PSI-MOS-DNET CAN/FO 850/BM - FO converters

2708083

https://www.phoenixcontact.com/us/products/2708083

FO converter with integrated optical diagnostics, for DeviceNet™, CAN, CANopen® up to 800 kbps, basic module, interfaces: 1 x CAN, 1 x alarm, 1 x FO (BFOC), 850 nm, for PCF/fiberglass cable (multimode)

Product description

The PSI-MOS-DNET... fiber optic transmission system enables DeviceNet™ and CANopen® users to benefit from simple and interference-free networking based on fiber optics. In addition, bus cable short circuits only affect the specific potential segment concerned. This increases overall availability, and improves flexibility when designing the bus topology. The use of fiber optic technology enables branch lines and star and tree structures to be created. The 22.5 mm space-saving devices from the PSI-MOS-DNET CAN/FO… series feature an internal backplane. The maximum network expansion that can be achieved (sum total of copper and fiber optic cables) essentially depends on the data rate used.

Your advantages

- Data rates of up to 800 kbps, set via DIP switches
- Approved for use in zone 2
- Intrinsically safe fiber optic interface (Ex op is) for direct connection to devices in zone 1

Commercial data

Item number	2708083
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN06
Product key	DNC213
Catalog page	Page 433 (C-6-2019)
GTIN	4017918943202
Weight per piece (including packing)	200.3 g
Weight per piece (excluding packing)	198.2 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

Utilization restriction

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

Product properties

Product type	Media converter
Application	Base module
MTBF	299 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	47 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))

Electrical properties

Electrical isolation	VCC // CAN
Maximum power dissipation for nominal condition	2 W
Test voltage data interface/power supply	1.5 kV$_{rms}$ (50 Hz, 1 min.)

Supply

Supply voltage range	10 V DC ... 30 V DC (via pluggable COMBICON screw terminal block)
Nominal supply voltage	24 V DC (in acc. with UL)
Typical current consumption	100 mA (24 V DC)
Max. current consumption	100 mA

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	0.46 A

Connection data

Supply

Connection method	Pluggable COMBICON screw terminal block through basic module
Tightening torque	0.56 Nm ... 0.79 Nm

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Interfaces

Bit distortion, input	± 35 % (permitted)
Bit distortion, output	< 6.25 %
Signal	CAN
	CANopen®
	DeviceNet™

Data: optical FO

No. of channels	1
Transmit capacity, minimum	-17.9 dBm (50/125 µm)
	-14.1 dBm (62,5/125 µm)
	-5.1 dBm (200/230 µm)
Transmission length incl. 3 dB system reserve	2800 m (F-K 200/230 8 dB/km with quick mounting connector)
	4800 m (with F-G 50/125 2.5 dB/km)
	4200 m (with F-G 62,5/125 3.0 dB/km)
Connection method	B-FOC (ST®)
Wavelength	850 nm
Minimum receiver sensitivity	-32.5 dBm (50/125 µm)
	-32.5 dBm (62,5/125 µm)
	-32.1 dBm (200/230 µm)
Transmission medium	PCF fiber
	Multi-mode fiberglass

Data: CAN interface, in accordance with ISO/IS 11898 for DeviceNet™, CAN, CANopen®

Serial transmission speed	≤ 800 kbps
Connection method	Pluggable screw connection
Transmission length	≤ 5000 m (Dependent on the data rate and the protocol used)
Termination resistor	120 Ω (Can be connected)
Transmission medium	Copper
File format/coding	Bit stuffing, NRZ

Dimensions

Width	22.5 mm
Height	99 mm
Depth	114.5 mm

Material specifications

Color (Housing)	green (RAL 6021)
Material (Housing)	PA 6.6-FR

Cable/line

FO cable

Fiber types	200/230 µm
	50/125 µm

	62.5/125 μm
	PCF fiber
	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)

Approvals

CE

Certificate	CE-compliant

ATEX

Identification	⟨Ex⟩ II 3 G Ex nA nC IIC T4 Gc X
Note	Please follow the special installation instructions in the documentation!

