4-Port 10/100Mbps +1/2 100FX Fiber Port

Industrial Fast Ethernet Switch

ISW-511 / ISW-621 Series

ISW-511T / ISW-621T Series

User's Manual

Trademarks

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To avoid the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment, end users of electrical and electronic equipment should understand the meaning of the crossed-out wheeled bin symbol. Do not dispose of WEEE as unsorted municipal waste and have to collect such WEEE separately.

Revision

PLANET 4-Port 10/100Mbps +1/2 100FX Industrial Fast Ethernet Switch User's Manual

For Models: ISW-511 / ISW-621 / ISW-511T / ISW-621T Series

Revision: 1.4 (April, 2015)

Part No: EM-ISW-511_621_v1.4 (2350-AH0150-003)

Table of Contents

1. Introduction

1.1 Package Contents

Check the contents of your package for the following parts:

- Industrial Fast Ethernet Switch x 1
- User's 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

1.2 How to Use This Manual

This Industrial Fast Ethernet Switch User Manual is structured as follows:

Chapter 2 Installation

The chapter explains the feature, functionality and the physical installation of the Industrial Fast Ethernet Switch.

Chapter 3 Application

The chapter explains the Industrial Fast Ethernet Switch application.

Chapter 4 Switch operation

The chapter explains the Industrial Fast Ethernet Switch transmit operation.

Chapter 5 Troubleshooting

The chapter explains the troubleshooting of the Industrial Fast Ethernet Switch.

Appendix A

This chapter contains cable information of the Industrial Fast Ethernet Switch.

1.3 Product Features

Physical Port

<table>
<tr><th rowspan="2">Model Name</th><th colspan="2">Ports</th><th colspan="2">Fiber Optical Interface</th></tr>
<tr><th>Copper</th><th>Optical</th><th>Mode</th><th>Distance</th></tr>
<tr><td>ISW-511</td><td rowspan="9">4 x
10/100BASE-TX</td><td rowspan="4">1 x
100BASE-FX</td><td rowspan="2">Multi-mode</td><td rowspan="2">2km</td></tr>
<tr><td>ISW-511T</td></tr>
<tr><td>ISW-511S15</td><td rowspan="2">Single-mode</td><td rowspan="2">15km</td></tr>
<tr><td>ISW-511TS15</td></tr>
<tr><td>ISW-621</td><td rowspan="5">2 x
100BASE-FX</td><td>Multi-mode</td><td>2km</td></tr>
<tr><td>ISW-621T</td><td rowspan="2">Single-mode</td><td rowspan="2">15km</td></tr>
<tr><td>ISW-621S15</td></tr>
<tr><td>ISW-621TS15</td><td rowspan="2">Multi / Single Mode</td><td rowspan="2">depending on SFP Module</td></tr>
<tr><td>ISW-621TF</td></tr>
</table>

Layer 2 Features

- ☐ Complies with IEEE 802.3, IEEE 802.3u 10/100BASE-TX, 100BASE-FX
- ☐ Supports auto-negotiation and 10/100Mbps half / full duplex mode for each copper port
- ☐ High performance store and forward architecture, broadcast storm control, runt/CRC filtering eliminates erroneous packets to optimize the network bandwidth
- ☐ Prevents packet loss with back pressure (half-duplex) and IEEE 802.3x pause frame flow control (full-duplex)
- ☐ Backplane (switching fabric):

  ISW-511 / ISW-511T Series: 1Gbps

  ISW-621 / ISW-621T Series: 1.2Gbps
- ☐ Integrated address look-up engine, supporting 2K absolute MAC addresses
- ☐ 1Mbit on-chip frame buffer on ISW-511 / ISW-621 Series and ISW-511T / ISW621T Series
- ☐ Automatic address learning and address aging
- ☐ CSMA/CD Protocol

Industrial Case / Installation

☐ IP30 metal case

☐ DIN rail and wall mount design

☐ 12 to 48V DC, redundant power with polarity reverse protect function and connective removable terminal block for master and slave power

☐ -10 to 60 degrees C operating temperature on ISW-511 / ISW-511S15 / ISW-621 / ISW-621S15

☐ -40 to 75 degrees C operating temperature on ISW-511T / ISW-511TS15 / ISW-621T / ISW-621TS15 / ISW-621TF

