

PSM-ME-RS232/RS232-P - Interface converter



2744461

<https://www.phoenixcontact.com/us/products/2744461>

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Interface converter, for the isolation of RS-232 (V.24) interfaces, 4 channels, rail-mountable



Product description

A considerably higher level of immunity to interference can be achieved in industrial applications by using V.24 (RS-232) isolator modules. The high-quality 3-way isolation results in an electrically isolated and interference-proof V.24 (RS-232) interface. This decoupling also protects the expensive terminal devices against damage.

Your advantages

- Mounting on standard EN DIN rails
- High-quality 3-way isolation up to 2 kV (VCC // RS-232 // RS-232)
- In the case of variable cable lengths, the RS-232 connection on the field side can be established conveniently using plug-in screw terminal blocks
- Integrated surge protection with transient discharge to the DIN rail
- Transmission of TxD/RxD data channels and RTS/CTS control lines
- 24 V DC or AC power supply suitable for the control cabinet
- Active data transmission indicated by separate data indicators for the transmit and receive channels
- Maximum transmission speed of 115.2 kbps
- Shipbuilding approval in accordance with DNV GL

Commercial data

| | |
|--------------------------------------|---------------------|
| Item number | 2744461 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | DN11 |
| Product key | DNC111 |
| Catalog page | Page 426 (C-6-2019) |
| GTIN | 4017918188795 |
| Weight per piece (including packing) | 184 g |
| Weight per piece (excluding packing) | 123.18 g |
| Customs tariff number | 85176200 |
| Country of origin | DE |

Technical data

Notes

Utilization restriction

| | |
|----------|---|
| EMC note | EMC: class A product, see manufacturer's declaration in the download area |
|----------|---|

Utilization restriction

| | |
|------------|---|
| CCCex note | Use in potentially explosive areas is not permitted in China. |
|------------|---|

Product properties

| | |
|--------------|--|
| Product type | Interface converter |
| Application | RS-232 |
| MTBF | 2263 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day)) |
| | 438 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day)) |

Electrical properties

| | |
|---|---|
| Electrical isolation | VCC // V.24 (RS-232) (A) // V.24 (RS-232) (B) |
| Maximum power dissipation for nominal condition | 0.96 W |
| Test voltage data interface/power supply | 2 kV _{rms} (50 Hz, 1 min.) |
| | 2 kV AC |
| Test voltage data interfaces | 2 kV AC |

Supply

| | |
|-----------------------------|------------------------------------|
| Supply voltage range | 19.2 V AC/DC ... 28.8 V AC/DC |
| Nominal supply voltage | 24 V AC/DC ±20 % |
| Typical current consumption | 40 mA (24 V DC) |
| Protective circuit | Surge protection; Suppressor diode |

Connection data

Supply

| | |
|-------------------|---------------------|
| Tightening torque | 0.56 Nm ... 0.79 Nm |
|-------------------|---------------------|

Interfaces

| | |
|-----------------------|--|
| Bit distortion | < 5 % |
| Bit delay | < 3 μs |
| Signal | Modbus |
| Transmission channels | 4 (2/2), Rx/D, Tx/D, RTS, CTS; full duplex |

Data: V.24 (RS-232) interface in acc. with ITU-T V.28, EIA/TIA-232, DIN 66259-1

| | |
|---------------------------|-------------------------------|
| Serial transmission speed | 115.2 kbps |
| Connection method | D-SUB 9 plug |
| Pin assignment | DTE/DCE switchover via switch |

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| | |
|--|---|
| Transmission length | 15 m (shielded twisted pair) |
| Single-wire/terminal point, flexible | 0.2 mm ² ... 2.5 mm ² |
| Max. AWG conductor cross section, flexible | 13 |
| Min. AWG conductor cross section, flexible | 24 |
| Protocols supported | transparent protocol |

