

### **miConverter 10/100 and miConverter 10/100 Plus** 10/100TX to 100FX Ethernet Media Converters

The miniature *miConverter* 10/100 and *miConverter* 10/100 Plus are rate-switching 10/100 UTP copper to 100BASE-FX fiber media converters. The *miConverter* provides cost-effective fiber connectivity from Ethernet switches to diagnostic equipment, desktop and laptop computers.

They can be powered by a computer's USB port using the optional USB Power Adaptor Cable, which reduces the module's weight and eliminates the need to tether the *miConverter* to an electrical outlet that provide cost-effective fiber network extension and connectivity.

The UTP port can auto-negotiate by detecting the speed and duplex-mode of the connected device. Upon connection to the UTP device, the UTP port speed adjusts to either 10Mbps or 100Mbps, and the duplex-mode adjusts to either Full-Duplex or Half-Duplex. Auto-crossover enables the connection to workstations (MDI port) or hub/switches (MDI-X port) without requiring a crossover cable.

The 100BASE-FX 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 feature Bi-Directional fiber and support distances up to 40km.

The *miConverter* 10/100 Plus features DIP-switches for the configuration of the UTP port and four different Link Modes (fault-detection capabilities). The DIP-switches allow manual configuration of the UTP speed and duplex mode 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.

Diagnostic data is provided through LED indicators that assist in network installation and maintenance. The LEDs report the availability of power, port activity and link status, speed and duplex modes of the UTP port.

The external AC power supply 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* 10/100 and *miConverter* 10/100 Plus 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. The chassis powers converter modules with barrel-style DC connectors, and is available with a single universal AC, 24VDC or 48VDC internal power supply. This compact, high-density chassis is 1.5 rack units high, and can be mounted in a standard 19" or 23" equipment rack.



Shown with optional wall-mounting bracket kit

### **KEY FEATURES**

- Miniature 10/100BASE-TX to 100BASE-FX Ethernet media converter
- Supports 10BASE-T, 100BASE-TX, 100BASE-FX and the IEEE 802.3 specification
- Supports Full/Half-Duplex UTP auto-negotiation
- Automatically detects and adjusts crossover function
- Multimode, single-mode and single-fiber options
- ST or SC fiber connector options
- Domestic, Universal and Country/Region specific AC power supply options available
- Optional USB power adapter cable available for operation without AC power adapter
- The *miConverter* 10/100 Plus features DIP-switches for UTP and Link Mode configurations
- LED indicators for UTP and fiber status
- Wall-mount with optional mounting brackets or in an 18-Module Powered Chassis
- Cost-effective
- Small and light, weighs only 5 ounces
- Lifetime Warranty and free 24/7 Technical Support

# SPECIFICATIONS

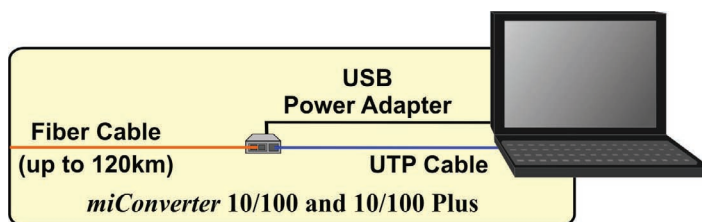
<b>Model Type</b>	<i>miConverter 10/100 and miConverter 10/100 Plus</i>	
<b>Description</b>	Miniature 10/100 UTP to 100FX Fiber Media Converter	
<b>Protocols</b>	10BASE-T, 100BASE-TX, 100BASE-FX with 1536 bytes max. frame size	
<b>Compliance</b>	UL, CE, FCC Class A	
<b>Cable Types</b>	UTP: EIA/TIA 568A/B, Cat 5 and higher Fiber: Multimode: 50/125, 62.5/125, 100/140µm Single-mode: 9/125µm	
<b>Connector Types</b>	UTP: RJ45 Fiber: Dual fiber: SC, ST Single-fiber: SC	
<b>LED Display</b>	Pwr, FO-Lk/Act, UTP-Lk/Act, UTP-10/100, HDX/FDX	
<b>Dimensions</b>	W:1.71" x L:4.10" x H:0.84"	
<b>Weight</b>	without power adapter 4 oz. with USB power adapter 5 oz. with AC power adapter [US] 12 oz.	
<b>Power Requirements</b>	DC Power 0.5A @ 5VDC DC Power Connector 2.5mm DC Jack AC Power Adapter 100-120VAC/60Hz [US] 0.03A @ 120VAC AC Power Adapter 100-240VAC/50-60Hz [Universal] 0.03A @ 120VAC	
<b>Operational Temperature</b>	Standard 0 to +50°C Wide -40 to +60°C Storage -50 to +80°C	
<b>Humidity (non-condensing)</b>	5 to 95%	
<b>Altitude</b>	-100m to 4000m	
<b>MTBF (hrs)</b>	without power adapter 1,340,000 with US and Country/Region Specific power adapter 250,000 with Universal power adapter 100,000	

The *miConverter 10/100* and *10/100 Plus* combine reliable Ethernet connectivity with the lightweight design and low-power consumption required for both permanent deployment and mobile service networks.

