

# 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                  |

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## Technical data

### Notes

#### Note on application

|                     |                         |
|---------------------|-------------------------|
| Note on application | Only for industrial use |
|---------------------|-------------------------|

#### 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))<br>438 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day)) |

#### Data management status

|                  |    |
|------------------|----|
| Article revision | 11 |
|------------------|----|

### 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 <sub>rms</sub> (50 Hz, 1 min.)<br>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 |

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|                       |                                          |
|-----------------------|------------------------------------------|
| Transmission channels | 4 (2/2), RxD, TxD, RTS, CTS; full duplex |
|-----------------------|------------------------------------------|

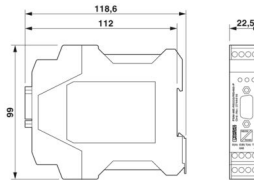
Data: V.24 (RS-232) interface in acc. with ITU-T V.28, EIA/TIA-232, DIN 66259-1

|                                            |                                             |
|--------------------------------------------|---------------------------------------------|
| Serial transmission speed                  | 115.2 kbps                                  |
| Connection method                          | D-SUB 9 plug                                |
| Pin assignment                             | DTE/DCE switchover via switch               |
| Transmission length                        | 15 m (shielded twisted pair)                |
| Single-wire/terminal point, flexible       | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| 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 <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| 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

|                    |                  |
|--------------------|------------------|
| Color (Housing)    | green (RAL 6021) |
| Material (Housing) | 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

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## CE

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

## UL, USA/Canada

|                |                                    |
|----------------|------------------------------------|
| Identification | 508 Recognized                     |
|                | 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)

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|          |                            |
|----------|----------------------------|
| Input    | $\pm 4 \text{ kV}$ (5 kHz) |
| Signal   | $\pm 2 \text{ kV}$ (5 kHz) |
| Comments | Criterion B                |

## Surge current load (surge)

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

## Surge current load (surge)

|          |                                    |
|----------|------------------------------------|
| Input    | $\pm 0.5 \text{ kV}$ (2 $\Omega$ ) |
| Signal   | $\pm 2 \text{ kV}$ (12 $\Omega$ )  |
| 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

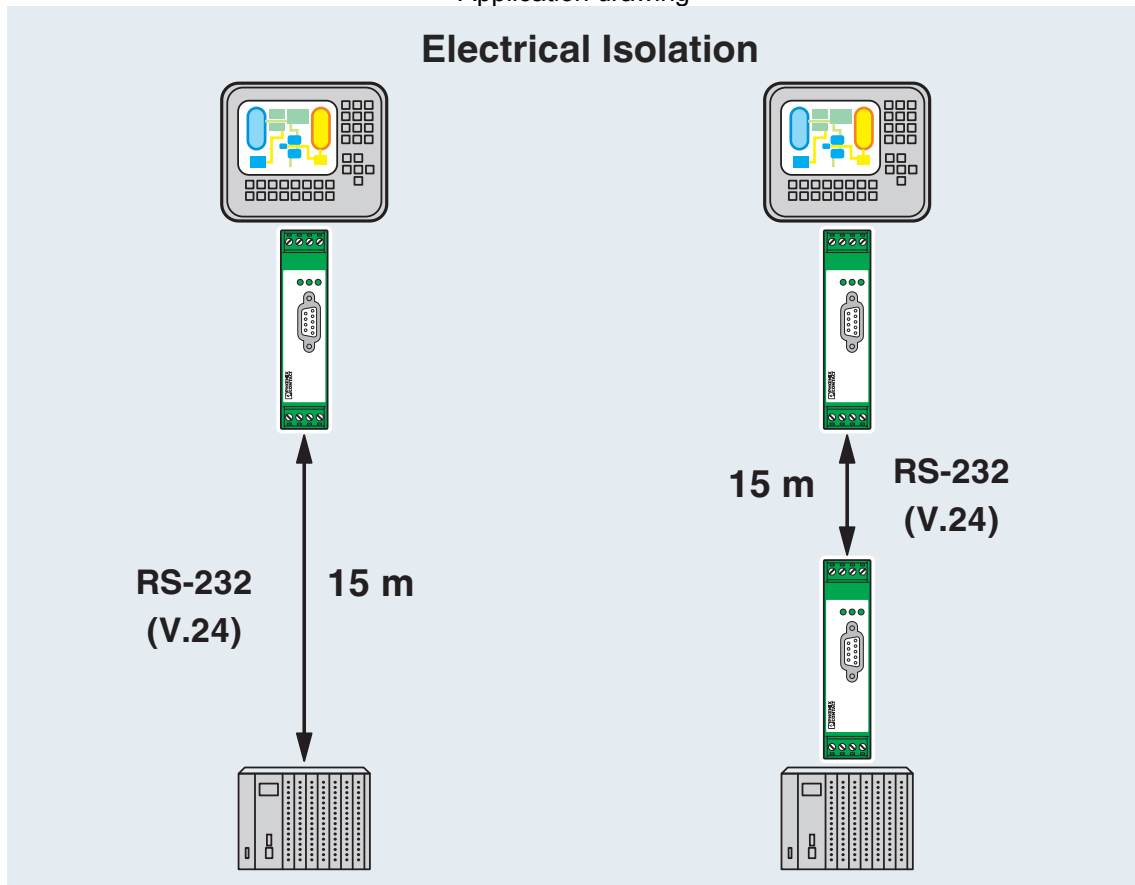
|             |                                                                                      |
|-------------|--------------------------------------------------------------------------------------|
| Criterion A | Normal operating behavior within the specified limits.                        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

