

TOP 48-60VDC/230VAC 0,1A**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Similar to illustration



- 1 NO contact (Triac (zero-cross switch))
- 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: 48...60 V DC $\pm 20\%$, Rated switching voltage: 24...230 V AC, Continuous current: 100 mA, PUSH IN
Order No.	8951190000
Type	TOP 48-60VDC/230VAC 0,1A
GTIN (EAN)	4032248741960
Qty.	10 pc(s).

Creation date December 4, 2023 8:58:15 AM CET

Catalogue status 24.11.2023 / We reserve the right to make technical changes.

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Technical data

Dimensions and weights

Depth	55 mm	Depth (inches)	2.165 inch
Height	79.4 mm	Height (inches)	3.126 inch
Width	6.1 mm	Width (inches)	0.24 inch
Net weight	17.4 g		

Temperatures

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

Probability of failure

MTTF	2,500 Jahre
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Control side

Rated control voltage	48...60 V DC $\pm 20\%$	Nominal control current	3.7 mA DC
Power rating	$\leq 170\text{ mW}$	Status indicator	Green LED
Protective circuit	Varistor, Reverse polarity protection	Input frequency	10 Hz

Load side

Rated switching voltage	24...230 V AC	Continuous current	100 mA
Rated switching current	100 mA	Load category	AC1
Max. switching voltage, AC	230 V	Switch-on delay	$\leq 10\text{ ms}$
Switch-off delay	$< 12\text{ ms}$	Voltage drop at max. load	$< 1.8\text{ V}$
Leakage current	$< 1\text{ mA}$	Min. switching current	2 mA
Short-circuit-proof	No	Protective circuit, load side	Varistor, RC element
Contact type	1 NO contact (Triac (zero- cross switch))	max. switching frequency (DC control voltage)	10 Hz

General data

Rail	TS 35	
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	$> 3\text{ mm}$
Dielectric strength for control side - load side	$1.2\text{ kV}_{\text{eff}} / 1\text{ min.}$	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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Technical data

Connection data

Wire connection method	PUSH IN	Stripping length, rated connection	10 mm
Clamping range, rated connection	1.5 mm ²	Clamping range, min.	0.5 mm ²
Clamping range, max.	2.5 mm ²	Wire connection cross section AWG, min.	AWG 20
Wire connection cross section AWG, max.	AWG 14	Wire cross-section, solid, min.	0.5 mm ²
Wire cross-section, solid, max.	1.5 mm ²	Wire connection cross section, finely stranded, min.	0.5 mm ²
Wire connection cross section, finely stranded, max.	1.5 mm ²	Wire cross-section, finely stranded, min. (AWG)	AWG 20
Wire cross-section, finely stranded, max. (AWG)	AWG 14	Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, min.	0.5 mm ²
Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, max.	1.5 mm ²	Conductor cross-section, flexible, AEH (DIN 46228-1), min.	0.5 mm ²
Conductor cross-section, flexible, AEH (DIN 46228-1), max.	1.5 mm ²	Blade size	0.6 x 3.5 mm

Classifications

ETIM 6.0	EC001504	ETIM 7.0	EC001504
ETIM 8.0	EC001504	ETIM 9.0	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
ECLASS 12.0	27-37-16-04	ECLASS 13.0	27371604

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
SCIP	9e2cbc49-76d9-4611-b8ec-5b4f549a0aa9

Approvals

Approvals



ROHS	Conform
UL File Number Search	UL Website
Certificate no. (cULus)	E223474

Downloads

Approval/Certificate/Document of Conformity	EU Konformitätserklärung / EU Declaration of Conformity
Engineering Data	CAD data – STEP
User Documentation	Beipackzettel / Package Insert – multilingual
Catalogues	Catalogues in PDF-format
Brochures	

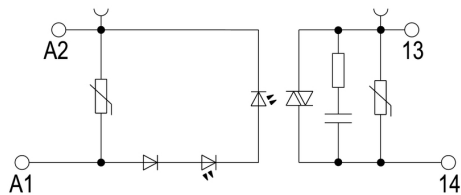
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Drawings

