PSI-MOS-DNET CAN/FO 660/BM - FO converters

2708054

https://www.phoenixcontact.com/in/products/2708054

PHŒNIX CONTACT

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 (FSMA), 660 nm, for polymer/PCF fiberglass cable

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

- Supply voltage routed through via DIN rail connectors
- Connections can be plugged in via a COMBICON screw terminal block
- 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
- Intrinsically safe fiber optic interface (Ex op is) for direct connection to devices in zone 1
- Data rates of up to 800 kbps, set via DIP switches

Commercial Data

Item number	2708054
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	DNC
Product Key	DNC213
Catalog Page	Page 433 (C-6-2019)
GTIN	4017918943226
Weight per Piece (including packing)	197.29 g
Weight per Piece (excluding packing)	166.8 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	409 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	82 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
Connection method	Pluggable COMBICON screw terminal block through basic module

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

Interfaces

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

Data: optical FO

Transmit capacity, minimum	-6.2 dBm (980/1000 µm)
	-16.9 dBm (200/230 µm)
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)
Connection method	F-SMA
Wavelength	660 nm
Minimum receiver sensitivity	-30.2 dBm
Transmission medium	Polymer fiber
	PCF fiber

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

Material Housing	PA 6.6-FR

Cable/line

FO cable

Fiber types	200/230 µm
	980/1000 µm
	Polymer fiber
	PCF fiber

Environmental and real-life conditions

PSI-MOS-DNET CAN/FO 660/BM - FO converters

2708054

https://www.phoenixcontact.com/in/products/2708054

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

EAC

Identification	EAC

ATEX

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

ATEX, FO interface

Identification	☐ II (2) G [Ex op is Gb] IIC
	☐ 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 61000-6-2:2005
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

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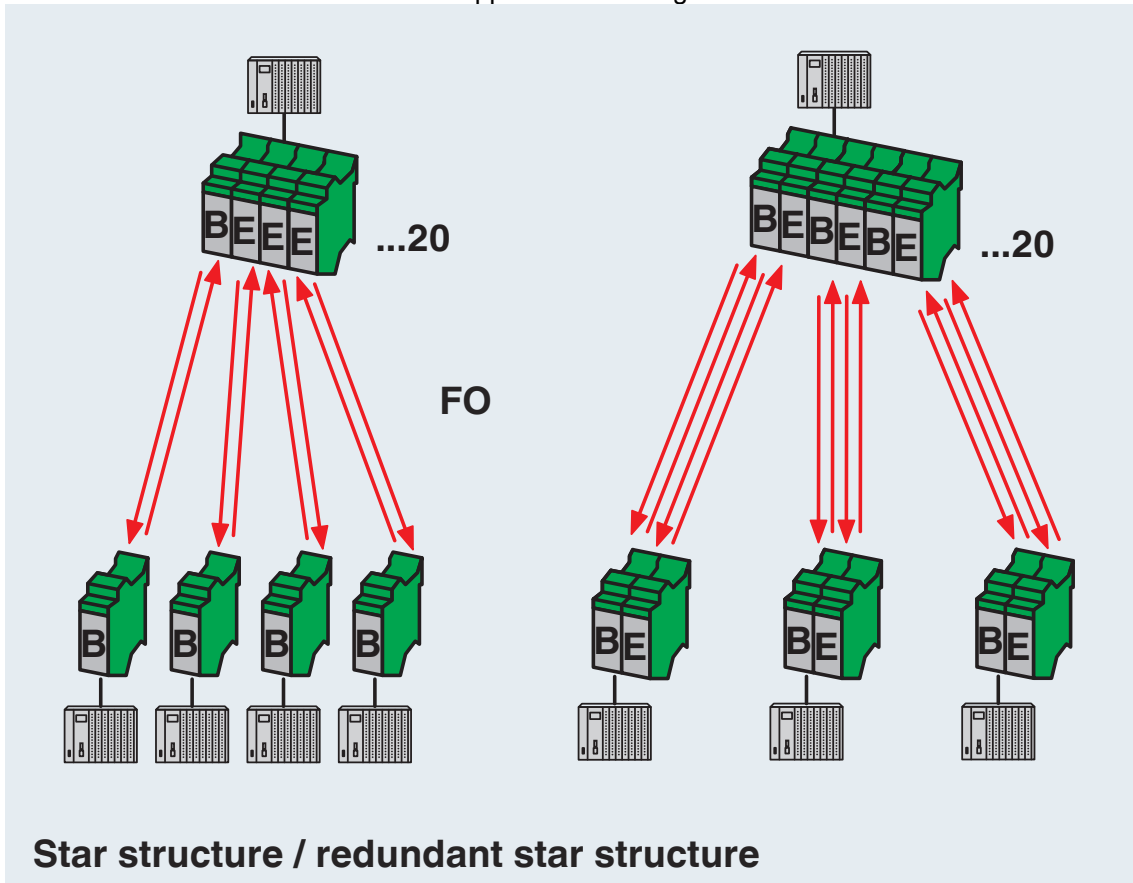
Star structure / redundant star structure