1.4 Product Specifications

Model		ISW-511	ISW-511S15
Hardware Specifications			
Copper	Ports	4 x 10/100BASE-TX, auto-negotiation, auto-MDI/MDI-X	
	Cable	10BASE-T : 2-pair UTP Cat. 3, 4, 5 cable (100 meters, max.) 100BASE-TX : 2-pair UTP Cat. 5, 5e, 6 cable (100 meters, max.)	
Fiber Optical	Port	1 x 100BASE-FX	
	Cable	50/125μm fiber 62.5/125μm fiber	9/125μm fiber
	Mode	multi-mode	single-mode
	Distance	2km	15km
Dimensions (W x D x H)		135 x 97 x 32mm	
Weight		436g	
Power Requirements		12~48V DC, Redundant power with polarity reverse protection function	
Power Consumption / Dissipation		9.1 watts / 31BTU	
Installation		DIN rail kit and wall mount ear	

Switch Specifications	
Switch Processing Scheme	Store-and-Forward
Address Table	2K entries
Buffer	1Mbit
Flow Control	Back pressure for half duplex, IEEE 802.3x pause frame for full duplex
Switch Fabric	1Gbps
Throughput (Packet Per Second)	0.74Mpps @ 64Bytes
Standards Conformance	
Standards Compliance	IEEE 802.3 Ethernet, 10BASE-T IEEE 802.3u Fast Ethernet, 100BASE-TX, 100BASE-FX IEEE 802.3x full-duplex flow control
Stability testing	IEC60068-2-32 (free fall) IEC60068-2-27 (shock) IEC60068-2-6 (vibration)
Temperature	Operating: -10~60 degrees C Storage: -40~85 degrees C
Humidity Operating	Operating: 5% to 90%, Storage: 5% to 90% (non-condensing)
Regulation Compliance	FCC Part 15 Class A, CE

Model		**ISW-511T**	**ISW-511TS15**
Hardware Specifications			
Copper	Ports	4 x 10/100BASE-TX, auto-negotiation, auto-MDI/MDI-X	
	Cable	10BASE-T : 2-pair UTP Cat. 3, 4, 5 cable (100 meters, max.) 100BASE-TX : 2-pair UTP Cat. 5, 5e, 6 cable (100 meters, max.)	

Fiber Optical	Port	1 x 100BASE-FX	
	Cable	50/125μm fiber 62.5/125μm fiber	9/125μm fiber
	Mode	multi-mode	single-mode
	Distance	2km	15km
Dimensions (W x D x H)		135 x 97 x 32mm	
Weight		436g	
Power Requirements		12~48V DC, Redundant power with polarity reverse protection function	
Power Consumption / Dissipation		13.7 watts / 46BTU	
Installation		DIN rail kit and wall mount ear	
Switch Specifications			
Switch Processing Scheme		Store-and-Forward	
Address Table		2K entries	
Buffer		1Mbit	
Flow Control		Back pressure for half duplex, IEEE 802.3x pause frame for full duplex	
Switch Fabric		1Gbps	
Throughput (Packet Per Second)		0.74Mpps @ 64Bytes	
Standards Conformance			
Standards Compliance		IEEE 802.3 Ethernet, 10BASE-T IEEE 802.3u Fast Ethernet, 100BASE-TX, 100BASE-FX IEEE 802.3x full-duplex flow control	
Stability Testing		IEC60068-2-32 (free fall) IEC60068-2-27 (shock) IEC60068-2-6 (vibration)	

Temperature	Operating: -40~75 degrees C Storage: -40~85 degrees C
Humidity	Operating: 5% to 90%, Storage: 5% to 90% (non-condensing)
Regulation Compliance	FCC Part 15 Class A, CE