Data: V.24 (RS-232) interface in acc. with ITU-T V.28, EIA/TIA-232, DIN 66259-1

| | |
|--|---|
| Connection method | Pluggable screw connection |
| Transmission length | 15 m (shielded twisted pair) |
| Single-wire/terminal point, flexible | 0.2 mm ² ... 2.5 mm ² |
| Max. AWG conductor cross section, flexible | 13 |
| Min. AWG conductor cross section, flexible | 24 |

Dimensions

| | |
|---------------------|----------|
| Dimensional drawing | |
| Width | 22.5 mm |
| Height | 99 mm |
| Depth | 118.6 mm |

Material specifications

| | |
|----------|----|
| Material | PA |
|----------|----|

Environmental and real-life conditions

Ambient conditions

| | |
|---|--|
| Degree of protection | IP20 |
| Ambient temperature (operation) | 0 °C ... 55 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Altitude | ≤ 5000 m (For restrictions, see the manufacturer's declaration for altitude operation) |
| Permissible humidity (operation) | 10 % ... 95 % (non-condensing) |

Approvals

CE

| | |
|-------------|--------------|
| Certificate | CE-compliant |
|-------------|--------------|

EAC

| | |
|----------------|-----|
| Identification | EAC |
|----------------|-----|

UL, USA/Canada

| | |
|--|----------------|
| | 508 Recognized |
|--|----------------|

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| | |
|----------------|------------------------------------|
| Identification | Class I, Div. 2, Groups A, B, C, D |
| | Class I, Zone 2, AEx nA IIC T4 |
| | Class I, Zone 2, Ex nA IIC T4 Gc X |

Corrosive gas test

| | |
|----------------|----------------------------------|
| Identification | ISA-S71.04-1985 G3 Harsh Group A |
|----------------|----------------------------------|

Shipbuilding

| | |
|----------------|--------|
| Identification | DNV GL |
|----------------|--------|

DNV GL data

| | |
|-------------|---|
| Temperature | B |
| Humidity | A |
| Vibration | A |
| EMC | B |
| Enclosure | Required protection according to the Rules shall be provided upon installation on board |

EMC data

| | |
|-------------------------------|---|
| Noise immunity | EN 61000-6-2:2005 |
| Electromagnetic compatibility | Conformance with EMC Directive 2014/30/EU |
| Noise emission | EN 61000-6-3 |

Electrostatic discharge

| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-2 |
|-----------------------|--------------|

Electrostatic discharge

| | |
|-------------------|-----------------------|
| Contact discharge | ± 6 kV (Test Level 3) |
| Discharge in air | ± 8 kV (Test Level 3) |
| Comments | Criterion B |

Electromagnetic HF field

| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-3 |
|-----------------------|--------------|

Electromagnetic HF field

| | |
|-----------------|--------------|
| Frequency range | Test Level 3 |
| Field intensity | 10 V/m |
| Comments | Criterion A |

Fast transients (burst)

| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-4 |
|-----------------------|--------------|

Fast transients (burst)

| | |
|----------|----------------|
| Input | ± 4 kV (5 kHz) |
| Signal | ± 2 kV (5 kHz) |
| Comments | Criterion B |

Surge current load (surge)

| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-5 |
|-----------------------|--------------|

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Surge current load (surge)

| | |
|----------|----------------|
| Input | ± 0.5 kV (2 Ω) |
| Signal | ± 2 kV (12 Ω) |
| Comments | Criterion B |

Conducted interference

| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-6 |
|-----------------------|--------------|

Conducted interference

| | |
|----------|-------------|
| Comments | Criterion A |
| Voltage | 10 V |

Emitted interference

| | |
|-----------------------|----------------------------------|
| Standards/regulations | EN 55011 |
| Comments | Class A, industrial applications |

