PHŒNIX CONTACT

FO converters - PSI-MOS-RS232/FO 850 T - 2708423

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FO converter with integrated optical diagnosis, alarm contact, for RS-232 interfaces up to 115.2 kbps, T-coupler with two FO interfaces (BFOC), 850 nm, for HCS/fiber glass cable

Product Features

- ☑ Connections can be plugged in using a COMBICON screw terminal block
- ☑ Supply voltage and data signals routed through via DIN rail connectors
- ☑ High-quality electrical isolation between all interfaces (RS-232 // fiber optic ports // power supply // DIN rail connector)
- ☑ Redundant power supply possible by means of optional system power supply unit
- ☑ Approved for use in zone 2
- ☑ Floating switch contact for leading alarm generation in relation to critical fiber optic paths
- ☑ Intrinsically safe fiber optic interface (Ex op is) for direct connection to devices in zone 1
- ☑ Integrated optical diagnostics for continuous monitoring of fiber optic paths
- ☑ Automatic data rate detection for all data rates up to 115.2 kbps

RS-232

Key commercial data

Packing unit	1 pc
Weight per Piece (excluding packing)	239.5 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	105 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), RxD, TxD, full duplex
Bit distortion, input	± 35 % (permitted)
Bit distortion, output	< 6.25 %
Electrical isolation	VCC // V.24 (RS-232)
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	200 g
Housing material	PA 6.6-FR
Color	green
MTBF	177 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	26 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	120 mA
Typical current consumption	120 mA (24 V DC)
Connection method	COMBICON plug-in screw terminal block

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Technical data

Serial interface

Interface 1	V.24 (RS-232) interface in acc. with ITU-T V.28, EIA/TIA-232, DIN 66259-1
Connection method	D-SUB-9 plug
Transmission medium	Copper
Transmission length	≤ 15 m
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	115.2 kbps (NRZ)

Optical interface FO

Transmit capacity, minimum	-4.6 dBm (200/230 µm)
	-17.6 dBm (50/125 µm)
	-13.6 dBm (62,5/125 µm)
Minimum receiver sensitivity	-33.2 dBm
Wavelength	850 nm
Transmission length incl. 3 dB system reserve	2800 m (with F-K 200/230 8 dB/km with quick mounting connector)
	4200 m (with F-G 50/125 2.5 dB/km)
	4800 m (with F-G 62,5/125 3.0 dB/km)
Transmission medium	HCS fiber
	Multi-mode fiberglass
Transmission protocol	Transparent to protocol for RS-232 interface
Connection method	B-FOC (ST®)

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

Classifications

eCl@ss

eCl@ss 4.0	27230207

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Classifications

eCl@ss

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 / cULus Recognized

Ex Approvals

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

Approvals submitted

Approval details

FO converters - PSI-MOS-RS232/FO 850 T - 2708423

Approvals

UL Recognized

cUL Recognized

cULus Recognized

Accessories

Accessories

Adapter

Fiber optic coupling - PSM-SET-BFOC-LINK/2 - 2799429

Coupling; set consisting of 2 couplings for connecting B-FOC plugs

Adapter cable

Data cable - PSM-KA9SUB9/BB/0,5METER - 2708520

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

Data cable - PSM-KA9SUB9/BB/2METER - 2799474

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

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Accessories

Data cable - PSM-KA 9 SUB 25/BB/2METER - 2761059

RS-232 cable, 9-pos. D-SUB socket 25-pos on D-SUB socket

Adapter cable - PSM-KAD-IL RS232/9SUB/B/0,8M - 2319200

Adapter cable to connect the IB IL RS232 and IB IL RS232-PRO Inline communication terminals to the interface converter, e.g. modem, Com server, Bluetooth or fiber optics.