Model		ISW-621	ISW-621S15
Hardware Specifications			
Copper	Ports	4 x 10/100BASE-TX, auto-negotiation, auto-MDI/MDI-X	
	Cable	10BASE-T : 2-pair UTP Cat. 3, 4, 5 cable (100 meters, max.) 100BASE-TX : 2-pair UTP Cat. 5, 5e, 6 cable (100 meters, max.)	
Fiber Optical	Port	2 x 100BASE-FX	
	Cable	50/125μm fiber 62.5/125μm fiber	9/125μm fiber
	Mode	multi-mode	single-mode
	Distance	2km	15km
Dimensions (W x D x H)		135 x 97 x 32mm	
Weight		442g	
Power Requirements		12~48V DC, Redundant power with polarity reverse protection function	
Power Consumption / Dissipation		11.6 watts / 40BTU	
Installation		DIN rail kit and wall mount ear	
Switch Specifications			
Switch Processing Scheme		Store-and-Forward	
Address Table		2K entries	
Buffer		1Mbit	

Flow Control	Back pressure for half duplex, IEEE 802.3x pause frame for full duplex
Switch Fabric	1.2Gbps
Throughput (Packet Per Second)	0.89Mpps @ 64Bytes
Standards Conformance	
Standards Compliance	IEEE 802.3 Ethernet, 10BASE-T IEEE 802.3u Fast Ethernet, 100BASE-TX, 100BASE-FX IEEE 802.3x full-duplex flow control
Stability Testing	IEC60068-2-32 (free fall) IEC60068-2-27 (shock) IEC60068-2-6 (vibration)
Temperature	Operating: -10~60 degrees C Storage: -40~85 degrees C
Humidity	Operating: 5% to 90%, Storage: 5% to 90% (non-condensing)
Regulation Compliance	FCC Part 15 Class A, CE

Model		ISW-621T	ISW-621TS15	ISW-621TF
Hardware Specifications				
Copper	Ports	4 x 10/100BASE-TX, auto-negotiation, auto-MDI/MDI-X		
	Cable	10BASE-T : 2-pair UTP Cat. 3, 4, 5 cable (100 meters, max.) 100BASE-TX : 2-pair UTP Cat. 5, 5e, 6 cable (100 meters, max.)		
Fiber Optic	Port	2 x 100BASE-FX		
	Cable	50/125μm fiber 62.5/125μm fiber	9/125μm fiber	Multi-Mode: 50/125μm fiber 62.5/125μm fiber Single-Mode: 9/125μm fiber
	Mode	multi-mode	single-mode	
	Distance	2km	15km	Depend on SFP Module

Dimensions (W x D x H)	135 x 97 x 32mm
Weight	442g
Power Requirement	12~48V DC, Redundant power with polarity reverse protection function
Power Consumption / Dissipation	16 watts / 54BTU
Installation	DIN rail kit and wall mount ear
Switch Specification	
Switch Processing Scheme	Store-and-Forward
Address Table	2K entries
Buffer	1Mbit
Flow Control	Back pressure for half duplex, IEEE 802.3x pause frame for full duplex
Switch Fabric	1.2Gbps
Throughput (Packet Per Second)	0.89Mpps @ 64Bytes
Standards Conformance	
Standards Compliance	IEEE 802.3 Ethernet, 10BASE-T IEEE 802.3u Fast Ethernet, 100BASE-TX, 100BASE-FX IEEE 802.3x full-duplex flow control
Stability Testing	IEC60068-2-32 (free fall) IEC60068-2-27 (shock) IEC60068-2-6 (vibration)
Temperature	Operating: -40~75 degrees C Storage: -40~85 degrees C
Humidity Operating	Operating: 5% to 90%, Storage: 5% to 90% (non-condensing)
Regulation Compliance	FCC Part 15 Class A, CE

2. Installation

This section describes the functionalities of the Industrial Fast Ethernet Switch's components and guides how to install it on the desktop. Basic knowledge of networking is assumed. Please read this chapter completely before continuing.

2.1 Product Description

PLANET ISW-511 / ISW-621 series and ISW-511T / ISW-621T series are 4-Port 10/100Mbps + 1/2 100FX Fiber Port Industrial Fast Ethernet Switch with non-blocking wire-speed performance and new slim type with IP30 metal case for easy deployment in Heavy Industrial demanding environments.

With 1 / 1.2Gbps internal switching fabric, the Industrial Fast Ethernet Switch can handle extremely large amounts of data in a secure topology linking to a backbone or high capacity servers.

The Industrial Fast Ethernet Switch has 2K MAC address table and offers wire-speed packets transfer performance without risk of packet loss. The stable throughput of the device makes it ideal for most Ethernet environments.

