

miConverter® 10/100 and 10/100 Plus **10/100BASE-TX to 100BASE-FX Ethernet Media Converters**

The miniature miConverter 10/100 and 10/100 Plus are 10/100 RJ-45 to 100BASE-FX fiber media converters. Miniature miConverter Ethernet media converters provide cost-effective copper-to-fiber connectivity solutions. Due to their size, portability, and low power consumption, they are ideal for fiber-to-the-desktop/laptop under the desk deployments and mission-critical field diagnostic applications.

They can be powered by a computer's USB port using the optional USB Power Adaptor Cable, which eliminates the need to tether the miConverter to an electrical outlet.

The RJ-45 port can auto-negotiate by detecting the speed and duplex-mode of the connected device. The port supports auto-crossover that enables the connection to workstations (MDI port) or hub/switches (MDI-X port) without requiring a crossover cable.

The 100Mbps fiber port operates in Full-Duplex mode. Models are available for single-mode or multimode fiber with ST or SC fiber connectors. Multimode fiber models support distances up to 5km and single-mode fiber models support distances up to 120km. Single-fiber models support distances up to 60km.

Additionally, the miConverter 10/100 Plus features DIP-switches for the configuration of the RJ-45 port and Link Modes (fault-detection capabilities). The DIP-switches allow manual configuration of the speed and duplex mode of the copper port, while the Link Modes assist in the identification and isolation of link failures. The available modes are Link Segment, Link Propagate, Remote Fault Detection and Symmetrical Fault Detection.

Visual diagnostic information is provided through LED indicators that assist in network installation and maintenance. The LEDs report the availability of power, port activity and link status and speed.

The external AC power adapter is available in US, Universal and Country/Region specific models. Country/Region specific models feature optional interchangeable connectors, allowing for compatibility with electrical outlet types found around the world.

The miConverter models can be mounted in the miConverter 18-Module Power Chassis to consolidate individual modules into a rack-mount form factor that can be deployed where multiple fiber optic links are distributed from UTP switch equipment.

Weighing less than 5 oz., the miConverter can easily fit into any pocket or laptop carrying case. It can also be attached to portable equipment using the included Velcro® strips or wall-mounted using the optional wall-mounting bracket kit.



Shown with optional wall-mounting bracket kit

KEY FEATURES

miConverter 10/100Plus

- RJ-45 port supports 10/100 and Half/Full-Duplex auto/manual negotiation via DIP-switches and MDI/MDIX auto-crossover.
- User-selectable link fault detection modes facilitate quick fault detection, isolation and reporting
- Automatic Link Recovery

miConverter 10/100 and 10/100 Plus

- Miniature 10/100BASE-T to 100BASE-FX Ethernet media converter
- Supports 10BASE-T, 100BASE-TX, 100BASE-FX
- Multimode, single-mode and single-fiber options
- ST or SC fiber connector options
- RJ-45 port supports Full/Half-Duplex auto-negotiation and MDI/MDIX auto-crossover
- Small and lightweight (5 ounces)
- Domestic, Universal and Country/Region specific AC power adapter options available
- USB power via optional Power Adapter Cable
- LED indicators for RJ-45 and fiber port status
- Wall-mount with optional mounting brackets or install in the miConverter 18-Module Powered Chassis
- 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

SPECIFICATIONS

Description	miConverter 10/100 and 10/100 Plus 10/100BASE-T Copper to 100BASE-FX Fiber Media Converter	
Standard Compliances	IEEE 802.3	
Regulatory Compliances	Safety: EMI: ACT:	UL, cUL, CE, UKCA FCC Class A TAA, BAA, NDAA
Environmental	RoHS, REACH, WEEE	
Frame Size	Up to 1,536 bytes	
Port Types	Copper: Fiber:	10/100BASE-T (RJ-45) 100BASE-X (ST, SC) 100BASE-BX (SC Single-Fiber)
Cable Types	Copper: Fiber:	EIA/TIA 568A/B, Cat 5 UTP and higher Multimode: 50/125µm, 62.5/125µm Single-mode: 9/125µm
AC Power Requirements	AC/DC Adapter:	100 - 240VAC/50 - 60Hz 0.03A @ 120VAC (max) 2.5mm Barrel Connector
DC Power Requirements	DC Input: (AC/DC Adapter)	5.0 to 12.0VDC 0.5A @ 5VDC, 0.3A @ 9VDC 2.5mm Barrel Connector
Dimensions W x D x H	1.71" x 4.10" x 0.84" (43.4 mm x 104.1 mm x 21.3 mm)	
Weight	Module Only: With AC/DC Adapter:	4 oz. (113.4 grams) 12 oz. (340.2 grams)
Temperature	Commercial: Wide: Storage:	0 to 50°C -40 to 60°C -50 to 80°C
Humidity	5 to 95% (non-condensing)	
Altitude	-100m to 4,000m	
MTBF (hrs)	Module Only: AC/DC Adapter: Universal AC/DC Adapter:	1,340,000 250,000 100,000
Warranty	Lifetime warranty with 24/7/365 free Technical Support	