Criteria

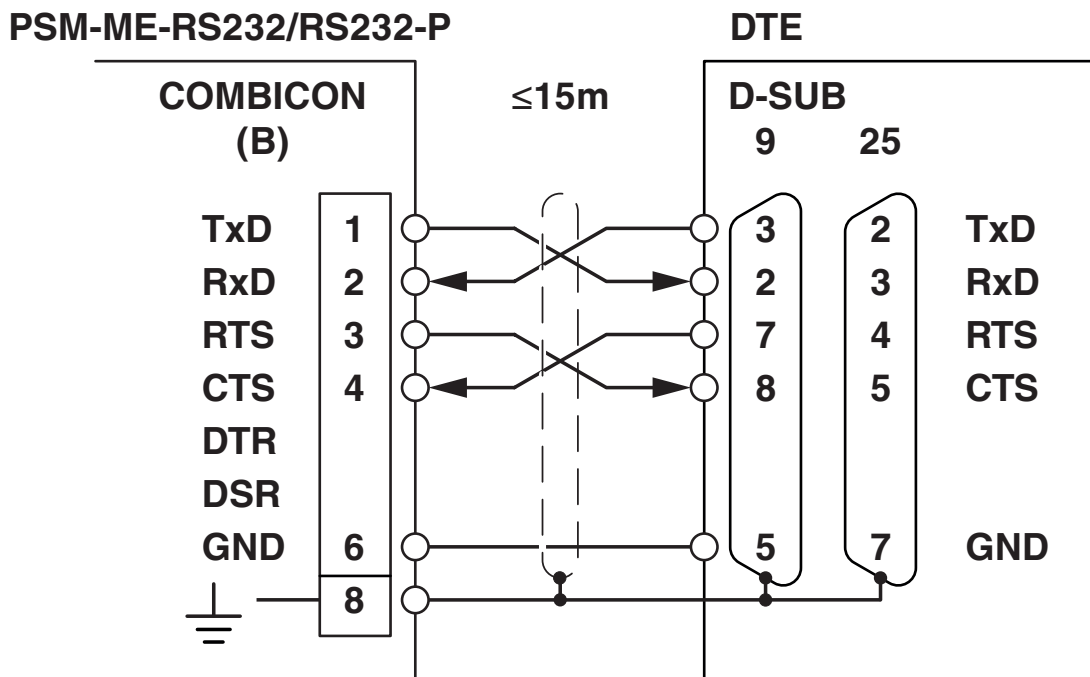
| | |
|-------------|--|
| Criterion A | Normal operating behavior within the specified limits. |
| Criterion B | Temporary impairment to operational behavior that is corrected by the device itself. |

Mounting

| | |
|---------------|-------------------|
| Mounting type | DIN rail mounting |
|---------------|-------------------|

