PHŒNIX CONTACT

FO converters - PSI-MOS-RS422/FO 660 E - 2708342

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FO converter with integrated optical diagnosis, alarm contact, for RS-422/RS-485 4-wire/ INTERBUS to 2 Mbps, terminal equipment with an FO interface (FSMA), 660 nm, for polymer/HCS fiber cable

Product Features

☑ Connections can be plugged in using 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 // fiber optic ports // power supply // DIN rail connector)

☑ Approved for use in zone 2

☑ Floating switch contact for leading alarm generation in relation to critical fiber optic paths

☑ Integrated optical diagnostics for continuous monitoring of fiber optic paths

☑ Intrinsically safe fiber optic interface (Ex op is) for direct connection to devices in zone 1

☑ Automatic data rate detection for all data rates up to 2 Mbps

Key commercial data

Packing unit	1 pc
Weight per Piece (excluding packing)	228.5 GRM
Custom tariff number	85176200
Country of origin	Germany

Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area

Dimensions

Width	35 mm

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Technical data

Dimensions

Height	99 mm
Depth	103 mm

Ambient conditions

Ambient temperature (operation)	-20 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	30 % ... 95 % (non-condensing)
Altitude	5000 m (For restrictions see manufacturer's declaration)
Degree of protection	IP20
Noise immunity	EN 61000-6-2:2005

General

Transmission channels	2 (1/1) RD, TD, full duplex
Bit distortion, input	± 35 % (permitted)
Bit distortion, output	< 6.25 %
Electrical isolation	VCC // RS-422
Test voltage data interface/power supply	1.5 kV$_{rms}$ (50 Hz, 1 min.)
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Noise emission	EN 55011
Net weight	190 g
Housing material	PA 6.6-FR
Color	green
MTBF	493 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	92 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))
Conformance	CE-compliant
ATEX	# II 3 G Ex nAC IIC T4 X (Please follow the special installation instructions in the documentation!)
	# II (2) GD [Ex op is] IIC (PTB 06 ATEX 2042 U) (Please follow the special installation instructions in the documentation!)
UL, USA / Canada	Class I, Zone 2, AEx nc IIC T5
	Class I, zone 2, Ex nC nL IIC T5 X
	Class I, Div. 2, Groups A, B, C, D

Power supply

Supply voltage range	18 V DC ... 30 V DC
Max. current consumption	130 mA
Typical current consumption	100 mA (24 V DC)
Connection method	COMBICON plug-in screw terminal block

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Technical data

Serial interface

Interface 1	RS-422 interface in acc. with ITU-T V.11, EIA/TIA-422, DIN 66348-1
Operating mode	Full duplex
Connection method	Pluggable screw connection
Transmission medium	Copper
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 solid min.	0.2 mm²
Conductor cross section solid max.	2.5 mm²
Conductor cross section stranded min.	0.2 mm²
Conductor cross section stranded max.	2.5 mm²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	14
Serial transmission speed	≤ 2 Mbps

Optical interface FO

Transmit capacity, minimum	-4.6 dBm (980/1000 µm)
	-16.6 dBm (200/230 µm)
Minimum receiver sensitivity	-31.2 dBm
Wavelength	660 nm
Transmission length incl. 3 dB system reserve	100 m (With F-P 980/1000 230 dB/km with quick mounting connector)
	800 m (With F-K 200/230 10 dB/km with quick mounting connector)
Transmission medium	Polymer fiber
	HCS fiber
Transmission protocol	Transparent to protocol for RS-422 interface
Connection method	F-SMA

Digital outputs

Output name	Relay output
Output description	Alarm output
Number of outputs	1
Maximum switching voltage	60 V DC
	42 V AC
Limiting continuous current	0.46 A

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Classifications

eCl@ss

eCl@ss 4.0	27230207
eCl@ss 4.1	27230207
eCl@ss 5.0	27230207
eCl@ss 5.1	27230207
eCl@ss 6.0	27230207
eCl@ss 7.0	27230207
eCl@ss 8.0	27143136