Block diagram
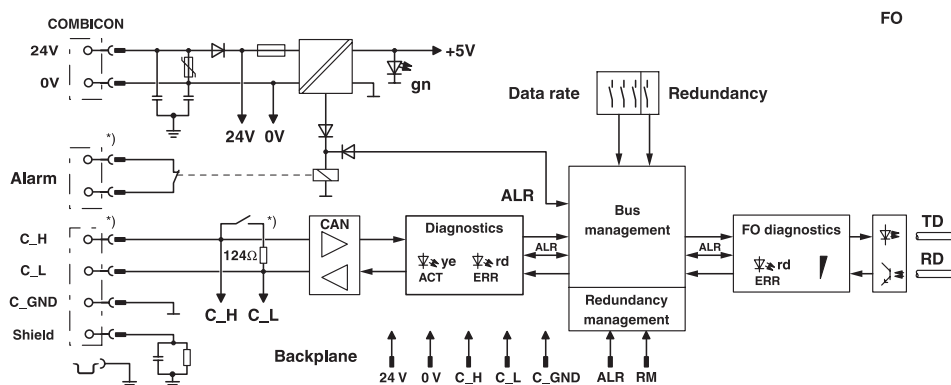
*) Only for basic module

*) Only in the basic module

PSI-MOS-DNET CAN/FO 660/BM - FO converters

2708054

https://www.phoenixcontact.com/in/products/2708054

Application drawing

FO

Branch line / redundant branch line

