Omnitron Systems

iConverter® 10T/2 User Manual

DESCRIPTION

The iConverter 10T/2 converter supports the IEEE 802.3 standard and converts 10BASE-T RJ-45 to 10BASE-2 coax. The iConverter operates in 10Mbps Half-Duplex and provides a crossover UTP switch for easy attachment to hubs, switches and workstations. It also features a termination switch for easy coax termination.

The 10T/2 can be used as a two-port RJ-45 to fiber converter by utilizing the 10Mbps Ethernet backplane ports to connect to adjacent modules in an iConverter chassis.

See data sheet for available models.

The 10T/2 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.

Due to the Ethernet 5-4-3 rule, no more than 4 iConverter 10T/2 modules should be linked together via the backplane buses.

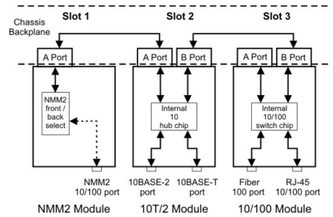
PORT STRUCTURE

The 10T/2 module has two front 10M Ethernet ports and two 10M Ethernet backplane port. The front ports allow connections to external devices and the backplane ports allow connections to adjacent module in an iConverter chassis. The backplane ports on the module are enabled using the on-board DIP-switches.

Multi-slot iConverter chassis have backplane ports that allow connectivity to adjacent slots. Backplane Port A allows connectivity between Odd Slot numbers to Even Slot numbers (1 to 2, 3 to 4, etc). Backplane Port B allows connectivity between Even Slot numbers to Odd Slot numbers (2 to 3, 4 to 5, etc).

The figure below illustrates one of the many applications of the 10T/2 module when enabling the backplane feature on each module.

The 10T/2 connects to the slot on its right using the Backplane Port B (10M HDX). The module on the right is an iConverter 10/100 module and it is also using Backplane Port B (10M HDX) to connect to the 10T/2 module. The module on the left is an NMM2 which is providing management access for the chassis. This managed configuration provides two RJ-45 Ethernet ports, one 10M coax port and one 100M fiber uplink port.



See table below for backplane compatibility with different revisions of the 10T/2. The hardware revision is printed on a label attached to an integrated circuit on the PCB.

Backplane A/B Interoperability			
HW Revision	**10T/2 Rev 01/xx, 02/xx/, 03/xx**	**10T/2 Rev 04/xx**	**Other iConverter Modules**
10T/2 Rev 01/xx, 02/xx/, 03/xx	Yes	No	Yes
10T/2 Rev 04/xx	No	Yes	Yes
Other iConverter Modules	Yes	Yes	Yes

For more information on backplane connectivity, refer to the specific chassis user manual.

SWITCH SETTINGS

Front Panel Push Button Switch

RJ-45 Crossover "= / X"

When connecting to a workstation, the push button switch should be in the OUT straight-through "=" position (factory setting). When connecting to a hub or switch, the push button switch should be in the IN crossover "X" position.

Board Mounted DIP-switches

Coax Termination "T-IN"

When the Coax Termination "T-IN" DIP-Switch is in the "ON" position, the coax port is terminated. Use this DIP-Switch setting when this coax port is at the end of the network.

Backplane A Enable "A-EN"

When the Backplane A Enable "A-EN" DIP-switch is in the ON position, backplane A is enabled and the module is connected to the adjacent slots in the chassis. When the Backplane A Enable switch is in the OFF position (factory setting), the backplane port is disabled and disconnected from the backplane.

Backplane B Enable "B-EN"

When the Backplane B Enable "B-EN" DIP-switch is in the ON position, backplane B is enabled and the module is connected to the adjacent slots in the chassis. When the Backplane B Enable switch is in the OFF position (factory setting), the backplane port is disabled and disconnected from the backplane.

"TST"

Reserved and should be left in the "OFF" position.

MOUNTING AND CABLE ATTACHMENT

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

Caution: Use proper ESD protection to reduce the risk of damage to your equipment.

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 chassis front. Verify the "Pwr" LED is ON (indicating the chassis is powered).

2. Attach the iConverter 10T/2 RJ-45 connector via a category 5 or higher Ethernet cable to a 10BASE-T Ethernet device.

3. Attach the iConverter 10T/2, via a 50 ohm RG-58U or equivalent coax cable to a 10BASE-2 Ethernet device.

4. If using the iConverter 10T/2 at the end of a coaxial network, set Coax Termination "T-IN" DIP-Switch to the "ON" position.

SOFTWARE CONTROLLED SETTINGS

Additional settings are available via software control when the 10T/2 is installed in an iConverter chassis with a Management Module, such as a Network Management Module (NMM2) or a 10/100M2 Media Converter with Integrated Management. The following settings can be controlled via the Serial Console, Telnet or SNMP Management Software such as *NetOutlook*® Management Software or other third-party SNMP-based clients:

- DIP-switches

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

LED INDICATORS

LED	Color	Description
Pwr	Yellow	Module has power
Coax Col	Yellow	OFF: No collisions detected ON: Device is detecting collisions on coax
Coax Act	Green	OFF: No coax data detected ON: Coax port is receiving data activity
RJ-45 Lk/Act	Green	ON: Device detected at the end of cable Blinking: Port is receiving data activity

SPECIFICATIONS

Standard Compliances	IEEE 802.3	
Regulatory Compliances	Safety: EMI: ACT:	UL, CE, NEBS Level 3, UKCA FCC Class A TAA, BAA, NDAA
Environmental	RoHS, WEEE, REACH	
Frame Size	Unlimited	
Port Types	Copper: Coax:	10BASE-T (RJ-45) 10BASE-2 (BNC)
Cable Types	Copper: Coax:	EIA/TIA 568A/B, Cat 5 UTP and higher 50 ohm RG-58U or equivalent
DC Power Requirements	DC Input: (Backplane)	3.3VDC, 1.0A @ 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)	720,000	
Warranty	Lifetime warranty and 24/7/365 free Technical Support	

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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