All RJ45 copper interfaces support 10/100Mbps auto-negotiation for optimal speed detection through RJ45 Category 5, 4 or 3 cables. With auto-MDI/MDI-X, it can detect the type of connection to any Ethernet device without requiring special straight-through or crossover cables.

The flow control function allows Industrial Fast Ethernet Switch supported routers and servers to directly connect to this device for fast, reliable data transfer.

2.1.1 Switch Front Panel

Figures 2-1, 2-2, 2-3 and 2-4 show their front panels.

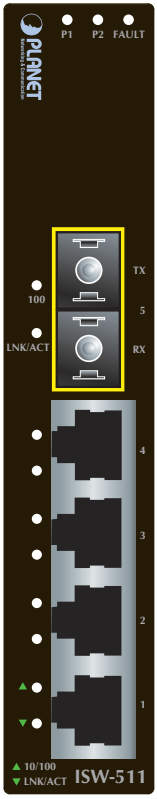


Figure 2-1 ISW-511 / ISW-511S15 Front Panel

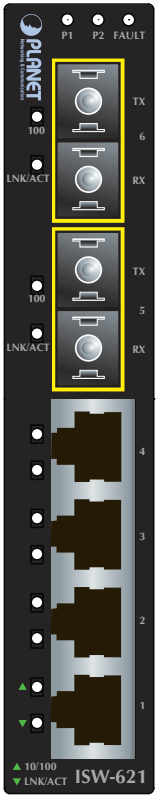


Figure 2-2 ISW-621 / ISW-621S15 Front Panel

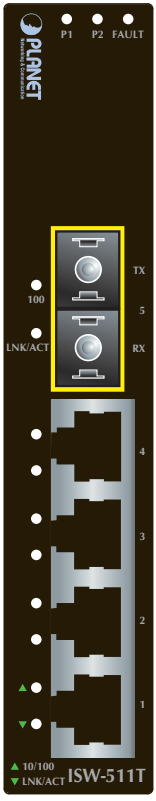


Figure 2-3 ISW-511T / ISW-511TS15 Front Panel

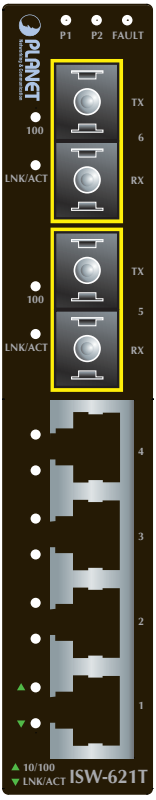


Figure 2-4 ISW-621T / ISW-621TS15 Front Panel

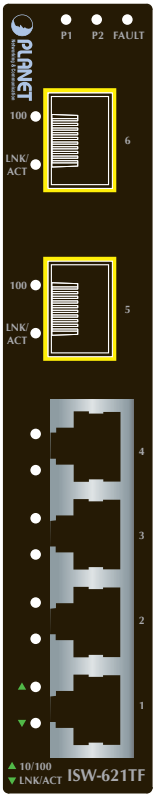


Figure 2-5 ISW-621TF Front Panel

2.1.2 LED Indicators

LED	Color	Function	
P1	Green	**Lit:** indicates power 1 has power.	
P2	Green	**Lit:** indicates power 2 has power.	
FAULT	Green	**Lit:** indicates either power 1 or power 2 has no power.	
100	Green	Fiber Optic	**Lit:** indicates the Fiber port is successfully connecting to the network at 100Mbps.
10/100	Green	Copper	**Lit:** indicates the Switch is successfully connecting to the network at 100Mbps. **Off:** indicates that the Switch is successfully connecting to the network at 10Mbps.
LNK/ ACT	Green	Fiber Optic	**Lit:** indicates the link through that port is successfully established. **Blinking:** indicates that the Switch is actively sending or receiving data over that port.
		Copper	

2.1.3 Switch Upper Panel

The upper panel of the Industrial Fast Ethernet Switch consists of one terminal block connector within two DC power inputs. Figure 2-6 shows the upper panel of the Industrial Fast Ethernet Switch.

