

**TOP 5VDC/230VAC 0,1A****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://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: 5 V DC $\pm 20\%$ , Rated switching voltage: 24...230 V AC, Continuous current: 0.1 A, PUSH IN |
| Order No.  | <a href="#">8951160000</a>                                                                                                                         |
| Type       | TOP 5VDC/230VAC 0,1A                                                                                                                               |
| GTIN (EAN) | 4032248741939                                                                                                                                      |
| Qty.       | 10 pc(s).                                                                                                                                          |

## TOP 5VDC/230VAC 0,1A

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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 | 19 g    |                 |            |

## Temperatures

|                     |                                                                         |                       |                |
|---------------------|-------------------------------------------------------------------------|-----------------------|----------------|
| Storage temperature | -40 °C...80 °C                                                          | Operating temperature | -20 °C...60 °C |
| Humidity            | 5-95% relative humidity, T <sub>u</sub><br>= 40°C, without condensation |                       |                |

## Probability of failure

|      |         |
|------|---------|
| MTTF | 2,500 a |
|------|---------|

## Control side

|                       |                                       |                         |           |
|-----------------------|---------------------------------------|-------------------------|-----------|
| Rated control voltage | 5 V DC $\pm$ 20 %                     | Nominal control current | 7.8 mA DC |
| Power rating          | <40 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                            | 0.1 A (AC1)          |
| Rated switching current    | 100 mA                                   | Load category                                 | AC1                  |
| Max. switching voltage, AC | 230 V                                    | Switch-on delay                               | $\leq$ 10 ms         |
| Switch-off delay           | <12 ms                                   | Voltage drop at max. load                     | <1.8 V               |
| Leakage current            | <1 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 mm                |
| Dielectric strength for control side - load side | 1.2 kV <sub>eff</sub> / 1 min. | Impulse withstand voltage                                     | 4 kV (1.2/50 $\mu$ s) |
| 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 <sup>2</sup> | Clamping range, min.                                                                    | 0.5 mm <sup>2</sup> |
| Clamping range, max.                                                                    | 2.5 mm <sup>2</sup> | Wire connection cross section AWG, min.                                                 | AWG 20              |
| Wire connection cross section AWG, max.                                                 | AWG 14              | Wire cross-section, solid, min.                                                         | 0.5 mm <sup>2</sup> |
| Wire cross-section, solid, max.                                                         | 1.5 mm <sup>2</sup> | Wire connection cross section, finely stranded, min.                                    | 0.5 mm <sup>2</sup> |
| Wire connection cross section, finely stranded, max.                                    | 1.5 mm <sup>2</sup> | 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 <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 6.0    | EC001504    | ETIM 7.0    | EC001504    |
| ETIM 8.0    | EC001504    | ETIM 9.0    | EC001504    |
| ETIM 10.0   | 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 | ECLASS 14.0 | 27-37-16-04 |
| ECLASS 15.0 | 27-37-16-04 |             |             |

## 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 |

## Approvals

Approvals



|                         |                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Approvals MAMID         | <a href="https://mdcop.weidmueller.com/mediadelivery/rendition/900_319222/-T1z1mm-S800/">https://mdcop.weidmueller.com/mediadelivery/rendition/900_319222/-T1z1mm-S800/</a> <a href="https://mdcop.weidmueller.com/mediadelivery/rendition/900_319228/-T1z1mm-S800/">https://mdcop.weidmueller.com/mediadelivery/rendition/900_319228/-T1z1mm-S800/</a> |
| ROHS                    | Conform                                                                                                                                                                                                                                                                                                                                                 |
| UL File Number Search   | UL Website                                                                                                                                                                                                                                                                                                                                              |
| Certificate no. (cULus) | E223474                                                                                                                                                                                                                                                                                                                                                 |

