

MICROOPTO **MOS 24VDC/12-300VDC 1A**

Weidmüller Interface GmbH & Co. KG

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Germany

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The MICROOPTO 300 V DC solid-state relay has been developed as a switching amplifier for high inductive loads up to 300 V DC and 1 A in motor brakes and contactors.

A power boost in the load circuit compensates transient overloads (20 A for 20 ms / 5 A for 1 s) such as start-up or shut-down spikes. Additional protective circuits counter higher overloads.

General ordering data

Type	MOS 24VDC/12-300VDC 1A
Order No.	8937830000
Version	MICROOPTO, solid-state relays, 1 NO contact (POWER MOS-FET), Rated control voltage: 24 V DC $\pm 20\%$, Rated switching voltage: 12...300 V DC, Continuous current: 1 A, Screw connection
GTIN (EAN)	4032248716050
Qty.	1 pc(s).

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Technical data

Dimensions and weights

Width	6.1 mm	Width (inches)	0.24 inch
Height	88.1 mm	Height (inches)	3.468 inch
Depth	97.8 mm	Depth (inches)	3.85 inch
Net weight	37 g		

Temperatures

Humidity	5–95% rel. humidity, $T_u = 55^\circ\text{C}$, no condensation	Operating temperature	-25 °C...60 °C
Storage temperature	-40 °C...80 °C		

Probability of failure

MTTF	467 Years
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Control side

Rated control voltage	24 V DC $\pm 20\%$	Power rating	0.36 W
Cut-in / dropout voltage	18.8 V / 14.7 V DC	Status indicator	Green LED
Protective circuit	Varistor, Reverse polarity protection		

Load side

Rated switching voltage	12...300 V DC	Continuous current	1 A
Max. switching current	1,5 A	Load category	LC A
Pulse load, max. current	27 A (10 ms)	Switch-on delay	< 18 μs
Switch-off delay	< 1 ms	Voltage drop at max. load	$\leq 0.4\text{ V}$
Leakage current	< 1 μA	Short-circuit-proof	No
Protective circuit, load side	Varistor, Free-wheel diode	max. switching frequency (DC control voltage)	60 Hz

Contact data

Contact type	1 NO contact (POWER MOS-FET)
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General data

Mounting rail	TS 35	UL 94 flammability rating	V-0
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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	3 kV_{eff} / 1 min.	Dielectric strength to mounting rail	4 kV_{eff} / 1 min.
Impulse withstand voltage	2.5 kV (1.2/50 μs)	Protection degree	IP20

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Technical data

Further details of approvals / standards

Standards	DIN EN 50178, GL 2003-VI-Abs. 9, IEC 62314, UL508	Certificate No. (GERMLLOYD)
Certificate no. (cULus)	E141197	54853-08

Connection data

Wire connection method	Screw connection	Stripping length, rated connection	7 mm
Tightening torque, min.	0.4 Nm	Tightening torque, max.	0.6 Nm
Clamping range, rated connection	2.5 mm ²	Clamping range, rated connection, min.	0.5 mm ²
Clamping range, rated connection, max.	4 mm ²	Wire cross-section, solid, min.	0.5 mm ²
Wire cross-section, solid, max.	4 mm ²	Wire connection cross-section, finely stranded, min.	0.5 mm ²
Wire connection cross section, finely stranded, max.	2.5 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
Wire connection cross-section, finely stranded with wire-end ferrules and plastic collars DIN 46228/4, rated connection, 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 3.0	EC001504	ETIM 4.0	EC001504
ETIM 5.0	EC001504	ETIM 6.0	EC001504
UNSPSC	30-21-18-01	eClass 5.1	27-27-09-90
eClass 6.2	27-27-09-90	eClass 7.1	27-27-09-90
eClass 8.1	27-27-09-90	eClass 9.0	27-27-09-90
eClass 9.1	27-37-16-04		

Product information

Product information	The cable lengths must not exceed 30 m.
Descriptive text accessories	Accessories and dimensioned drawings: refer to the MICROOPTO Accessories page.

Approvals

Approvals



ROHS Conform

Downloads

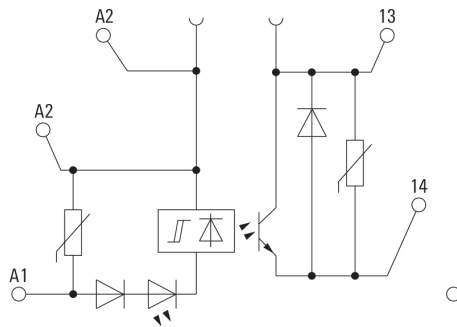
Approval/Certificate/Document of Conformity	DE_PA_5600_160302_002.pdf
Brochure/Catalogue	CAT 4.2 ELECTR 15/16 EN
Engineering Data	EPLAN, WSCAD
User Documentation	Operating Instructions

MICROOPTO MOS 24VDC/12-300VDC 1A

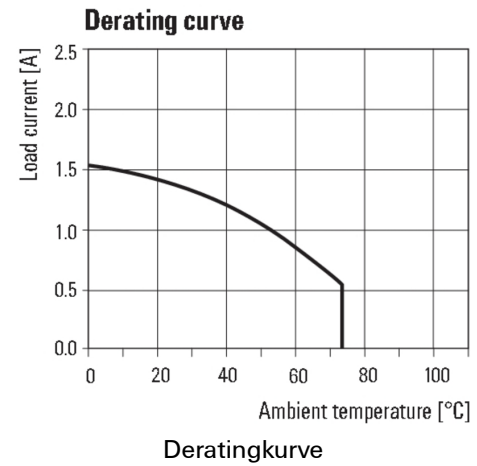
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Drawings

