DIVISION 27 21 29
IFS 100BASE-FX to 10/100BASE-TX MEDIA CONVERTER with POE

MC100FX-TX-PoE
ENGINEERING SPECIFICATIONS

PART 1 - GENERAL
1.01 SUMMARY
A. IFS 100Base-FX to 10/100Base-TX PoE Media Converter with POE

1.02 SECTION INCLUDES
A. IFS **MC100FX-TX-PoE** 100Base-FX to 10/100Base-TX PoE Media Converter – Standalone

1.03 REFERENCES
A. Federal Communications Commission (FCC)
B. European Union Compliance (CE)

1.04 SYSTEM DESCRIPTION
A. Performance Requirements: Provide 1 100Base-FX optical multimode port and 1 10/100Base-TX copper port with IEEE 802.3af Power over Ethernet Injector.
   1. The System shall utilize 1310nm optics capable of bi-directional data transmission of 100Mbps on two multimode optical fibers.
   2. The system shall utilize EIA568, category 5/5e, 4-pair cables for 10Base-T or 100Base-TX to transfer Ethernet data and 48V DC power simultaneously.

1.05 SUBMITTALS
A. Manufacturer's Installation and Operating Manual: Printed installation and operating information for the PoE Injector.
B. Warranty: Manufacturer's Printed Warranty.

1.06 DELIVERY, STORAGE AND HANDLING
A. Store in original packaging in a climate controlled environment.
B. Storage Temperature not to exceed: **-20˚ C to +70˚ C**

1.07 PROJECT/SITE CONDITIONS
A. Temperature Requirements: Product shall operate in an environment with an ambient temperature range of 0˚**C** to +50˚**C** without the assistance of fan-forced cooling.
B. Humidity Requirements: Products shall operate in an environment with relative humidity of 5% to 90% (non-condensing).

1.08 WARRANTY
A. UTCFS Return and Warranty Policy: UTCFS warrants the product to be free of factory defects for a period of 3 years.

PART 2 - PRODUCTS

2.01 MANUFACTURER
A. Acceptable Manufacturer:
   1. IFS Brand
      UTC Fire & Security, Inc.
      8985 Town Center Parkway
      Bradenton, FL 34202-5129
   2. Phone 1-855-286-8889
   3. Email: presales@interlogix.com
B. Substitutions: Not Permitted

2.02 MANUFACTURED UNITS
A. Model Number Descriptions: Reference Table A: Product Number Descriptions
B. Model Compatibility Chart: Reference Table B: Product Compatibility Chart

2.03 GENERAL SPECIFICATIONS
A. The 100Base-FX to 10/100Base-TX PoE Media Converter shall be an IFS MC100FX-TX-PoE module.
B. The module shall comply with IEEE 802.3u 100Base-FX.
C. The module shall support the Ethernet data IEEE 802.3/802.3u 10/100Base-TX protocol using Auto-negotiating and Auto-MDI/MDI-X features.
D. The module shall comply with IEEE 802.3af Power over Ethernet PSE (Power Source Equipment).
E. The module features one fixed 10/100TX electrical ports in a compact mini box.
   1. The port printed with "**Ethernet + DC**" functions as "PoE (Data and Power) output".
F. The module is also the power injectors which transmit DC Voltage to the Cat5/5e cable and transfer data and power simultaneously to PoE PD (Powered Device).
G. The module shall Auto-detect of PoE IEEE 802.3af PD equipment; protect devices from being damaged by incorrect installation.
H. The module shall support UTP distance up to 100 meters.
I. The module shall support the transmission of up to 2 channels of 100 Mbps over a multimode fiber.
J. The module shall provide power, fiber port status, copper port status and PoE in-use status indicating LED's for monitoring proper system operation.
K. The module shall equip with an AC-DC adapter with DC 48V input. (not included)
L. The module shall inject this DC power into the pin of the twisted pair cable (pair 1, 2 and pair 3, 6).

2.04 DATA SPECIFICATIONS
A. Data Interface: Ethernet IEEE802.u
B. Data Rate: 10/100 Mbps
C. Data Inputs: 2
D. Operation Mode: Full-duplex

2.05 OPTICAL SPECIFICATIONS

A. IFS Model Number MC100FX to 10/100TX PoE Media Converter.
1. Optical Fiber: 62.5/125 micron multimode
2. Number of Optical ports: 1
3. Number of Fibers Required: 2
4. Optical Wavelength: 1310nm
5. Optical Power Budget: 10dB
6. Maximum Distance: 1.2 miles (2km)

2.06 STATUS INDICATORS

A. System

LED	Color		Function
PWR	Green	Lit	Indicates the device is powered.