ATEX, FO interface

Identification	⟨Ex⟩ II (2) G [Ex op is Gb] IIC
	⟨Ex⟩ II (2) D [Ex op is Db] IIIC
Certificate	PTB 06 ATEX 2042 U
Note	Please follow the special installation instructions in the documentation!

UL, USA/Canada

Identification	Class I, Zone 2, AEx nc IIC T5
	Class I, Div. 2, Groups A, B, C, D

Corrosive gas test

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

EMC data

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

Electrostatic discharge

Standards/regulations	EN 61000-4-2

Electrostatic discharge

Contact discharge	± 6 kV
Discharge in air	± 8 kV

Comments	Criterion B

Electromagnetic HF field

Standards/regulations	EN 61000-4-3

Electromagnetic HF field

Field intensity	10 V/m
Comments	Criterion A

Fast transients (burst)

Standards/regulations	EN 61000-4-4

Fast transients (burst)

Input	2 kV (5 kHz)
Signal	2 kV (5 kHz)
Comments	Criterion B

Surge current load (surge)

Input	0.5 kV (42 Ω)
Signal	1 kV (2 Ω)
Comments	Criterion B

Conducted interference

Standards/regulations	EN 61000-4-6

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.

Mounting

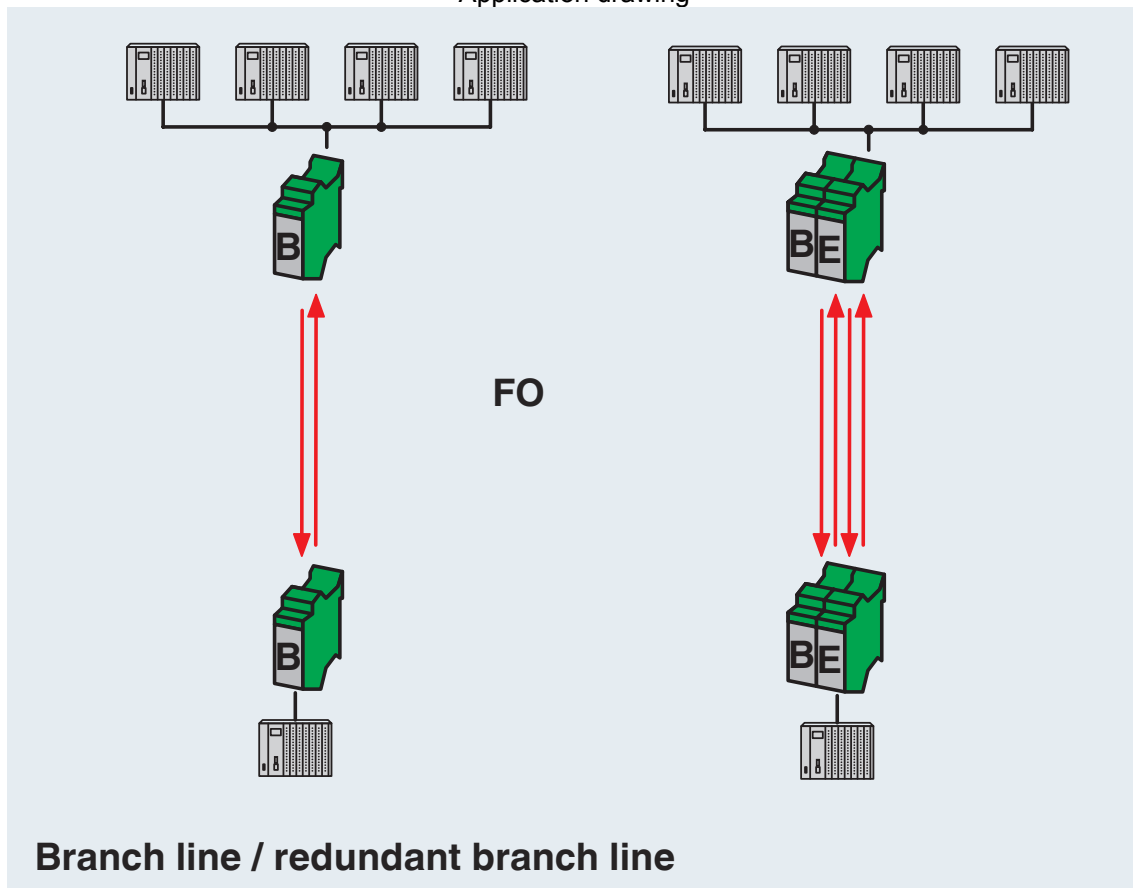| Mounting type	DIN rail mounting

Drawings

Application drawing

Tree structure

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Application drawing

Star structure / redundant star structure
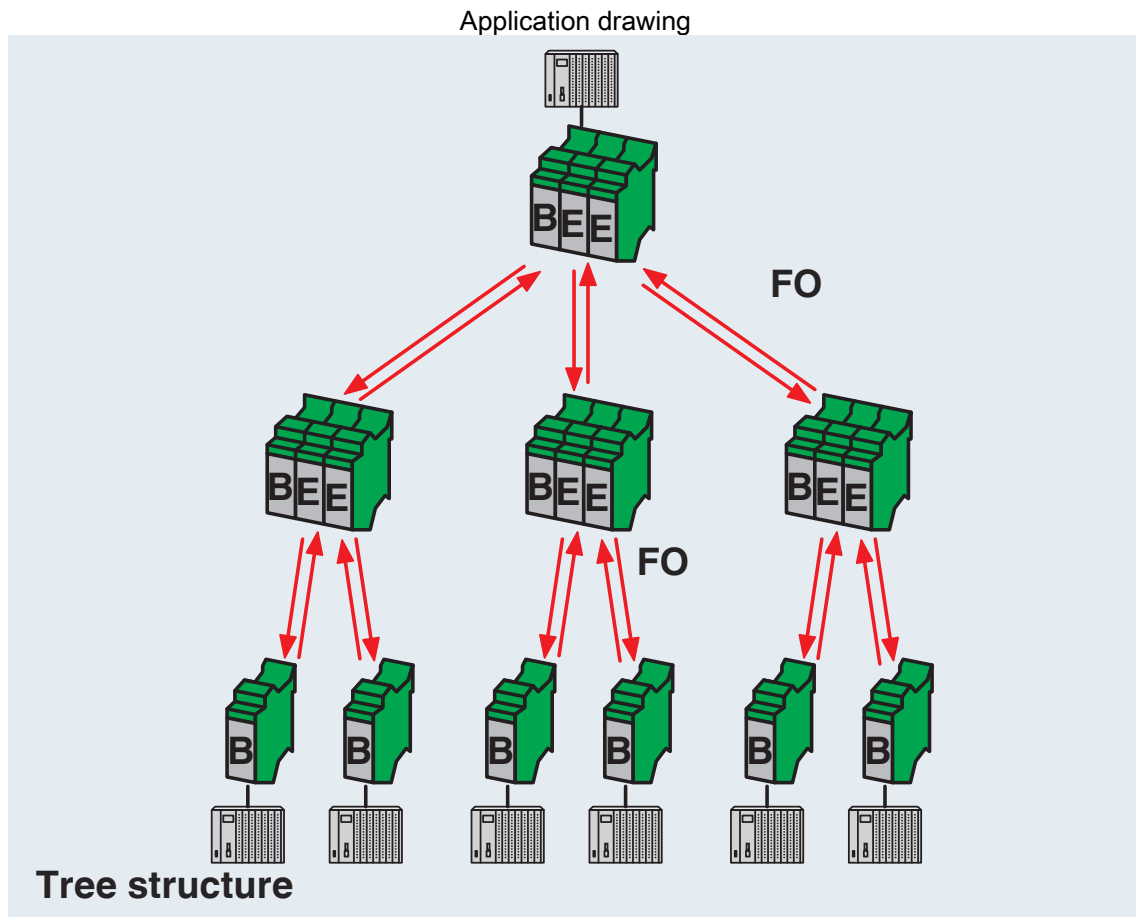
Star structure / redundant star structure