ETIM

ETIM 2.0	EC001423
ETIM 3.0	EC001423
ETIM 4.0	EC001423
ETIM 5.0	EC001423

UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	43201553

Approvals

Approvals

Approvals

UL Recognized / cUL Recognized / DNV / cULus Recognized

Ex Approvals

ATEX / UL Listed / cUL Listed / cUL Listed / cULus Listed / cULus Listed

Approvals submitted

Approval details

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Approvals

UL Recognized

cUL Recognized

DNV

cULus Recognized
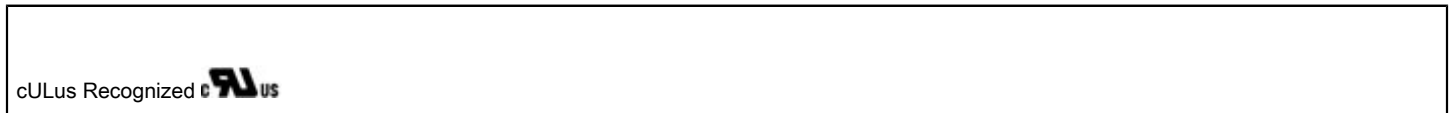
Accessories

Accessories

Adapter

Fiber optic coupling - PSM-SET-FSMA-LINK/2 - 2799416

Coupling; set consisting of 2 couplings for connecting F-SMA plugs

Assembly tool

Assembly tool - PSM-POF-KONFTOOL - 2744131

Polymer fiber DIY case, consisting of: Stripping knife, stripping pliers, polishing wheels for F-SMA and SCRJ quick mounting connectors, polishing pad and emery paper

![PHOENIX CONTACT logo]

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Accessories

Assembly tool - PSM-HCS-KONFTOOL - 2799526

HCS assembly kit for F-SMA quick mounting connectors, including stripping blade, stripping pliers, aramide yarn scissors, fiber stripper, microscope, fiber cleaving tool for standard HCS fibers, and documentation

Assembly tool - PSM-SET-FSMA-POLISH - 2799348

Polymer fiber polishing set, for F-SMA quick mounting connectors

Connector set

FO connectors - PSM-SET-FSMA/4-KT - 2799720

F-SMA plug set for polymer fiber, for self assembly consisting of 4 quick mounting connectors with bend protection sleeve

FO connectors - PSM-SET-FSMA/4-HCS - 2799487

F-SMA plug set for HCS fiber, for self assembly consisting of 4 quick mounting connectors with bend protection sleeve

Data cable by the meter

FO cable - PSM-LWL-KDHEAVY-980/1000 - 2744319

Polymer fiber cable, duplex 980/1000 µm, medium-weight version for permanent indoor installation, by the meter, without connector

![Phoenix Contact logo]

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Accessories

FO cable - PSM-LWL-RUGGED-980/1000 - 2744322

Polymer fiber cable, duplex, 980 µm/1000 µm, heavy version for permanent indoor installation, sold by the meter without connectors

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FO cable - PSM-LWL-RUGGED-FLEX-980/1000 - 2744335

Polymer fiber cable, duplex 980/1000 µm, heavy-weight, highly flexible version for flexible conduit applications, by the meter, without connector

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FO cable - PSM-LWL-HCS-RUGGED-200/230 - 2799885

HCS cable, duplex 200/230 µm, by the meter, without connector, for indoor installation

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FO cable - PSM-LWL-HCSO-200/230 - 2799445

HCS cable, duplex 200/230 µm, by the meter, without connector, for outdoor installation

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Data plug

D-SUB bus connector - SUBCON-PLUS 9/F - 2744241

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

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Accessories

D-SUB bus connector - SUBCON-PLUS 9/M - 2744018

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

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DIN rail connector

Electronic housing - ME 17,5 TBUS 1,5/ 5-ST-3,81 GN - 2709561

DIN rail connector for DIN rail mounting. Universal for TBUS housing. Gold-plated contacts, 5-pos.