## Mounting

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

## Drawings

Application drawing



Electrical isolation

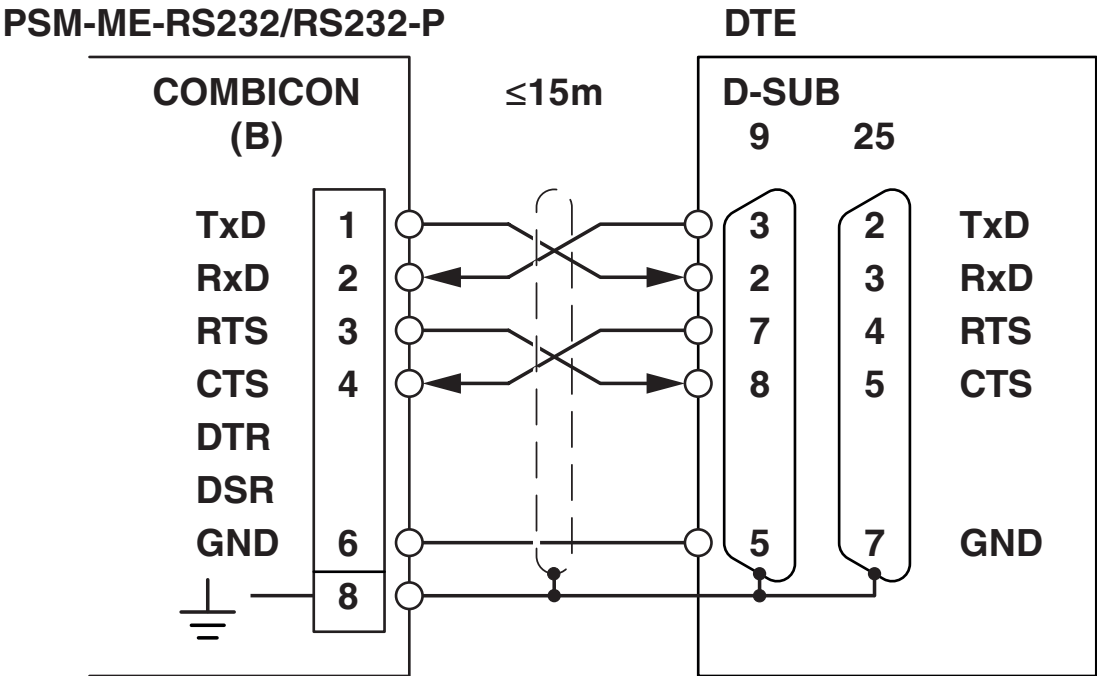
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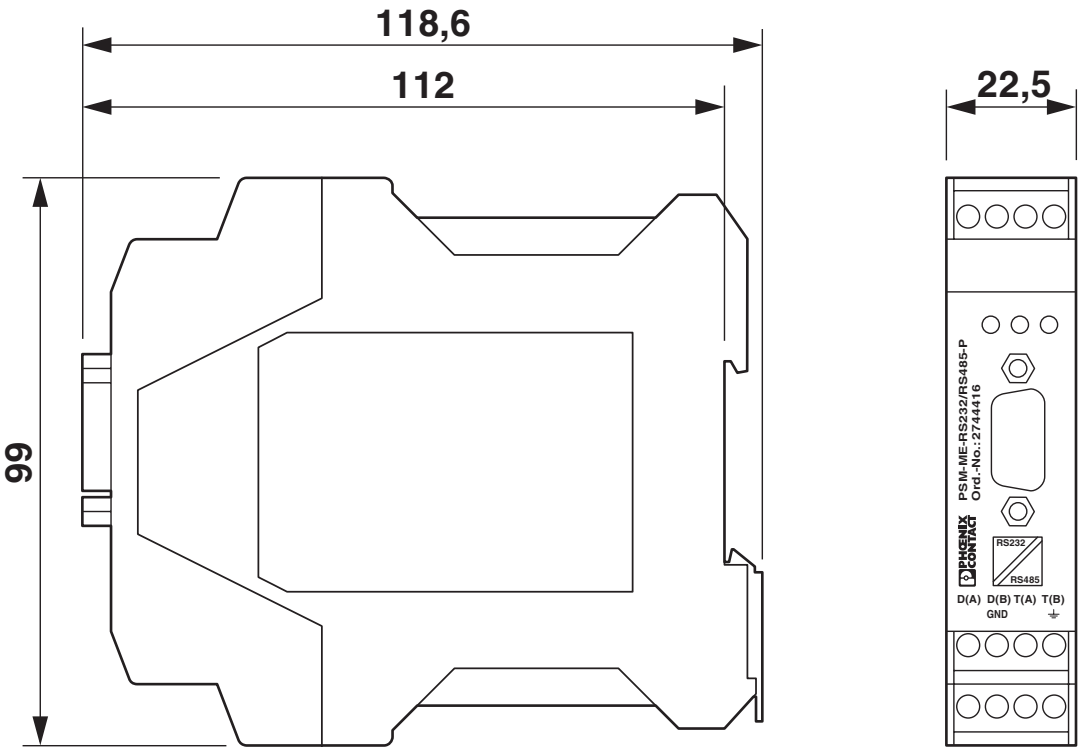
<https://www.phoenixcontact.com/us/products/2744461>