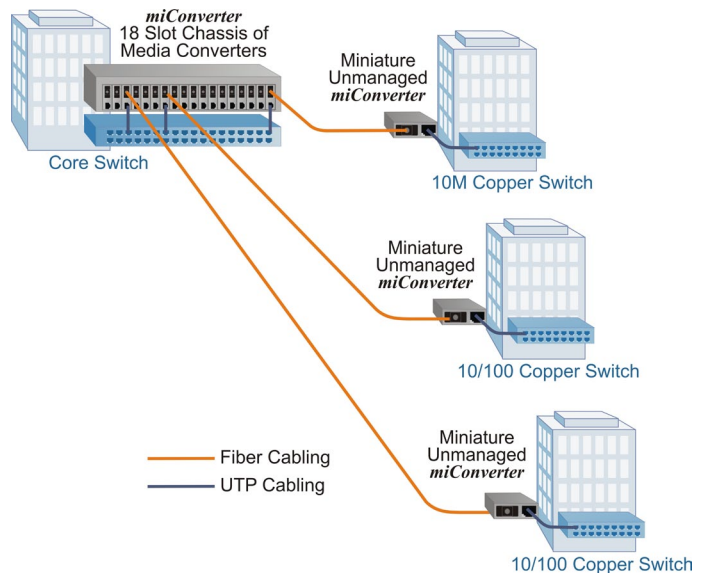
APPLICATION EXAMPLES

This application example illustrates an Ethernet Enterprise network with a star topology that provides multiple fiber links to remote buildings.

In the upper left, three copper UTP links from a core copper switch are converted to three fiber links with a miConverter 18-Module chassis of media converter modules. When fiber core switch is used, the chassis of media converters are not required.

The fiber links run to remote buildings, where the fiber at each location is converted back to copper with a standalone miConverter and distributed to end users at different buildings.

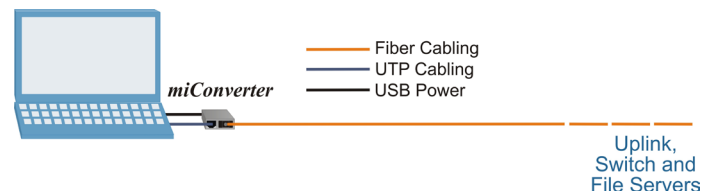
In all cases, multimode, single-mode, or single-mode single-fiber can be used.



ACCESSORIES

Model Number	Description
1020-1	18-Module AC Powered Chassis*
1025-1	18-Module 48VDC Powered Chassis*
1026-1	18-Module 24VDC Powered Chassis*
1091-0	Wall Mounting Hardware Kit
8252-0	DIN Rail Mounting Clip
9119-PSE	Spare JET/PSE certified Universal AC/DC Power Adapter for Wide and Extended temperature models (no power cord)
9129-PS	Spare Universal AC/DC Power Adapter for Wide and Extended temperature models (no power cord)
9130-2	Spare USB Power Adapter Cable (not for use with DC terminal connector models)
Contact Omnitron for replacement power adapters and other accessories. * Not for use with Extended temperature or DC Terminal Connector models.	

The application diagram depicts a laptop computer used in a fiber network.



The miConverter connects to the laptop via two cables. The first cable is the USB Power Adapter which draws electrical current from the laptop's USB (1.0 or 2.0) port to power the miConverter. The other cable is the UTP cable that links the laptop network port and the miConverter copper port. The miConverter converts the UTP signal to fiber signal, which can extend up to 120km. Power from the USB port of the computer is automatically shut off when the computer is powered down, turning off the miConverter when fiber conversion is no longer needed.