Branch line / redundant branch line

PSI-MOS-DNET CAN/FO 660/BM - FO converters

2708054

https://www.phoenixcontact.com/in/products/2708054
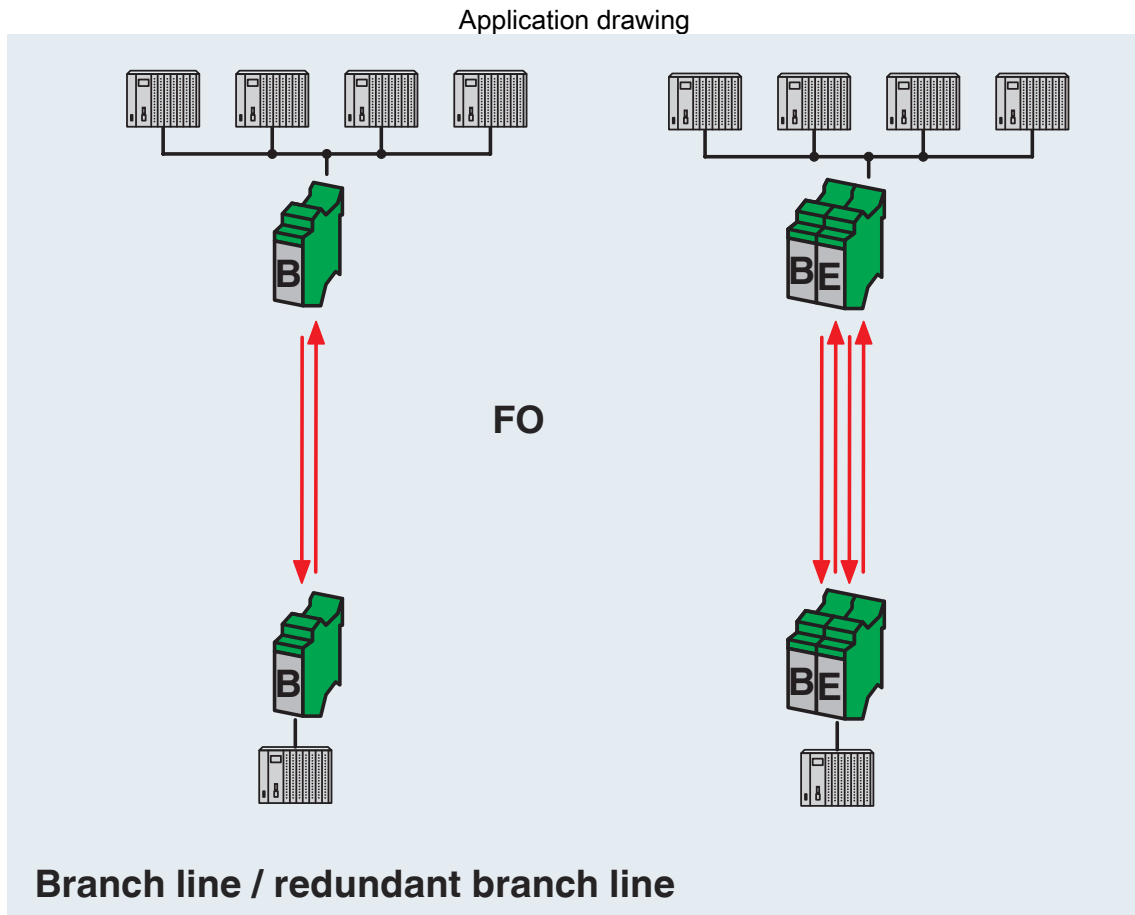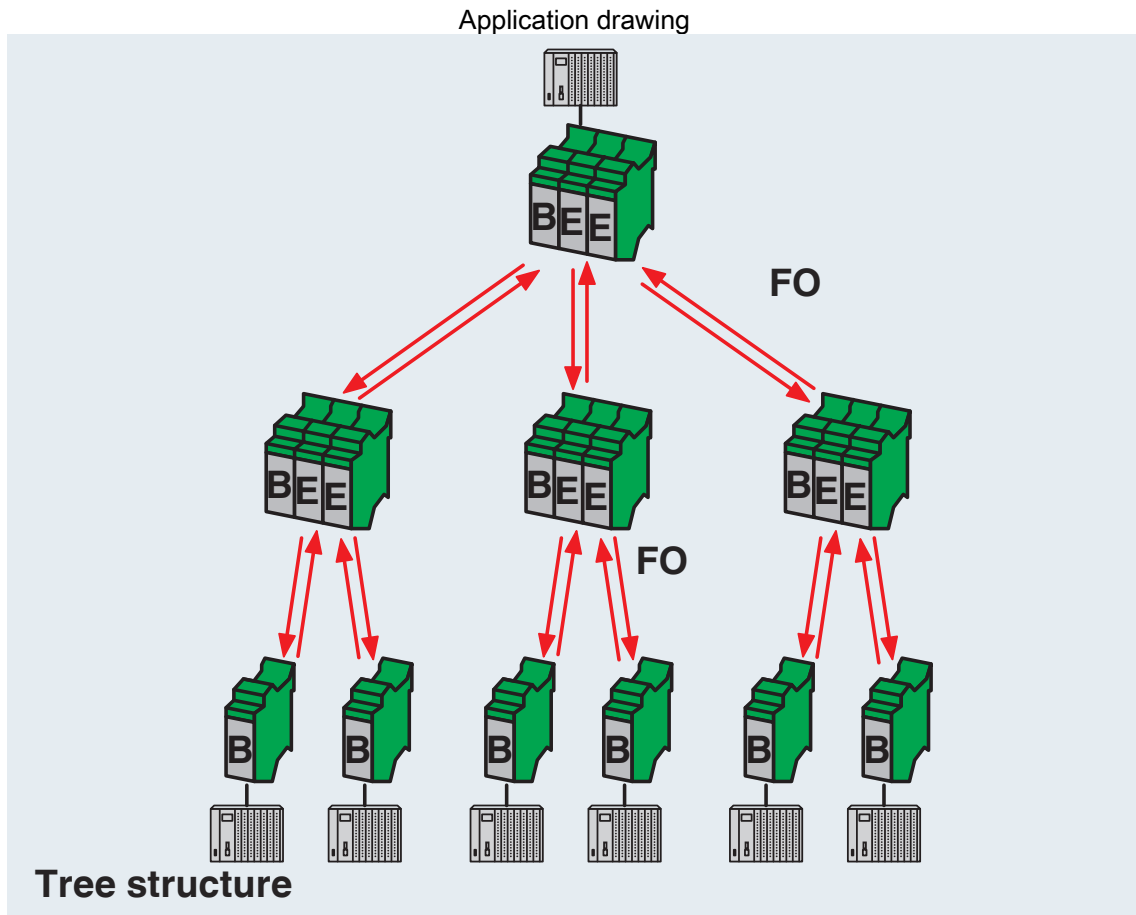
Application drawing