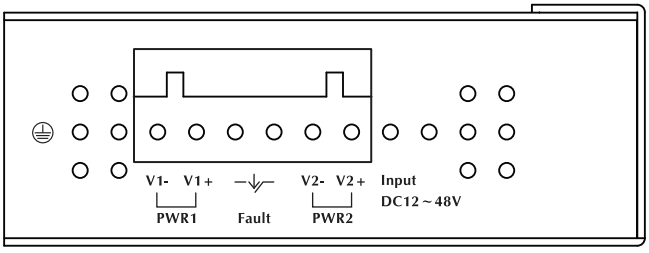
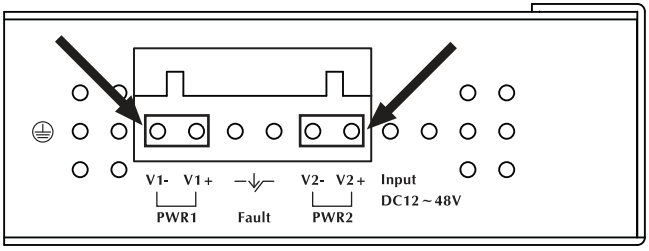


Figure 2-6 Industrial Fast Ethernet Switch Upper Panel.

2.1.4 Wiring the Power Inputs

The 6-contact terminal block connector on the top panel of Industrial Fast Ethernet Switch is used for two DC redundant powers input. Please follow the steps below to insert the power wire.

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



V1- V1 + V2 - V2 +

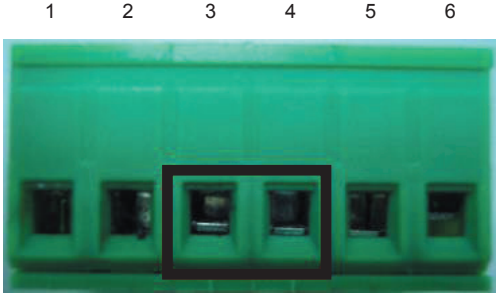
2. Tighten the wire-clamp screws for preventing the wires from loosening.

Note

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

2.1.5 Wiring the Fault Alarm Contact

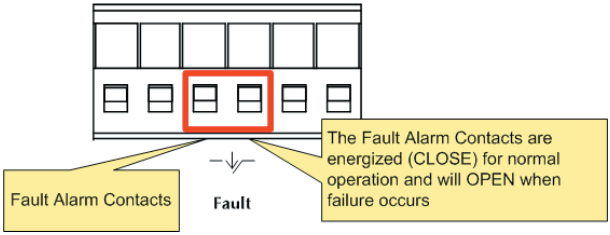
The fault alarm contacts are in the middle of the terminal block connector as the picture shows below. Inserting the wires, the Industrial Fast Ethernet Switch will detect the fault status of the power failure, or port link failure (available for managed model) and then forms an open circuit. The following illustration shows an application example for wiring the fault alarm contacts.



Insert the wires into the fault alarm contacts

Note

1. The wire gauge for the terminal block should be in the range between 12 and 24 AWG.
2. Alarm relay circuit accepts up to 30V, max. 3A currents.



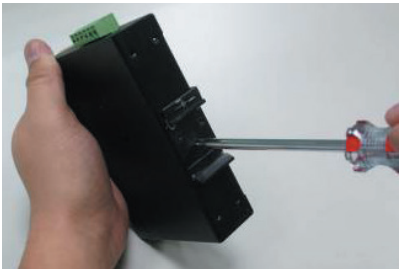
2.2 Mounting Installation

This section describes how to install the Industrial Fast Ethernet Switch and make connections to it. Please read the following topics and perform the procedures in the order being presented.

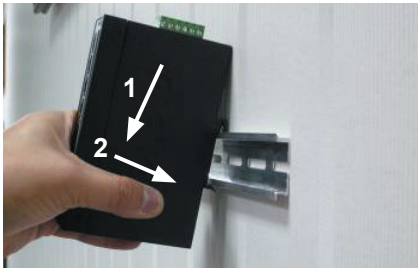
Note	In the installation steps below, this Manual uses IGS-801 (PLANET 8-Port Industrial Gigabit Switch) as the example. However, the steps for PLANET Industrial Switch and Industrial Media Converter are similar.

