

# FO converters - PSI-MOS-RS422/FO1300 E



2708575

<https://www.phoenixcontact.com/pc/products/2708575>

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Fiber optic converter with integrated optical diagnostics, alarm contact, for RS-422/RS-485 4 wire/ INTERBUS up to 2 Mbps, termination device with one fiber optic interface (SC duplex), 1300 nm, for fiberglass cable

## Your advantages

- Connections can be plugged in via a COMBICON screw terminal block
- Supply voltage routed through via DIN rail connectors
- Redundant power supply possible by means of optional system power supply unit
- High-quality electrical isolation between all interfaces (INTERBUS // FO ports // supply // DIN rail connector)
- Approved for use in zone 2
- Floating switch contact for advance warning of critical FO paths
- Integrated optical diagnostics for continuous monitoring of FO paths
- Automatic data rate detection for all data rates up to 2 Mbps
- Shipbuilding approval in accordance with DNV GL

## Commercial Data

Item number	2708575
Packing unit	1 pc
Minimum order quantity	1 pc
Product Key	DNC216
Catalog Page	Page 437 (C-6-2019)
GTIN	4046356176293
Weight per Piece (including packing)	246 g
Weight per Piece (excluding packing)	190.68 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
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#### Utilization restriction

CCCex note	Use in potentially explosive areas is not permitted in China.
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### Product properties

Product type	Media converter
MTTF	891 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	397 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	164 Years (SN 29500 standard, temperature 40°C, operating cycle 100%)
MTBF	544 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	113 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))

### Electrical properties

Electrical isolation	VCC // RS-422
Maximum power dissipation for nominal condition	2.75 W
Test voltage data interface/power supply	1.5 kV <sub>rms</sub> (50 Hz, 1 min.)

#### Supply

Supply voltage range	18 V DC ... 32 V DC
Nominal supply voltage	24 V DC (in acc. with UL)
Typical current consumption	110 mA (24 V DC)
Max. current consumption	≤ 2 A (For operation in a joining station, via the DIN rail connector)
Connection method	COMBICON plug-in screw terminal block

### Output data

#### Switching

Output name	Relay output
Output description	Alarm output
Number of outputs	1
Maximum switching voltage	60 V DC
	42 V AC
Limiting continuous current	1 A

### Connection data

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## Supply

Connection method	COMBICON plug-in screw terminal block
Tightening torque	0.56 Nm ... 0.79 Nm

## Interfaces

Bit distortion, input	± 35 % (permitted)
Bit distortion, output	< 6.25 %
Signal	INTERBUS
Transmission channels	2 (1/1) RD, TD, full duplex

## Data: optical FO

No. of channels	1
Transmit capacity, minimum	-3.4 dBm (50/125 µm, multimode fiberglass)
	-4.7 dBm (62.5/125 µm, multimode fiberglass)
	-5.5 dBm (9/125 µm, singlemode fiberglass)
Transmission length incl. 3 dB system reserve	27 km (With F-G 50/125 0.7 dB/km at 1300 nm)
	22 km (with F-G 62.5/125 0.8 dB/km at 1300 nm)
	45 km (With F-E 9/125 0,4 dB/km at 1300 nm)
Transmission protocol	Transparent to protocol for RS-422 interface
Connection method	SC duplex
Wavelength	1300 nm
Minimum receiver sensitivity	-25.5 dBm (50/125 µm)
	-25.5 dBm (62,5/125 µm)
	-26.5 dBm (9/125 µm)
Maximum receiver sensitivity	0 dBm
Transmission medium	Multi-mode fiberglass
	Single-mode fiberglass

## Data: RS-422 interface in acc. with ITU-T V.11, EIA/TIA-422, DIN 66348-1

Serial transmission speed	≤ 2 Mbps
Connection method	Pluggable screw connection
Transmission length	≤ 1000 m (depending on the data rate, with shielded, twisted data cable)
Termination resistor	220 Ω
	100 Ω
	220 Ω
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Max. AWG conductor cross section, flexible	14
Min. AWG conductor cross section, flexible	24
Single-wire/terminal point, solid AWG max.	14
Single-wire/terminal point, solid AWG min.	24
Transmission medium	Copper

