

MC352-1P-1S A&E Specifications, Division 28 00 00 Electronic Safety and Security



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This A&E Specification conforms to CSI MasterFormat 2016 guidelines.

28 05 00 Common Work Results for Electronic Safety and Security

28 05 07 Power Sources for Electronic Safety and Security

28 05 07. 21 PoE Power Sources for Electronic Safety and Security

# Specifications

## UTC Fire & Security Model Number: **MC352-1P-1S**.

### The unit shall comply with IEEE 802.3at / 802.3af Power over Ethernet.

### The unit is equipped with power injectors that transmit DC Voltage to the Cat5/5e/6 cable and transfer data and power simultaneously to remote PD (Powered Device) units.

### The unit shall auto-detect PoE IEEE802.3at/802.3af equipment to protect devices from being damaged by incorrect installation.

### The port labeled “Ethernet + DC” functions as a PoE (data and power) output.

### The unit shall support a total distance up to 100 meters on PoE ports.

28 05 33 Safety and Security Network Communications Equipment

# System Description

## Performance Requirements: Provides one 10/100/1000Base-T copper port with IEEE 802.3at Power over Ethernet Injector and one 1000Base-SX/LX mini-GBIC slot.

### The system shall utilize EIA568, category 5/5e/6, four-pair cables for 10Base-T or 100Base-TX and 1000Base-T to transfer Ethernet data and 52 VDC power simultaneously.

### The system shall utilize 850 to 1550 nm optics capable of data transmission of 1000 Mbps on multimode / single mode optical fibers.

28 05 45 Systems Integration and Interconnection Requirements

28 05 45.11 Mechanical

# Surface Mount Dimensions: 5.3” x 3.4” x 1.26” (135 mm x 87 mm x 32 mm)

# Finish: Module shall be constructed of a metal enclosure with a powder coat.

# Weight: <1.102 lb. / 500 g

28 05 45.13 Electrical

# Power: 24~48 VDC

# Current Protection: Automatic resettable solid-state current limiters.

# Voltage Regulation: Solid-state, independent on each board.

28 05 45.15 Information

# Submittals

## Manufacturer’s Installation and Operating Manual: Printed installation and operating information for each type of transmitter/receiver specified.

# Delivery, Storage, and Handling

## Store in original packaging in a climate controlled environment.

## Storage Temperature not to exceed: –40 to +85˚C

# Project/Site Conditions

## Temperature Requirements: Products shall operate in an environment with an ambient temperature range of 0 to +75˚C without the assistance of fan-forced cooling.

## Humidity Requirements: Products shall operate in an environment with relative humidity of 0 to 95% (non-condensing).

# Warranty

## Standard UTC Fire & Security Inc. Comprehensive Warranty: UTC Fire & Security warrants the product to be free of factory defects under the manufacturer’s 3 Years Warranty.

# General Specifications

## The industrial media converter shall be a MC352-1P-1S model.

## The 1000Base-SX/LX mini-GBIC slot supports 1000 Mbps single mode/multimode fiber

## The 10/100/1000Base-T port shall support the Ethernet data IEEE 802.3 protocol using Auto-negotiating and Auto-MDI/MDI-X features.

## The unit features one fixed 10/100/1000T electrical port in a compact box.

## The unit shall inject the DC power into the pin of the twisted pair cable (pair 1, 2 and pair 3, 6).

## The unit shall require no in-field electrical or optical adjustments or in-line attenuators to simplify installation.

## The unit shall provide two power, power fault, link/act for fiber port status and link/act, PoE In-use for 10/100/1000T port status, LED indicators for monitoring system operation.

## The unit shall provide a contact closure for a power fault alarm.

## The unit shall have a redundant power supply connection to minimize single point failure.

# Data Specifications

## Data Interface: Ethernet IEEE 802.3u

## Data Rate: 10/100/1000 Mbps

## Data Inputs: 1

## Operation Mode: Simplex or Duplex

# Optical Specifications

## Optical Fiber:

### 9/245 micron single mode

### 62.5/245 micron multimode

## Number of Optical ports: 1

## Number of Fibers Required: 1 or 2, depending on the SFP module

## Optical Wavelength: Depends on the SFP module

## Optical Power Budget: Depends on the SFP module

## Maximum Distance: Depends on the SFP module

# Status Indicators

## System

| LED | Color | Function |
| --- | --- | --- |
| P1 | Green | Lit: indicates that the power input 1 has power. |
| P2 | Green | **Lit:** indicates that the power input 2 has power. |
| Fault | Green | **Lit**: indicates that either power 1 or power 2 has no power. |

