

NS3562-8P-2S-V2 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

## Carrier Fire & Security Model Number: **NS3562-8P-2S-V2**.

### The switch does not have a PoE power boost feature, for example 48 VDC input and 48 VDC PoE power voltage output.

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

### The switch shall support IEEE 802.3at Power over Ethernet detection and 48 to 56 VDC power injection at port 1 to port 8.

### The switch is also the power injectors which transmit DC Voltage to the Cat5/5e/6 cable and transfer data and power simultaneously to remote PD (Powered Device) equipment.

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

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

28 05 07.25 Power Source Monitoring

# Specifications

## Carrier Fire & Security Model Number: **NS3562-8P-2S-V2**.

### The module shall provide power, SFP and link / act status, TP port link / act and PoE status indicating LEDs for monitoring proper system operation.

### The unit provides dual power inputting interfaces without redundant function.

28 05 11 Cyber Security Requirements for Electronic Safety and Security

# Mandatory Default Password Change

## For added cybersecurity, the user is forced to change the default password before accessing the web interface.

## Password must contain one lower case letter, one upper case letter, one number, and one special character.

28 05 33 Safety and Security Network Communications Equipment

28 05 33.15 Security Data Communications Power-Over-Ethernet Switches

# System Description

## Performance Requirements: Provide eight 10/100/1000Base-T copper ports with IEEE 802.3at Power over Ethernet Injector and two 100/1000 Mbps SFP slots.

### The system shall utilize EIA568, category 5/5e/6, 4-pair cables for 10 Base-T or 100 Base-TX and 1000 Base-T to transfer Ethernet data and 48 to 56 VDC power simultaneously.

### The system shall utilize 850 to 1550 nm optics capable of data transmission of 100/1000 Mbps on multimode / single-mode optical fibers.

## The SFP ports can be optical 1000Base-SX / LX or 100 Base-FX through SFP (Small Form-Factor Pluggable) interface.

### The SFP module shall utilize **850 nm** optics capable of bi-directional data transmission of **1000Base-SX** on two multimode optical fibers.

### The SFP module shall utilize **1310 nm** optics capable of bi-directional data transmission of **1000Base-LX** on two single-mode optical fibers.

### The SFP module shall utilize **1310 nm/1490 nm or 1310 nm/1550 nm** optics capable of bi-directional data transmission of **1000Base-BX** on one single-mode optical fiber.

### The SFP module shall utilize 1310 nm optics capable of bi-directional data transmission of 100Base-FX on multimode or single-mode optical fibers.

28 05 45 Systems Integration and Interconnection Requirements

28 05 45.11 Mechanical

# Surface Mount Dimensions: 7” x 0.98” x 5.27” (178 mm x 25 mm x 134 mm)

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

# Weight: 1.41 lb. / 640 g

28 05 45.13 Electrical

# Power Characteristics:

## Power:

### 48-56 VDC @ 6 A max.

## 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 the switch.

## Warranty: Manufacturer’s Printed Warranty.

# 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 –4**0** to **+75˚C** without the assistance of fan-forced cooling.

## Humidity Requirements: Products shall operate in an environment with relative humidity of 5 to 95% (non-condensing).

# Warranty

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

# General Specifications

## The Industrial Gigabit Managed Switch shall be a **NS3562-8P-2S-V2** model.

## The Industrial Gigabit Managed Switch with eight 10/100/1000Base-T copper ports and two 100/1000Base-X SFP slot systems.

## 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 100/1000Base-X SFP slot supports single-mode/multimode fiber

## The Fast/Gigabit Ethernet SFP module shall require no in-field electrical or optical adjustments or in-line attenuators to ease installation.

## The module shall support UTP distance up to 100 meters

## The switch shall be connected with EIA568A/B Cat 5/5e/6 UTP/STP cable system for its RJ45 interface ports.

# Data Specifications

## Data Interface: Ethernet IEEE 802.3/3u/3ab/3z

## Data Rate:

### Port 1 to Port 8: 10/100/1000 Mbps

### Port 9 to Port 10 SFP: 100/1000 Mbps

## Data Inputs: 10

## Operation Mode: Simplex or Duplex

# Optical Specifications

## Optical Fiber:

### 9/125 micron single mode

### 62.5/125 micron multimode

## Number of Optical ports: 1

## Number of Fibers Required: 1 or 2, depends on various SFP module

## Optical Wavelength: depends on various SFP module

## Optical Power Budget: depends on various SFP module

## Maximum Distance: depends on various SFP module

# Status Indicators

## System

|  |  |  |
| --- | --- | --- |
| **LED** | **Color** | **Function** |
| Power | Green | **Lit:** indicates the unit has power. |

## 100/1000X SFP Interfaces

|  |  |  |
| --- | --- | --- |
| **LED** | **Color** | **Function** |
| SFP9 | Green | **Lit:** indicates that the SFP port 9 has been established with 1000 Mbps. |
| **Blink**: indicates that the port is actively sending or receiving data over that port. |
| Amber | **Lit:** indicates that the SFP port 9 has been established with 100 Mbps. |
| **Off**: indicates that the port is actively sending or receiving data over that port. |
| SFP10 | Green | **Lit:** indicates that the SFP port 10 has been established with 1000 Mbps. |
| **Blink**: indicates that the port is actively sending or receiving data over that port. |
| Amber | **Lit:** indicates that the SFP port 10 has been established with 100 Mbps. |
| **Off**: indicates that the port is actively sending or receiving data over that port. |