ORDERING INFORMATION

Step 1: Choose a Base Part Number (xxxx-x-pt)

Fiber Type	Distances	Connector Types		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	SC							
miConverter 10/100										
MM/DF	2km	1100-6-pt		850/850	-10	-4	-24	-3	-	14
MM/DF	2km		1102-6-pt	850/850	-10	-4	-24	-3	-	14
MM/DF	5km	1100-0-pt	1102-0-pt	1310 / 1310	-24	-14	-31	-14	-	7
SM/DF	30km	1101-1-pt	1103-1-pt	1310 / 1310	-15	-8	-31	-8	-	16
SM/DF	60km	1101-2-pt	1103-2-pt	1310 / 1310	-5	0	-31	-3	3	26
SM/DF	120km	-	1103-3-pt	1550 / 1550	-5	0	-31	-3	3	26
MM/SF ¹	5km	-	1110-0-pt	1310 / 1550	-8	0	-28	0	-	20
MM/SF ¹	5km	-	1111-0-pt	1550 / 1310	-8	0	-28	0	-	20
SM/SF ¹	20km	-	1110-1-pt	1310 / 1550	-15	-5	-30	-3	-	15
SM/SF ¹	20km	-	1111-1-pt	1550 / 1310	-15	-5	-30	-3	-	15
SM/SF ¹	40km	-	1110-2-pt	1310 / 1550	-8	0	-30	-3	3	22
SM/SF ¹	40km	-	1111-2-pt	1550 / 1310	-8	0	-30	-3	3	22
SM/SF ¹	60km	-	1110-3-pt	1310 / 1550	-5	0	-31	-3	3	26
SM/SF ¹	60km	-	1111-3-pt	1550 / 1310	-5	0	-31	-3	3	26
miConverter 10/100 Plus										
MM/DF	5km	1120-0-pt	1122-0-pt	1310 / 1310	-24	-14	-31	-14	-	7
SM/DF	30km	1121-1-pt	1123-1-pt	1310 / 1310	-15	-8	-31	-8	-	16
SM/DF	60km	1121-2-pt	1123-2-pt	1310 / 1310	-5	0	-31	-3	3	26
SM/DF	120km	-	1123-3-pt	1550 / 1550	-5	0	-31	-3	3	26
MM/SF ¹	5km	-	1130-0-pt	1310 / 1550	-8	0	-28	0	-	20
MM/SF ¹	5km	-	1131-0-pt	1550 / 1310	-8	0	-28	0	-	20
SM/SF ¹	20km	-	1130-1-pt	1310 / 1550	-15	-5	-30	-3	-	15
SM/SF ¹	20km	-	1131-1-pt	1550 / 1310	-15	-5	-30	-3	-	15
SM/SF ¹	40km	-	1130-2-pt	1310 / 1550	-8	0	-30	-3	3	22
SM/SF ¹	40km	-	1131-2-pt	1550 / 1310	-8	0	-30	-3	3	22
SM/SF ¹	60km	-	1130-3-pt	1310 / 1550	-5	0	-31	-3	3	26
SM/SF ¹	60km	-	1131-3-pt	1550 / 1310	-5	0	-31	-3	3	26
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 fiber options.										

Step 2: Choose a Power Option (xxxx-x-pt)

0 = Barrel Connector, No AC/DC Power Adapter
1 = Barrel Connector and AC/DC Power Adapter with 100-240VAC, 50-60Hz, with US power clip
2 = Barrel Connector and Universal AC/DC Power Adapter with 100-240VAC, 50-60Hz (requires AC power cord)
3 = Barrel Connector and AC/DC Power Adapter with 100-240VAC, 50-60Hz, with European power clip
4 = Barrel Connector and AC/DC Power Adapter with 100-240VAC, 50-60Hz, with UK power clip
5 = Barrel Connector and AC/DC Power Adapter with 100-240VAC, 50-60Hz, with Australian power clip
6 = Barrel Connector and USB Power Adapter Cable, No Power Adapter
8 = Barrel Connector and AC/DC Power Adapter with 100-240VAC, 50-60Hz, with US/Japan power clip

Step 3: Choose an Operating Temperature Option (xxxx-x-pt)

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

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