## Gigabit fiber interface (1000Base-SX/LX mini-GBIC port)

|  |  |  |
| --- | --- | --- |
| LED | Color | Function |
| Fiber LNK/ACT | Green | Lit: indicates that the fiber optical port has successfully connected to the network at 1000 Mbps.Blinking: indicates that the fiber optical is actively sending or receiving data over that port. |

## Gigabit TP interface (10/100/1000Base-T)

|  |  |  |
| --- | --- | --- |
| LED | Color | Function |
| TP LNK/ACT | Green | Lit: indicates the port has successfully connected to the network at 10/100/1000 Mbps.Blinking: indicates that the port is actively sending or receiving data. |
| TP 1000 | Green | Lit: indicates the port has successfully connected to the network at 1000 Mbps.Off: indicates that the port has successfully connected to the network at 10/100 Mbps. |

## PoE

|  |  |  |
| --- | --- | --- |
| LED | Color | Function |
| PoE In-use | Orange | Lit: indicates that the port is providing 52 VDC to a remote powered device.Off: indicates that the port is not providing 52 VDC to a remote powered device). |

# Connectors

## Optical: SFP slot/LC interface.

## Power: Terminal block with screw clamps.

## Data: RJ45.

## Contact closure: Terminal block with screw clamps.

# Environmental Specifications

## MTBF: > 100,000 Hours

## Operating Temp: –40 to +75˚C

## Storage Temp: –40 to +85˚C

## Relative Humidity: 0% to 95% (non-condensing). If the product is installed under condensation conditions, it shall have conformal coating applied to the printed circuit board.

# Regulatory Agencies/Approvals and Listings

## Federal Communications Commission (FCC) Part 15, Class A

## European Union Compliance (CE) with the following standards:

### EN 55032: 2015, Class A

### EN61000-3-2: 2014

### EN61000-3-3: 2013

### EN 55024:2015

# Accessories

## DIN rail kit

## Wall mounting kit

## RJ45 dust cap

## SFP dust cap

# Execution

## Examination

### All electronic RJ45 connectors shall be covered with dust caps and remain on the fixed port until installing cable connectors.

### All optical connectors shall be covered with dust caps and remain on the interface until installing cable connectors.

## Preparation

### Standalone Module (Surface Mount)

#### 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.

### DIN rail mount installation

#### Shall be mounted on a properly installed DIN rail 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.

### Optical Fibers

#### 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.

#### The number of optical fiber SFP slots shall meet the requirements of the UTC Fire & Security model number.

#### All optical fiber cables shall be properly installed and terminated with the mating optical connectors.

#### The optical link shall be tested with either a power meter, at a minimum, or OTDR to ensure the link budget (overall path loss) plus an added 3 dB of optical safety margin does not exceed the optical power budget.

#### All optical connectors shall be cleaned in compliance with the optical connector manufacturer’s specifications and covered with dust caps until connected to the fiber optic module.

# Installation

## General: Locate fiber optic modules as indicated on the approved detail drawings and install module in compliance with the UTC Fire & Security User’s manual.

# Cleaning

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

## At completion of the installation, dispose of all UTP cable scraps properly.

28 05 53 Identification for Electronic Safety and Security

# Products

## Description:

### Industrial managed media converter with one 10/100/1000Base-T copper port and one 1000Base-SX/LX mini-GBIC slot system.

## Manufacturer

### Acceptable Manufacturer:

#### IFS Brand

#### UTC Fire & Security, Inc.

#### 2955 Red Hill Ave.

#### Costa Mesa, CA 92626

#### Phone 1-855-286-8889

#### Email: interlogixinsidesales@interlogix.com

### Substitutions: Not Permitted

### All fiber optic modules shall be supplied from a single manufacturer.

## Manufactured Units

### Model Number Descriptions: Reference Table A: Product Number Descriptions

### Model Compatibility Chart: Reference Table B: Product Compatibility Chart

### MANUFACTURED UNITS REFERENCE TABLES

#### Table A: Product Number Descriptions

|  |  |  |
| --- | --- | --- |
| **Model Name** | **DESCRIPTION** | **MAX. DISTANCE\*** |
| MC352-1P-1S | Gigabit Ethernet to SFP Industrial Media Converter with PoE-AT (-40~75°C) | Depends on the SFP module |