Application drawing

FO

Branch line / redundant branch line

Branch line / redundant branch line

Block diagram
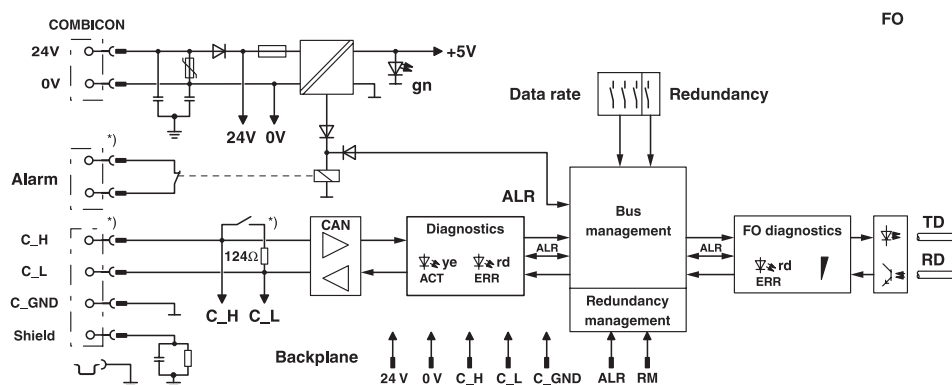
*) Only in the basic module