Interface converter

Interface converter - PSM-ME-RS232/RS485-P - 2744416

Interface converter, for converting RS-232 (V.24) to RS-422 (V.11) and RS-485, with electrical isolation, 2 channels, rail-mountable

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Measuring tools

Measuring instrument - PSM-FO-POWERMETER - 2799539

Fiber optic measuring case, consisting of an optical power meter, F-SMA, B-FOC adapters, reference fibers and operating instructions

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Power supply

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Accessories

Power supply unit - MINI-SYS-PS-100-240AC/24DC/1.5 - 2866983

Primary-switched MINI POWER supply for DIN rail mounting, input: 1-phase, output: 24 V DC/1.5 A

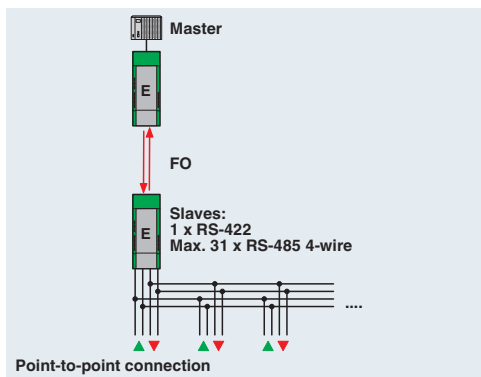### Screwdriver tools

Screwdriver - SZS 0,4X2,5 VDE - 1205037

Screwdriver, slot-headed, VDE insulated, size: 0.4 x 2.5 x 80 mm, 2-component grip, with non-slip grip
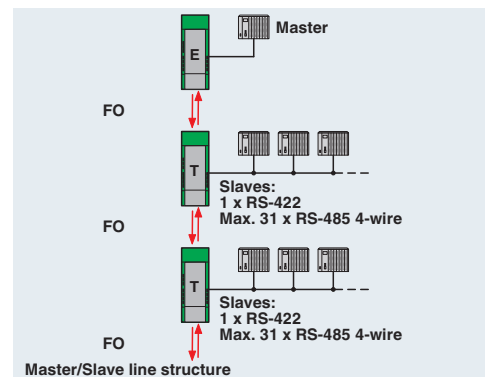
DIN rail connector - ME 17,5 TBUS 1,5/PP000-3,81 BK - 2890014

DIN rail connector for DIN rail mounting. Universal for TBUS housing. Gold-plated contacts, 2-pos.

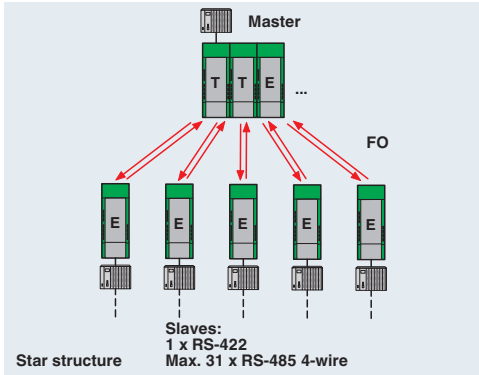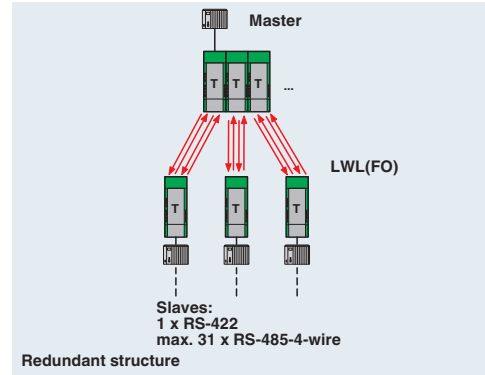## Drawings

