

MOS 12-28VDC 100KHZ
Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com


Compact and powerful solid-state relays in terminal block format

Saving space in the panel is becoming more and more important, and requires increasingly compact components. With the compact and powerful MICROOPTO solid-state relays, you benefit from our decades of experience in manufacturing products in terminal block format. The MICROOPTO family comprises high-quality solid-state relays for application-specific problem solving and delivers high performance in a width of just 6.1 mm. The wide range of accessories from plug-in cross-connections to end-to-end marking solutions makes it particularly versatile. Thanks to international approvals, they can be used worldwide. Reliable function is ensured by the integrated protective suppressor circuit for inputs and outputs. The wide MICROOPTO portfolio includes a range of solutions for special loads. For example, for inductive loads up to 10 A at 24 V DC or for DC loads up to 300 V. In addition, there are solutions for decoupling 5 V TTL inputs and outputs, for frequencies up to 550 kHz, as well as the single CO contact version for inverting signals.

General ordering data

Version	MICROOPTO, Solid-state relay, Rated control voltage: 12 V DC...28 V DC , Rated switching voltage: 19.6...28.8 V DC, Continuous current: 50 mA, Screw connection
Order No.	8937990000
Type	MOS 12-28VDC 100KHZ
GTIN (EAN)	4032248716227
Qty.	1 items

MOS 12-28VDC 100KHZ

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Technical data

Approvals

Approvals



ROHS Conform

UL File Number Search [UL Website](#)

Certificate no. (cULus) E141197

Dimensions and weights

Depth	97.8 mm	Depth (inches)	3.8504 inch
Height	88.1 mm	Height (inches)	3.4685 inch
Width	6.1 mm	Width (inches)	0.2402 inch
Net weight	31.81 g		

Temperatures

Storage temperature	-40 °C...80 °C	Ambient temperature	-25 °C...60 °C
Operating temperature		Humidity	5-95% relative humidity, Tu = 55°C, without condensation

Probability of failure

MTTF 2559 a

Environmental Product Compliance

RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	7a, 7cl
REACH SVHC	Lead 7439-92-1
SCIP	d32f8e61-6733-45d6-9062-c95f9903aad6

Control side

Rated control voltage	12 V DC...28 V DC	Rated control voltage (control input)	12 V DC...28 V DC
Power rating	≤ 360 mW	Status indicator	Green LED
Protective circuit	Varistor, Reverse polarity protection	Input frequency	100 kHz

Load side

Rated switching voltage	19.6...28.8 V DC	Continuous current	0.05 A
Rated switching current	50 mA	Load category	LC A
Max. switching voltage, DC	48 V	Pulse load, max. current	0.6 A (20 ms)
Switch-on delay	<200 ns	Switch-off delay	<400 ns
Voltage drop at max. load	≤ 2 V	Leakage current	<1 µA
Short-circuit-proof	No	Protective circuit, load side	Varistor, Reverse polarity protection
Contact type	1 NO contact (Transistor)	max. switching frequency (DC control voltage)	530 kHz
Nominal auxiliary voltage	19.6...28.8 V / max. 8 mA		

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Technical data

General data

Mounting rail	TS 35		
Colour	black		
UL 94 flammability rating	V-0		
UL94 flammability rating component	Component	Housing	
	UL94 flammability rating	V-0	

Insulation coordination

Rated voltage	30 V	Pollution severity	2
Surge voltage category	II	Dielectric strength for control side - load side	350 Veff / 1 min.
Dielectric strength to mounting rail	350 Veff / 1 min.	Impulse withstand voltage	500 V (1,2/50 µ)
Protection degree	IP20		

Further details of approvals / standards

Certificate No. (DNV)	TAE000033E	Certificate no. (cULus)	E141197
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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, min.	0.5 mm ²
Clamping range, 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	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

Important note

Product information	The cable lengths must not exceed 30 m.
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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		

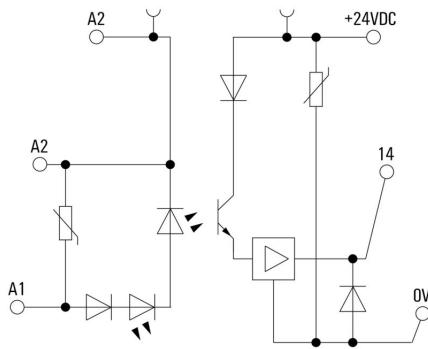
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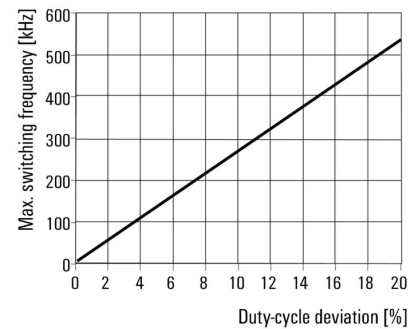
Drawings

Wiring diagram



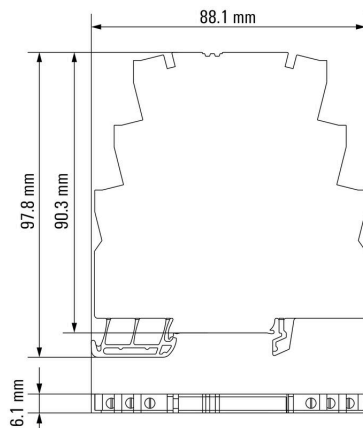
Max. switching frequency is dependent on the duty cycle deviation

MOS 12-28 V DC 100 kHz (switching current 50 mA, ohmic load)