B. 10/100Base-TX Port

LED	Color		Function
LNK /ACT	Green	Blink	Indicates that the Media Converter is actively sending or receiving data over that port.
		Lit	Indicates that the port is link up.
		Off	Indicates that the port is link down.
PoE in Use	Green	Lit	Indicates that the port is providing 48VDC to remote powered device.
		Off	Indicates that the port is not providing 48VDC to remote powered device.

C. 100Base-FX SC Port

LED	Color		Function
LNK /ACT	Green	Blink	Indicates that the Media Converter is actively sending or receiving data over that port.
		Lit	Indicates that the port is link up.
		Off	Indicate that the port is link down.

2.07 CONNECTORS

A. Power: DC plug female
B. Optical: SC
C. Data:
1. Ethernet + DC Port: RJ-45

2.08 ELECTRICAL SPECIFICATIONS

A. Power Adapter:
1. Input Voltage Range: 100~240VAC
2. Output Voltage: 48VDC @ 0.38A
B. The PoE Media Converter:
1. Input Voltage: 48VDC

2.09 MECHANICAL SPECIFICATIONS

A. Surface Mount Dimensions (WxDxH): 3.82" x 2.76" x 1.02" (97x 70 x 26mm)
B. Finish: Module shall be constructed of a metal enclosure.
C. Weight < 0.44lbs / 200g

2.10 ENVIRONMENTAL SPECIFICATIONS

A. MTBF: >50,000 Hours
B. Operating Temp: 0° C to +50° C
C. Storage Temp: -20° C to +70° C
D. Relative Humidity: 5% to 90% (non-condensing).

2.11 REGULATORY AGENCIES/APPROVALS AND LISTINGS

A. Federal Communications Commission (FCC) Part 15, Class A
B. European Union Compliance (CE) with following standard:
1. EN 55022:2006, Class A
2. EN61000-3-2:2006
3. EN61000-3-3+A2:2005
4. EN 55024+A2:2003

2.12 ACCESSORIES

A. AC-to-DC Power Adapter x1
B. Power cord x 1 (UK ,AU, AG, IR and SW only)

PART 3 - EXECUTION

3.01 PREPARATION

A. Standalone Module (Surface Mount)
1. Shall be mounted on a properly prepared surface adequate for the size and weight of module. The placement of the unit shall allow provision for cable installation and maintenance as indicated on the approved detail drawings and in compliance with the installation manual.
B. Optical Fibers
1. Caution: NEVER look into the end of an active optical fiber when using laser light output. Eye damage can occur. Wear eye protection when cleaving, terminating, and splicing fiber.
2. The number and type - multimode of optical fiber shall meet the requirement of the IFS model number.
3. All optical fiber cables shall be properly installed and terminated with the mating optical connectors.
4. The optical connector on cable shall be cleaned in compliance to optical connector manufactures specifications and covered with dust caps until connection to the fiber optic module.

3.02 INSTALLATION

A. General: Locate PoE Media Converter module as indicated on the approved detail drawings and install module in compliance with the IFS User's manual.

3.03 TESTING

A. Testing the 10/100TX Fast Ethernet Copper Link.
1. Verify that the data leads and UTP ports are properly connected.
2. Make sure that power is applied to the PoE Injector module or other equipment used in the system.
3. Successful data link operation should be confirmed at this point by communicating with other equipment.
B. Testing the 10/100TX PoE Copper output capability.

3.05 CLEANING

A. Follow all instructions for proper use of solvents and adhesives used for termination and splicing.

B. At completion of the installation, dispose of the fiber scrap properly.

MANUFACTURED UNITS REFERENCE TABLES

Table A: Product Number Descriptions

IFS PART NO.	DESCRIPTION	MAX. DISTANCE*
MC100FX-TX-PoE	100Base-FX to 10/100Base-TX PoE Media Converter	300 feet (100M) electrical 1.2 Miles (2KM) optical

* Maximum distance is limited to optical loss of the fiber and any additional loss by connectors, splices and patch panels.

Table B: Product Compatibility Chart

IFS 100Base-FX to 10/100Base-TX Media Converter	COMPATIBLE Ethernet Equipment
MC100FX-TX-PoE	IEEE 802.3u Fast Ethernet standard for 10/100TX and 100FX protocol IEEE 802.3af Power over Ethernet PD

END OF SECTION