Assembly tool

Assembly tool - PSM-HCS-KONFTOOL/B-FOC - 2708465

HCS assembly kit for B-FOC (ST) quick mounting connectors, including stripping blade, stripping pliers, aramide yarn scissors, fiber stripper, microscope, fiber cleaving tool for standard HCS and HCS GI fibers, and documentation

Connector set

FO connectors - PSM-SET-B-FOC/4-HCS - 2708481

B-FOC (ST) connector set for HCS fiber, for self assembly consisting of 4 quick mounting connectors with bend protection sleeve

Data cable by the meter

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Accessories

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

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

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

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

FO cable - PSM-LWL-GDM-RUGGED- 50/125 - 2799322

Fiberglass cable, duplex 50/125 µm, by the meter, without connector, for indoor installation

FO cable - PSM-LWL-GDO- 50/125 - 2799432

Fiberglass cable, duplex 50/125 µm, by the meter, without connector, for outdoor installation

Data cable preassembled

FO patch cable - FL MM PATCH 1,0 LC-ST - 2989174

Assembled fiber optic cable, break-out cable, fiberglass multi-mode 50/125 µm, connector: LC/B-FOC (ST), degree of protection: IP20, for installation in cable ducts or control cabinets, length: 1 m

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Accessories

FO patch cable - FL MM PATCH 2,0 LC-ST - 2989271

Assembled fiber optic cable, break-out cable, fiberglass multi-mode 50/125 µm, connector: LC/B-FOC (ST), degree of protection: IP20, for installation in cable ducts or control cabinets, length: 2 m

FO patch cable - FL MM PATCH 5,0 LC-ST - 2901801

Assembled FO cable, break out cable, multi-mode fiberglass 50/125 µm, plug: LC / B-FOC (ST), protection type: IP20, for installation in cable ducts or control cabinets, length: 5 m

FO patch cable - FL MM PATCH 1,0 SC-ST - 2901809

Assembled FO cable, break out cable, multi-mode fiberglass 50/125 µm, connector: SC Duplex / B-FOC, protection type: IP20, for installation in cable ducts or control cabinets, length: 1 m

FO patch cable - FL MM PATCH 5,0 SC-ST - 2901811

Assembled FO cable, break out cable, multi-mode fiberglass 50/125 µm, connector: SC Duplex / B-FOC (ST), protection type: IP20, for installation in cable ducts or control cabinets, length: 5 m

FO patch cable - FL MM PATCH 1,0 ST-ST - 2901815

Assembled FO cable, break out cable, multi-mode fiberglass 50/125 µm, connector: B-FOC (ST) / B-FOC (ST), protection type: IP20, for installation in cable ducts or control cabinets, length: 1 m

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Accessories

FO patch cable - FL MM PATCH 2,0 ST-ST - 2901816

Assembled FO cable, break out cable, multi-mode fiberglass 50/125 μm, connector: B-FOC (ST) / B-FOC (ST), protection type: IP20, for installation in cable ducts or control cabinets, length: 2 m

FO patch cable - FL MM PATCH 5,0 ST-ST - 2901817

Assembled FO cable, break out cable, multi-mode fiberglass 50/125 μm, connector: B-FOC (ST) / B-FOC (ST), protection type: IP20, for installation in cable ducts or control cabinets, length: 5 m

FO patch cable - FL MM PATCH 1,0 ST-SCRJ - 2901820

Assembled FO cable, break out cable, multi-mode fiberglass 50/125 μm, connector: SC Duplex / SCRJ, protection type: IP20, for installation in cable ducts or control cabinets, length: 1 m

FO patch cable - FL MM PATCH 2,0 ST-SCRJ - 2901821

Assembled FO cable, break out cable, multi-mode fiberglass 50/125 μm, connector: B-FOC (ST) / SCRJ, protection type: IP20, for installation in cable ducts or control cabinets, length: 2 m

FO patch cable - FL MM PATCH 5,0 ST-SCRJ - 2901822

Assembled FO cable, break out cable, multi-mode fiberglass 50/125 μm, connector: B-FOC (ST) / SCRJ, protection type: IP20, for installation in cable ducts or control cabinets, length: 5 m

Data plug

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Accessories

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

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

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

Measuring tools

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Accessories

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

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
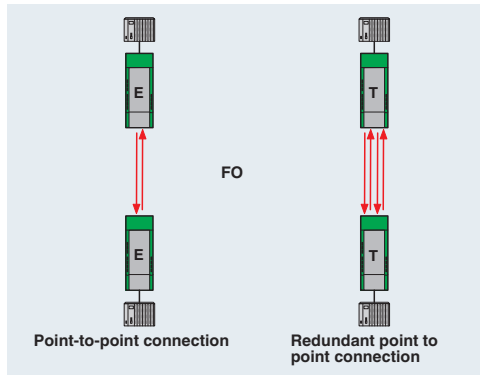