Max. switching frequency depending on the duty-cycle deviation

Dimensional drawing



MOS 12-28VDC 100KHZ

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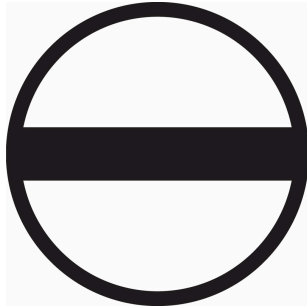
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Accessories

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 thickness (A): 0.6 mm
GTIN (EAN)	4050118895568	
Qty.	1 ST	
Type	SDIS 0.6X3.5X100	Version
Order No.	2749810000	Screwdriver, Blade width (B): 3.5 mm, Blade length: 100 mm, Blade thickness (A): 0.6 mm
GTIN (EAN)	4050118897012	
Qty.	1 ST	

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General ordering data

Type	MOS FEED THROUGH	Version
Order No.	8973450000	MICROOPTO, Feed-through terminal, Screw connection
GTIN (EAN)	4032248799534	
Qty.	1 ST	

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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 ST		

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General ordering data

Type	MOS SUPPLY	Version	
Order No.	8973460000	MICROOPTO, Supply module, Screw connection	
GTIN (EAN)	4032248799541		
Qty.	1 ST		

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Accessories

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/2	Version
Order No.	1527930000	Cross-connector (terminal), Plugged, orange, 32 A, Number of poles:
GTIN (EAN)	4050118332766	2, Pitch in mm (P): 6.10, Insulated: Yes, Width: 9.9 mm
Qty.	60 ST	
Type	ZQV 4N/2 RD	Version
Order No.	2460450000	Cross-connector (terminal), Plugged, red, 32 A, Number of poles: 2,
GTIN (EAN)	4050118476149	Pitch in mm (P): 6.10, Insulated: Yes, Width: 9.9 mm
Qty.	60 ST	
Type	ZQV 4N/2 BL	Version
Order No.	1528040000	Cross-connector (terminal), Plugged, blue, 32 A, Number of poles: 2,
GTIN (EAN)	4050118332773	Pitch in mm (P): 6.10, Insulated: Yes, Width: 9.9 mm
Qty.	60 ST	
Type	ZQV 4N/2 SW	Version
Order No.	1793970000	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248233762	
Qty.	60 ST	
Type	ZQV 4N/3	Version
Order No.	1527940000	Cross-connector (terminal), Plugged, orange, 32 A, Number of poles:
GTIN (EAN)	4050118332865	3, Pitch in mm (P): 6.10, Insulated: Yes, Width: 16 mm
Qty.	60 ST	
Type	ZQV 4N/3 RD	Version
Order No.	2460810000	Cross-connector (terminal), Plugged, red, 32 A, Number of poles: 3,
GTIN (EAN)	4050118476231	Pitch in mm (P): 6.10, Insulated: Yes, Width: 16 mm
Qty.	60 ST	
Type	ZQV 4N/3 BL	Version
Order No.	1528080000	Cross-connector (terminal), Plugged, blue, 32 A, Number of poles: 3,
GTIN (EAN)	4050118333008	Pitch in mm (P): 6.10, Insulated: Yes, Width: 16 mm
Qty.	60 ST	
Type	ZQV 4N/3 SW	Version
Order No.	1794000000	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248233793	
Qty.	60 ST	
Type	ZQV 4N/4	Version
Order No.	1527970000	Cross-connector (terminal), Plugged, orange, 32 A, Number of poles:
GTIN (EAN)	4050118332889	4, Pitch in mm (P): 6.10, Insulated: Yes, Width: 22.1 mm
Qty.	60 ST	
Type	ZQV 4N/4 RD	Version
Order No.	2460800000	Cross-connector (terminal), Plugged, red, 32 A, Number of poles: 4,
GTIN (EAN)	4050118476224	Pitch in mm (P): 6.10, Insulated: Yes, Width: 22.1 mm
Qty.	60 ST	

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Type	ZQV 4N/4 BL	Version
Order No.	1528120000	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/4 SW	Version
Order No.	1794030000	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248233915	
Qty.	60 ST	
Type	ZQV 4N/10	Version
Order No.	1528090000	Cross-connector (terminal), Plugged, orange, 32 A, Number of poles:
GTIN (EAN)	4050118332896	10, Pitch in mm (P): 6.10, Insulated: Yes, Width: 58.7 mm
Qty.	20 ST	
Type	ZQV 4N/10 RD	Version
Order No.	2460740000	Cross-connector (terminal), Plugged, red, 32 A, Number of poles: 10,
GTIN (EAN)	4050118476163	Pitch in mm (P): 6.10, Insulated: Yes, Width: 58.7 mm
Qty.	20 ST	
Type	ZQV 4N/10 BL	Version
Order No.	1528230000	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	
Type	ZQV 4N/10 SW	Version
Order No.	1794060000	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248234059	
Qty.	20 ST	
Type	ZQV 4N/20 GE	Version
Order No.	1909020000	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248535644	
Qty.	20 ST	
Type	ZQV 4N/20 RT	Version
Order No.	1909150000	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248535934	
Qty.	20 ST	
Type	ZQV 4N/20 BL	Version
Order No.	1909100000	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248535774	
Qty.	20 ST	
Type	ZQV 4N/20 SW	Version
Order No.	1909120000	W-Series, Cross-connector, 32 A
GTIN (EAN)	4032248535804	
Qty.	20 ST	

MOS 12-28VDC 100KHZ**Weidmüller Interface GmbH & Co. KG**Klingenbergstraße 26
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Germanywww.weidmueller.com**Accessories****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 ST	