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MC352-4P-2S-V2 User Manual

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FCC compliance	Class A: This equipment has been tested and found to comply with the limits for a Class A digital 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 case the user will be required to correct the interference at his own expense.
FCC conditions	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference. (2) This Device must accept any interference received, including interference that may cause undesired operation.
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2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.



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Contact information

EMEA: <https://firesecurityproducts.com>

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**Product
documentation**

Please consult the following web link to retrieve the electronic version of the product documentation. The manuals are available in several languages.



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Important information

Regulatory information

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Installation in accordance with this manual, applicable codes, and the instructions of the authority having jurisdiction is mandatory.

While every precaution has been taken during the preparation of this manual to ensure the accuracy of its contents, Carrier assumes no responsibility for errors or omissions.

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YOU UNDERSTAND THAT A PROPERLY INSTALLED AND MAINTAINED ALARM/SECURITY SYSTEM MAY ONLY REDUCE THE RISK OF EVENTS SUCH AS BURGLARY, ROBBERY, FIRE, OR SIMILAR EVENTS WITHOUT WARNING, BUT IT IS NOT INSURANCE OR A GUARANTEE THAT SUCH EVENTS WILL NOT OCCUR OR THAT THERE WILL BE NO DEATH, PERSONAL INJURY, AND/OR PROPERTY DAMAGE AS A RESULT.

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THE EQUIPMENT SHOULD ONLY BE OPERATED WITH AN APPROVED POWER ADAPTER WITH INSULATED LIVE PINS.

DO NOT CONNECT TO A RECEPTACLE CONTROLLED BY A SWITCH.

THIS UNIT INCLUDES AN ALARM VERIFICATION FEATURE THAT WILL RESULT IN A DELAY OF THE SYSTEM ALARM SIGNAL FROM THE INDICATED CIRCUITS. THE TOTAL DELAY (CONTROL UNIT PLUS SMOKE DETECTORS) SHALL NOT EXCEED 60 SECONDS. NO OTHER SMOKE DETECTOR SHALL BE CONNECTED TO THESE CIRCUITS UNLESS APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION.

WARNING! The equipment should only be operated with an approved power adapter with insulated live pins.

Caution: Risk of explosion if battery is replaced by an incorrect type. Dispose of batteries according to the instructions. Contact your supplier for replacement batteries.

Warranty Disclaimers

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Intended Use

Use this product only for the purpose it was designed for; refer to the data sheet and user documentation. For the latest product information, contact your local supplier or visit us online at firesecurityproducts.com.

The system should be checked by a qualified technician at least every 3 years and the backup battery replaced as required.

Advisory messages

Advisory messages alert you to conditions or practices that can cause unwanted results. The advisory messages used in this document are shown and described below.

WARNING: Warning messages advise you of hazards that could result in injury or loss of life. They tell you which actions to take or to avoid in order to prevent the injury or loss of life.

Caution: Caution messages advise you of possible equipment damage. They tell you which actions to take or to avoid in order to prevent the damage.

Note: Note messages advise you of the possible loss of time or effort. They describe how to avoid the loss. Notes are also used to point out important information that you should read.

Package contents

Thank you for purchasing the IFS Industrial 4-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Ethernet Switch, MC352-4P-2S-V2. In the following sections, the term “Industrial Gigabit PoE+ Switch” means the MC352-4P-2S-V2.

Open the box of the Industrial Gigabit PoE+ Switch and carefully unpack it. The box should contain the following items:

- Industrial Gigabit PoE+ Switch x 1
- User Manual x 1
- DIN Rail Kit x 1
- Wall Mount Kit x 1

If any of these are missing or damaged, please contact your dealer immediately. If possible, retain the carton including the original packing material, and use them again to repack the product in case there is a need to return it to us for repair.

