Omnitron Systems

iConverter® RS232 User Manual

DESCRIPTION

The iConverter RS232 is a serial RS-232 to fiber converter that transmits serial protocol over fiber media. The iConverter RS232 operates in a back-to-back configuration, with one module at each end of the fiber link.

The serial port interface is available with a DB-9 female connector or terminal block connector for field wiring.

The module automatically detects the signal baud rate of the connected device, ranging from 110 to 921,600 baud. The module can be configured to connect to a DCE or DTE device by accessing the DIP-Switch on the front-panel.

A built-in remote Fiber Loopback DIP-Switch provides easy validation of the fiber segment. The Loopback does not interrupt signal transmission over the fiber.

See data sheet for available models.

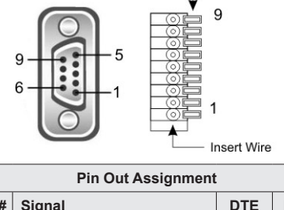
The RS232 modules can be used in an unmanaged or managed applications. To be managed, an Network Management Module (NMM2) or a module with integrated management must be installed in the same chassis.

For more information on management software and hardware options, see Comprehensive Network Management Solution product page.

PORT STRUCTURE

Front-Panel Ports

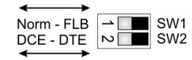
The front panel of the iConverter RS232 features one fiber port (P1) and one RS-232 serial port (P2). Depending on the model, the serial port is available either as a DB-9 female connector or as a terminal block for field wiring.



Pin Out Assignment			
Pin #	**Signal**	**DTE**	**DCE**
1	Data Carrier Detect (DCD)	IN	OUT
2	Receive Data (RD)	IN	OUT
3	Transmit Data (TD)	OUT	IN
4	Data Terminal Ready (DTR)	OUT	IN
5	Signal Ground (SGND)	-	-
6	Data Set Ready (DSR)	IN	OUT
7	Request to Send (RTS)	OUT	IN
8	Clear to Send (CTS)	IN	OUT
9	Ring Indicator (RI)	IN	OUT

DIP-SWITCH SETTINGS

Front Panel DIP-switches



SW1: Fiber Loopback "Norm - FLB"

When this DIP-Switch is in the "Norm" position (factory default), the Fiber Loopback is disabled. Setting this DIP-Switch to the "FLB" position on the module at either end of the fiber segment will enable the Fiber Loopback test.

When Fiber Loopback is enabled, the local module with the DIP-Switch in "FLB" position is the master, and the remote module with the DIP-Switch in "Norm" position is the slave. If the fiber segment passes the Loopback test, the "Tst" LED on the master will blink rapidly (10 times per second) and the "Tst" LED on the slave will blink slowly (once per second). If the fiber segment fails the Loopback test, the "Tst" LED will remain solid on the master unit.

The Fiber Loopback test does not interfere with serial conversion and signal transmission.

If both modules are configured to the "FLB" position, then both modules would still display valid master mode results.

SW2: Serial "DCE - DTE"

When the "DCE - DTE" DIP-Switch is in the "DCE" position (factory default), the module is configured to connect to Data Communications Equipment (DCE) such as a modem or printer.

Setting this DIP-Switch to the "DTE" position configures the module to connect to Data Terminal Equipment (DTE) such as a computer or controller.

MOUNTING AND CABLE ATTACHMENT

The iConverter modules are hot-swappable and can be installed into any iConverter chassis.

1. Carefully slide the module into an open slot in the chassis. Align the module with the installation guides and ensure that the module is firmly seated against the backplane. Secure the module by fastening the front panel thumbscrew (push in and turn clockwise to tighten) to the front of the chassis.
2. When using the terminal block, the wire used to connect the module to the equipment must be 20AWG to 26AWG thickness. Cut the wires to the length required and strip approximately 11 mm of insulation from the each wire. Insert the stripped end into the terminal connector on the module by pushing the lever associated with the desired pin number.
3. When using the DB-9, attach the DB-9 serial cable to the DB-9 on the module and on a serial RS-232 device.
4. Attach the fiber port via an appropriate multimode or single-mode fiber cable to the other RS232 module.
5. When using single-fiber (SF) media converter models, the Tx wavelength on one end has to match the Rx wavelength on the other.