Tree structure

Application drawing

Linear structure
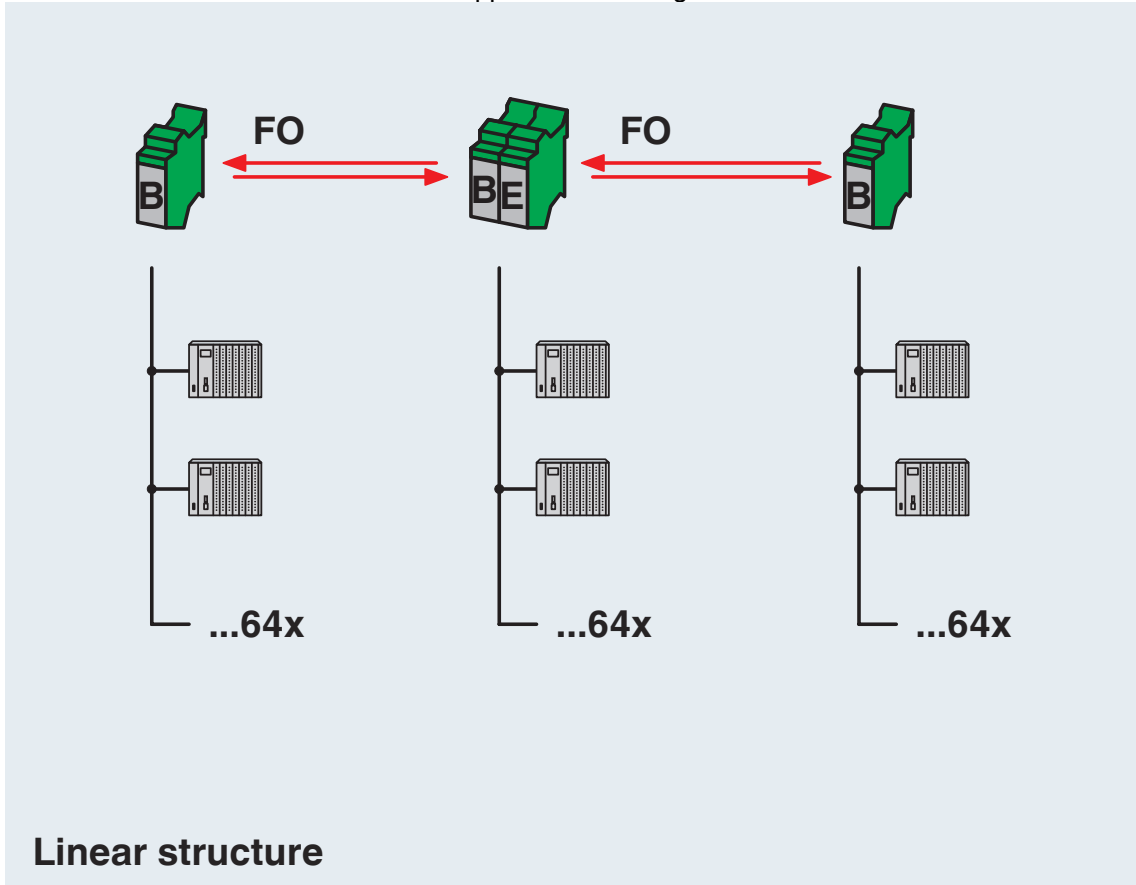
Line structure

Approvals

cUL Recognized
Approval ID: FILE E 238705

UL Recognized
Approval ID: FILE E 238705

EAC
Approval ID: TR TS_D_01871-19

ATEX
Approval ID: PTB 06 ATEX 2042U

ATEX
Approval ID: PxCIF06ATEX2708261X

UL Listed
Approval ID: FILE E 199827

Classifications

ECLASS

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

ETIM

ETIM 8.0	EC001467

UNSPSC

UNSPSC 21.0	43201500

2708054

https://www.phoenixcontact.com/in/products/2708054

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"

PSI-MOS-DNET CAN/FO 660/BM - FO converters

2708054

https://www.phoenixcontact.com/in/products/2708054

Accessories

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

2799720

https://www.phoenixcontact.com/in/products/2799720

FO connectors, degree of protection: IP20, number of positions: 2, MM, material: Metal, cable outlet: straight

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

2799487

https://www.phoenixcontact.com/in/products/2799487

FO connectors, degree of protection: IP20, number of positions: 2, MM, material: Metal, connection method: Cable connection, cable outlet: straight

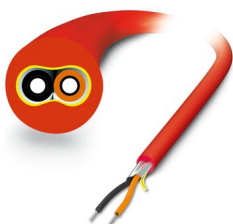# PSI-MOS-DNET CAN/FO 660/BM - FO converters

2708054

https://www.phoenixcontact.com/in/products/2708054

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

2744319

https://www.phoenixcontact.com/in/products/2744319

Polymer fiber cable, duplex 980 µm/1000 µm, medium-weight version for installation in stationary systems and machines, by the meter without male connector

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

2744322

https://www.phoenixcontact.com/in/products/2744322

Polymer fiber cable, duplex 980µm/1000µm, heavy-weight version for installation in stationary systems and machines, by the meter without male connector

PSI-MOS-DNET CAN/FO 660/BM - FO converters

2708054

https://www.phoenixcontact.com/in/products/2708054

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

2744335

https://www.phoenixcontact.com/in/products/2744335

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