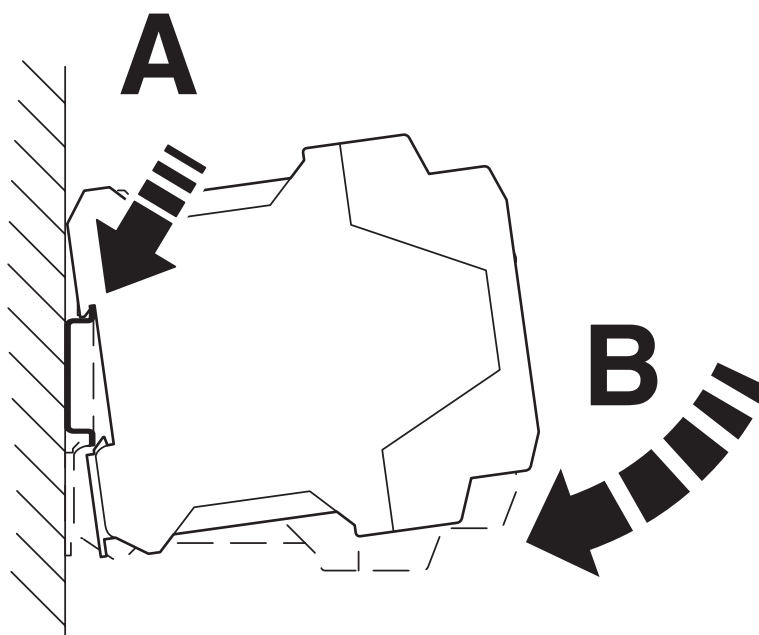
Drawings

Connection diagram



Connection to a DTE device

Schematic diagram



Mounting

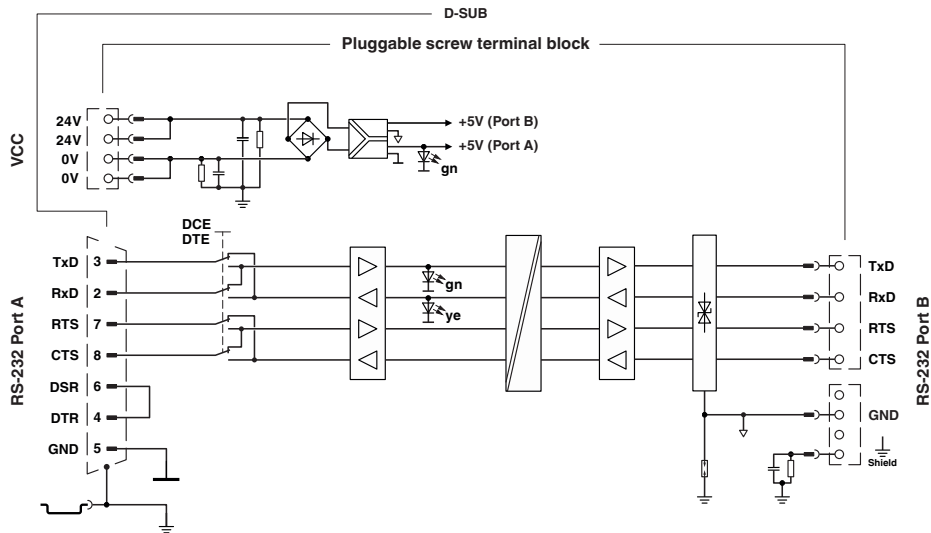
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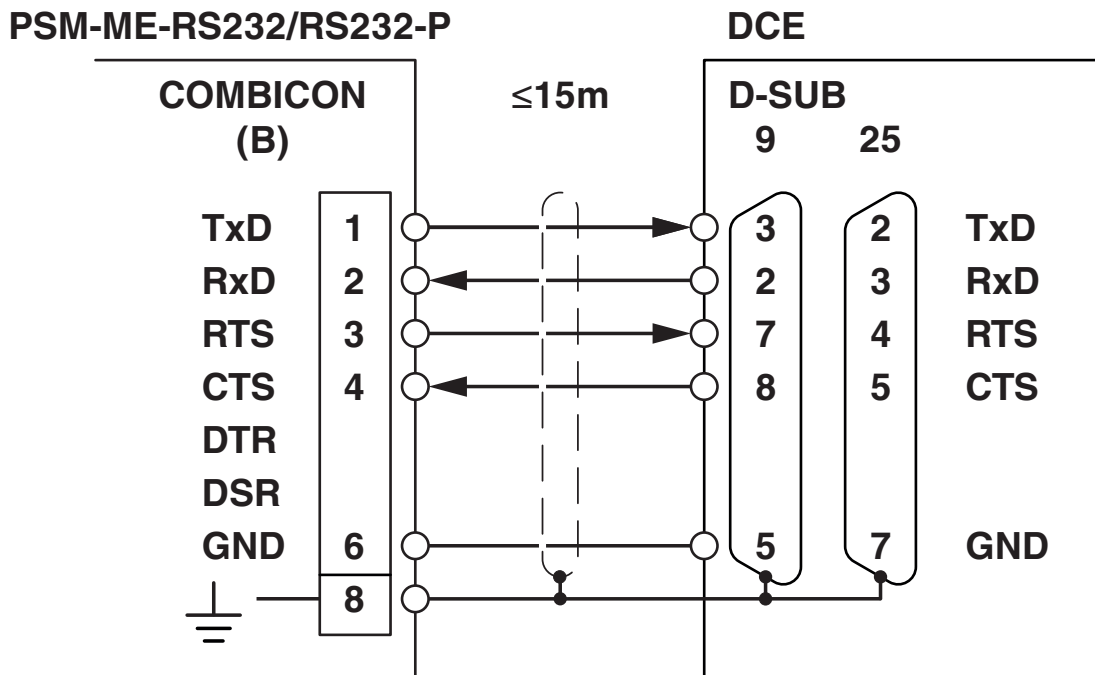
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Circuit diagram