Application drawing

Linear structure
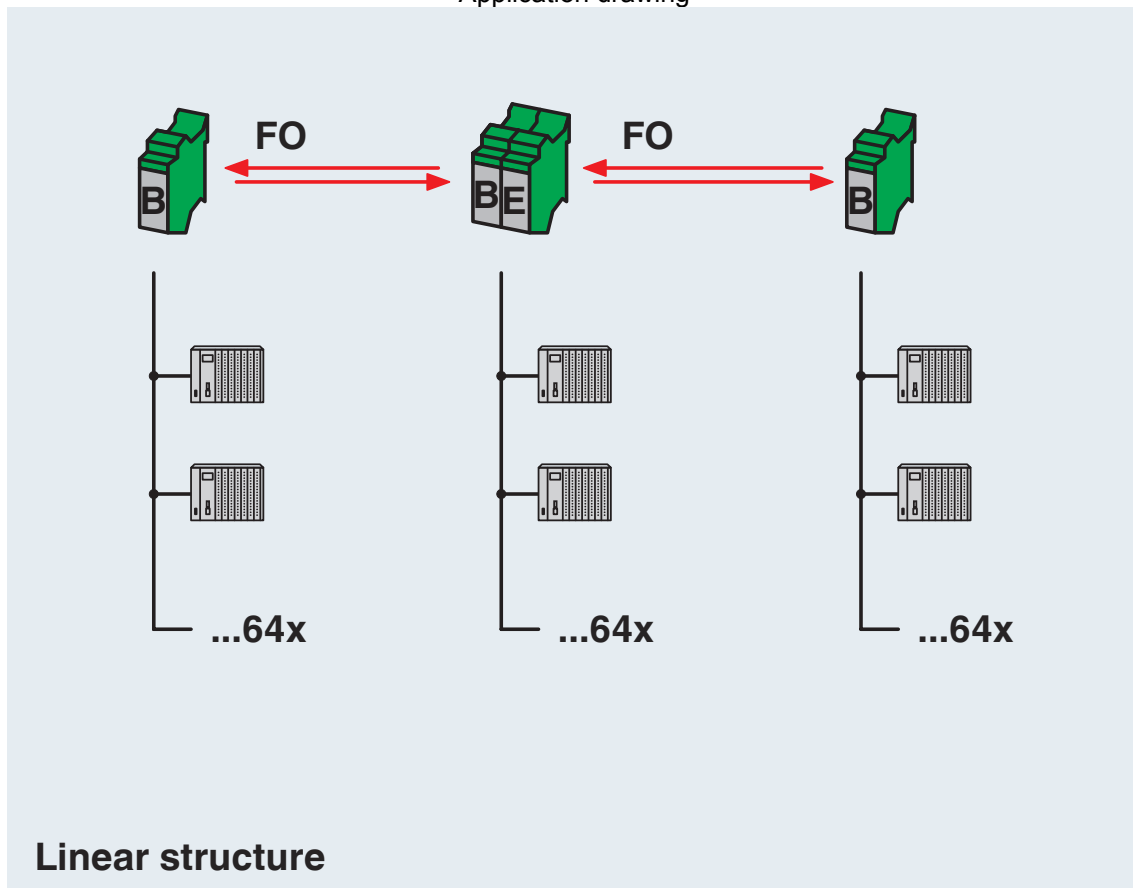
Line structure

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2708083

cUL Recognized
Approval ID: FILE E 238705

UL Recognized
Approval ID: FILE E 238705

EAC
Approval ID: TR TS_D_01871-19

UAE-RoHS
Approval ID: 23-02-63194

ATEX
Approval ID: PTB 06 ATEX 2042U

ATEX
Approval ID: PxCIF06ATEX2708261X

UL Listed
Approval ID: FILE E 199827

cULus Recognized

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Classifications

ECLASS

ECLASS-11.0	19170411
ECLASS-12.0	19170411
ECLASS-13.0	19170411

ETIM

ETIM 9.0	EC001467

UNSPSC

UNSPSC 21.0	43201500

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	ecade925-421c-43c8-a7af-c1ab25e073ae

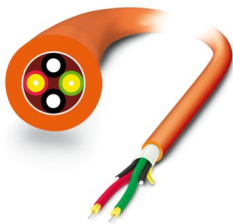# PSI-MOS-DNET CAN/FO 850/BM - FO converters

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Accessories

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

2799885

https://www.phoenixcontact.com/us/products/2799885

PCF cable, duplex 200 μm/230 μm, by the meter without male connector, for installation in stationary systems and machines

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

2799445

https://www.phoenixcontact.com/us/products/2799445

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

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

2799322

https://www.phoenixcontact.com/us/products/2799322

Fiber glass cable, duplex 50 μm/125 μm, by the meter, without male connector, for installation in stationary systems and machines

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

2799432

https://www.phoenixcontact.com/us/products/2799432

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

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

2708465

https://www.phoenixcontact.com/us/products/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, four B-FOC(ST) connectors for standard HCS fiber, and documentation

PSM-FO-POWERMETER - Measuring instrument

2799539

https://www.phoenixcontact.com/us/products/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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FOC-ADAPTER:ST/ST-MM - Fiber optic coupling

1208099

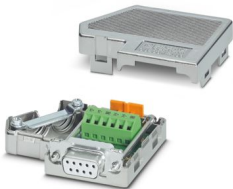https://www.phoenixcontact.com/us/products/1208099

Fiber optic coupling, degree of protection: IP20, number of positions: 1, material: Metal, connection method: Coupling, cable outlet: straight, color: silver/matt, Ethernet

SUBCON-PLUS-CAN - D-SUB bus connector

2744694

https://www.phoenixcontact.com/us/products/2744694

D-SUB connector, 9-pos. female connector, two 35° cable entries to one terminal block row, bus system: CAN, CANopen®, SafetyBUS p up to 1 Mbps, termination resistor can be switched on via slide switch, pin assignment: 2, 3, 7; screw connection terminal blocks

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https://www.phoenixcontact.com/us/products/2708083

SUBCON-PLUS-CAN/PG - D-SUB bus connector

2708119

https://www.phoenixcontact.com/us/products/2708119

D-SUB connector, 9-pos. socket, 35° cable entry, bus system: CAN, CANopen®, SafetyBUS p up to 1 Mbps, with PG D-SUB socket for connecting a programming device, termination resistor can be switched on via slide switch, pin assignment: 2, 3, 7, 9; screw terminal blocks

SUBCON-PLUS-CAN/AX - D-SUB bus connector

2306566

https://www.phoenixcontact.com/us/products/2306566

D-SUB connector, 9-pos. female connector, axial version with two cable entries, bus system: CAN, CANopen, SafetyBUS p; pin assignment: 2, 3, 7; screw connection terminal blocks