## 10/100/1000 Base-T Interfaces

|  |  |  |
| --- | --- | --- |
| **LED** | **Color** | **Function** |
| 10/100/1000 LNK/ACT | Green | **Lit:** indicates that the port is successfully connecting to the network at 10/100/1000 Mbps. |
| **Blink**: indicates that the switch is actively sending or receiving data over that port. |
| PoE in-use | Amber | **Lit:** indicates that the port is providing 48 to 56 VDC in-line power. |
| **Off**: indicates that the connected device is not a PoE Powered Device (PD). |

# Connectors

## Optical: SFP Slot/LC interface

## Power: 3-pin terminal block without screw clamps and DC plug socket

## Data: RJ45

## Contact closure: 3-pin terminal block without screw clamps

# Environmental Specifications

## MTBF: > 100,000 Hours

## Operating Temp: –40 to +75˚C

## Storage Temp: –40 to +85˚C

## Relative Humidity: 5 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+AC:2016, Class A

### EN61000-3-2: 2014

### EN61000-3-3: 2013

### EN 55024: 2010+A1:2015

# Accessories

## RJ45 to RS-232 Console Cable

## DIN rail kit x1

## Wall mount kit x1

## 3-pin terminal block connector x1

## RJ45 dust cap x8

## SFP dust cap x2

# Execution

## Examination

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

## Preparation

### DIN Rail Mount Installation

#### Shall be mounted on a properly installed DIN Rail adequate for the size and weight of the 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.

### Wall Mount Installation

#### The distance between the two holes is 133 mm.

#### The distance between the two holes is 163 mm.

#### Install a conductor pipe inside the board hole and flush the edge of the conductor pipe with the wall surface.

#### Screw the bolts into the conductor pipe. The wall-mount managed switch is between bolts and conductor pipe.

### 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 and type – multimode of optical fiber shall meet the requirements of the Carrier 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 on the cable shall be cleaned in compliance with the optical connector manufacturer's specifications and covered with dust caps until the fiber optic module is connected.

# Installation

## General: Locate fiber optic modules as indicated on the approved detail drawings and install module in compliance with the Carrier 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:

### IFS NS3562-8P-2S-V2 8-port 10/100/1000TP with PoE AT plus two 100/1000X mini-GBIC slot Industrial Gigabit Managed Switch– Standalone

## Manufacturer

### Acceptable Manufacturer:

#### IFS Brand

#### Carrier Fire & Security Americas Corporation Inc.

#### 13995 Pasteur Blvd.

#### Palm Beach Gardens

#### FL 33418, USA

### Substitutions: Not Permitted

## 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\*** |
| NS3562-8P-2S-V2 | 8-port Gigabit PoE+ Industrial Managed Switch | Copper port is 100 meters.  SFP slot depends on various SFP module. |

#### Table B: Product Compatibility Chart

|  |  |  |
| --- | --- | --- |
| SFP Transceiver | DESCRIPTION | MAX. DISTANCE\* |
| MULTI-MODE |  |  |
| S30-2MLC | SFP-Port 1000Base-SX Mini-GBIC Module - 2 Fiber – 550 m - Multi-Mode – 850 nm (0~50℃) - Based on 50/125 µm OM2 Fiber | 550 m |
| S30-2MLC-2 | SFP-Port 1000Base-SX2 Mini-GBIC Module - 2 Fiber – 2 km - Multi-Mode – 1310 nm (0~50℃) - Based on 50/125 µm OM4 Laser Optimise | 2 km |
| SINGLE MODE |  |  |
| S30-2SLC-10 | SFP-Port 1000Base-LX10 Mini-GBIC Module - 2 Fiber – 10 km - Single-Mode – 1310 nm (0~50℃) | 10 km |
| S30-2SLC-30 | SFP-Port 1000Base-LHX Mini-GBIC Module - 2 Fiber – 30 km - Single-Mode – 1310 nm (0~50℃) | 30 km |
| S30-2SLC-70 | SFP-Port 1000Base-ZX Mini-GBIC Module - 2 Fiber – 70 km - Single-Mode – 1550 nm (0~50℃) | 70 km |
| S30-1SLC/A-10 | SFP-Port 1000Base-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 1000Base-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 1000Base-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 100Base-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 1000Base-BX60 Mini-GBIC Module - 1 Fiber – 60 km - Single-Mode - Tx 1490 nm - Rx 1310 nm (0~50℃) | 60 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 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 at this point by communicating with other equipment.

# Testing the 10/100/1000Base-T Gigabit Ethernet and Gigabit Copper Link.

## Verify that the data leads and UTP ports are properly connected.

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

## Testing the 10/100/1000Base-T PoE Copper output capability.

Contacting Support

|  |  |  |
| --- | --- | --- |
| Contact information |  | EMEA: <https://firesecurityproducts.com>  Australian/New Zealand: <https://firesecurityproducts.com.au/> |
| Product documentation |  | Please scan the QR code to download the electronic version of the product documentation. The manuals are available in several languages.  Qr code  Description automatically generated |