Connection diagram



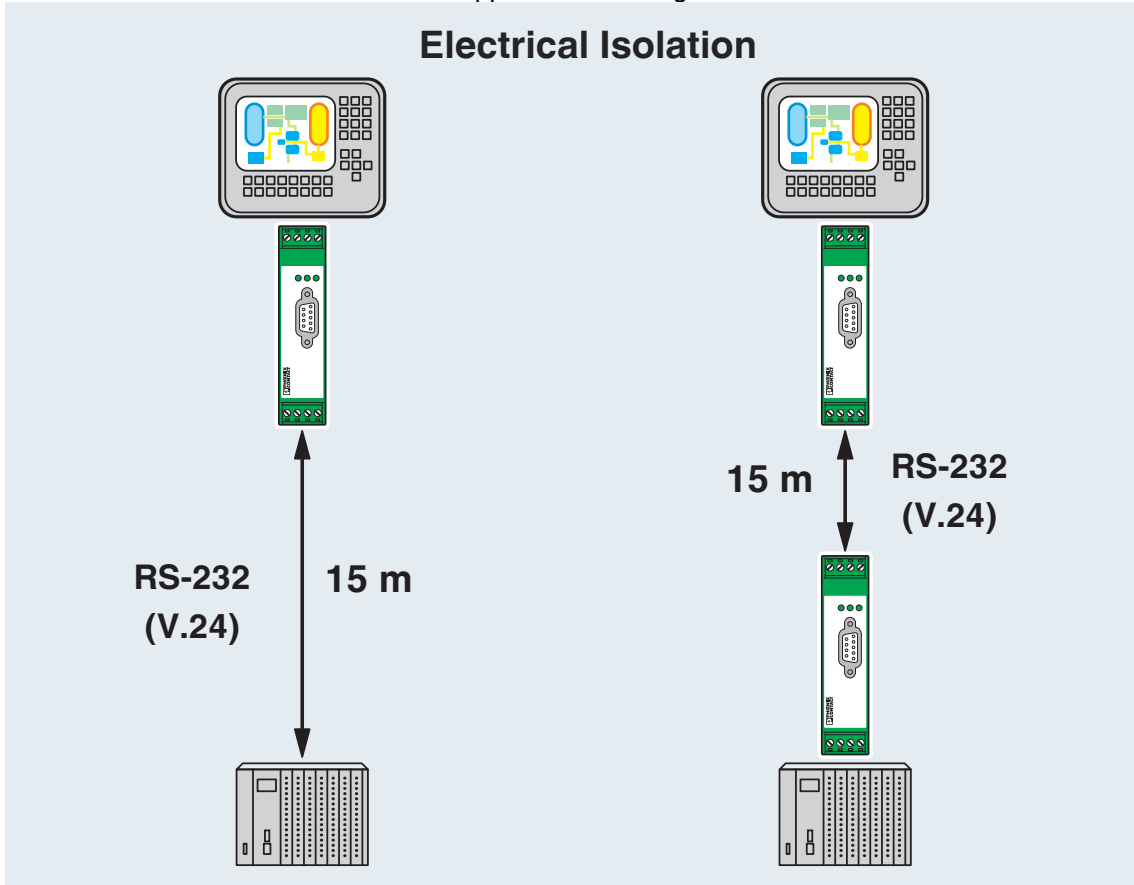
Connection to a DCE device