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https://www.phoenixcontact.com/us/products/2708083

SZS 0,4X2,5 VDE - Screwdriver

1205037

https://www.phoenixcontact.com/us/products/1205037

Screwdriver, slot-headed, VDE insulated, size: 0.4 x 2.5 x 80 mm, 2-component grip, with non-slip grip

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

2708481

https://www.phoenixcontact.com/us/products/2708481

FO connectors, degree of protection: IP20, number of positions: 4, MM, material: Metal, connection method: Cable connection, cable outlet: straight

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https://www.phoenixcontact.com/us/products/2708083

SAC-5P-920/... - Bus system cable

1511504

https://www.phoenixcontact.com/us/products/1511504

Bus system cable, CANopen®, DeviceNet™, 4-position, PUR halogen-free, red lilac RAL 4001, shielded, cable length: Free entry (0.5 ... 400 m)

SUBCON-PLUS-CAN/90/PG/M12 - D-SUB bus connector

2902322

https://www.phoenixcontact.com/us/products/2902322

D-SUB connector, 9-pos., socket, with Pg-D-SUB pin, assignment: 2, 3, 5, 7; 9; two M12 cable entries (A-coded) under 90°. Bus system: CAN, CANopen®. Termination resistor via separate M12 terminator.

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https://www.phoenixcontact.com/us/products/2708083

SUBCON-PLUS-CAN/90/M12 - D-SUB bus connector

2902323

https://www.phoenixcontact.com/us/products/2902323

D-SUB connector, 9-pos., socket, assignment: 2, 3, 5, 7, 9; two M12 cable entries (A-coded) under 90°. Bus system: CAN, CANopen®. Termination resistor via separate M12 terminator.

SUBCON-PLUS-CAN/35/PG/M12 - D-SUB bus connector

2902324

https://www.phoenixcontact.com/us/products/2902324

D-SUB connector, 9-pos., socket, with Pg-D-SUB pin, assignment: 2, 3, 5, 7; 9; two M12 cable entries (A-coded) under 35°. Bus system: CAN, CANopen®. Termination resistor via separate M12 terminator.

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SUBCON-PLUS-CAN/35/M12 - D-SUB bus connector

2902325

https://www.phoenixcontact.com/us/products/2902325

D-SUB connector, 9-pos., socket, assignment: 2, 3, 5, 7, 9; two M12 cable entries (A-coded) under 35°. Bus system: CAN, CANopen®. Termination resistor via separate M12 terminator.

SUBCON-PLUS-CAN/AX/M12 - D-SUB bus connector

2902326

https://www.phoenixcontact.com/us/products/2902326

D-SUB connector, 9-pos., socket, assignment: 2, 3, 5, 7, 9; two M12 cable entries (A-coded) under 180° (axial). Bus system: CAN, CANopen®. Termination resistor via separate M12 terminator.

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FOC-HCS-RUGGED-1014/... - FO patch cable

1402191

https://www.phoenixcontact.com/us/products/1402191

rugged PCF installation cable for inner areas with highly tear-proof aramid strain-relief elements. Individual elements made from highly flexible FRNC material. The cable is halogen-free, ozone and UV resistant and has a rugged polyurethane (PUR) outer sheath.

FOC-GDM-RUGGED-1016/IP20/... - FO patch cable

2901558

https://www.phoenixcontact.com/us/products/2901558

Robust GOF installation cable for assembly (IP20 heads only) for installation in stationary systems and machines, aramid strain-relief elements, with individual elements made from FRNC material, halogen-free, ozone and UV resistant, with a polyurethane (PUR) outer sheath

PSI-MOS-DNET CAN/FO 850/BM - FO converters

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https://www.phoenixcontact.com/us/products/2708083

FOC-GDO-1017/IP20/... - FO patch cable

2901559

https://www.phoenixcontact.com/us/products/2901559

Highly rugged GOF round cable (IP20 heads only) for assembly and for outdoor installation with integrated moisture barrier as well as rodent-proof scrim. Individual elements made from highly flexible FRNC material. The wire is ozone and UV resistant with a very rugged polyethylene outer sheath.