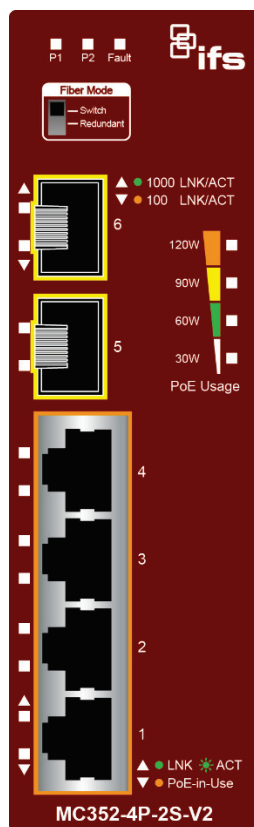
Hardware Introduction

Switch Front Panel

The front panel of the Industrial Gigabit PoE+ Switch consists of Ethernet interfaces and LED indicators.

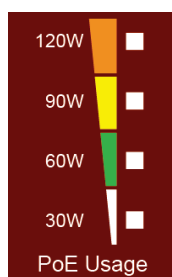
Front View

Figure 1: MC352-4P-2S-V2 Front View



PoE Power Usage LED

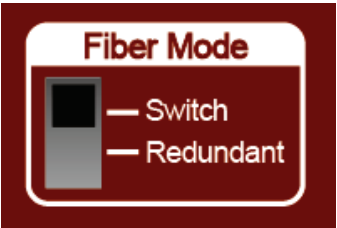
The front panel of the Industrial Gigabit PoE+ Switch has four LEDs that indicate **PoE Power Usages of 30W, 60W, 90W and 120W**. With these LED indications, you can monitor the current PoE power in use status of Industrial Gigabit PoE+ Switch easily and efficiently.



DIP Switch

The front panel of the Industrial Gigabit PoE+ Switch provides one DIP Switch for configuring fiber redundant function.

The DIP Switch settings and descriptions:

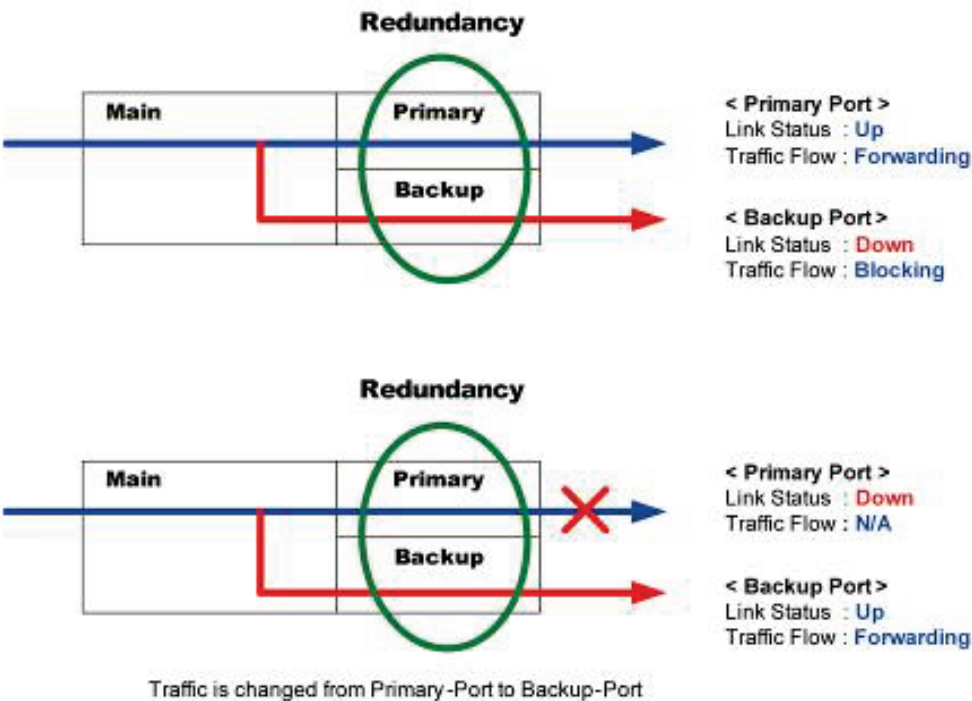


Fiber Mode (DIP Switch)	
Switch (Default Mode)	This mode allows the Industrial Gigabit PoE+ Switch to use 6 ports.
Redundant	This mode allows one of the two SFP ports to be redundant while the other 5 ports are in operation.