# FO converters - PSI-MOS-RS422/FO1300 E

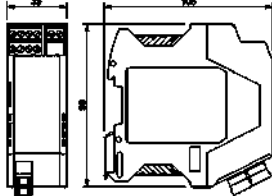


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File format/coding	UART (11 Bit, NRZ)
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## Dimensions

Dimensional drawing	
Width	35 mm
Height	105 mm
Depth	103 mm

## Material specifications

Material	PA 6.6-FR (Housing)
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## Cable / line

FO cable	
Fiber types	50/125 µm
	9/125 µm
	Fiberglass

## Environmental and real-life conditions

Ambient conditions	
Degree of protection	IP20
Ambient temperature (operation)	-20 °C ... 60 °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)	30 % ... 95 % (non-condensing)

## Approval data

CE	
Certificate	CE-compliant

ATEX	
Identification	<input type="checkbox"/> II 3 G Ex nA nC IIC T4 Gc X
Note	Please follow the special installation instructions in the documentation!

UL, USA / Canada	
Identification	508 Listed
	508 Recognized

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## KC approval for South Korea

Certificate	MSIP-REI-PCK-2708575
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## Corrosive gas test

Identification	ISA-S71.04-1985 G3 Harsh Group A
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## Shipbuilding

Identification	DNV GL
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## 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

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise emission	EN 55011
Noise immunity	EN 61000-6-2:2005

## Electrostatic discharge

Standards/regulations	EN 61000-4-2
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## Electrostatic discharge

Contact discharge	± 6 kV
Discharge in air	± 8 kV
Comments	Criterion B

## Electromagnetic HF field

Standards/regulations	EN 61000-4-3
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## Electromagnetic HF field

Field intensity	10 V/m
Comments	Criterion A

## Fast transients (burst)

Standards/regulations	EN 61000-4-4
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## Fast transients (burst)

Input	± 2 kV
Signal	± 2 kV
Comments	Criterion B

## Surge current load (surge)

Standards/regulations	EN 61000-4-5
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## Surge current load (surge)

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Input	± 0.5 kV
Signal	± 1 kV
Comments	Criterion B

## Conducted interference

Standards/regulations	EN 61000-4-6
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## 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.

## Standards and regulations

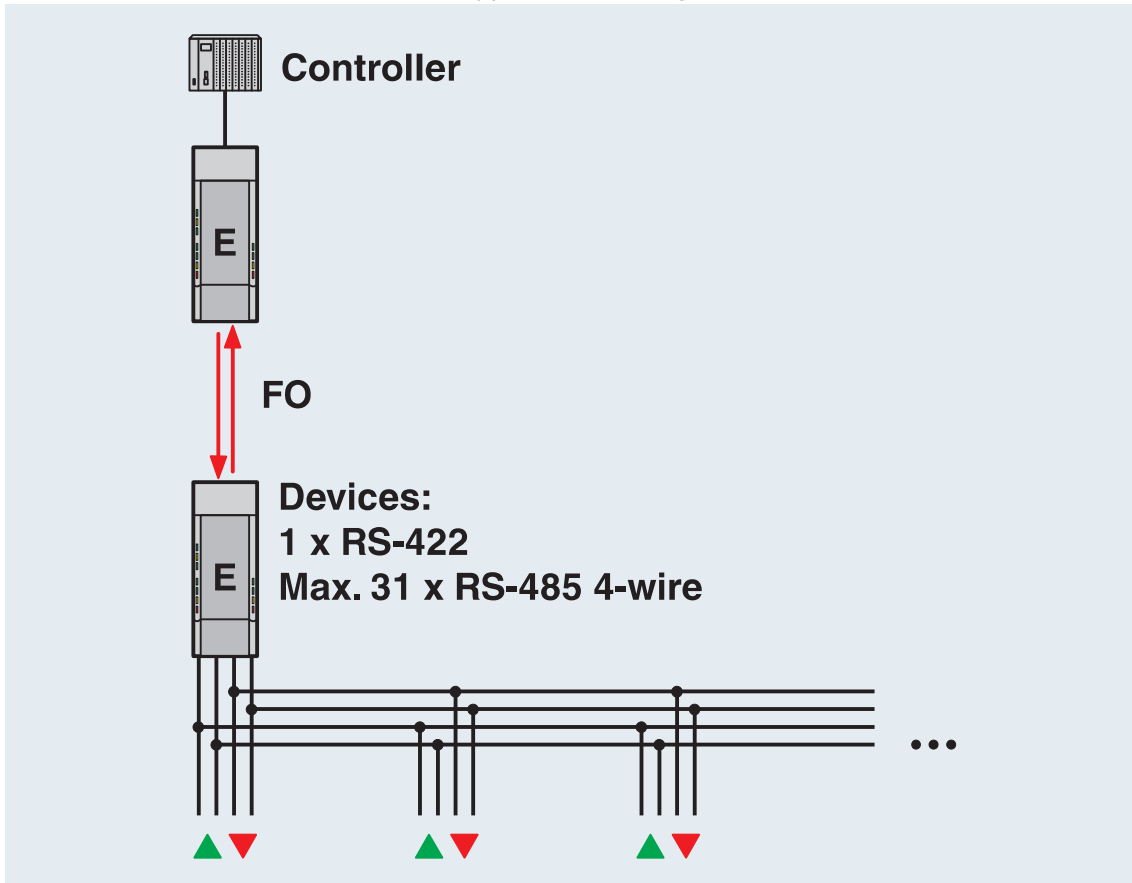
Free from substances that could impair the application of coating	in accordance with VW-AUDI-Seat central standard P-VW 3.10.7 57 65 0
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## Mounting

