

## FO converters - PSI-MOS-RS232/FO 850 E - 2708371

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FO converter with integrated optical diagnosis, alarm contact, for RS-232 interfaces up to 115.2 kbps, terminal equipment with an FO interface (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
- ✓ 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
- ✓ Floating switch contact for leading alarm generation in relation to critical fiber optic paths
- ✓ Automatic data rate detection for all data rates up to 115.2 kbps



### Key commercial data

Packing unit	1 pc
Weight per Piece (excluding packing)	222.7 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
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#### 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 <sub>rms</sub> (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	320 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day)) 48 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!) # II 3 G Ex nAC IIC T4 X # II (2) GD [Ex op is] IIC (PTB 06 ATEX 2042 U)
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

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## Technical data

### Power supply

Typical current consumption	120 mA (24 V DC)
Connection method	COMBICON plug-in screw terminal block

### 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 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
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 <sup>®</sup> )

### 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

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#### Approvals

UL Recognized / cUL Recognized / DNV / cULus Recognized

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#### Ex Approvals

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

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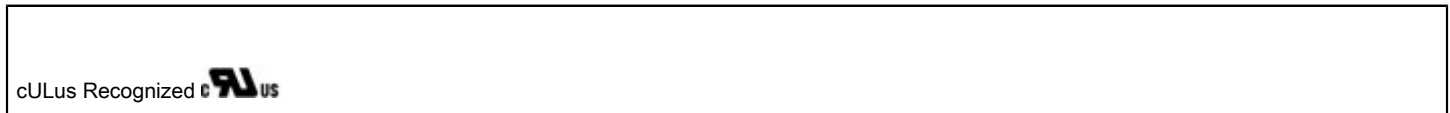
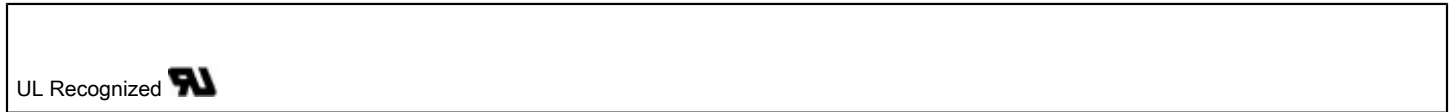
#### Approvals submitted

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### Approval details

## FO converters - PSI-MOS-RS232/FO 850 E - 2708371

### Approvals



### Accessories

#### Accessories

#### Adapter

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



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

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#### 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

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## FO converters - PSI-MOS-RS232/FO 850 E - 2708371

### Accessories

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



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

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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.

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### 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

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### 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

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### Accessories

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#### Data cable by the meter

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



HCS cable, duplex 200/230  $\mu\text{m}$ , 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  $\mu\text{m}$ , by the meter, without connector, for outdoor installation

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



Fiberglass cable, duplex 50/125  $\mu\text{m}$ , by the meter, without connector, for indoor installation

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



Fiberglass cable, duplex 50/125  $\mu\text{m}$ , by the meter, without connector, for outdoor installation

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#### Data cable preassembled

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### Accessories

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



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

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



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

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



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

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



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

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



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



## FO converters - PSI-MOS-RS232/FO 850 E - 2708371

### Accessories

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



Assembled FO cable, break out cable, multi-mode fiberglass 50/125  $\mu\text{m}$ , 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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#### FO patch cable - FL MM PATCH 2,0 ST-ST - 2901816



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

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



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

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



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

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



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

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### Accessories

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



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

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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

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.

