# In-line Fiber Optic Modem

## Model FOSTC

B+B SmartWorx
Powered by ADVANTECH
www.advantech-bb.com


### PRODUCT FEATURES

- Inherent EMI/RFI immunity from surges, spikes, ground loops
- Extend serial signals up to 4 km (2.5 mi) with Multimode Fiber
- Point-to-point or multi-drop ring configuration
- Converts RS-232 to RS-422/485
- RS-232 data rates up to 115.2 kbps; RS-422/485, 500 kbps
- RS-485 Automatic Send Data Control

Fiber optic cabling has inherent resistance to EMI/RFI and transient immunity, making it ideal for industrial and utility data communication applications.

Model FOSTC provides the most versatile connection possible between asynchronous serial equipment using fiber optic cable. Any two pieces of asynchronous serial equipment can communicate full- or half-duplex over two fibers at distances up to 4 km (2.5 mi). The converter can be used for point-to-point communications between serial devices. It can also be used to create a multi-drop master/slave configuration, allowing one serial device to talk to multiple slave devices around a fiber ring.

RS-232, RS-422 or RS-485 data signals are supported. Different standards can be mixed and matched to allow RS-232 devices to connect to RS-422 or RS-485 systems. This means Model FOSTC can replace converters and isolators when connecting remote devices, while providing the EMI/RFI and transient immunity of optical fiber.

Model FOSTC supports both Transmit Data and Receive Data lines, and provides full hardware control of the RS-485 driver with B+B SmartWorx' Automatic Send Data Control circuit. All serial connections are provided on the same DB25 female connector, while the multi-mode fiber is connected via two ST connectors. Powered by 12 VDC at 140 mA max. An external power supply is available for purchase.

### ORDERING INFORMATION

| MODEL NUMBER | SERIAL CONNECTOR | FIBER CONNECTOR | MODBUS? |
|---|---|---|---|
| **FOSTC** | DB25 female | Multi-mode ST | ✔ |

### ACCESSORIES

**SMI6-12-V-P230-C1** - Power Supply, 12 VDC 6 Watt, 2.5MM Plug, International AC Input, International AC Blades

**232CAM** - PC-AT serial computer to modem cable, 1.8 m (6 ft.)

### Automatic Send Data Control Explained

As operating systems become more complex, it is increasingly difficult to control an RS-485 driver with standard software and the RTS line. This is especially true in Windows and multi-tasking operating systems. With B+B SmartWorx' Automatic Send Data Control circuit, driver control is in the converter hardware, so you do not have to work with software at all.

The circuit monitors data flow and enables the driver during transmission and automatically disables it when no data is being sent. There is no need to rework software or install new drivers. Most B+B SmartWorx RS-232 to RS-485 converters and RS-485 serial cards include Automatic Send Data Control.

*Note: Under the Model Number colulmn, change the "XX" to desired fiber length suffix for actual Model Number.*
*Example: If you want a 1M (1 meter) long, multi-mode LC to LC fiber cable, the part number would be DFMM-LCLC-1M.*




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orders@advantech-bb.com
support@advantech-bb.com
Corporate Headquarters: 707 Dayton Road, PO Box 1040 Ottawa, IL 61350 USA 815-433-5100 Fax 433-5104
European Office: Westlink Commercial Park, Oranmore Co. Galway Ireland +353 91 792444 Fax +353 91 792445

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### SPECIFICATIONS

| SERIAL TECHNOLOGY | |
|---|---|
| Data Rate | RS-232: 115.2 kbps maximum<br>RS-422/485: 500 kbps maximum |
| **RS-232** | |
| Connector | DB25 female (DCE) |
| Signals | TD, RD, GND |
| **RS-422/485** | |
| Connector | DB25 female (DCE) |
| RS-485, 2-wire | Data A(-), Data B(+), GND |
| RS-422/485, 4-wire | TDA(-), TDB(+), RDA(-), RDB(+), GND |
| **FIBER OPTIC TECHNOLOGY** | |
| Transmission Line | Dual, multi-mode glass optical cable |
| Connector | ST |
| Wavelength | 820 nm |
| Size Options | 50/125, 62.5/125, 100/140, 200 µm |
| Output Power | (-) 17 to (-) 10 dBm |
| Receive Sensitivity | (-) 25.4 dBm to (-) 24 dBm |
| Cable | 62.5/125 micro-meter |
| Data Rate | 9.6 to 115.2 kbps |
| Maximum Distance | 4 km (2.5 mi) |
| **FIBER COMMUNICATION MODES** | |
| Point-to-Point Transmission | Asynchronous, half or full-duplex |
| Multi-Drop Transmission | Asynchronous, half duplex fiber ring |

| POWER | |
|---|---|
| Source | External |
| Input Voltage | 12 VDC |
| Range DC | 10 - 14 VDC |
| Connections | 2.5mm phone jack (tip positive) or<br>DB25 pins 25(+) & 12(-) |
| Power Consumption | 1.7 W maximum, 1 W typical |
| **MECHANICAL** | |
| Dimensions | 11 x 5.9 x 2.5 cm (4.3 x 2.3 x 0.95 in) |
| Enclosure | Plastic, Inline |
| **ENVIRONMENTAL** | |
| Operating Temperature | -40 to +80 °C (-40 to +176 °F) |
| Storage Temperature | -40 to +85 °C (-40 to +185 °F) |
| MTBF | 570522 |
| MTBF Calculation Method | Parts Count Reliability Prediction |
| **APPROVALS / CERTIFICATIONS - FOSTC** | |
| FCC Part 15, CISPR, EN 55022 + AC:2011 Class A Emissions | |
| CE | |
| EN 61000-6-1 Generic Standards for Residential, Commercial and Light-Industrial Environments | |
| EN 61000-4-2 Electro-Static Discharge (ESD)<br>EN 61000-4-3 +A1 +A2 +IS1 Radiated Field Immunity (RFI)<br>EN 61000-4-4 Electrical Fast Transients-Burst Immunity (EFT)<br>EN 61000-4-6 Conducted Immunity | |


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