Redundancy Overview

The Industrial Gigabit PoE+ Switch provides rapid link fiber redundancy for critical Ethernet applications; the redundant mode supports auto-recover function. If the link of the destination port of a packet is down, it will forward the packet to the other port of the backup pair. The following figure shows the redundant functions.

Figure 2: Redundancy Behavior Topology



Note: Using the Redundant mode, port 5 is defined as Primary Port and port 6 as Backup Port.

LED Definition

System

LED	Color	Function
P1	Green	Light: indicates power 1 has power.
P2	Green	Light: indicates power 2 has power.
FAULT	Red	Light: indicates either power 1 or power 2 has no power.

10/100/1000BASE-T Interfaces (Port 1 to Port 4)

LED	Color	Function
LNK/ACT	Green	Light: Indicates the Industrial Gigabit PoE+ Switch is successfully connecting to the network at 10/100/1000Mbps.
		Blinking: Indicates that the Industrial Gigabit PoE+ Switch is actively sending or receiving data over that port.
PoE-in-Use	Amber	Light: Indicates the port is providing DC in-line power.
		Off: Indicates the connected device is not a PoE powered device (PD).

SFP Interface (Port 5 to Port 6)

LED	Color	Function
1000 LNK/ACT	Green	Light: Indicates the port is running at 1000 Mbps and successfully established.
		Blinking: Indicates that the Industrial Gigabit PoE+ Switch is actively sending or receiving data over that port.
100 LNK/ACT	Amber	Light: Indicates the port is running at 100 Mbps and successfully established.

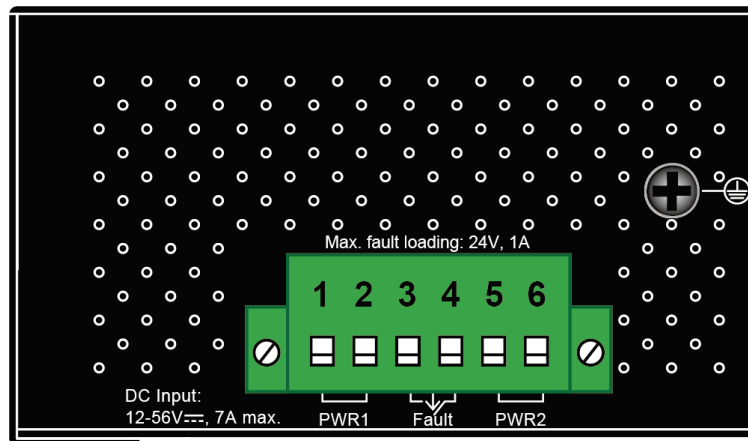
Per PoE Power Usage (Unit: Watt) (Lower LED to upper LED)

LED	Color	Function
30	Amber	Light: Indicates the system is providing >30/60/90/120W PoE power usage.
		Blinking: Indicates the system is providing 30/60/90/120W PoE power usage.
60		25 < X < 30, 30W LED flash; X >= 30, 30W LED light;
		55 < X < 60, 60W LED flash; X >= 60, 60W LED light;
		85 < X < 90, 90W LED flash; X >= 90, 90W LED light;
90		100 < X < 115, 120W LED flash;
		115 < X < 120, 120W LED flash fast; X >= 120, 120W LED light.
120		

Switch Upper Panel

The upper panel of the Industrial Gigabit PoE+ Switch consists of one terminal block connector within two DC power inputs. Figure 3 shows the upper panel of the Industrial Gigabit PoE+ Switch.

