

# PSM-ME-RS232/RS485-P Serial Interface Converter

## RS232 to RS485 Converter with electrical isolation



- Convert RS232 to RS422 or RS485
- Transmission speeds up to 115.2 kbps
- Supports full duplex and half duplex
- 3-way electrical isolation

### The PSM-ME-RS232/RS485-P bi-directionally converts RS-232 interface signals to the RS-485 2/4-wire and RS-422 standard.



With support for 4-wire balanced full duplex communication, or 2-wire half-duplex, the PSM-ME-RS232/RS485-P is suitable for most applications, including industrial, commercial and any general office computer device. Transmission speeds of 1.2 kbps up to 115.2 kbps can be applied to point-to-point and point-to-multipoint networks.

Use the PSM-ME-RS232/RS485-P in all common bus systems with UART/NRZ data format and character length of 10/11 bits. This is the best “plug and play” solution for converting RS-232 (V.24) to RS-422 (V.11) and RS-485, with electrical isolation.

### RS232 to RS485 Converter Features

- RS-422 4-wire for point-to-point operation
- RS-485 2-wire operation, half duplex
- RS-485 4-wire operation, full duplex
- Automatic transmit/receive changeover
- Transmission speed from 1.2 kbps up to 115.2 kbps
- Integrated data indicator for dynamic indication of transmit and receive data
- High-quality 3-way isolation between power supply, V.24 (RS-232), and RS-422/485 for reliable decoupling of the potentials with 1.5 kV
- Integrated surge protection with transient discharge to the DIN rail
- Shipbuilding approval per DNV



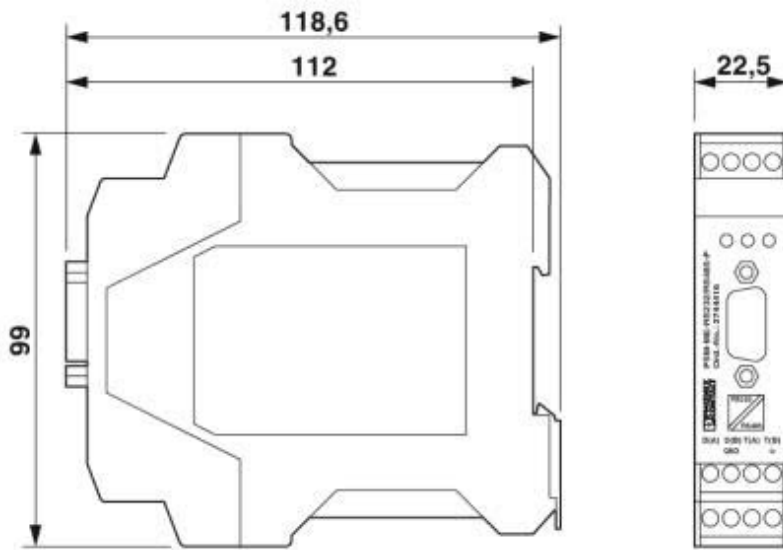
Specifications	
<b>1 Year Return to Factory Warranty</b>	<b>Reach, RoHS and WEEE Compliant</b>
<b>HTSUS Number:</b> 8517.62.0020	<b>UNSPSC Code:</b> 43201553
<b>ECCN:</b> 5A991	
	
Serial interface	
<b>Interface 1</b>	<b>V.24 (RS-232) interface in acc. with ITU-T V.28, EIA/TIA-232, DIN 66259-1</b>
Connection method	D-SUB 9 plug
Transmission length	15 m (shielded twisted pair)
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Pin assignment	DTE/DCE switchover via switch
Protocols supported	Protocols supported
Serial transmission speed	1.2; 2.4; 4.8; 7.2; 9.6; 19.2; 31.25; 38.4; 57.6; 75; 93.75; 115.2 kbps
<b>Interface 2</b>	<b>RS-422 interface in acc. with ITU-T V.11, EIA/TIA-422, DIN 66348-1</b>
Connection method	Pluggable screw connection
Transmission length	1200 m (shielded twisted pair)

Termination resistor	<ul style="list-style-type: none"> <li>• 390 <math>\Omega</math></li> <li>• 150 <math>\Omega</math></li> <li>• 390 <math>\Omega</math> (Can be connected)</li> </ul>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	13
Protocols supported	transparent protocol
Serial transmission speed	1.2; 2.4; 4.8; 9.6; 19.2; 38.4; 57.6; 75; 93.75; 115.2 kbps
Interface 3	<b>RS-485 interface in acc. with EIA/TIA-485, DIN 66259-1</b>
Connection method	Pluggable screw connection
Transmission length	Automatic control or via RTS/CTS
Transmission length	1200 m (shielded twisted pair)
Termination resistor	<ul style="list-style-type: none"> <li>• 390 <math>\Omega</math></li> <li>• 150 <math>\Omega</math></li> <li>• 390 <math>\Omega</math> (Can be connected)</li> </ul>
Conductor cross section flexible min.	2.5 mm <sup>2</sup>
Conductor cross section flexible max.	0.2 mm <sup>2</sup>
Conductor cross section AWG min.	14
Conductor cross section AWG max.	24
Protocols supported	transparent protocol
Serial transmission speed	1.2; 2.4; 4.8; 9.6; 19.2; 38.4; 57.6; 75; 93.75; 115.2 kbps