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### Interface converter

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### Accessories

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

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

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### 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

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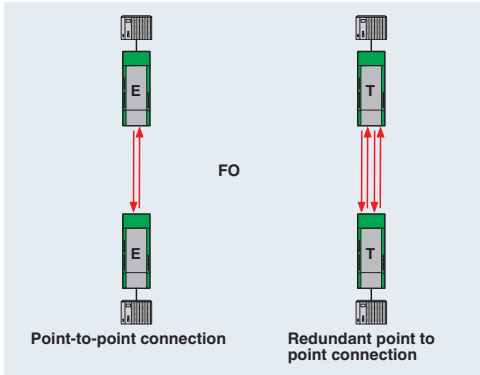
DIN rail connector - ME 17,5 TBUS 1,5/PP000-3,81 BK - 2890014

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

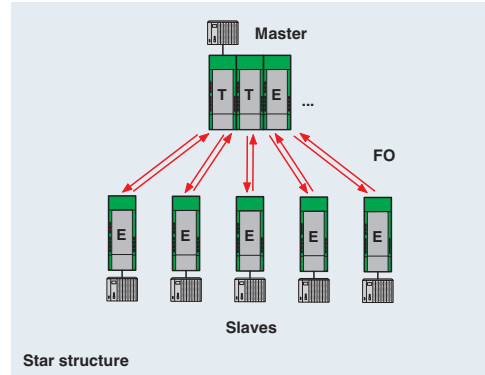
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## Drawings

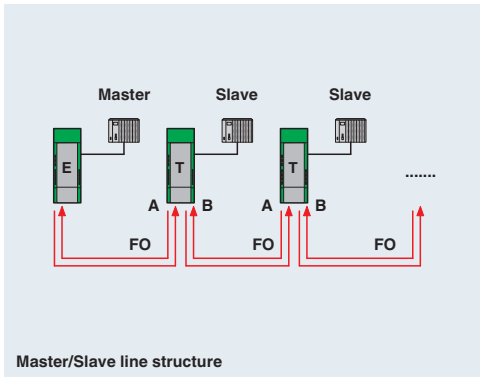
Application drawing



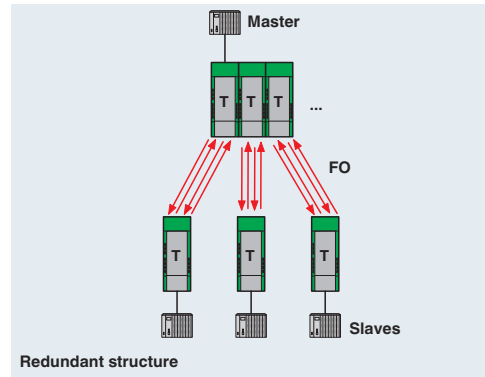
Application drawing



Application drawing



Application drawing



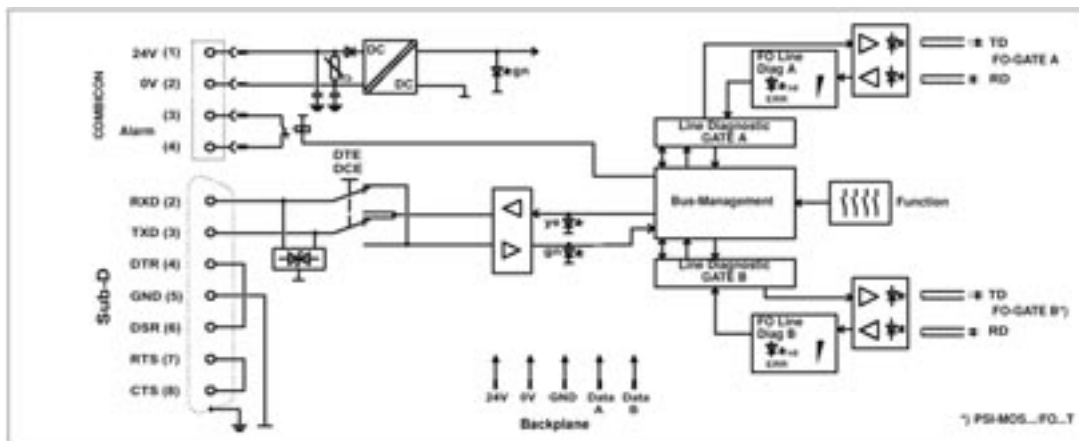
# FO converters - PSI-MOS-RS232/FO 850 E - 2708371

Catalog photo



Figure may contain other products.

Block diagram



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