Figure 3: Industrial Gigabit PoE Switch Upper Panel



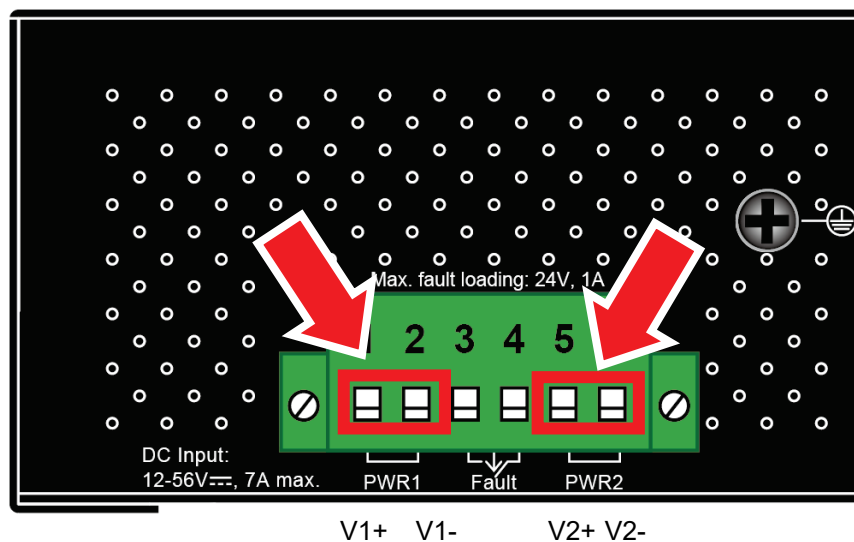
Wiring the Power Inputs

The six-contact terminal block connector on the top panel of Industrial Gigabit PoE+ Switch is used for two redundant power inputs. Please follow the steps below to insert the power wire.

Caution: When performing any of the procedures like inserting the wires or tightening the wire-clamp screws, make sure the power is OFF to prevent from getting an electric shock.

To insert the power wire:

1. Insert positive and negative DC power wires into contacts 1 and 2 for POWER 1, or contacts 5 and 6 for POWER 2.



2. Tighten the wire-clamp screws for preventing the wires from loosening.

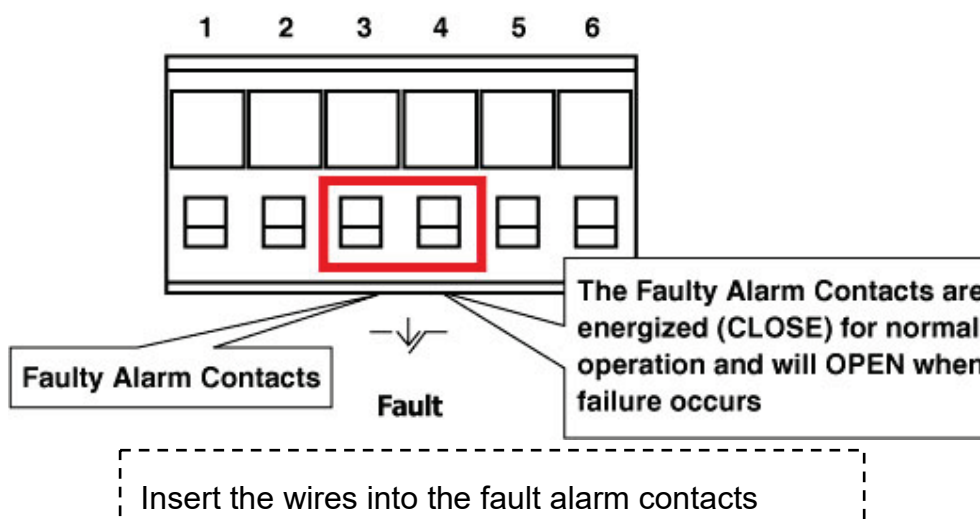


1	2	3	4	5	6
Power 1		Fault		Power 2	
+	-			+	-

Note: The wire gauge for the terminal block should be in the range between 12 and 24 AWG.