Connection diagram



Connection to a DTE device

Dimensional drawing



Slim design

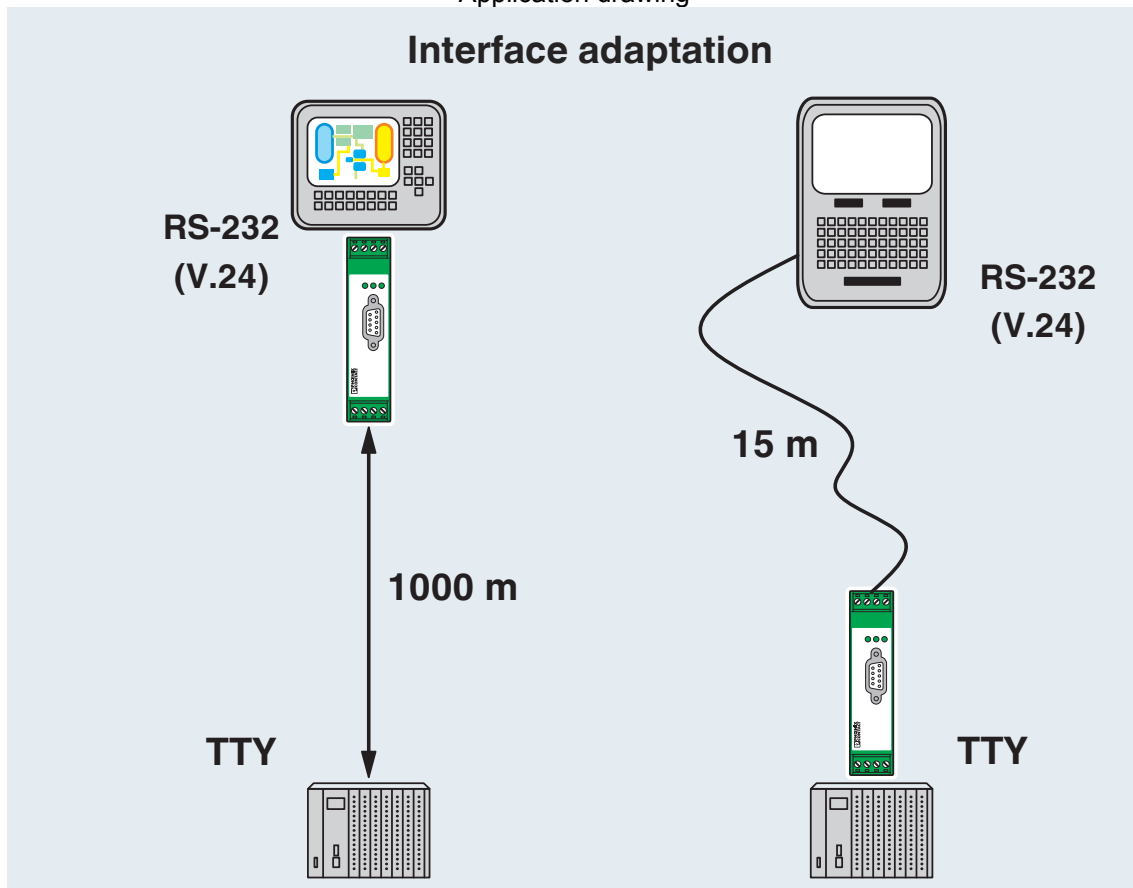
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Application drawing