Wiring diagram

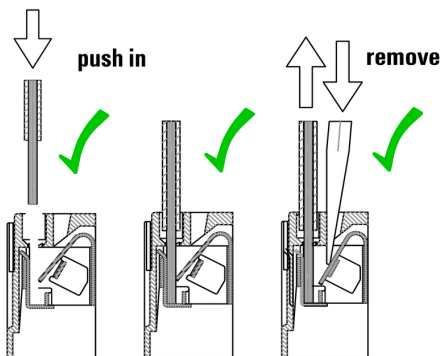


Schaltsymbol

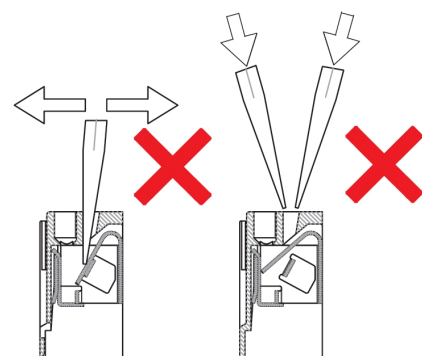
Dimensional drawing



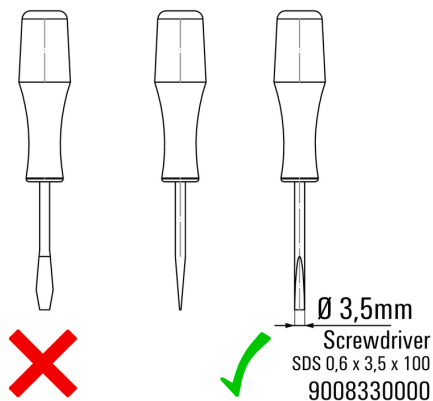
Correct handling PUSH IN connection



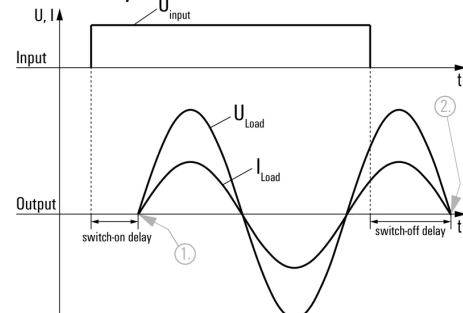
Wrong handling PUSH IN connection



Recommended screwdriver



Signal characteristics of zero cross switching solid-state relays



Shown at an example with resistive load.
1. Switches on at first zero cross of mains voltage while control input gets signal.
2. Switches off at next zero cross of mains current after control input signal was switched off.
Switching DC voltages is not possible with this solid-state relays.

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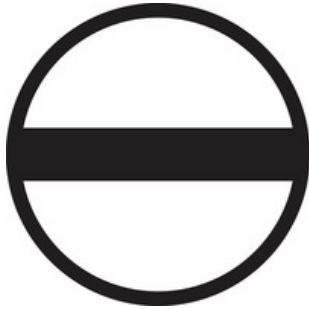
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Accessories

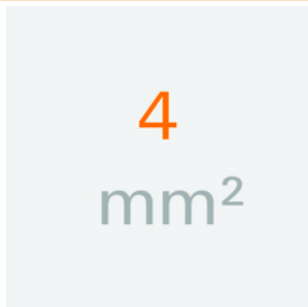
Slotted screwdriver



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.	2749340000	Screwdriver, Blade width (B): 3.5 mm, Blade length: 100 mm, Blade
GTIN (EAN)	4050118895568	thickness (A): 0.6 mm
Qty.	10 pc(s).	

4 mm²

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 GE	Version
Order No.	1909020000	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248535644	
Qty.	20 pc(s).	
Type	ZQV 4N/2 SW	Version
Order No.	1793970000	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248233762	
Qty.	60 pc(s).	
Type	ZQV 4N/20 RT	Version
Order No.	1909150000	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248535934	
Qty.	20 pc(s).	
Type	ZQV 4N/20 BL	Version
Order No.	1909100000	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248535774	
Qty.	20 pc(s).	
Type	ZQV 4N/4 SW	Version
Order No.	1794030000	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248233915	
Qty.	60 pc(s).	

