iConverter® RS422/485

Managed Serial RS-422 and RS-485 to Fiber Media Converter

The iConverter RS422/485 is a managed serial RS-422 and RS-485 to fiber converter that transmits serial protocol over fiber media. The RS422/485 media converters operate in pairs, extending serial distances over fiber up to 120km.

The RS422/485 is available with a single-mode dual fiber, multimode dual fiber or single-mode single-fiber transceiver. The serial port interface is available with either a DB-9 female connector or terminal block connector for field wiring.

The RS422/485 automatically detects the data rate of connected Full-Duplex serial device, ranging from 110 bps to 1,024,000 bps. It also automatically adjusts to changes in the connected device's Full-Duplex data rate during operation without reconfiguration or interruption of service.

Half-Duplex RS-485 and Full-Duplex RS-485 (sometimes referred to as Multipoint RS-422) operations are supported via a configurable baud rate DIP-switch to match the master/slave communication timing.

Connection to DTE or DCE devices are configured by an easily accessible DIP-switch on the front-panel. This feature eliminates the need to use a specific serial cable for each type of device.

A built-in remote Fiber Loopback DIP-switch provides easy validation of the entire fiber segment without interrupting fiber operations.

Integrated configurable terminators support RS-422 and RS-485 operations, allowing the unit to be deployed at any node in the serial line.

The RS422 plug-in module can be used in managed or unmanaged applications. Management is accomplished by installing an iConverter Management Module (NMM2) or Network Interface Device (NID) in the same chassis. The management module provides access to all the advanced features available on the module.

The management software can override the physical DIP-switch settings such as DTE or DCE selection and Fiber Loopback test. Some of the real-time RS422 parameters that can be monitored include power, link, data activity status, module type and model, hardware and software revisions, serial numbers and a user-defined identifier.

The hot-swappable plug-in module can be mounted in a high-density 19 or 5-Module chassis with redundant AC and DC power supplies. It can also be mounted in a 2-Module or in a 1-Module chassis with AC or DC power input.

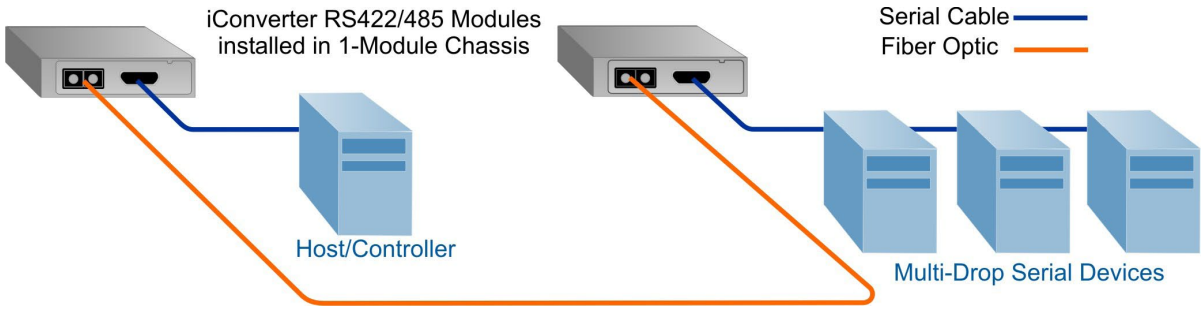
KEY FEATURES

- Serial RS-422 and RS-485 to fiber media converter with automatic Full-Duplex data rate detection
- Supports full-duplex bit rates ranging from 110 bps to 1,024,000 bps
- Multimode, single-mode dual fiber with ST, SC and LC connectors, and single-mode single-fiber with SC connectors
- Supports distances up to 5km on multimode and 120km on single-mode
- DB-9 and Terminal Block connector options for serial interface
- Built-in configurable terminators
- Configurable bit rate for Half-Duplex RS-485 and Full-Duplex RS-485 operation
- Supports RTS and CTS controls
- Supports Point-to-Point Half and Full-Duplex and Multi-Point Full-Duplex
- Remote Fiber Loopback DIP-switch for easy testing of fiber link, even during serial transmission
- Modules are hot-swappable in 19-Module, 5-Module, 2-Module or 1-Module chassis
- Management is available with the addition of a management module to the chassis
- SNMP management via NetOutlook® provides module status information, configuration and trap notification
- Commercial (0 to 50°C) and wide (-40 to 60°C) temperature ranges
- TAA, BAA and NDAA compliant, and Made in the USA
- Lifetime Warranty and free 24/7 Technical Support

APPLICATION

In this application example, iConverter RS422/485 modules are deployed in a bookend configuration to enable serial network distance extension over fiber. iConverter RS422/485 modules are installed at each end of the fiber link and provide media conversion for connectivity between a serial host/controller and multi-drop serial devices.