Application drawing

Point-to-point connection

Application drawing

Master/Slave line structure

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Application drawing

Slaves:
1 x RS-422
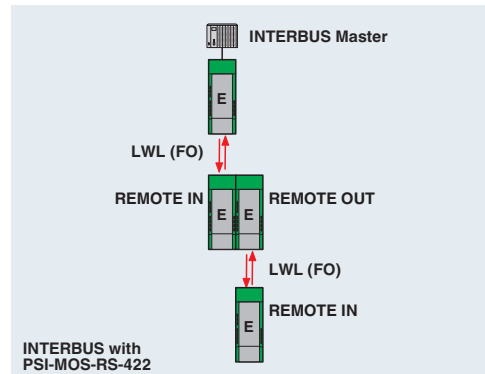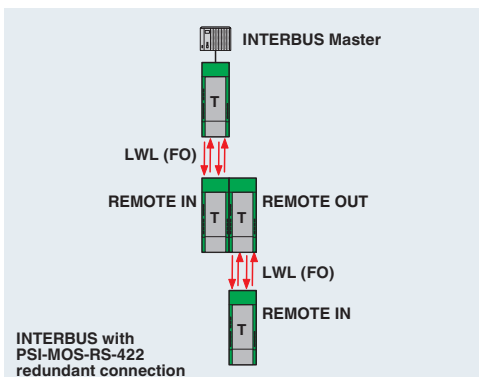Max. 31 x RS-485 4-wire

Star structure

Application drawing

Slaves:
1 x RS-422
max. 31 x RS-485-4-wire

Redundant structure

Application drawing

FO

REMOTE IN   REMOTE OUT

FO

REMOTE IN

**INTERBUS with
PSI-MOS-RS-422**

Functional drawing

LWL (FO)

REMOTE IN   REMOTE OUT

LWL (FO)

REMOTE IN

**INTERBUS with
PSI-MOS-RS-422**

Functional drawing

LWL (FO)

REMOTE IN   REMOTE OUT

LWL (FO)

REMOTE IN

**INTERBUS with
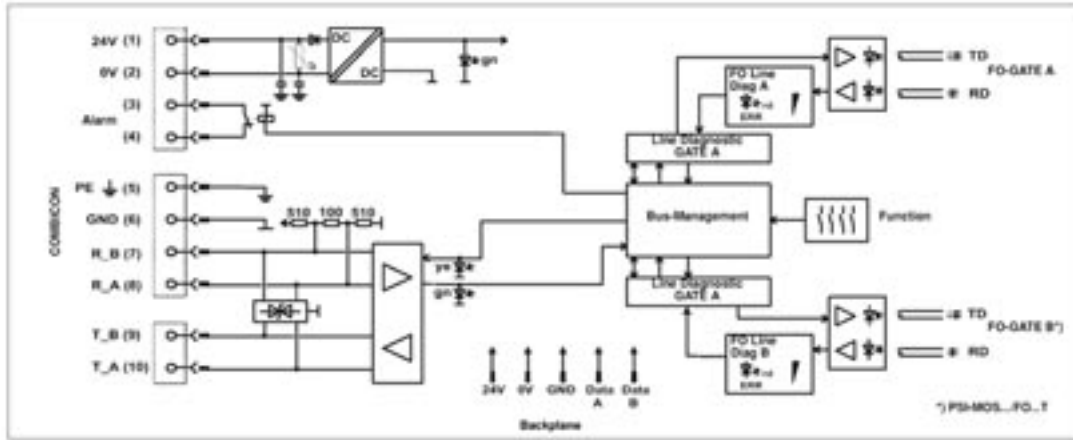PSI-MOS-RS-422
redundant connection**
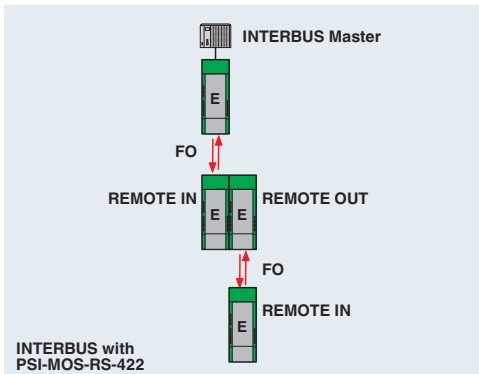
Catalog photo

Figure may contain other products.

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Block diagram

*) only with PSI-MOS.../FO...T