SOFTWARE CONTROLLED SETTINGS

Additional settings are available via software control when a RS232 is installed in an iConverter chassis with a Management Module.

The following software settings can be controlled via Serial Console/Telnet Console, NetOutlook Management Software or other third-party SNMP-based clients:

- Loopback Modes
- DTE/DCE Configuration

Software controlled settings can be selected to override DIP-Switch settings.

For more information on using and configuring the Advanced Features, register for access to the NetOutlook Management Software user manual.

LED INDICATORS

LED	Color	Description
Power "Pwr"	Amber	**OFF:** Module is not powered **ON:** Module has power
Fiber Loopback "Tst"	Green	**OFF:** Test not activated **ON:** Master - Tx pattern sent, but no pattern received. **Blinking (10Hz):** Master - Tx pattern sent, and pattern received. **Blinking (1Hz):** Slave - Rx pattern received
Fiber Activity "Act"	Green	**OFF:** No fiber link **Blinking:** Fiber data received
"DTE"	Green	**OFF:** DTE not selected **ON:** DTE selected
"DCE"	Green	**OFF:** DCE not selected **ON:** DCE selected
Serial Activity "Act"	Green	**OFF:** No serial data **Blinking:** Serial data received

SPECIFICATIONS

Data Rates	Asynchronous: 110 bps to 921,600 bps	
Standard Compliances	EIA-232	
Regulatory Compliances	Safety: EMI: ACT:	UL, CE, UKCA FCC Class A TAA, BAA, NDAA
Environmental	RoHS, WEEE, REACH	
DC Power Requirements	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: 0 to 50°C Wide: -40 to 60°C Storage: -40 to 80°C	
Humidity	5 to 95% (non-condensing)	
Altitude	-100m to 4,000m	
MTBF (hrs)	850,000	
Warranty	Lifetime warranty	

Warranty

This product is warranted to the original purchaser (Buyer) against defects in material and workmanship for a period of two (2) years from the date of shipment. A lifetime warranty may be obtained by the original purchaser by registering this product at www.omnitron-systems.com/support within ninety (90) days from the date of shipment. During the warranty period, Omnitron will, at its option, repair or replace a product which is proven to be defective with the same product or with a product with at least the same functionality.

For warranty service, the product must be sent to an Omnitron designated facility, at Buyer's expense. Omnitron will pay the shipping charge to return the product to Buyer's designated US address using Omnitron's standard shipping method.

Limitation of Warranty

The foregoing warranty shall not apply to product malfunctions resulting from improper or inadequate use and/or maintenance of the equipment by Buyer, Buyer-supplied equipment, Buyer-supplied interfacing, unauthorized modifications or tampering with equipment (including removal of equipment cover by personnel not specifically authorized and certified by Omnitron), or misuse, or operating outside the environmental specification of the product (including but not limited to voltage, ambient temperature, radiation, unusual dust, etc.), or improper site preparation or maintenance.

No other warranty is expressed or implied. Omnitron specifically disclaims the implied warranties of merchantability and fitness for any particular purpose.

The remedies provided herein are the Buyer's sole and exclusive remedies. Omnitron shall not be liable for any direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any legal theory.

Environmental Notices

The equipment covered by this manual must be disposed of or recycled in accordance with the Waste Electrical and Electronic Equipment Directive (WEEE Directive) of the European Community directive 2012/19/EU on waste electrical and electronic equipment (WEEE) which, together with the RoHS Directive 2015/863/EU, for electrical and electronic equipment sold in the EU after July 2019. Such disposal must follow national legislation for IT and Telecommunication equipment in accordance with the WEEE directive: (a) Do not dispose waste equipment with unsorted municipal and household waste. (b) Collect equipment waste separately. (c) Return equipment using collection method agreed with Omnitron.

The equipment is marked with the WEEE symbol shown to indicate that it must be collected separately from other types of waste. In case of small items the symbol may be printed only on the packaging or in the user manual. If you have questions regarding the correct disposal of equipment go to www.omniton-systems.com/support or e-mail to Omnitron at intlinfo@omnitron-systems.com.

Safety Warnings and Cautions

ATTENTION: Observe precautions for handling electrostatic discharge sensitive devices.

WARNING: Potential damage to equipment and personal injury.

WARNING: Risk of electrical shock.

Customer Support Information

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