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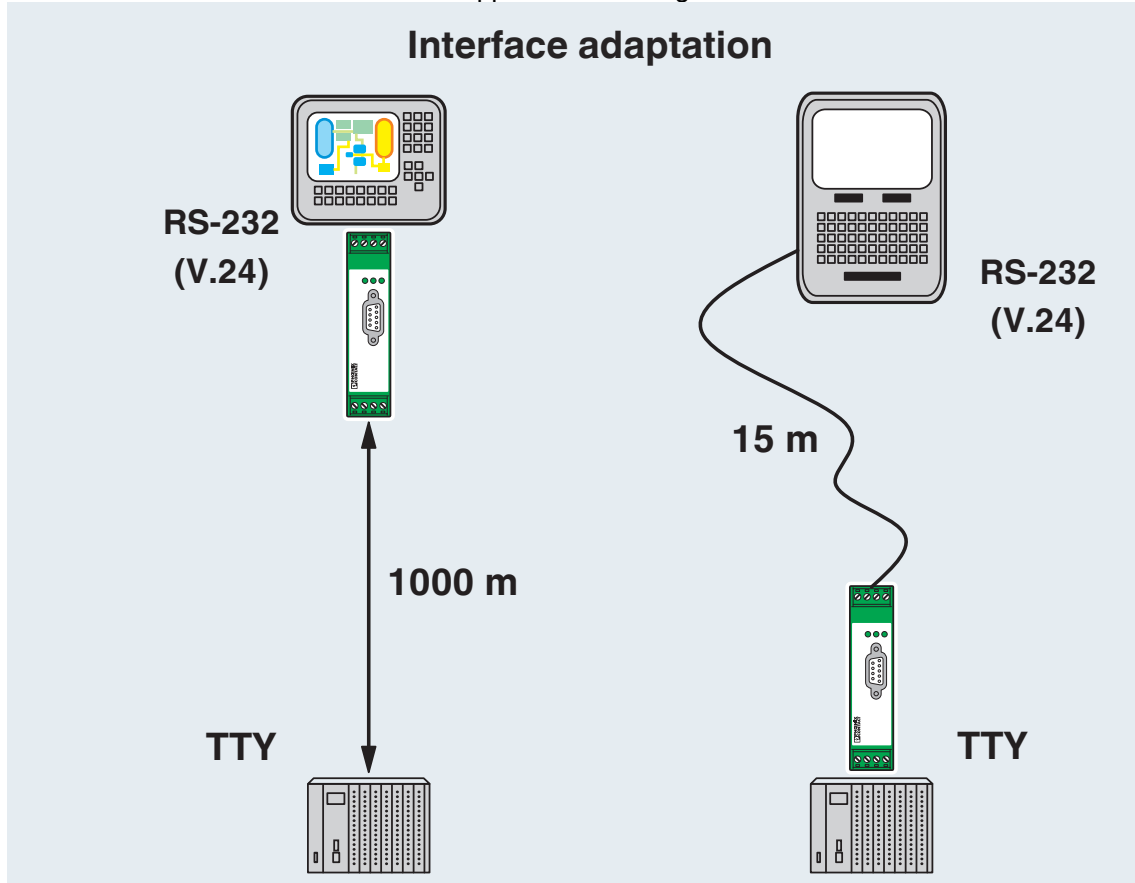
Application drawing