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## Technical data

### 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

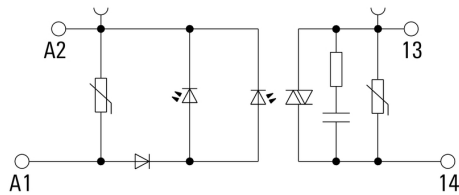
## TOP 5VDC/230VAC 0,1A

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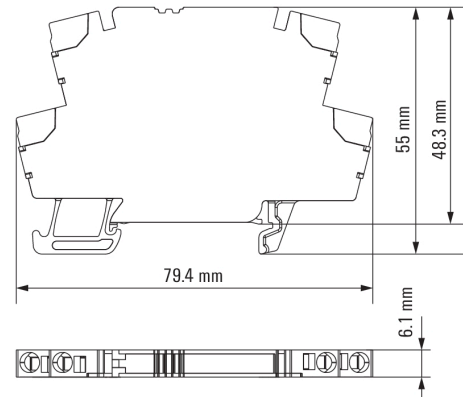
## Drawings

### Wiring diagram

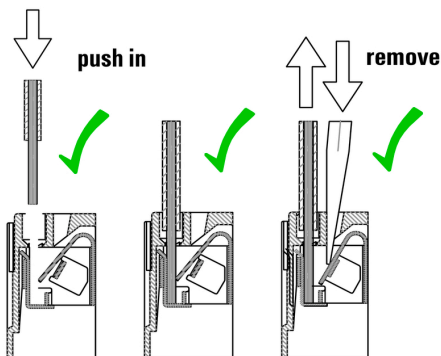


Schaltsymbol

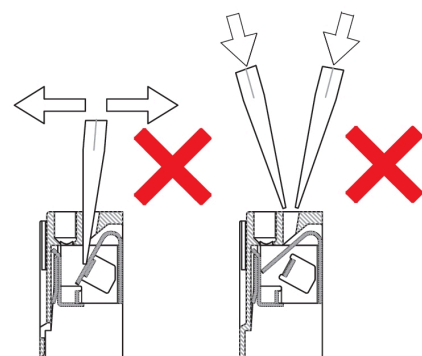
### Dimensional drawing



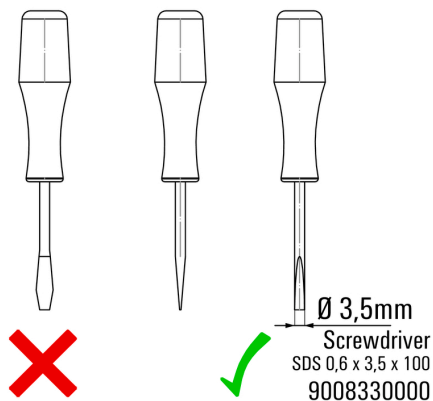
### Correct handling PUSH IN connection



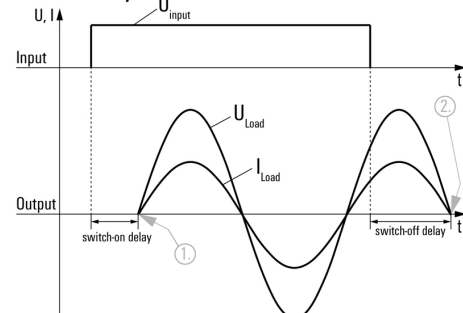
### Wrong handling PUSH IN connection



### 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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## 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.

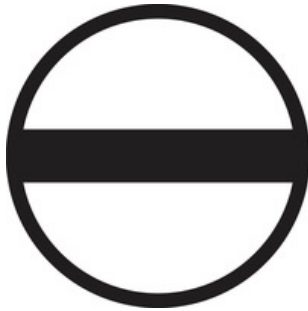
- Can be fitted in strips or individually
- Markers in proven MultiCard format

