Heavy Industrial Serial to Fiber Optic Converters

Models BB-FOSTCDRI-PH-MT, BB-FOSTCDRI-PH-SC



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PRODUCT FEATURES

- · Converts serial data signals to multi- or single-mode fiber
- 2kV, 3-way isolation (input, output, power circuits)
- Data rate: 9.6 to 115.2 kbps (bit-wise enable)
- -40 to +85 °C wide operating temperature
- IP30 metal panel mount case (DIN rail adaptable)
- FCC, CE, UL C1/D2 (IEC-61850-3, IEEE 1613)
- 10-48 VDC power source required (not included, sold separately)
- Note: 2 units required to extend data via fiber connection

BB-FOSTCDRI-PH-xx series are premium, heavy-duty serial to fiber optic converters. Designed for rugged industrial environments, they meet some of the most exacting compliance testing in the industry including IEC 61850-3 and IEEE 1613 for electrical substation installations. (These specifications are more stringent than NEMA TS1/TS2 transportation application requirements.) Powerful isolation protects equipment and data from damaging ground loops and surges. Additional isolation on the power supply circuits adds a third degree of protection. An external 10-48 VDC power source is required (not included, sold separately).

Packaged in a rugged IP30 metal case, these units convert serial signals to multi-mode or single-mode fiber optic. Bit-wise enabled circuitry automatically detects the data rate without setting a DIP switch.

In addition to direct point-to-point connectivity, operation in multi-drop mode is possible. This enables serial devices to communicate with up to 31 others in a fiber ring. Supporting mixed standards, you can replace other converters and add the EMI / RFI protection inherent to fiber optic communications.

Note: These converters use a proprietary modulated fiber optic signal. Two units are required to extend the data via the fiber optic connection. Any BB-FOSTCDRi-PH-x converter can (only-) connect to another BB-FOSTCDRi-PH-x converter at the other end of the fiber optic cable.

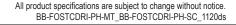
ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION
BB-FOSTCDRI-PH-MT	Serial to Fiber Converter, Multi-mode, ST
BB-FOSTCDRI-PH-SC	Serial to Fiber Converter, Single-mode, SC

Note: Two units are required to extend data via the fiber optic connection.

ACCESSORIES - sold separately

BB-MDR-20-24 - DIN Rail Mount Power Supply, 24VDC, 1.0 A Output Power **BB-TBKT1** - Replacement Terminal Block - 2-position, 5.08mm, 8A, 300V **BB-TBKT2** - Replacement Terminal Block - 5-position, 5.08mm, 8A, 300V





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SPECIFICATIONS

SECTIONS		
SERIAL TECHNOLOG	Y	
RS-232	TD, RD, GND	
RS-422	TDA(-), TDB(+), RDA(-), RDB(+)	
RS-485 4-Wire	TDA(-), TDB(+), RDA(-), RDB(+)	
RS-485 2-Wire	Data A(-), Data B(+)	
Serial Connector	5-position, removable terminal block	
Data Rate	9.6 to 115.2 Kbps	
Isolation	2 KV RMS, 1 minute	
Surge Protection	600 W peak power dissipation Clamping time < 1 pico-second	
Industrial Bus	Modbus ASCII / RTU	
Bias	Built-in, switchable 1.2KΩ XMT/RCV	
Termination	Built-in, switchable 120Ω	
FIBER OPTIC TECHNOLOGY		
Type / Wavelength	Multi-mode or Single-mode 1310 nM	
Output Power (-MM)	-19 (min.) -14 (max.) dBm	
Output Power (-SM)	-15 (min.) -8 (max.) dBm	
RCV Sensitivity	≤ -32 dBm	
Cable	62.5 / 125 µM (multi-mode), 9 / 125µM (single-mode)	
Data Rate	9.6 to 115.2 kbps	
Distance	Multi-mode: 2 km Single-mode: 15 km	
Fiber Light	Modulated	
POWER		
Source	External, required (not included, sold separately)	
Power Connector	2-position, removable terminal block	
Input Voltage	10 to 48 VDC (56 VDC maximum)	
Power Consumption	0.9 W typical (2.6W with termination)	

TEDMINAL DI OCKO	
TERMINAL BLOCKS	20 to 42 AMC
Wire Size Accepted	28 to 12 AWG, copper wire only
	5.00
Insulation Resistance	≥500 MΩ @ 500 VDC
Maximum Torque	5 kg / cm
INDICATORS	
Power	Red LED
TD / RD (each port)	Green LED
MECHANICAL	
Dimensions	13.24 x 9.29 x 3.0 cm
Enclosure	IP30 metal, panel mount
Weight	208.65 gm
MEANTIME BETWEEN	FAILURES (MTBF)
MTBF	127103 hours
MTBF Calc. Method	MIL 217F Parts Count Reliability Prediction
ENVIRONMENTAL	
Operating Temperature	-40 to +85 °C
Storage Temperature	-40 to +85 °C
Operating Humidity	0 to 95%, non-condensing
REGULATORY	
Approvals	FCC, CE, UL C1/D2 (File: E245458), IEC 61850-3, IEEE 1613
CE - Directives	2004/108/EC – Electromagnetic Compatibility Directive 2011/65/EU amended by (EU) 2015/863 Reduction of Hazardous Substances Directive (RoHS) 2012/19/EU – Waste Electrical and Electronic Equipment (WEEE)
CE - Standards	EN 55011 + AC – Information Technology Equipment – Class A RÉ Emissions EN 61000-6-2 – Generic Immunity Standard for (Heavy) Industrial Environments EN 55032 – Class A Electromagnetic compatibility of multimedia equipment – Emission requirements EN 55024 – Information Technology Equipment – Immunity Characteristics – Limits and methods of measurement

MECHANICAL DRAWING