Wiring the Faulty Alarm Contact

The faulty alarm contacts are in the middle of the terminal block connector as the picture shows below. Inserting the wires, the Industrial Gigabit PoE+ Switch will detect the fault status of the power failure and then forms an open circuit. The following illustration shows an application example for wiring the faulty alarm contacts.

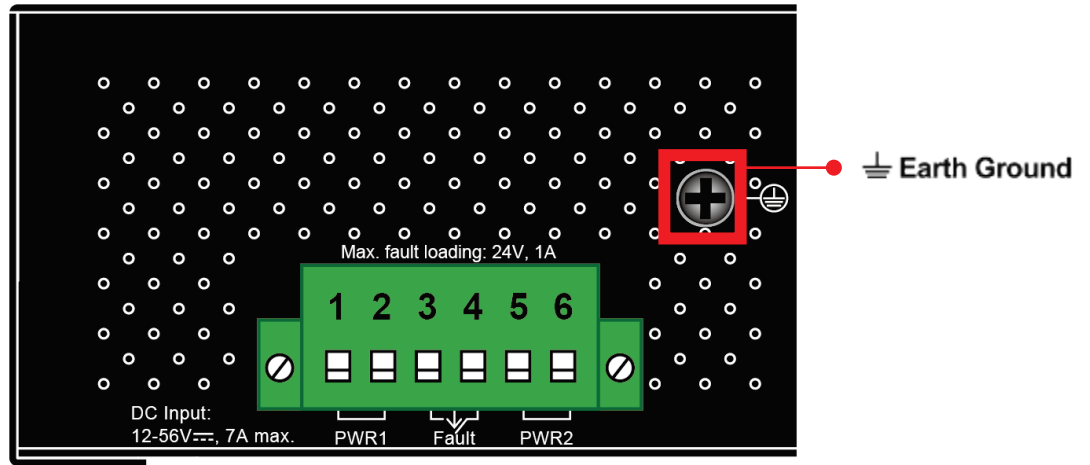


Note:

1. The wire gauge for the terminal block should be in the range of 12 ~ 24 AWG.
2. Alarm relay circuit accepts up to 24 V, max. 1 A currents.

Grounding the Device

The device must be correctly grounded to avoid serious damage.



Note: EMD (Lightning) DAMAGE IS NOT COVERED UNDER WARRANTY.

Installation

This section describes how to install the Industrial PoE+ Switch on the DIN rail and wall.

Note: The following pictures show how to install the device. However, the device in the picture is not MC352-4P-2S-V2.

Mounting the DIN rail

The DIN rail bracket is screwed on the Industrial PoE+ Switch when shipped. You need an Industrial PoE+ Switch when replacing the wall-mount application with DIN rail application.

To mount the Industrial PoE+ Switch:

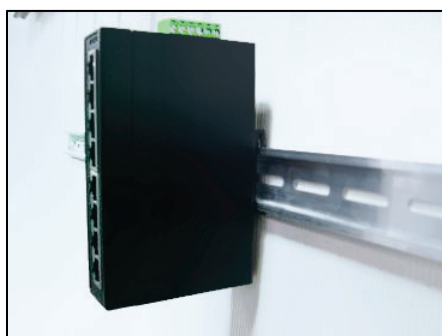
1. Screw the DIN rail bracket on the Industrial PoE+ Switch.



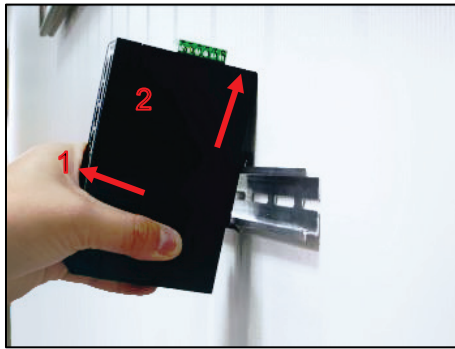
2. Carefully insert the bottom of the switch into the track, as shown below.