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Accessories

Type	ZQV 4N/20 SW	Version
Order No.	1909120000	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248535804	
Qty.	20 pc(s).	
Type	ZQV 4N/3 SW	Version
Order No.	1794000000	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248233793	
Qty.	60 pc(s).	
Type	ZQV 4N/10 SW	Version
Order No.	1794060000	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248234059	
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.	1609900000	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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Accessories

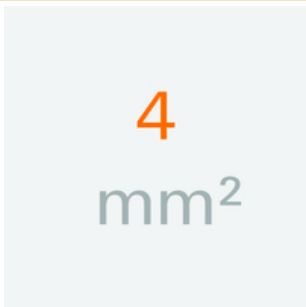
Slotted screwdriver



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.	2749610000	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).	

4 mm²

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General ordering data

Type	ZQV 4N/10 BL
Order No.	1528230000
GTIN (EAN)	4050118333138
Qty.	20 pc(s).

Type	ZQV 4N/2
Order No.	1527930000
GTIN (EAN)	4050118332766
Qty.	60 pc(s).

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

Type	ZQV 4N/3
Order No.	1527940000
GTIN (EAN)	4050118332865
Qty.	60 pc(s).

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

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Accessories

Type	ZQV 4N/3 RD
Order No.	2460810000
GTIN (EAN)	4050118476231
Qty.	60 pc(s).

Type	ZQV 4N/4 RD
Order No.	2460800000
GTIN (EAN)	4050118476224
Qty.	60 pc(s).

Type	ZQV 4N/10
Order No.	1528090000
GTIN (EAN)	4050118332896
Qty.	20 pc(s).

Type	ZQV 4N/4 BL
Order No.	1528120000
GTIN (EAN)	4050118332872
Qty.	60 pc(s).

Type	ZQV 4N/3 BL
Order No.	1528080000
GTIN (EAN)	4050118333008
Qty.	60 pc(s).

Type	ZQV 4N/2 BL
Order No.	1528040000
GTIN (EAN)	4050118332773
Qty.	60 pc(s).

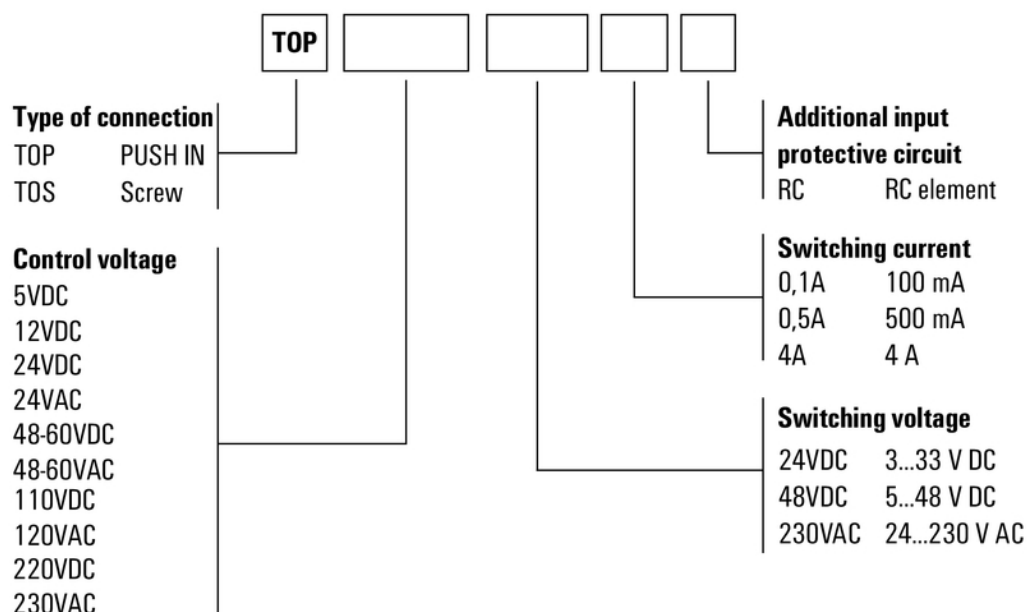
Type	ZQV 4N/4
Order No.	1527970000
GTIN (EAN)	4050118332889
Qty.	60 pc(s).

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Drawings
Miscellaneous


Type codes