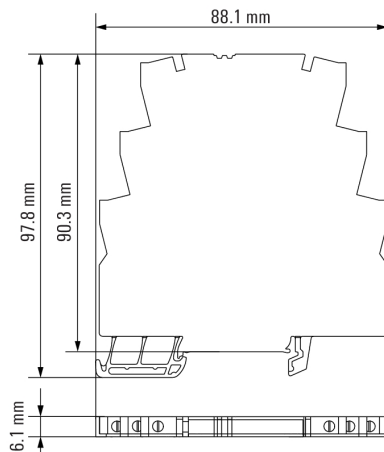
Wiring diagram



Graph



Dimensional drawing



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Accessories

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	Order No.	Version	GTIN (EAN)	Qty.
SDIS	9008390000	Screwdriver, Blade width	4032248056354	1 pc(s).
0.6X3.5X100		(B): 3.5 mm, Blade length: 100 mm, Blade thickness (A): 0.6 mm		

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	Order No.	Version	GTIN (EAN)	Qty.
SDIS SL	1274660000	Assembly tool, Blade width	4050118072631	1 pc(s).
0.6X3.5X100		(B): 3.5 mm, Blade length: 100 mm, Blade thickness (A): 0.6 mm		

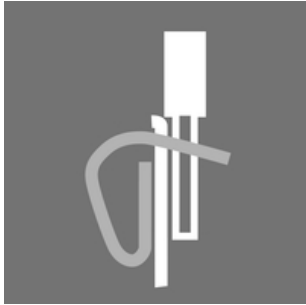
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Accessories

ZQV 4N



Spring connection with tension clamp Technology

Tension clamp technology is a universal contact system for all common conductor connection types. Its fantastic level of flexibility makes the tension clamp a profitable alternative connection.

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.
ZQV 4N/3 BL	1793990000	Accessories, Cross-connector, 32 A	4032248233786	60 pc(s).
ZQV 4N/20 SW	1909120000	Accessories, Cross-connector, 32 A	4032248535804	20 pc(s).
ZQV 4N/2 GE	1758250000	Accessories, Cross-connector, 32 A	4032248169795	60 pc(s).
ZQV 4N/20 GE	1909020000	Accessories, Cross-connector, 32 A	4032248535644	20 pc(s).
ZQV 4N/2 BL	1793960000	Accessories, Cross-connector, 32 A	4032248233755	60 pc(s).
ZQV 4N/4 GE	1762620000	Accessories, Cross-connector, 32 A	4032248169771	60 pc(s).
ZQV 4N/4 RT	1794010000	Accessories, Cross-connector, 32 A	4032248233809	60 pc(s).
ZQV 4N/10 GE	1758260000	Accessories, Cross-connector, 32 A	4032248169764	20 pc(s).
ZQV 4N/3 SW	1794000000	Accessories, Cross-connector, 32 A	4032248233793	60 pc(s).
ZQV 4N/10 RT	1794040000	Accessories, Cross-connector, 32 A	4032248234004	20 pc(s).
ZQV 4N/2 RT	1793950000	Accessories, Cross-connector, 32 A	4032248233748	60 pc(s).
ZQV 4N/10 BL	1794050000	Accessories, Cross-connector, 32 A	4032248234011	20 pc(s).
ZQV 4N/4 SW	1794030000	Accessories, Cross-connector, 32 A	4032248233915	60 pc(s).
ZQV 4N/3 GE	1762630000	Accessories, Cross-connector, 32 A	4032248169788	60 pc(s).
ZQV 4N/3 RT	1793980000	Accessories, Cross-connector, 32 A	4032248233779	60 pc(s).
ZQV 4N/20 RT	1909150000	Accessories, Cross-connector, 32 A	4032248535934	20 pc(s).
ZQV 4N/4 BL	1794020000	Accessories, Cross-connector, 32 A	4032248233816	60 pc(s).
ZQV 4N/20 BL	1909100000	Accessories, Cross-connector, 32 A	4032248535774	20 pc(s).
ZQV 4N/10 SW	1794060000	Accessories, Cross-connector, 32 A	4032248234059	20 pc(s).

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Accessories

ZQV 4N/2 SW [1793970000](#)

Accessories, Cross-
connector, 32 A

4032248233762 60 pc(s).

Tools



Tools for removing the sheathing of uncut power cables and outgoing feeders, plus screwdrivers for installing FieldPower components.

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.
SDS 0.6X3.5X100	9008330000	Screwdriver, Blade width (B): 3.5 mm, Blade length: 100 mm, Blade thickness (A): 0.6 mm	4032248056286	1 pc(s).

Accessories



The MICROOPTO range of products provide the user with the tried and tested characteristics of terminal blocks. Pluggable cross-connections and harmonised marking solutions packaged in a minimum design width. Best performance within a small footprint.

- 6.1 mm width
- Plug-in standard ZQV 4N cross-connection
- Suitable for labelling with the MultiCard system
- Suitable for mounting on TS35 rail
- Housing material made of WEMID (higher thermal stability in comparison with polyamide)

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.
MOS SUPPLY	8973460000	MICROOPTO, Supply module, Screw connection	4032248799541	1 pc(s).
MOS FEED THROUGH	8973450000	MICROOPTO, Feedthrough terminal, Screw connection	4032248799534	1 pc(s).

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Accessories**Markers**

Extensive range of accessories for the FieldPower® boxes.
Cable seals, plug-in connectors, locking elements and much more.

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.
WS 12/6 MC	1609900000	WS, Terminal marker, 12 x	4008190203467	600 pc(s).
NE WS		6 mm, Pitch in mm (P): 6.00		
		Weidmueller, Allen-Bradley,		
		White		