Heavy Industrial Serial to Fiber Optic Converters

Models BB-FOSTCDRI-PH-MC, 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-MC	Serial to Fiber Multi-mode SC Converter
BB-FOSTCDRI-PH-MT	Serial to Fiber Multi-mode ST Converter
BB-FOSTCDRI-PH-SC	Serial to Fiber Single-mode SC Converter

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-DRAD35 - DIN Rail Adapter Brackets Mounting Kit, 35mm (pair of two)

BB-TBKT1 - Replacement Terminal Block - 2-position, 5.08mm, 8A, 30

BB-TBKT2 - Replacement Terminal Block - 5-position, 5.08mm, 8A, 30

All product specifications are subject to change without notice.

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orders@advantech-bb.com
eSales@advantech-bb.com

Headquarters: 707 Dayton Rd, PO Box 1040 Ottawa, IL 61350 USA (815)433-5100 or **(800)346-3119**/Toll Free Fax (815)433-5104
European Office: Westlink Commercial Pk, Oranmore Co. Galway Ireland +353 91 792444 Fax +353 91 792445

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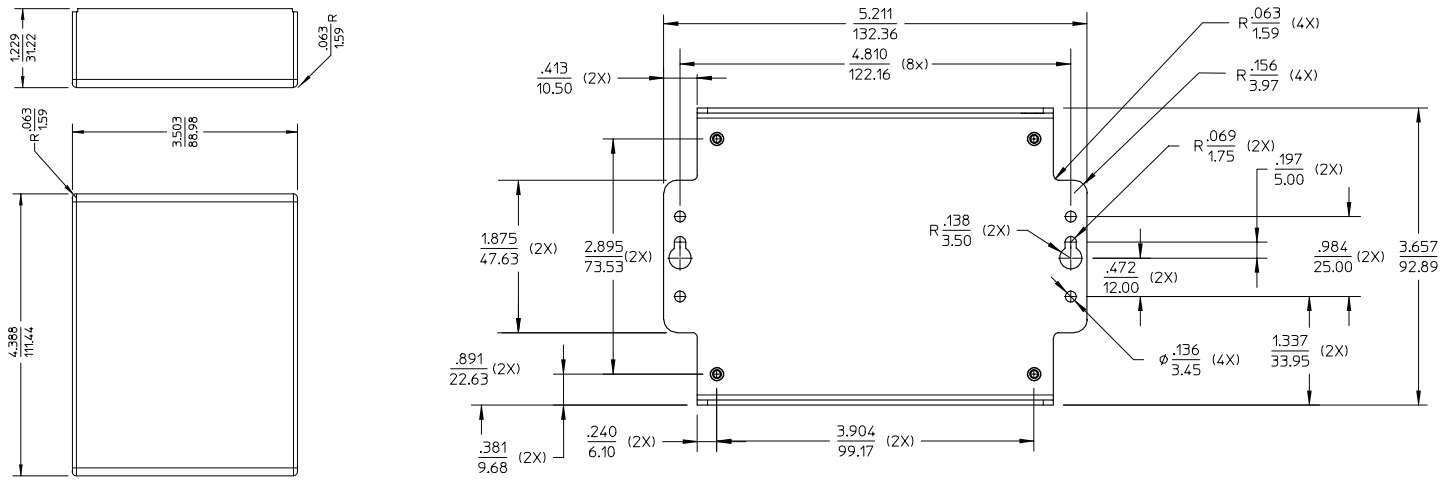
SPECIFICATIONS

SERIAL TECHNOLOGY	
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 (1.25 mi) Single-mode: 15 km (9.3 mi)
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)

TERMINAL BLOCKS	
Wire Size Accepted	28 to 12 AWG, copper wire only
Pitch	5.08 mm
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 (5.2 x 3.7 x 1.3 in)
Enclosure	IP30 metal, panel mount
Weight	208.65 gm (0.46 lb)
MEANTIME BETWEEN FAILURES (MTBF)	
MTBF	127103 hours
MTBF Calc. Method	MIL 217F Parts Count Reliability Prediction
ENVIRONMENTAL	
Operating Temperature	-40 to +85 °C (-40 to +176 °F)
Storage Temperature	-40 to +85 °C (-40 to +176 °F)
Operating Humidity	0 to 95% non-condensing
REGULATORY	
Approvals	FCC, CE, NEMA TS2 (BB-FOSTCDRI-PH-MC, BB-FOSTCDRI-PH-SC only) UL C1/D2, IEC 61850-3, IEEE 1613
CE - Directives	2004/108/EC – Electromagnetic Compatibility Directive 2011/65/EU – Reduction of Hazardous Substances Directive RoHS2)
CE - Approvals	EN 55011 + AC – Information Technology Equipment – Class A RF Emissions EN 61000-6-2 – Generic Immunity Standard for (Heavy) Industrial Environments

MECHANICAL DRAWING



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