2.2.1 Install DIN-Rail Mounting

The DIN-Rail is screwed on the Industrial Gigabit Ethernet Switch when out of factory. When needed to replace the wall mount application with the DIN-Rail application on Industrial Gigabit Ethernet Switch, please refer to the following figures to screw the DIN-Rail on the Industrial Gigabit Ethernet Switch. To hang the Industrial Gigabit Ethernet Switch, follow the steps below:



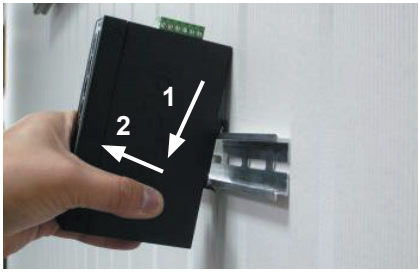
Step 1: Screw the DIN-rail on the Industrial Fast Ethernet Switch.



Step 2: Lightly insert the bottom of the switch into the track.

Step 3: Check whether the DIN-rail is tightly on the track.

Step 4: Please refer to the following procedures to remove the Industrial Fast Ethernet Switch from the track.



Step 5: To remove the wall mount plate, reverse the steps above.

2.2.2 Wall Mount Plate Mounting

To install the Industrial Fast Ethernet Switch on the wall, please follow the instructions described below.

Step 1: To remove the DIN-Rail from the Industrial Fast Ethernet Switch; loosen the screws to remove the DIN-rail.

Step 2: Place the wall mount plate on the rear panel of the Industrial Fast Ethernet Switch.

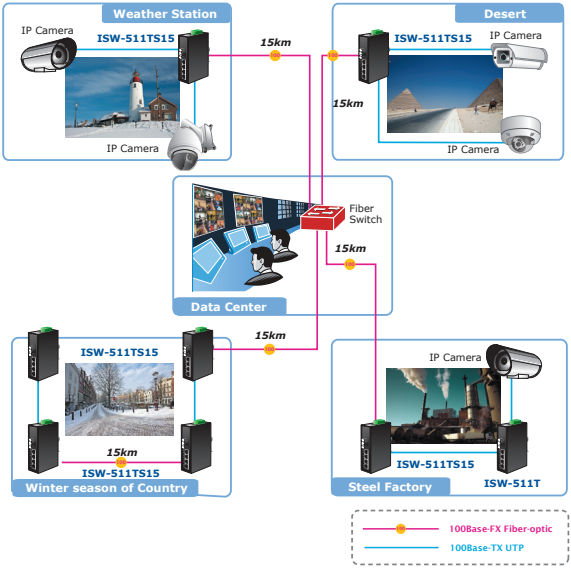
Step 3: Use the screws to screw the wall mount plate on the Industrial Fast Ethernet Switch.

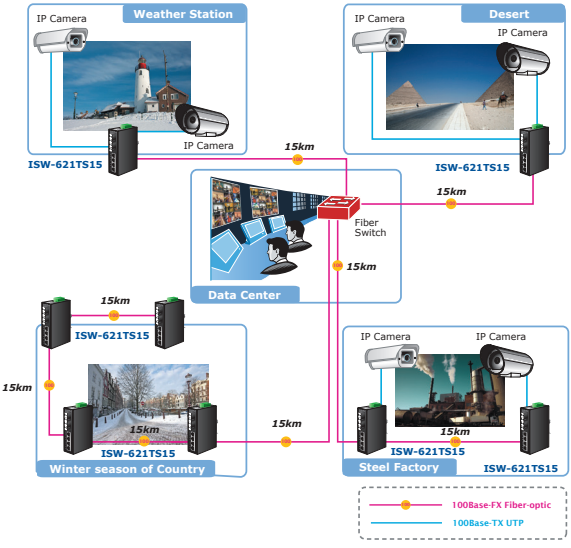
Step 4: Use the hook holes at the corners of the wall mount plate to hang the Industrial Fast Ethernet Switch on the wall.