The RS-422 or RS-485 serial equipment can be industrial or manufacturing equipment, casino games, or utility SCADA equipment.



SPECIFICATIONS

Description	***iConverter* RS422/485** Managed Serial RS-422 / RS-485 to Fiber Media Converter	
Data Rates	Asynchronous:	110 bps to 1,024,000 bps (full-duplex) 110 bps to 921,600 bps (half-duplex)
Standard Compliances	EIA-422/485	
Regulatory Compliances	Safety: EMI: ACT:	UL, cUL, CE, UKCA FCC Class A TAA, BAA, NDAA
Environmental	RoHS, WEEE, REACH	
Port Types	Serial: Fiber:	DB9 Female or Terminal Block Dual fiber ST, SC and LC Single-fiber SC
Cable Types	Serial: Fiber:	24 gauge (typical) Multimode: 50/125µm, 62.5/125µm Single-mode: 9/125µm

DC Power Requirements	DC Input: (Backplane)	3.3VDC, 0.5A @ 3.3VDC
Dimensions W x D x H	0.85” x 4.5” x 2.8” (21.6 mm x 114.3 mm x 71.1 mm)	
Weight	8 oz. (226.8 grams)	
Temperature	Commercial: Wide: Storage:	0 to 50°C -40 to 60°C -40 to 80°C
Humidity	5 to 95% (non-condensing)	
Altitude	-100m to 4,000m	
MTBF (hrs)	850,000	
Warranty	Lifetime warranty with 24/7/365 free Technical Support	

ORDERING INFORMATION

Step 1: Choose a Base Part Number (xxxxc-xt)

Fiber Type	Distance	Connector Type				Tx / Rx Lambda (nm)	Min. Tx Power (dBm)	Max. Tx Power (dBm)	Min. Rx Power (dBm)	Max. Rx Power (dBm)	Min. Attenuation (dB)	Link Budget (dB)
		ST	Metal ST	SC	LC							
MM/DF	5km	8780c-0t	8780Mc-0t	8782c-0t	8786c-0t	1310 / 1310	-24	-14	-31	-14	-	7
SM/DF	30km	8781c-1t	-	8783c-1t	8787c-1t	1310 / 1310	-15	-8	-31	-8	-	16
SM/DF	60km	8781c-2t	-	8783c-2t	8787c-2t	1310 / 1310	-5	0	-31	-3	3	26
SM/DF	120km	-	-	8783c-3t	8787c-3t	1550 / 1550	-5	0	-31	-3	3	26
SM/SF[1]	20km	-	-	8790c-1t	-	1310 / 1550	-15	-5	-30	-3	-	15
SM/SF[1]	20km	-	-	8791c-1t	-	1550 / 1310	-15	-5	-30	-3	-	15
SM/SF[1]	40km	-	-	8790c-2t	-	1310 / 1550	-8	0	-30	-3	3	22
SM/SF[1]	40km	-	-	8791c-2t	-	1550 / 1310	-8	0	-30	-3	3	22

[1] When using single-fiber (SF) media converter models, the Tx wavelength on one end has to match the Rx wavelength on the other.
MM = Multimode, SM = Single-mode, DF = Dual Fiber, SF = Single-fiber
Contact Omnitron for other configurations and extended temperature (-40 to 75°C) models.
For chassis options, see iConverter Chassis Overview web page.

Step 2: Choose a Connector Type (xxxxc-xt)

<leave blank> = DB-9 Connector
T = Terminal Block

Step 3: Choose an Operating Temperature Range (xxxxc-xt)

<leave blank> = Commercial temperature (0 to 50°C)
W = Wide temperature (-40 to 60°C)

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