Weighing less than 5 oz. with the USB Power Adapter Cable, the *miConverter 10/100* and *10/100 Plus* 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.

## APPLICATION EXAMPLE

The application diagram depicts a laptop computer used in a fiber network. The miniature size and low power consumption of the *miConverter 10/100* and *10/100 Plus* make it the ideal media converter in this scenario.



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.

The cost-effective *miConverter* is ideal for connecting large numbers of workstations in unmanaged fiber-to-the-desktop Enterprise network applications. These applications can include remote edge locations where power outlets are at a premium, such as portable, temporary facilities. The *miConverter* is also an excellent solution for construction and military fiber-to-the-laptop applications where Ethernet fiber connectivity is required and local power is not available.

# ORDERING INFORMATION

Fiber Type	Distances	Connector Types				Tx λ (nm)	Rx λ (nm)	Min. Tx Power (dBm)	Max. Tx Power (dBm)	Min. Rx Sense (dBm)	Max. Rx Sense (dBm)	Link Budget (dBm)
		miConverter 10/100		miConverter 10/100 Plus								
		ST	SC	ST	SC							
MM/DF	5km	1100-0-x	1102-0-x	1120-0-x	1122-0-x	1310	1310	-24	-14	-31	-14	7
SM/DF	30km	1101-1-x	1103-1-x	1121-1-x	1123-1-x	1310	1310	-15	-8	-31	-8	16
SM/DF	60km	1101-2-x	1103-2-x	1121-2-x	1123-2-x	1310	1310	-5	0	-31	-3*	26
SM/DF	120km	-	1103-3-x	-	1123-3-x	1550	1550	-5	0	-31	-3*	26
SM/SF	20km	-	1110-1-x	-	1130-1-x	1310	1550	-15	-5	-30	-3	15
SM/SF	20km	-	1111-1-x	-	1131-1-x	1550	1310	-15	-5	-30	-3	15
SM/SF	40km	-	1110-2-x	-	1130-2-x	1310	1550	-8	0	-30	-3*	22
SM/SF	40km	-	1111-2-x	-	1131-2-x	1550	1310	-8	0	-30	-3*	22
SM/SF	60km	-	1110-3-x	-	1130-3-x	1310	1550	-5	0	-31	-3*	26
SM/SF	60km	-	1111-3-x	-	1131-3-x	1550	1310	-5	0	-31	-3*	26

**MM = multimode, SM = single-mode, DF = dual fiber, SF = single-fiber**

**When choosing power options, replace (-x) in the model number with the suffix number that corresponds to the power supply of choice below.**

-1 US Power Supply - 120Volt / 60Hz

-2 Universal Power Supply (requires AC power cord) - 100-240Volt / 50-60Hz

-3 European Power Supply - 100-240Volt / 50-60Hz

-4 UK Power Supply - 100-240Volt / 50-60Hz

-5 Australian Power Supply - 100-240Volt / 50-60Hz

-6 USB Power Adapter -8 US/JPN Power Supply - 100-240Volt / 50-60Hz

-8 US/JPN Power Supply - 100-240Volt / 50-60Hz

**Example: 1103-3-6 stands for 1103-3-x with USB Power Adapter.**

**When ordering models with Wide Temperature Range support, add "W" after the designated power option.**

**Example: 1103-3-2W = SC/SM/DF/120km with Universal Power Supply and Wide Temperature Range support.**

**For power supplies -3, -4, -5 and -8, country/region specific clips are used to provide the necessary power connection.**

When using single-fiber media converter models, the Tx wavelength on one end has to match the Rx wavelength on the other. Contact Omnitron for other fiber options and operational temperature ranges.

\* A minimum attenuation of 3db is required for these models.

18-Module AC Powered Chassis	1020-1
18-Module 48VDC Powered Chassis	1025-1
18-Module 24VDC Powered Chassis	1026-1
Wall Mounting Hardware Kit	1091-0
USB Power Adapter	9130-2
US Domestic AC Power Adapter	9113-PS
Universal AC Power Adapter (requires AC power cord)	9115-PS
AC Country/Region Specific Power Adapter w/ European Connector Clip	9116-PS-3
AC Country/Region Specific Power Adapter w/ UK Connector Clip	9116-PS-4
AC Country/Region Specific Power Adapter w/ Australian Connector Clip	9116-PS-5
AC Country/Region Specific Power Adapter w/ Japanese Connector Clip	9116-PS-8
Country/Region Specific European Connector Clip**	9116-3
Country/Region Specific UK Connector Clip**	9116-4
Country/Region Specific Australian Connector Clip**	9116-5
Country/Region Specific Japanese Connector Clip**	9116-8

\*\*All spare Connector Clips can be used with AC Power Adapters 9116-PS-3, 9116-PS-4, 9116-PS-5 and 9116-PS-8

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