Mounting type	DIN rail mounting
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## Drawings

Application drawing



Point-to-point connection

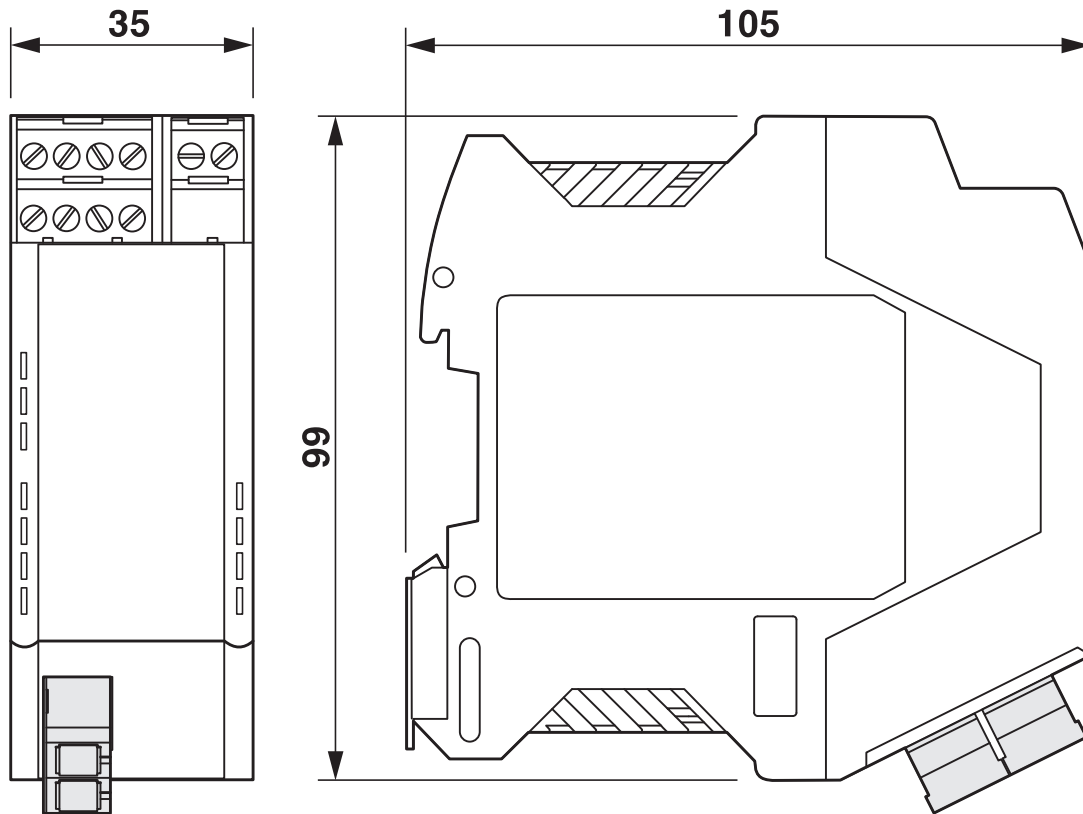
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Dimensional drawing