Electrical Isolation



Electrical isolation

Application drawing



Interface adaptation

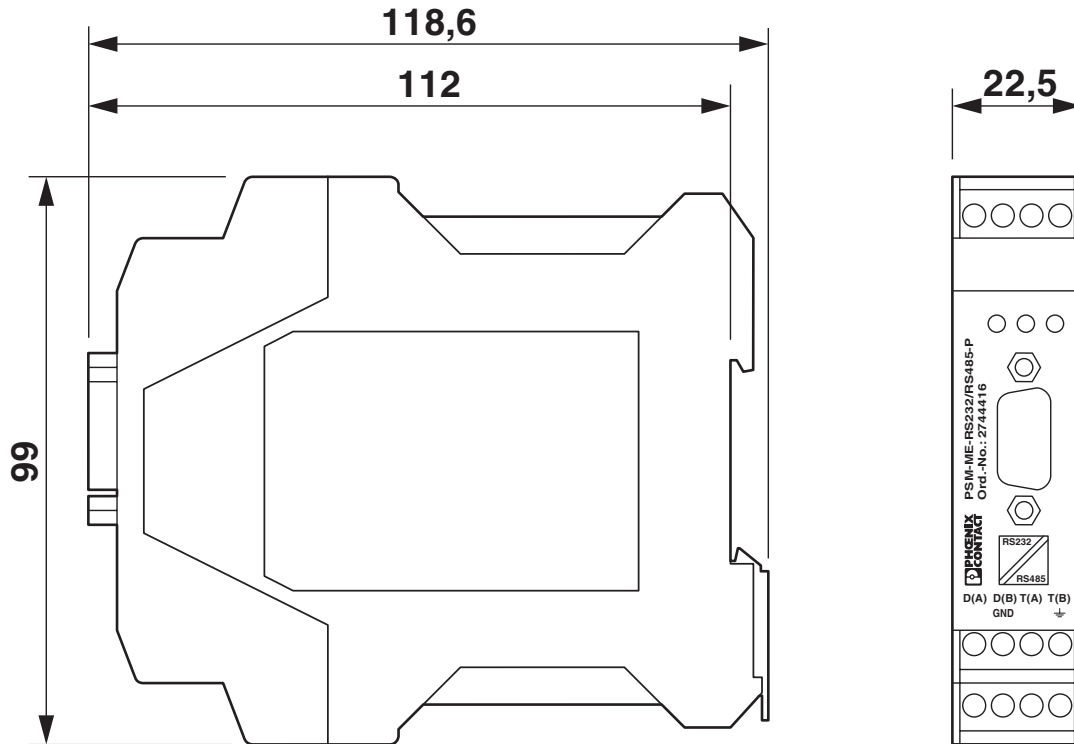
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Dimensional drawing



Slim design

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2744461>



cUL Recognized
Approval ID: FILE E 238705



UL Recognized
Approval ID: FILE E 238705



EAC
Approval ID: TR TS_D_01871-19



DNV GL
Approval ID: TAA00001KR

UAE-RoHS
Approval ID: 23-02-63194



cUL Recognized
Approval ID: FILE E 199827



UL Recognized
Approval ID: FILE E 199827



cUL Listed
Approval ID: FILE E 199827



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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-11.0 | 27242208 |
| ECLASS-12.0 | 27242208 |
| ECLASS-13.0 | 27242208 |

ETIM

| | |
|----------|----------|
| ETIM 9.0 | EC001423 |
|----------|----------|

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 32151700 |
|-------------|----------|

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Environmental product compliance

| | |
|------------|--|
| REACH SVHC | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 50 years |
| | For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads" |

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Accessories

PSM-KA9SUB9/BB/2METER - Data cable

2799474

<https://www.phoenixcontact.com/us/products/2799474>

RS-232 cable, 9-pos. D-SUB socket on 9-pos. D-SUB socket, 9-wire, 1:1



ME-SAS - Shield connection clamp

2853899

<https://www.phoenixcontact.com/us/products/2853899>

Shield connection clamp for terminal points starting from 2.5 mm²



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SZF 1-0,6X3,5 - Screwdriver

1204517

<https://www.phoenixcontact.com/us/products/1204517>



Actuation tool, for ST terminal blocks, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

SUBCON 9/F-SH - D-SUB bus connector

2761499

<https://www.phoenixcontact.com/us/products/2761499>



D-SUB plug, 9-pos. female connector, one 35° cable entry, universal type for all systems, pin assignment: 1, 2, 3, 4, 5, 6, 7, 8, 9 to screw connection terminal block

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