Interface adaptation

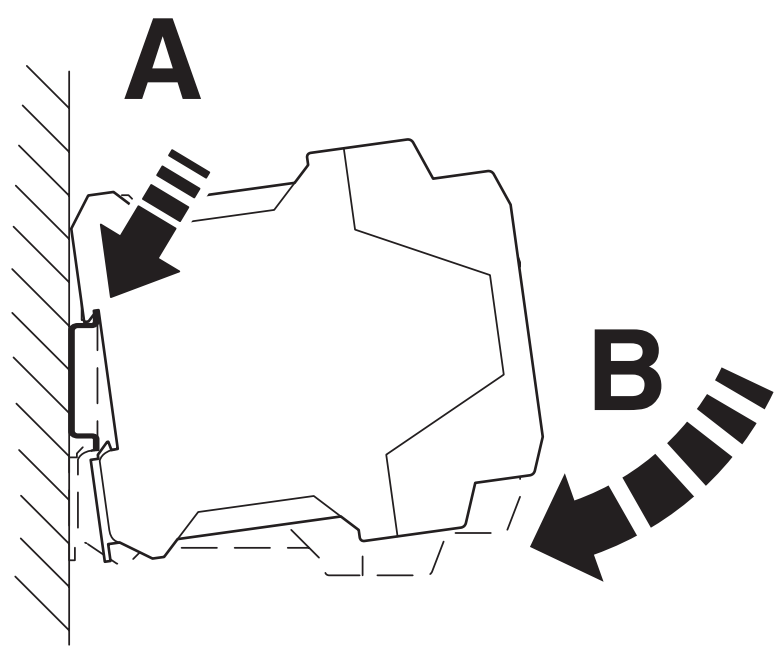
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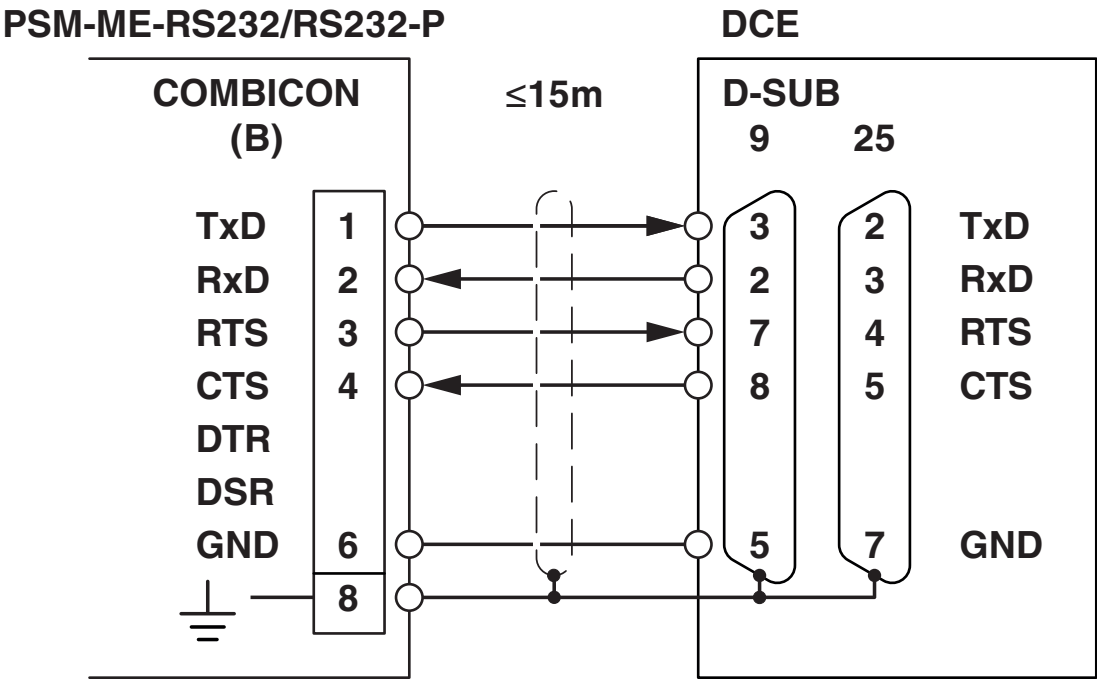
<https://www.phoenixcontact.com/us/products/2744461>

