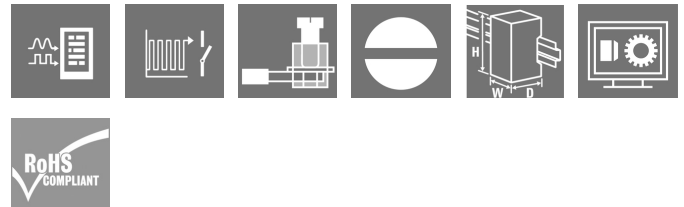


MOS 12-28VDC/5VTTL**Weidmüller Interface GmbH & Co. KG**

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: 5 V TTL, Continuous current: 50 mA, Screw connection |
| Order No. | 8937930000 |
| Type | MOS 12-28VDC/5VTTL |
| GTIN (EAN) | 4032248716166 |
| Qty. | 1 pc(s). |

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Technical data

Dimensions and weights

| | | | |
|------------|---------|-----------------|------------|
| Depth | 97.8 mm | Depth (inches) | 3.85 inch |
| Height | 88.1 mm | Height (inches) | 3.468 inch |
| Width | 6.1 mm | Width (inches) | 0.24 inch |
| Net weight | 34 g | | |

Temperatures

| | | | |
|---------------------|---|-----------------------|----------------|
| Storage temperature | -40 °C...60 °C | Operating temperature | -25 °C...60 °C |
| Humidity | 5 - 93% rel. humidity, Tu = 40°C, no condensation | | |

Probability of failure

| | |
|------|---------|
| MTTF | 2,047 a |
|------|---------|

Control side

| | | | |
|-----------------------|-------------------|--------------------|---------------------------------------|
| Rated control voltage | 12 V DC...28 V DC | Power rating | 150 mW |
| Status indicator | Green LED | Protective circuit | Varistor, Reverse polarity protection |
| Input frequency | 100 kHz | | |

Load side

| | | | |
|---------------------------|----------------------------|---|----------------|
| Rated switching voltage | 5 V TTL | Continuous current | 0.05 A |
| Rated switching current | 50 mA | Load category | LC A |
| Switch-on delay | typ. <1 µs | Switch-off delay | typical. <4 µs |
| Voltage drop at max. load | ≤ 1.1 V | Leakage current | <1 µA |
| Short-circuit-proof | No | Protective circuit, load side | Varistor |
| Contact type | 1 NO contact (TTL) | max. switching frequency (DC control voltage) | 100 kHz |
| Nominal auxiliary voltage | 5 V DC ± 10 % / max. 50 mA | | |

General data

| | | | |
|------------------------------------|--------------------------|---------|--|
| 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 | 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 | 4 kV (1.2/50 µs) | Protection degree | IP20 |

Further details of approvals / standards

| | | | |
|-----------------------|------------|-------------------------|---------|
| Certificate No. (DNV) | TAE000033E | Certificate no. (cULus) | E141197 |
|-----------------------|------------|-------------------------|---------|

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Technical data

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 |

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 | 27-37-16-04 |

Environmental Product Compliance

| | |
|------------|--------------------------------------|
| REACH SVHC | Lead 7439-92-1 |
| SCIP | d32f8e61-6733-45d6-9062-c95f9903aad6 |

Important note

| | |
|---------------------|---|
| Product information | The cable lengths must not exceed 30 m. |
|---------------------|---|

Approvals

Approvals



| | |
|-------------------------|------------|
| ROHS | Conform |
| UL File Number Search | UL Website |
| Certificate no. (cULus) | E141197 |

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 | |

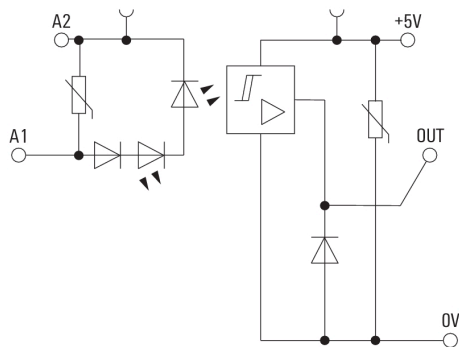
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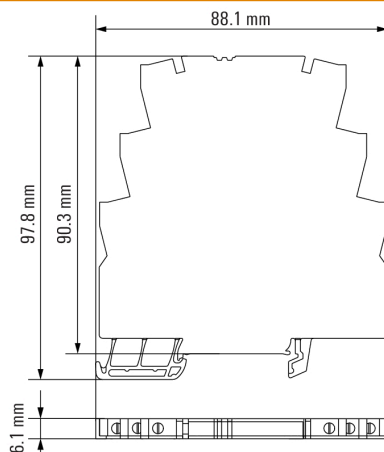
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Drawings