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

2799885

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

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

PSI-MOS-DNET CAN/FO 660/BM - FO converters

2708054

https://www.phoenixcontact.com/in/products/2708054

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

2799445

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

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

PSM-POF-KONFTOOL - Assembly tool

2744131

https://www.phoenixcontact.com/in/products/2744131

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

PSI-MOS-DNET CAN/FO 660/BM - FO converters

2708054

https://www.phoenixcontact.com/in/products/2708054

PSM-HCS-KONFTOOL - Assembly tool

2799526

https://www.phoenixcontact.com/in/products/2799526

PCF 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, four F-SMA connectors for standard PCF fibers, and documentation

PSM-SET-FSMA-POLISH - Assembly tool

2799348

https://www.phoenixcontact.com/in/products/2799348

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

PSI-MOS-DNET CAN/FO 660/BM - FO converters

2708054

https://www.phoenixcontact.com/in/products/2708054

PSM-FO-POWERMETER - Measuring instrument

2799539

https://www.phoenixcontact.com/in/products/2799539

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

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

2799416

https://www.phoenixcontact.com/in/products/2799416

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

PSI-MOS-DNET CAN/FO 660/BM - FO converters

2708054

https://www.phoenixcontact.com/in/products/2708054

SUBCON-PLUS-CAN - D-SUB bus connector

2744694

https://www.phoenixcontact.com/in/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

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

2708119

https://www.phoenixcontact.com/in/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

PSI-MOS-DNET CAN/FO 660/BM - FO converters

2708054

https://www.phoenixcontact.com/in/products/2708054

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

2306566

https://www.phoenixcontact.com/in/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