3. Ensure the DIN rail bracket is tightly secured on the track.



4. Please refer to the following procedure to remove the Industrial PoE+ Switch from the track.



Mounting the Wall-mount Plate

To install the Industrial PoE+ Switch on the wall:

1. Loosen the screws to remove the DIN rail bracket from the Industrial PoE+ Switch.
2. Place the wall-mount plate on the rear panel of the Industrial PoE+ Switch.



3. Use the screws to attach the wall-mount plate on the Industrial PoE+ Switch.
4. Use the hook holes at the corners of the wall-mount plate to hang the Industrial PoE+ Switch on the wall.
5. To remove the wall-mount plate, reverse the steps above.

Product specifications

This section describes the functionalities of the Industrial Gigabit PoE+ Switch's components and guides you to installing the Switch.

Model	MC352-4P-2S-V2
Hardware Specifications	
Copper Ports	4 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports
PoE Injector Ports	Four ports with 802.3at PoE+ injector function (Port-1 to Port-4)
SFP Slots (Auto Detection)	Two 1000BASE-SX/LX/BX SFP interface (Port 5 to Port 6) Compatible with 100BASE-FX SFP
DIP Switch	Switch (default)/fiber redundant mode
Connector	Removable 6-pin terminal block Pin 1/2 for Power 1 Pin 3/4 for fault alarm Pin 5/6 for Power 2
Power Requirements	12 to 56 VDC, 7 A (max.) Redundant power with reverse polarity protection
Alarm	Provides one relay output for power failure Alarm relay current carry ability: 1 A @ 24 VDC
Power Consumption	Max. 7.02 W/24 BTU (Ethernet Full Loading) Max. 130.6 W/445 BTU (Ethernet + PoE Full Loading)
Dimensions (W x D x H)	32 x 87 x 135 mm
Weight	657 g
Enclosure	IP40 metal case
Installation	DIN rail kit and wall-mount kit
ESD Protection	6 KV
Switch Specifications	
Switch Architecture	Store-and-Forward
Switch Fabric	12 Gbps
Throughput (packet per second)	8.93 Mpps @ 64 bytes
Address Table	4 K entries
Buffer Memory	1 M bits on-chip buffer memory
Jumbo Frame	9 Kbytes
Flow Control	Back pressure for half duplex IEEE 802.3x pause frame for full duplex

Power over Ethernet

PoE Standard	IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet Plus PSE
PoE Power Supply Type	End-span
Power Pin Assignment	1/2(+), 3/6(-)
PoE Power Output	IEEE 802.3af Standard - Per port 48 V to 51 VDC (depending on the power supply), max. 15.4 W IEEE 802.3at Standard - Per port 51 V to 56 VDC (depending on the power supply), max. 36 W
PoE Power Budget (max.)	60 W @ 12 VDC input 90 W @ 24 VDC input 120 W @ 48 V to 56 VDC input
Max. Number of Class 4 PDs	4

Standards Conformance

Regulatory Compliance	FCC Part 15 Class A, CE
Stability Testing	IEC 60068-2-32 (free fall) IEC 60068-2-27 (shock) IEC 60068-2-6 (vibration)
Standards Compliance	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3ab Gigabit Ethernet IEEE 802.3az Gigabit SX/LX IEEE 802.3x Full-Duplex Flow Control IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet Plus PSE IEEE 802.1p Class of Service

Environment

Temperature	Operating: -40 to +75°C Storage: -40 to +75°C
Humidity (non-condensing)	Operating: 5 to 90% Storage: 5 to 90%

Customer Support

If you need support information, please contact our support team, whose contact details can be found on our website:

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Australian/New Zealand: <https://firesecurityproducts.com.au/>