Serial to Single-mode Fiber Converter

FOSTCDRi-ST, FOSTCDRi-SC



PRODUCT FEATURES

- Data rates up to 115.2 kbps
- 15 km (9 mi) range
- 10 to 48 VDC power input
- Wide operating temperature
- 2000V isolation
- Modbus ASCII/RTU compatible
- EMI/RFI protection

B&B Electronics' ILinx™ fiber converters designed with functionality required for heavier industrial environments. Model FOSTCDRi-Sx industrial-grade isolated converter changes RS-232, RS-422, or RS-485 to single-mode fiber optics.

Designed for industry, FOSTCDRi-Sx extends serial data ranges up to 15 km (9 mi) and provides the most versatile connection possible between asynchronous full or half-duplex serial equipment. In addition to direct point-to-point connectivity, it is capable operating in a multi-drop mode. This allows one serial device to communicate with up to 31 others around a fiber optic ring. Since it supports mixed serial standards, it can replace other converters and isolators and add the EMI/RFI immunity inherent to fiber optic communications. Fiber optic connectors are SC or ST.

B&B Electronics' Automatic Send Data Control circuit controls the RS-422/485 driver chip, eliminating the requirement for special software. Easy to install and configure, it has a 12-position DIP switch to set up the RS-422/485 parameters and removable terminal blocks to connect serial signals and power. In RS-232 mode, the FOSTCDRI-SC supports Transmit Data and Receive Data. Handshaking signals are not passed through.

ORDERING INFORMATION

MODEL NUMBER	SERIAL CONNECTOR	FIBER CONNECTOR	MODBUS
FOSTCDRi-SC	Terminal Blocks, removable	Single-mode SC	✔
FOSTCDRi-ST	Terminal Blocks, removable	Single-mode ST	✔

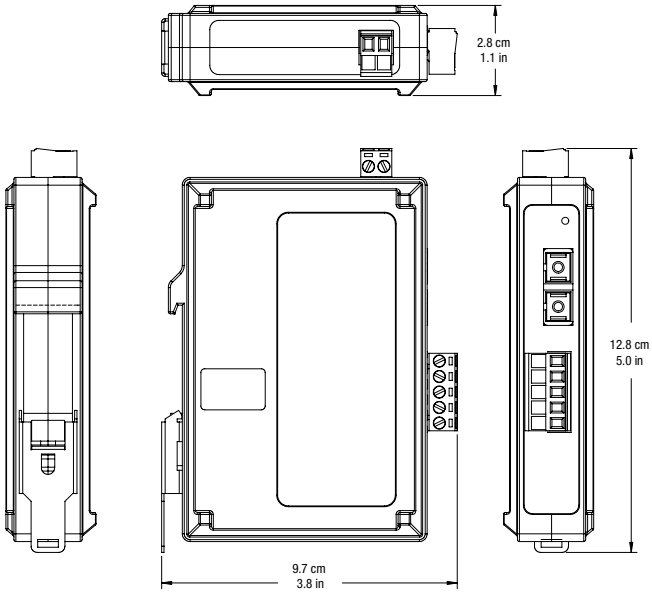
ACCESSORIES

MDR-20-24 - 24 VDC @ 1.0 A DIN rail mount power supply, slim-line

TBKT1 - Replacement Terminal Block, 2-position, 5.08mm

TBKT2 - Replacement Terminal Block, 5-position, 5.08mm

MECHANICAL DIAGRAM - FOSTCDRI-SC



Fiber Optic Benefits

Fiber optic cable carries serial data up to 15 kilometers (9 miles), much farther and reliably than conventional copper lines.

Power surges, spikes and groupd loops are created by electrical equipment, by nearby lightning strikes, and from other sources. They are easily picked up by copper data lines and transmitted to connected devices, garbling data communications and damaging equipment.

However, fiber optic data transmission uses light in glass fiber cable as a communication medium. Being inherently non-electric, fiber optic cable will not pick up noise and provides the most reliable system possible – ideal for spanning areas with severe interference, such as near heavy electrical equipment, welding or radio transmissions. It does not transmit power spikes or surges and prevents ground loops by not providing a conductive path for the ground.