SZS 0,4X2,5 VDE - Screwdriver

1205037

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

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

PSI-MOS-DNET CAN/FO 660/BM - FO converters

2708054

https://www.phoenixcontact.com/in/products/2708054

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

1511504

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

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

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

2902322

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

D-SUB plug, 9-pos., socket, with PG-D-SUB pin, assignment: 2, 3, 5, 6, 7, 9; two 90° cable entries M12 (A-coded). Bus system: CAN, CANopen®. Termination resistor via separate M12 terminator.
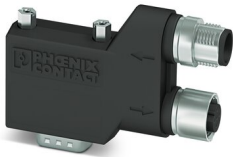
PSI-MOS-DNET CAN/FO 660/BM - FO converters

2708054

https://www.phoenixcontact.com/in/products/2708054

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

2902323

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

D-SUB plug, 9-pos., socket, assignment: 2, 3, 5, 6, 7, 9; two 90° cable entries M12 (A-coded). Bus system: CAN, CANopen®. Termination resistor via separate M12 terminator. Long version; S7-compatible.

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

2902324

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

D-SUB plug, 9-pos., socket, with PG-D-SUB pin, assignment: 2, 3, 5, 6, 7, 9; two 35° cable entries M12 (A-coded). Bus system: CAN, CANopen®. Termination resistor via separate M12 terminator.

PSI-MOS-DNET CAN/FO 660/BM - FO converters

2708054

https://www.phoenixcontact.com/in/products/2708054

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

2902325

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

D-SUB plug, 9-pos., socket, assignment: 2, 3, 5, 6, 7, 9; two 35° cable entries M12 (A-coded). Bus system: CAN, CANopen®. Termination resistor via separate M12 terminator.

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

2902326

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

D-SUB plug, 9-pos., socket, assignment: 2, 3, 5, 6, 7, 9; two M12 cable glands (A-coded) under 180° (axial). Bus system: CAN, CANopen®. Termination resistor via separate M12 terminator.
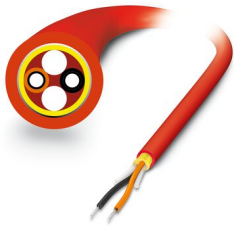
PSI-MOS-DNET CAN/FO 660/BM - FO converters

2708054

https://www.phoenixcontact.com/in/products/2708054

FOC-RUGGED-1012/IP20/... - FO patch cable

2901548

https://www.phoenixcontact.com/in/products/2901548

Robust POF installation cable for assembly (IP20 heads only) for installation in stationary systems and machines with individual elements made of polyamide (PA), halogen-free, ozone and UV resistant, with reinforced polyurethane (PUR) outer sheath

FOC-RUGGED-FLEX-1013/IP20/... - FO patch cable

2901549

https://www.phoenixcontact.com/in/products/2901549

Highly flexible POF round cable (IP20 heads only) for use in drag chains. Individual elements made from extremely wear-resistant polyamide (PA). The cable is halogen-free, ozone and UV resistant, and has a rugged polyurethane (PUR) outer sheath.

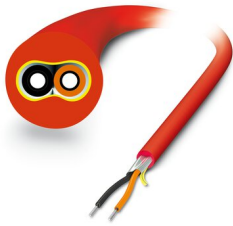# PSI-MOS-DNET CAN/FO 660/BM - FO converters

2708054

https://www.phoenixcontact.com/in/products/2708054

FOC-KDHEAVY-1011/IP20/... - FO patch cable

2901553
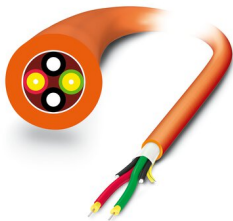
https://www.phoenixcontact.com/in/products/2901553

POF installation cable for assembly (IP20 heads only) for installation in stationary systems and machines with individual elements made of polyamide (PA), halogen-free, ozone and UV resistant, with a polyurethane (PUR) outer sheath

FOC-HCS-RUGGED-1014/IP20/... - FO patch cable

2901555

https://www.phoenixcontact.com/in/products/2901555

Robust PCF 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 660/BM - FO converters

2708054

https://www.phoenixcontact.com/in/products/2708054

FOC-HCSO-1015/IP20/... - FO patch cable

2901557

https://www.phoenixcontact.com/in/products/2901557

Highly rugged PCF 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.