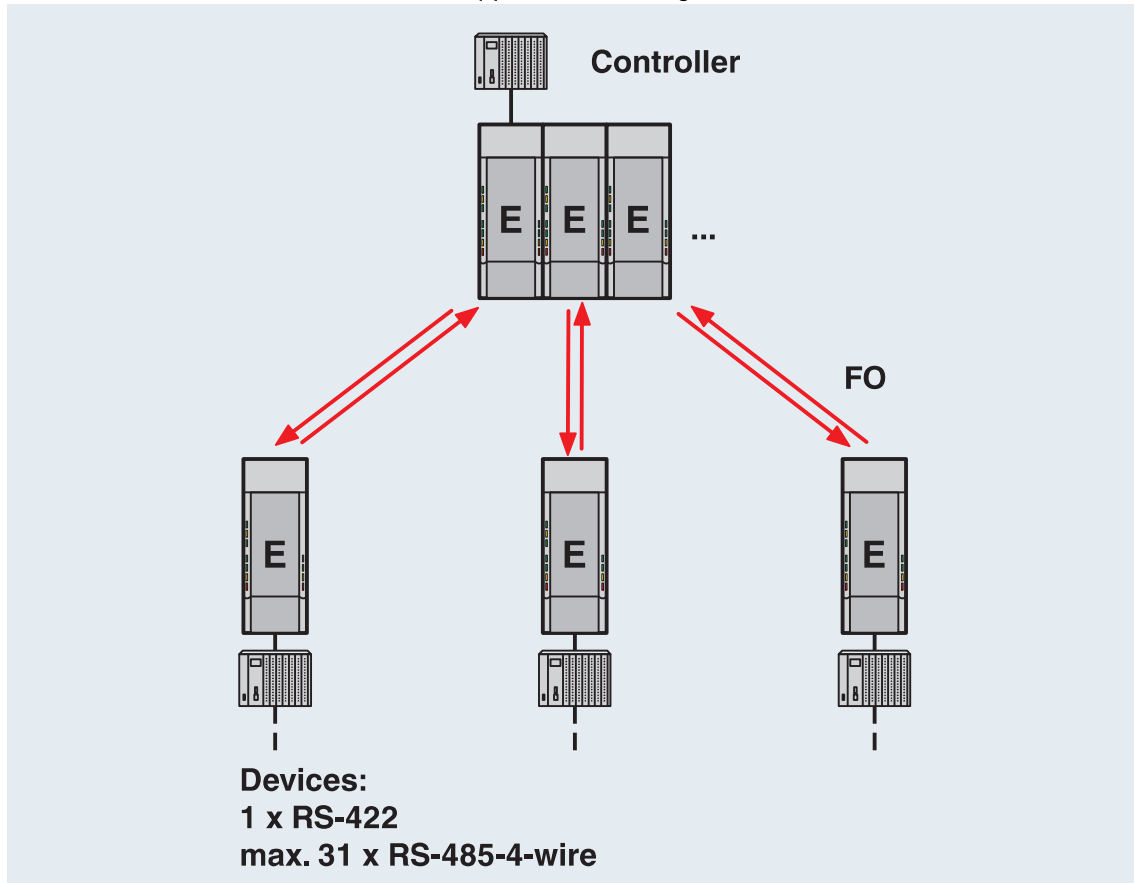


Housing dimensions

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Application drawing

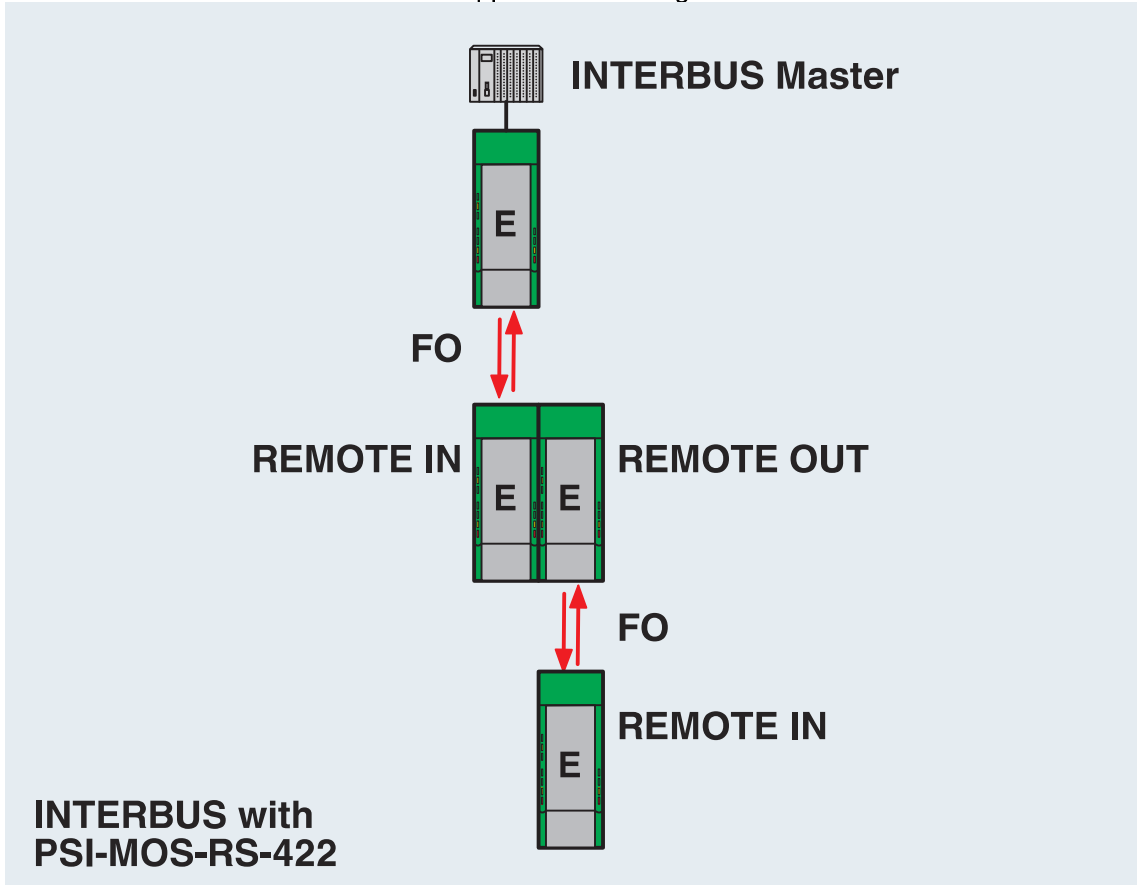


Star structure

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Application drawing



INTERBUS with PSI-MOS-RS422...

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## Approvals



**cUL Recognized**  
Approval ID: FILE E 238705



**UL Recognized**  
Approval ID: FILE E 238705



**DNV GL**  
Approval ID: TAA00001KR

Nominal Voltage  $U_N$

Nominal Current  $I_N$

Cross Section AWG

Cross Section  $\text{mm}^2$

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**UL Listed**  
Approval ID: FILE E 238705



**cUL Listed**  
Approval ID: FILE E 238705



**KC**  
Approval ID: MSIP-REI-PCK-2708575



**ATEX**  
Approval ID: PxCIF07ATEX2708559X

**cULus Recognized**

**cULus Listed**

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## Classifications

### ECLASS

ECLASS-9.0	19170114
ECLASS-10.0.1	19170132
ECLASS-11.0	19170411

### ETIM

ETIM 8.0	EC001467
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### UNSPSC

UNSPSC 21.0	43201500
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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"