Serial/Single-mode Fiber Converter

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SPECIFICATIONS

SERIAL TECHNOLOGY	
Data Rate	9.6 to 115.2 kbps
RS-232	
Connector	Removable Terminal Block (12 to 28 AWG)
Signals	TD, RD, GND
RS-422/485	
Connector	Removable Terminal Block (12 to 28 AWG)
RS-485, 2-wire	Data A(-), Data B(+), GND
RS-422/485, 4-wire	TDA(-), TDB(+), RDA(-), RDB(+), GND
ISOLATION	
Isolation	2KV RMS, 1 minute
Surge Protection	600 W peak power dissipation
Clamping Time	< 1 pico-second
FIBER OPTIC TECHNOLOGY	
Connector	ST
Type / Wavelength	Single-mode / 1310 nm
Output Power	(-) 15 to (-) 8 dBm
Receive Sensitivity	Less than or equal to (-) 32 dBm
Cable	9/125 micro-meter
Data Rate	9.6 to 115.2 kbps
Maximum Distance	15 km (9 mi)
POWER	
Source	External
Input Voltage	10 to 48 VDC (Class 2)
Power Consumption	1.4 Watts
Connector	Removable terminal block (12 to 28 AWG)

INDUSTRIAL BUS	
Modbus	ASCII/RTU
MECHANICAL	
LED Indicators	FO Receive, FO Transmit, Power
Dimensions	12.8 x 9.7 x 2.8 cm (5.0 x 3.8 x 1.1 in)
Enclosure	35mm DIN Mount, Plastic, IP30
Weight	149.7 g (0.3 lbs)
ENVIRONMENTAL	
Operating Temperature	-40 to +80 °C (-40 to +176 °F)
Storage Temperature	-40 to +85 °C (-40 to +185 °F)
Operating Humidity	0 to 95% non-condensing
MTBF	88423 hours
MTBF Calculation Method	Parts Count Reliability Prediction

APPROVALS / CERTIFICATIONS - FOSTCDRI-SC

UL 508, File Number: E222870

FCC Part 15, CISPR, EN 55022: 2010 + AC:2011 Class B Emissions

CE

EN 61000-6-1: 2007 Generic Standards for Residential, Commercial and Light-Industrial Environments

EN 61000-4-2: 2009 Electro-Static Discharge (ESD)
EN 61000-4-3: 2006 +A1 +A2 +IS1 Radiated Field Immunity (RFI)
EN 61000-4-4: 2012 Electrical Fast Transients-Burst Immunity (EFT)
EN 61000-4-6: 2009 Conducted Immunity

Download complete Declaration of Conformity at www.bb.elec.com

FIBER OPTIC CABLES

MULTI-MODE DUPLEX FIBER		LENGTH							
MODEL NUMBER	**CONNECTOR TYPE**	**1M**	**2M**	**3M**	**5M**	**10M**	**15M**	**20M**	**30M**
DFMM-LCLC-XX	LC TO LC	✔	✔	✔	✔				
DFMM-SCLC-XX	SC TO LC	✔	✔	✔	✔	✔			
DFMM-SCSC-XX	SC TO SC	✔	✔	✔	✔	✔			
DFMM-STLC-XX	ST TO LC	✔	✔	✔	✔	✔			
DFMM-STSC-XX	ST TO SC	✔	✔	✔	✔	✔			
DFMM-STST-XX	ST TO ST	✔	✔	✔	✔	✔	✔	✔	
SINGLE-MODE DUPLEX FIBER		**LENGTH**							
MODEL NUMBER	**CONNECTOR TYPE**	**1M**	**2M**	**3M**	**5M**	**10M**	**15M**	**20M**	**30M**
DFSM-LCLC-XX	LC TO LC	✔	✔	✔	✔	✔			
DFSM-SCLC-XX	SC TO LC	✔	✔	✔	✔	✔			
DFSM-SCSC-XX	SC TO SC	✔	✔	✔	✔	✔			
DFSM-STLC-XX	ST TO LC	✔	✔	✔	✔	✔			
DFSM-STSC-XX	ST TO SC	✔	✔	✔	✔	✔			
DFSM-STST-XX	ST TO ST	✔	✔	✔	✔	✔	✔		✔

Note: Model Number change the xx to its fiber length number for the actual Model Number.
Example: If you want a 1M Multi-Mode LC to LC Fiber the part number would be DFMM-LCLC-1M.

Стандарт Электрон Связь

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