#### Table B: Product Compatibility Chart

| SFP Transceiver | DESCRIPTION | MAX. DISTANCE\* |
| --- | --- | --- |
| MULTI-MODE |  |  |
| S30-2MLC | SFP-Port 1000 Base-SX Mini-GBIC Module - 2 Fiber – 550 m - Multi-Mode – 850 nm (0~50℃) - Based on 50/245 µm OM2 Fiber | 550 m |
| S30-2MLC-2 | SFP-Port 1000 Base-SX2 Mini-GBIC Module - 2 Fiber – 2 km - Multi-Mode – 1310 nm (0~50℃) - Based on 50/245 µm OM4 Laser Optimise | 2 km |
| S20-2MLC-2 | SFP-Port 100Base-FX Mini-GBIC Module - 2 Fiber - 2km - Multi-Mode - 1310nm (0~50℃) | 2 km |
| SINGLE MODE |  |  |
| S30-2SLC-10 | SFP-Port 1000 Base-LX10 Mini-GBIC Module - 2 Fiber – 10 km - Single-Mode – 1310 nm (0~50℃) | 10 km |
| S30-2SLC-30 | SFP-Port 1000 Base-LHX Mini-GBIC Module - 2 Fiber – 30 km - Single-Mode – 1310 nm (0~50℃) | 30 km |
| S30-2SLC-70 | SFP-Port 1000 Base-ZX Mini-GBIC Module - 2 Fiber – 70 km - Single-Mode – 1550 nm (0~50℃) | 70 km |
| S30-1SLC/A-10 | SFP-Port 1000 Base-BX10 Mini-GBIC Module - 1 Fiber – 10 km - Single-Mode - Tx 1310 nm - Rx 1490 nm (0~50℃) | 10 km |
| S30-1SLC/B-10 | SFP-Port 1000 Base-BX10 Mini-GBIC Module - 1 Fiber – 10 km - Single-Mode - Tx 1490 nm - Rx 1310 nm (0~50 ℃) | 10 km |
| S30-1SLC/A-20 | SFP-Port 1000 Base-BX20 Mini-GBIC Module - 1 Fiber – 20 km - Single-Mode - Tx 1310 nm - Rx 1490 nm (0~50℃) | 20 km |
| S30-1SLC/B-20 | SFP-Port 1000 Base-BX20 Mini-GBIC Module - 1 Fiber – 20 km - Single-Mode - Tx 1490 nm - Rx 1310 nm (0~50℃) | 20 km |
| S30-1SLC/A-60 | SFP-Port 1000Base-BX60 Mini-GBIC Module - 1 Fiber – 60 km - Single-Mode - Tx 1310nm - Rx 1490nm (0~50℃) | 60 km |
| S30-1SLC/B-60 | SFP-Port 1000 Base-BX60 Mini-GBIC Module - 1 Fiber – 60 km - Single-Mode - Tx 1490 nm - Rx 1310 nm (0~50℃) | 60 km |
| S20-1SLC/A-20 | SFP-Port 100Base-BX20 Mini-GBIC Module - 1 Fiber – 20 km - Single-Mode - Tx 1310nm - Rx 1550nm (0~50℃) | 20 km |
| S20-1SLC/B-20 | SFP-Port 100Base-BX20 Mini-GBIC Module - 1 Fiber – 20 km - Single-Mode - Tx 1550nm - Rx 1310nm (0~50℃) | 20 km |
| S20-2SLC-20 | SFP-Port 100Base-LX20 Mini-GBIC Module - 2 Fiber – 20 km - Single-Mode - 1310nm (0~50℃) | 20 km |
| S25-1MLC-A-2 | SFP - 100Base-BX - 1MM - LC - 2Km TX:1310 nm, RX: 1550 nm (-40~75℃) | 2 km |
| S25-1MLC-B-2 | SFP - 100Base-BX - 1MM - LC - 2Km TX:1550 nm, RX: 1310 nm (-40~75℃) | 2 km |

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

28 08 00 Commissioning of Electronic Safety and Security

28 08 11 Testing for Baseline Performance Criteria

# Testing the 10/100/1000T Gigabit Copper Link:

## Verify that the data leads and optical fibers are properly connected.

## Make sure that power is applied to the PoE equipment.

## Successful data link operation should be confirmed by communicating with other equipment.

# Testing the 10/100/1000T PoE Copper output capability:

## Make sure that power is applied to the PoE equipment.

# Testing the Fiber Optic Ethernet Link:

## Verify that the data leads and optical fibers are properly connected.

## Make sure that power is applied to all fiber optic modules, controllers, and receiver drivers or other equipment used in the system.

## Successful data link operation should be confirmed by communicating with other equipment.

Contacting Support

Web site:

[www.interlogix.com/support](http://www.interlogix.com/support)

North America:

1-855-286-8889

techsupport@interlogix.com

Latin America:

+1 561-998-6114

latam@interlogix.com

EMEA:

See specific country listings at:

<https://firesecurityproducts.com/en/contact>

Australia/New Zealand

<http://www.utcfs.com.au>

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