**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.  | <a href="#">1609900000</a> | WS, Terminal marker, 12 x 6 mm, Pitch in mm (P): 6.00 Weidmueller, |
| GTIN (EAN) | 4008190203467              | Allen-Bradley, white                                               |
| Qty.       | 600 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.  | <a href="#">2749610000</a> | 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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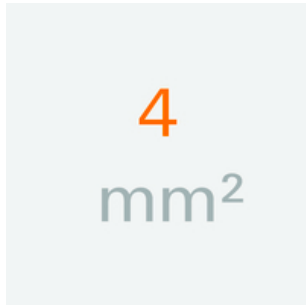
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## Accessories

4 mm<sup>2</sup>

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

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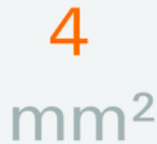
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## Accessories

4 mm<sup>2</sup>


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 RD                | Version                                                               |
| Order No.  | <a href="#">2460450000</a> | 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 pc(s).                  |                                                                       |
| 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 pc(s).                  |                                                                       |
| Type       | ZQV 4N/3 BL                | Version                                                               |
| Order No.  | <a href="#">1528080000</a> | 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 pc(s).                  |                                                                       |
| Type       | ZQV 4N/10 RD               | Version                                                               |
| Order No.  | <a href="#">2460740000</a> | 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 pc(s).                  |                                                                       |
| Type       | ZQV 4N/10                  | Version                                                               |
| Order No.  | <a href="#">1528090000</a> | 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 pc(s).                  |                                                                       |
| Type       | ZQV 4N/3                   | Version                                                               |
| Order No.  | <a href="#">1527940000</a> | 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 pc(s).                  |                                                                       |
| Type       | ZQV 4N/2 BL                | Version                                                               |
| Order No.  | <a href="#">1528040000</a> | 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 pc(s).                  |                                                                       |
| Type       | ZQV 4N/4                   | Version                                                               |
| Order No.  | <a href="#">1527970000</a> | 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 pc(s).                  |                                                                       |
| Type       | ZQV 4N/4 RD                | Version                                                               |
| Order No.  | <a href="#">2460800000</a> | 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 pc(s).                  |                                                                       |
| Type       | ZQV 4N/2                   | Version                                                               |
| Order No.  | <a href="#">1527930000</a> | 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 pc(s).                  |                                                                       |



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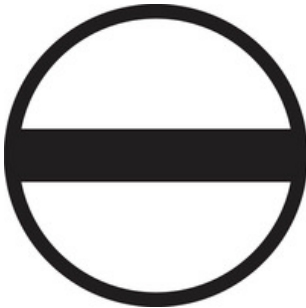
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[www.weidmueller.com](http://www.weidmueller.com)**Accessories**

|            |                            |                                                                     |
|------------|----------------------------|---------------------------------------------------------------------|
| Type       | ZQV 4N/3 RD                | Version                                                             |
| Order No.  | <a href="#">2460810000</a> | 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 pc(s).                  |                                                                     |

|            |                            |                                                                      |
|------------|----------------------------|----------------------------------------------------------------------|
| 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 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.  | <a href="#">2749340000</a> | 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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## Drawings

| Type of connection |         | Additional input protective circuit |            |
|--------------------|---------|-------------------------------------|------------|
| TOP                | PUSH IN | RC                                  | RC element |
| TOS                | Screw   |                                     |            |

| Control voltage |  | Switching current |        | Switching voltage |               |
|-----------------|--|-------------------|--------|-------------------|---------------|
| 5VDC            |  | 0,1A              | 100 mA | 24VDC             | 3...33 V DC   |
| 12VDC           |  | 0,5A              | 500 mA | 48VDC             | 5...48 V DC   |
| 24VDC           |  | 4A                | 4 A    | 230VAC            | 24...230 V AC |
| 24VAC           |  |                   |        |                   |               |
| 48-60VDC        |  |                   |        |                   |               |
| 48-60VAC        |  |                   |        |                   |               |
| 110VDC          |  |                   |        |                   |               |
| 120VAC          |  |                   |        |                   |               |
| 220VDC          |  |                   |        |                   |               |
| 230VAC          |  |                   |        |                   |               |

10