty.	60 ST	
Type	ZQV 4N/3 SW	Version
Order No.	<a href="#">1794000000</a>	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248233793	
Qty.	60 ST	
Type	ZQV 4N/4 SW	Version
Order No.	<a href="#">1794030000</a>	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248233915	
Qty.	60 ST	
Type	ZQV 4N/10 SW	Version
Order No.	<a href="#">1794060000</a>	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248234059	
Qty.	20 ST	
Type	ZQV 4N/20 SW	Version
Order No.	<a href="#">1909120000</a>	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248535804	
Qty.	20 ST	

**Accessories**

**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 ST	
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 thickness (A): 0.6 mm
GTIN (EAN)	4050118896350	
Qty.	1 ST	
Type	SDIS 0.6X3.5X100	Version
Order No.	<a href="#">2749810000</a>	Screwdriver, Blade width (B): 3.5 mm, Blade length: 100 mm, Blade thickness (A): 0.6 mm
GTIN (EAN)	4050118897012	
Qty.	1 ST	

**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, Allen-Bradley, white
GTIN (EAN)	4008190203467	
Qty.	600 ST	

## Accessories

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### General ordering data

Type	ZQV 4N/2	Version
Order No.	<a href="#">1527930000</a>	Cross-connector (terminal), Plugged, orange, 32 A, Number of poles: 2, Pitch in mm (P): 6.10, Insulated: Yes, Width: 9.9 mm
GTIN (EAN)	4050118332766	
Qty.	60 ST	
Type	ZQV 4N/3	Version
Order No.	<a href="#">1527940000</a>	Cross-connector (terminal), Plugged, orange, 32 A, Number of poles: 3, Pitch in mm (P): 6.10, Insulated: Yes, Width: 16 mm
GTIN (EAN)	4050118332865	
Qty.	60 ST	
Type	ZQV 4N/4	Version
Order No.	<a href="#">1527970000</a>	Cross-connector (terminal), Plugged, orange, 32 A, Number of poles: 4, Pitch in mm (P): 6.10, Insulated: Yes, Width: 22.1 mm
GTIN (EAN)	4050118332889	
Qty.	60 ST	
Type	ZQV 4N/10	Version
Order No.	<a href="#">1528090000</a>	Cross-connector (terminal), Plugged, orange, 32 A, Number of poles: 10, Pitch in mm (P): 6.10, Insulated: Yes, Width: 58.7 mm
GTIN (EAN)	4050118332896	
Qty.	20 ST	
Type	ZQV 4N/2 RD	Version
Order No.	<a href="#">2460450000</a>	Cross-connector (terminal), Plugged, red, 32 A, Number of poles: 2, Pitch in mm (P): 6.10, Insulated: Yes, Width: 9.9 mm
GTIN (EAN)	4050118476149	
Qty.	60 ST	
Type	ZQV 4N/3 RD	Version
Order No.	<a href="#">2460810000</a>	Cross-connector (terminal), Plugged, red, 32 A, Number of poles: 3, Pitch in mm (P): 6.10, Insulated: Yes, Width: 16 mm
GTIN (EAN)	4050118476231	
Qty.	60 ST	
Type	ZQV 4N/4 RD	Version
Order No.	<a href="#">2460800000</a>	Cross-connector (terminal), Plugged, red, 32 A, Number of poles: 4, Pitch in mm (P): 6.10, Insulated: Yes, Width: 22.1 mm
GTIN (EAN)	4050118476224	
Qty.	60 ST	
Type	ZQV 4N/10 RD	Version
Order No.	<a href="#">2460740000</a>	Cross-connector (terminal), Plugged, red, 32 A, Number of poles: 10, Pitch in mm (P): 6.10, Insulated: Yes, Width: 58.7 mm
GTIN (EAN)	4050118476163	
Qty.	20 ST	
Type	ZQV 4N/2 BL	Version
Order No.	<a href="#">1528040000</a>	Cross-connector (terminal), Plugged, blue, 32 A, Number of poles: 2, Pitch in mm (P): 6.10, Insulated: Yes, Width: 9.9 mm
GTIN (EAN)	4050118332773	
Qty.	60 ST	
Type	ZQV 4N/3 BL	Version
Order No.	<a href="#">1528080000</a>	Cross-connector (terminal), Plugged, blue, 32 A, Number of poles: 3, Pitch in mm (P): 6.10, Insulated: Yes, Width: 16 mm
GTIN (EAN)	4050118333008	
Qty.	60 ST	

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Type	ZQV 4N/4 BL	Version
Order No.	<a href="#">1528120000</a>	Cross-connector (terminal), Plugged, blue, 32 A, Number of poles: 4,
GTIN (EAN)	4050118332872	Pitch in mm (P): 6.10, Insulated: Yes, Width: 22.1 mm
Qty.	60 ST	
Type	ZQV 4N/10 BL	Version
Order No.	<a href="#">1528230000</a>	Cross-connector (terminal), Plugged, blue, 32 A, Number of poles: 10,
GTIN (EAN)	4050118333138	Pitch in mm (P): 6.10, Insulated: Yes, Width: 58.7 mm
Qty.	20 ST	