Ambient conditions	
Ambient temperature (operation)	-40°C ... 70°C
Ambient temperature (storage/transport)	-40°C ... 85°C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Altitude	5000 m (For restrictions see manufacturer's declaration)
Degree of protection	IP20
Noise immunity	EN 50 082-2
General	
Electrical isolation	VCC // V.24 (RS-232) // RS-485
Test voltage data interface/power supply	1.5 kV AC
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Net weight	139.88 g
Housing material	PA 6.6-FR
Color	green
MTTF	<ul style="list-style-type: none"> <li>• 1654 Years (SN 29500 standard, temperature 25°C, operating cycle 21 % (5 days a week, 8 hours a day))</li> <li>• 746 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25 % (5 days a week, 12 hours a day))</li> <li>• 310 Years (SN 29500 standard, temperature 40°C, operating cycle 100 % (7 days a week, 24 hours a day))</li> </ul>
Conformance	CE-compliant
ATEX	II 3 G Ex nA IIC T4 Gc (Please follow the special installation instructions in the documentation!)
UL, USA/Canada	508 recognized

Noise emission	EN 50 081-1
MTBF	10 Years (Telcordia standard, temperature 40°C, operating cycle 100 % (7 days a week, 24 hours a day))
Transmission channels	2 (1/1), RxD, TxD, full duplex
Bit delay	≤ 2.5 μs
Bit distortion	≤ 5 %
Test voltage data interfaces	1.5 kV AC
Test voltage data interface/power supply	.5 kV AC
Degree of pollution	2
IECEX	Ex nA IIC T4 Gc
Power supply	
Nominal supply voltage	24 V AC/DC
Supply voltage range	18 V AC/DC ... 30 V AC/DC (via pluggable COMBICON screw terminal block)
Typical current consumption	85 mA (24 V DC)
Max. current consumption	100 mA
Conductor cross section flexible max.	2.50 mm <sup>2</sup>
Conductor cross section flexible min.	0.20 mm <sup>2</sup>
Conductor cross section solid max.	2.50 mm <sup>2</sup>
Conductor cross section solid min.	0.20 mm <sup>2</sup>
Max. AWG conductor cross section, flexible	12
Min. AWG conductor cross section, flexible	24

Conductor cross section AWG max.	12
Conductor cross section AWG min.	24
<b>Dimensions</b>	
Width	22.5 mm
Height	99 mm
Depth	114.5 mm



<b>Environmental Product Compliance</b>	
China RoHS	Environmentally Friendly Use Period = 50
<b>Standards and Regulations</b>	
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Free fall	In acc. with IEC 60068-2-32 Result: 1 m
Vibration resistance	In acc. with EN 60068-2-6/IEC 60068-2-6 Result: 5g, 10...150 Hz, 2.5 h, in XYZ direction

EMC Immunity	<ul style="list-style-type: none"> <li>• EN 61000-4-2: Contact discharge <math>\pm 6</math> kV (Test Level 3)</li> <li>• EN 61000-4-3: Frequency range 26 MHz ... 3 GHz (Test Level 3)</li> <li>• EN 61000-4-4: Criterion B</li> <li>• EN 61000-4-5: Signal <math>\pm 1</math> kV (Data line, asymmetrical)</li> <li>• EN 55011</li> <li>• EN 61000-4-6: Frequency range 0.15 MHz ... 80 MHz</li> </ul>
Conformance	CE-compliant
ATEX	II 3 G Ex nA IIC T4 Gc
UL, USA/Canada	508 recognized
Noise emission	EN 50 081-1
Noise immunity	EN 50 082-2
Shock	In acc. with EN 60068-2-27/IEC 60068-2-27 Result: 25g, 11 ms period, half-sine shock pulse
Connection in acc. with standard	CUL
IECEX	Ex nA IIC T4 Gc
UL, USA/Canada	<ul style="list-style-type: none"> <li>• Class I, Div. 2, Groups A, B, C, D</li> <li>• Class I, Zone 2, AEx nA IIC T4</li> <li>• Class I, Zone 2, Ex nA IIC T4 Gc X</li> </ul>
Approvals	
	<ul style="list-style-type: none"> <li>• UL Recognized</li> <li>• cUL Recognized</li> <li>• DNV</li> <li>• EAC</li> <li>• KC</li> <li>• cULus Recognized</li> <li>• UL Listed</li> <li>• cUL Listed</li> <li>• IECEX</li> <li>• ATEX</li> <li>• cULus Listed</li> </ul>

Commercial data	
Packing unit	1
Weight per piece	200.0 g
Country of origin	Germany

## Product List



PSM-ME-RS232/RS485-P - RS232 to RS485 converter. RS-232 DB9M to RS-422/485 terminal block - requires external DC power supply

**Power Cord & Part Number(s)**

None

**27444168**



PSM-ME-RS232/RS485-P - RS232 to RS485 converter. RS-232 DB9M to RS-422/485 terminal block – 24VDC USA wall power adapter included

**Power Cord & Part Number(s)**

USA

**27444164**



PSM-ME-RS232/RS485-P - RS232 to RS485 converter. RS-232 DB9M to RS-422/485 terminal block - 24VDC UK wall power adapter included

**Power Cord & Part Number(s)**

**UK**

**27444161**



PSM-ME-RS232/RS485-P - RS232 to RS485 converter. RS-232 DB9M to RS-422/485 terminal block – 24VDC EU wall power adapter included

**Power Cord & Part Number(s)**

**EU**

**27444162**

**Related Accessories**

**Power Supplies**



AC US WALL MOUNT ADAPT TL 24VDC , 18W wall power adapter, with tinned leads - 0 to

**2300234**



AC UK WALL MOUNT ADAPT TL 24VDC , 18W wall power adapter with tinned leads - 0 to

**2300235**



AC EU WALL MOUNT ADAPT TL 24VDC, 18W wall power adapter with tinned leads - 0 to

**2300236**



UNO-PS/1AC/24DC/60W DIN-Rail Power Supply: 24 VDC, 60 Watt with universal

**29029928**



UNO-PS/1AC/24DC/150W Power Supply - DIN-Rail 24 VDC , 150 Watt power supply

**29043768**