Wiring diagram



Dimensional drawing



MOS 12-28VDC/5VTTL

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Accessories

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/2 | Version |
| Order No. | 1527930000 | Cross-connector (terminal), Plugged, Number of poles: 2, Pitch in mm |
| GTIN (EAN) | 4050118332766 | (P): 6.10, Insulated: Yes, 32 A, orange |
| Qty. | 60 pc(s). | |
| Type | ZQV 4N/2 BL | Version |
| Order No. | 1528040000 | Cross-connector (terminal), Plugged, Number of poles: 2, Pitch in mm |
| GTIN (EAN) | 4050118332773 | (P): 6.10, Insulated: Yes, 32 A, blue |
| Qty. | 60 pc(s). | |
| Type | ZQV 4N/10 | Version |
| Order No. | 1528090000 | Cross-connector (terminal), Plugged, Number of poles: 10, Pitch in mm |
| GTIN (EAN) | 4050118332896 | (P): 6.10, Insulated: Yes, 32 A, orange |
| Qty. | 20 pc(s). | |
| Type | ZQV 4N/3 BL | Version |
| Order No. | 1528080000 | Cross-connector (terminal), Plugged, Number of poles: 3, Pitch in mm |
| GTIN (EAN) | 4050118333008 | (P): 6.10, Insulated: Yes, 32 A, blue |
| Qty. | 60 pc(s). | |
| Type | ZQV 4N/2 RD | Version |
| Order No. | 2460450000 | Cross-connector (terminal), Plugged, Number of poles: 2, Pitch in mm |
| GTIN (EAN) | 4050118476149 | (P): 6.10, 32 A, red |
| Qty. | 60 pc(s). | |
| Type | ZQV 4N/3 RD | Version |
| Order No. | 2460810000 | Cross-connector (terminal), Plugged, Number of poles: 3, Pitch in mm |
| GTIN (EAN) | 4050118476231 | (P): 6.10, 32 A, red |
| Qty. | 60 pc(s). | |
| Type | ZQV 4N/4 | Version |
| Order No. | 1527970000 | Cross-connector (terminal), Plugged, Number of poles: 4, Pitch in mm |
| GTIN (EAN) | 4050118332889 | (P): 6.10, Insulated: Yes, 32 A, orange |
| Qty. | 60 pc(s). | |
| Type | ZQV 4N/4 RD | Version |
| Order No. | 2460800000 | Cross-connector (terminal), Plugged, Number of poles: 4, Pitch in mm |
| GTIN (EAN) | 4050118476224 | (P): 6.10, Insulated: Yes, 32 A, red |
| Qty. | 60 pc(s). | |
| Type | ZQV 4N/10 RD | Version |
| Order No. | 2460740000 | Cross-connector (terminal), Plugged, Number of poles: 10, Pitch in mm |
| GTIN (EAN) | 4050118476163 | (P): 6.10, 32 A, red |
| Qty. | 20 pc(s). | |
| Type | ZQV 4N/3 | Version |
| Order No. | 1527940000 | Cross-connector (terminal), Plugged, Number of poles: 3, Pitch in mm |
| GTIN (EAN) | 4050118332865 | (P): 6.10, Insulated: Yes, 32 A, orange |
| Qty. | 60 pc(s). | |

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Accessories

| | | |
|------------|----------------------------|--|
| Type | ZQV 4N/4 BL | Version |
| Order No. | 1528120000 | Cross-connector (terminal), Plugged, Number of poles: 4, Pitch in mm |
| GTIN (EAN) | 4050118332872 | (P): 6.10, Insulated: Yes, 32 A, blue |
| Qty. | 60 pc(s). | |

| | | |
|------------|----------------------------|---|
| Type | ZQV 4N/10 BL | Version |
| Order No. | 1528230000 | Cross-connector (terminal), Plugged, Number of poles: 10, Pitch in mm |
| GTIN (EAN) | 4050118333138 | (P): 6.10, Insulated: Yes, 32 A, blue |
| Qty. | 20 pc(s). | |

Blank



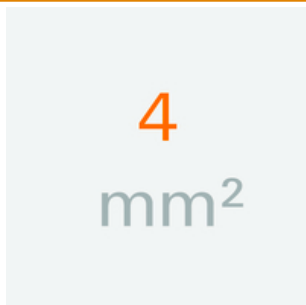
WS markers are the perfect match for the W-series connectors. Thanks to their system compatibility, the WS tags can also be used with the I-series and the Z-series. The large marking surfaces do not only permit long character strings but also multi-line text. WS markers are ideal for labels with long, 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). | |

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/2 SW | Version |
| Order No. | 1793970000 | W-Series, Cross-connector, 32 A |
| GTIN (EAN) | 4032248233762 | |
| Qty. | 60 pc(s). | |

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Accessories

| | | |
|------------|----------------------------|---------------------------------|
| 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/20 SW | Version |
| Order No. | 1909120000 | W-Series, Cross-connector, 32 A |
| GTIN (EAN) | 4032248535804 | |
| Qty. | 20 pc(s). | |
| Type | ZQV 4N/10 SW | Version |
| Order No. | 1794060000 | W-Series, Cross-connector, 32 A |
| GTIN (EAN) | 4032248234059 | |
| Qty. | 20 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/3 SW | Version |
| Order No. | 1794000000 | W-Series, Cross-connector, 32 A |
| GTIN (EAN) | 4032248233793 | |
| Qty. | 60 pc(s). | |
| Type | ZQV 4N/4 SW | Version |
| Order No. | 1794030000 | W-Series, Cross-connector, 32 A |
| GTIN (EAN) | 4032248233915 | |
| Qty. | 60 pc(s). | |
| Type | ZQV 4N/20 GE | Version |
| Order No. | 1909020000 | W-Series, Cross-connector, 32 A |
| GTIN (EAN) | 4032248535644 | |
| Qty. | 20 pc(s). | |

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). | |

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www.weidmueller.com**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 | SDIS 0.6X3.5X100 | Version |
| Order No. | 2749810000 | Screwdriver, Blade width (B): 3.5 mm, Blade length: 100 mm, Blade |
| GTIN (EAN) | 4050118897012 | thickness (A): 0.6 mm |
| Qty. | 1 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. | 2749340000 | Screwdriver, Blade width (B): 3.5 mm, Blade length: 100 mm, Blade |
| GTIN (EAN) | 4050118895568 | thickness (A): 0.6 mm |
| Qty. | 1 pc(s). | |

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General ordering data

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