Installation Guide

IE-MiniMc

About the IE-MiniMc

The **IE-MiniMc** Series of Industrial Ethernet, miniature media converters features 10/100 switching copper-to-fiber conversion, plug-and-play operation, and a miniature size and complies with the IEEE 802.3af Power over Ethernet standard. In addition, *IE-MiniMc* also includes an extended voltage range; an extended operating temperature; and DIN clips for mounting the enclosure on a DIN-rail.

QUICK START	

Installing the IE-MiniMc

IE-MiniMc installs virtually anywhere: as a standalone, table-top device or on a DIN-rail.

As a standalone device, install *IE-MiniMC* in locations with extremely limited space. You can also use the included velcro strips to attach the device to most surfaces.

DIN-RAIL MOUNTING

The *IE-MiniMc* ships from the factory with DIN-clips, allowing installation on a DIN-rail. Depending on the installation, you can mount *IE-MiniMc* parallel or perpendicular to the DIN-rail.

Use the supplied screws to attach the DIN clips to the *IE-MiniMc*, then snap the converter to the DIN-Rail.

NOTE: The DIN clips are designed for use on a DIN-35 rail.

To remove the converter from the DIN-rail, use a flat-blade screwdriver in the slot to gently pry the converter from the rail.

Powering the IE-MiniMc

IE-MiniMc includes multiple powering options. You can use any of the following options, or more than one for redundancy:

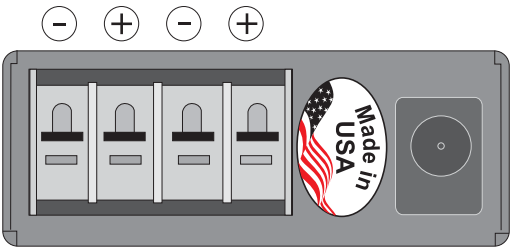
- A country-specific, high-reliability AC power adapter (included)
- A USB-power cord (not included)
- The **IEEE 802.3af** Power over Ethernet standard; draws power from power sourcing equipment
- The 4-terminal DC power block

ABOUT POWER OVER ETHERNET AND IE-MINIMC

The Power Over Ethernet technology allows the *IE-MiniMc* to be a Powered Device (PD) and draw power when connected to Power Sourcing Equipment (PSE) that is also compliant with the IEEE 802.3af standard. Power Source Equipment distributes an electrical current across existing copper data cabling.

DC POWER SUPPLY WIRING INSTRUCTIONS

You can also power the *IE-MiniMc* with the DC terminal block . The following illustration shows the positive and negative terminals for *IE-MiniMc*. From a power source, connect to any one positive and any



one negative terminal on *IE-MiniMc*. See below for a diagram showing how to cascade DC power.

NOTE: If you are using standard wire, you must "tin" the leads; use solid wire as is.

NOTE: The chassis is protected against mis-wiring; if mis-wired the chassis will merely not function.

Cascading DC Power

When installing multiple *IE-MiniMc* units on a DIN-rail, you can use one DC input source then cascade from one DC block to the next, until reaching the maximum current available.

IE-MiniMc Operation

IE-MiniMc is a 10/100 auto-negotiating, miniature media converter. The fiber port always operates at 100 Mbps FDX; the copper port auto-senses the connected device's speed and duplex mode: 10 Mbps or 100 Mbps and HDX or FDX (including Flow Control).

IE-MiniMc offers plug-and-play operation, including the AutoCross feature which automatically selects between a crossover work-station or pass-through connection depending on the connected device. *IE-MiniMc* also protects against Broadcast storms, and allows jumbo packets of up to 1916 bytes.

LED Operation

Each *IE-MiniMc* includes two LEDs, located on the RJ-45 connector. LED functions are as follows:

FX LNK/ACT: Glows green when a link is established on the fiber port; blinks green when activity is detected on the fiber port.

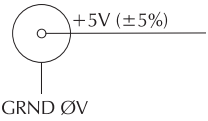
TX LNK/ACT: Glows green when a link is established on the copper port; blinks green when activity is detected on the copper port.