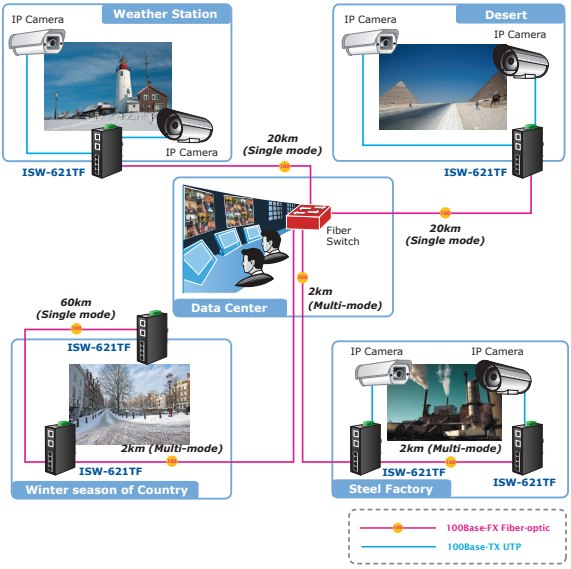
Step 5: To remove the wall mount plate, reverse the steps above.

3. Applications

In this paragraph, we will describe how to install Industrial Fast Ethernet Switch and the installation points for the attention.


Weather Station
IP Camera
ISW-511TS15
IP Camera
15km
Desert
ISW-511TS15
IP Camera
15km
IP Camera
Fiber Switch
15km
Data Center
15km
ISW-511TS15
15km
ISW-511TS15
Winter season of Country
IP Camera
ISW-511TS15
Steel Factory
ISW-511T
100Base-FX Fiber-optic
100Base-TX UTP


Weather Station
IP Camera
IP Camera
ISW-621TS15
15km
Desert
IP Camera
IP Camera
ISW-621TS15
15km
Fiber Switch
15km
Data Center
15km
ISW-621TS15
15km
15km
15km
ISW-621TS15
Winter season of Country
15km
IP Camera
IP Camera
15km
ISW-621TS15
Steel Factory
ISW-621TS15
100Base-FX Fiber-optic
100Base-TX UTP


Weather Station
IP Camera
IP Camera
ISW-621TF
20km
(Single mode)
Desert
IP Camera
IP Camera
ISW-621TF
Fiber
Switch
20km
(Single mode)
Data Center
2km
(Multi-mode)
60km
(Single mode)
ISW-621TF
2km (Multi-mode)
ISW-621TF
Winter season of Country
IP Camera
IP Camera
2km (Multi-mode)
ISW-621TF
ISW-621TF
Steel Factory
100Base-FX Fiber-optic
100Base-TX UTP

Installation Steps

Step 1: Unpack the Industrial Fast Ethernet Switch.

Step 2: Check whether the DIN-rail is screwed on the Industrial Fast Ethernet Switch. (Please refer to DIN-rail mounting section for DIN-rail installation. If you want to wallmount the Industrial Fast Ethernet Switch, then please refer to the Wall-mount Plate Mounting section for wallmount plate installation.

Step 3: To hang the Industrial Fast Ethernet Switch on the DIN-rail track or wall, please refer to the Mounting Installation section.

Step 4: Power on the Industrial Fast Ethernet Switch (Please refer to the Wiring of the Power Inputs section for power input). The power LED on the Industrial Fast Ethernet Switch will light up. Please refer to the LED Indicators section for LED status.

Step 5: Prepare the twisted-pair, straight-through Category 5 cable for Ethernet connection.

Step 6: Insert one side of Category 5 cables into the Industrial Fast Ethernet Switch Ethernet port (RJ45 port) and the other to the network devices' Ethernet port (RJ45 port), e.g., Switch, PC or Server. The UTP port (RJ45) LED on the Industrial Fast Ethernet Switch will light up when the cable is connected with the network device. Please refer to the LED Indicators section for LED status.

Make sure the connected network devices support MDI/MDI-X. If the network devices do not support MDI/MDI-X, please use the crossover Category 5 cable to connect.

Step 7: Insert fiber cable from the ISW-511 / 621 series or ISW-511T / ISW-621T series to the fiber network. TX, RX must be paired at both ends. The optical port LED on the Industrial Fast Ethernet Switch will light up when the cable is connected with network device. Please refer to the LED Indicators section for LED status.

Step 8: When all connections are set and all LEDs are lit without any issue, the installation is complete.

4. Switch Operation

4.1 Address Table

The Industrial Fast Ethernet Switch is implemented with an address table. This address table is composed of many entries. Each entry is used to store the address information of some node in the network, including MAC address, port no., etc. This information comes from the learning process of Industrial Fast Ethernet Switch.