DIN rail connector - ME 17,5 TBUS 1,5/PP000-3,81 BK - 2890014

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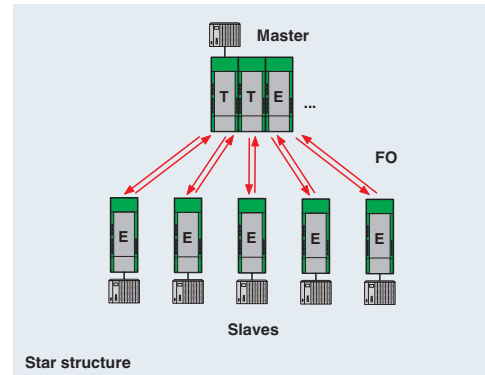

Drawings

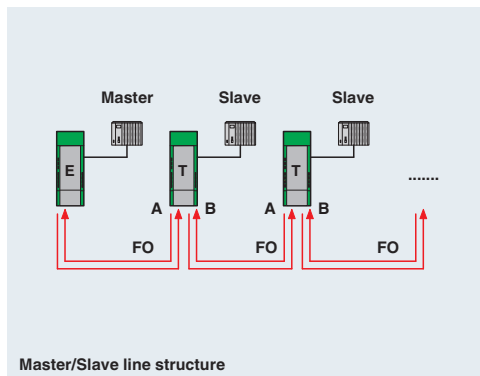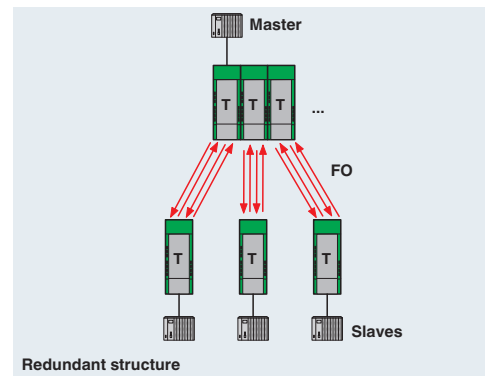# FO converters - PSI-MOS-RS232/FO 850 T - 2708423

Application drawing

Point-to-point connection

Redundant point to point connection

FO

Application drawing

Master

Slaves

FO

Star structure

Application drawing

Master/Slave line structure

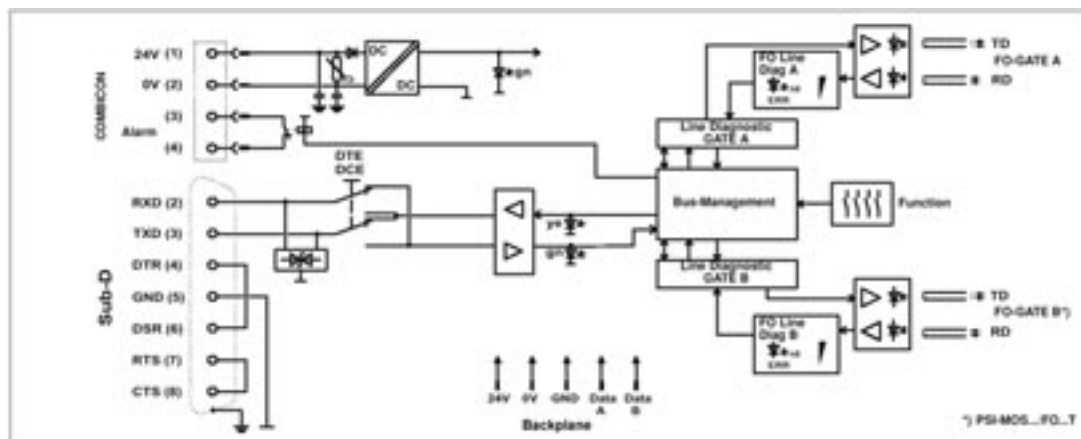Application drawing

Master

Slaves

FO

Redundant structure

Master/Slave line structure

Block diagram

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