Schematic diagram



Mounting

Connection diagram



Connection to a DCE device

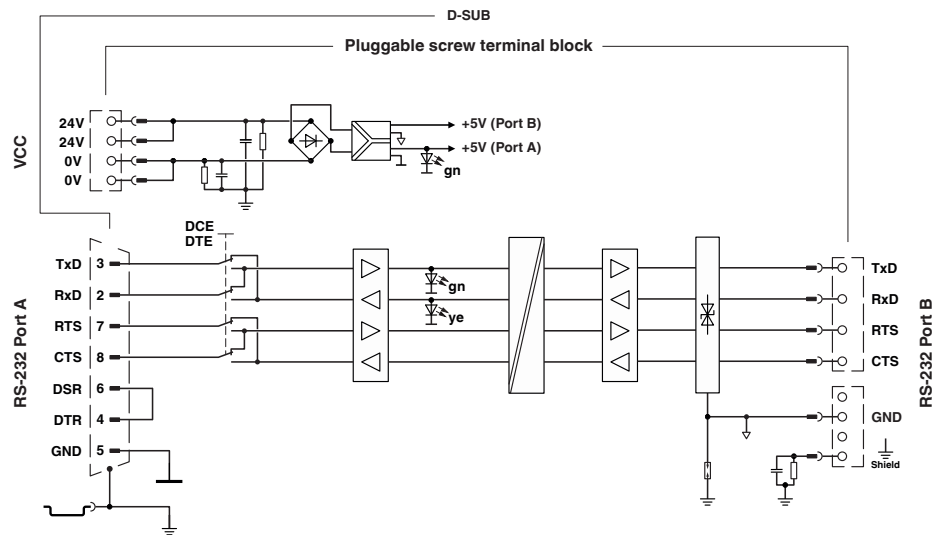
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Circuit diagram



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## Approvals

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**cUL Recognized**  
Approval ID: E238705



**UL Recognized**  
Approval ID: E238705



**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: E199827



**cUL Listed**  
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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

|                                         |                                                                                                                                                                                                                                   |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EU RoHS                                 |                                                                                                                                                                                                                                   |
| Fulfills EU RoHS substance requirements | Yes                                                                                                                                                                                                                               |
| Exemption                               | 6(c), 7(a), 7(c)-I                                                                                                                                                                                                                |
| China RoHS                              |                                                                                                                                                                                                                                   |
| Environment friendly use period (EFUP)  | EFUP-50                                                                                                                                                                                                                           |
|                                         | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |
| EU REACH SVHC                           |                                                                                                                                                                                                                                   |
| REACH candidate substance (CAS No.)     | Lead(CAS: 7439-92-1)                                                                                                                                                                                                              |
| SCIP                                    | 60eb51f9-e2b0-407c-af57-e7f11b51bdde                                                                                                                                                                                              |

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