Specifications

DC Input Voltage:
5 to 50 VDC on DC terminal and DC jack

PoE Voltage:
When *IE-MiniMc* uses the PoE technology to be a PD, the maximum supply voltage is 50V

AC Wall Adapter:
100/240 ±10% VAC input, 5V DC output, 1A max.



Operating Temperature:
-49° to +158°F (-45° to +70°C) excluding AC wall adapter; with AC wall adapter 32° to 122°F (0° to 50°C)

Storage Temperature:
-49° to 185°F (-45° to +85°C)

Humidity:
5 – 90% (non-condensing); 0 – 10,000 ft. altitude

Dimensions:
.83″H x 1.80″W x 3.35″D (2.11 x 4.57 x 8.51 cm)

Fiber Optic Cleaning Guidelines

Fiber Optic transmitters and receivers are extremely susceptible to contamination by particles of dirt or dust which can obstruct the optic path and cause performance degradation. Good system performance requires clean optics and connector ferrules.

1) Use fiber patch cords (or connectors, if you terminate your own fiber) only from a reputable supplier; low quality components can cause many hard-to-diagnose problems in an installation.

2) The manufacturer installs dust caps to ensure factory-clean optical devices. These protective caps should not be removed until the moment of connecting the fiber cable to the device. Assure that the fiber is properly terminated, polished and free of any dust or dirt and that the location is as free from dust and dirt as possible.

3) Store spare caps in a dust-free environment such as a sealed plastic bag or box so that when reinstalled they do not introduce any contamination to the optics.

4) Should it be necessary to disconnect the fiber device, reinstall the protective dust caps.

5) If you suspect that the optics have been contaminated, alternate between blasting with clean, dry compressed air and flushing with methanol to remove particles of dirt.

Electrostatic Discharge Precautions

Electrostatic discharge (ESD) can cause damage to your add-in modules. Always observe the following precautions when installing or handling an add-in module or any board assembly.

1) Do not remove unit from its protective packaging until you're ready to install it.

2) Wear an ESD wrist grounding strap before handling any module or component. If you do not have a wrist strap, maintain grounded contact with the system unit throughout any procedure requiring ESD protection.

WARNING! Integrated circuits and fiber optic components are extremely susceptible to electrostatic discharge damage. Do not handle these components directly unless you are a qualified service technician and use tools and techniques that conform to accepted industry practices.

3) Hold boards by the edges only; do not touch the electronic components or gold connectors.

4) After removal, always place the boards on a grounded, static free surface, ESD pad or in a proper ESD bag. Do not slide the board over any surface.

DC Power Supply Precautions

The following precautions should be observed when installing chassis with DC power supplies.

1) Check nameplate ratings to assure there is no overloading of supply circuits that could have an effect on overcurrent protection and supply wiring.

2) When installing 48V DC rated equipment, it must be installed only per the following conditions:

A) Connect the equipment to a 48V DC supply source that is electrically isolated form the alternating current source. The 48V DC source is to be connected to a 48V DC SELV source.

B) Input wiring to terminal block must be routed and secured in such a manner that it is protected from damage and stress. Do not route wiring past sharp edges or moving parts.

C) A readily accessible disconnect device, with a 3mm minimum contact gap, shall be incorporated in the fixed wiring.

3) Grounding: reliable earthing of this equipment must be maintained. Particular attention should be given to supply connections when connecting to power strips, rather than direct connections to the branch circuit.

Federal Communications Commission Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a Class B computing device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which the user will be required to correct the interference at his own expense.

This digital apparatus does not exceed the Class B limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de classe B prescrites dans le Règlement sur le brouillage radioélectrique publié par le ministère des Communications du Canada.

Safety Certifications

UL/CUL: Listed to Safety of Information Technology Equipment, Including Electrical Business Equipment.

CE: The products described herein comply with the Council Directive on Electromagnetic Compatibility (89/336/EEC) and the Council Directive on Electrical Equipment Designed for use within Certain Voltage Limits (73/23/EEC). Certified to Safety of Information Technology Equipment, Including Electrical Business Equipment. For further details, contact IMC Networks.

Class 1 Laser product, Luokan 1 Laserlaite, Laser Klasse 1, Appareil A'Laser de Classe 1

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