4.2 Learning

When one packet comes from any port of Industrial Fast Ethernet switch, the Industrial Fast Ethernet Switch will record the source address, port no. and the other related information in address table. This information will be used to decide either forwarding or filtering for future packets.

4.3 Forwarding & Filtering

When one packet comes from some port of the Industrial Fast Ethernet Switch, it will also check the destination address besides the source address learning. The Industrial Fast Ethernet Switch will look up the address table for the destination address. If not found, this packet will be forwarded to all the other ports except the port where this packet comes in. And these ports will transmit this packet to the network if connected. If found and the destination address is located at a different port from this packet comes in, the Industrial Fast Ethernet Switch will forward this packet to the port where this destination address is located according to the information from address table. But, if the destination address is located at the same port where this packet comes in, then this packet will be filtered.

4.4 Store-and-Forward

Store-and-Forward is one type of packet-forwarding techniques. A Store-and-Forward Industrial Switch stores the incoming frames in an internal buffer and checks any error from the frames before transmission. No error packets occurrence, it is the best choice when a network needs efficiency and stability.

The Industrial Fast Ethernet Switch scans the destination address from the packet-header, searches the routing table provided for the incoming port and forwards the packet, only if required. The fast forwarding makes the switch attractive for connecting servers directly to the network, thereby increasing throughput and availability. However, the switch is most commonly used to segment existing hubs, which nearly always improves overall performance. An Ethernet Switching can be easily configured in any Ethernet network environment to significantly boost bandwidth using conventional cabling and adapters.

Due to the learning function of the Industrial Fast Ethernet Switch, the source address and corresponding port number of each incoming and outgoing packet are stored in a routing table. This information is subsequently used to filter packets whose destination address is on the same segment as the source address. This confines network traffic to its respective domain, reducing the overall load on the network.

The Industrial Fast Ethernet Switch performs **"Store-and-Forward"** therefore, no error packets occur. More reliably, it reduces the re-transmission rate. No packet loss will occur.

4.5 Auto-negotiation

The STP ports on the Industrial Fast Ethernet Switch have built-in **"Auto-negotiation"**. This technology automatically sets the best possible bandwidth when a connection is established with another network device (usually at Power On or Reset). This is done by detecting the modes and speeds at the second of both devices that are connected and capable of. Both 10BASE-T and 100BASE-TX devices can connect with the port in either half- or full-duplex mode.

5. Troubleshooting

This chapter contains information to help you solve issues. If the Industrial Fast Ethernet Switch is not functioning properly, make sure the Industrial Fast Ethernet Switch was set up according to instructions in this manual.

The Link LED is not lit

Solution:

Check the cable connection of the Industrial Fast Ethernet Switch.

Link LED is lit, but the traffic is irregular

Solution:

Check whether the attached device is not set to dedicated full duplex. Some devices use a physical or software switch to change duplex modes. Auto-negotiation may not recognize this type of full-duplex setting.

Why doesn't the Industrial Fast Ethernet Switch connect to the network?

Solution:

1. Check every port LED on the Industrial Fast Ethernet Switch.
2. Try another port on the Industrial Fast Ethernet Switch to make sure the cable is installed properly while making sure the cable is the right type.
3. Turn off the power and turn on the power again after a while.

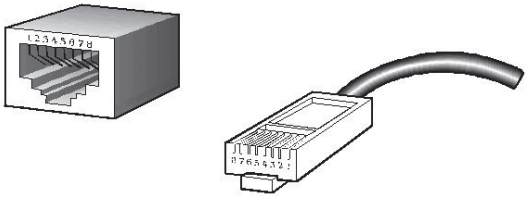
APPENDIX A: Networking Connection

A.1 Switch's RJ45 Pin Assignments

10/100Mbps, 10/100BASE-TX

RJ45 Connector pin assignment		
Contact	MDI Media Dependent Interface	MDI-X Media Dependent Interface -Cross
1	Tx + (transmit)	Rx + (receive)
2	Tx - (transmit)	Rx - (receive)
3	Rx + (receive)	Tx + (transmit)
4, 5	Not used	
6	Rx - (receive)	Tx - (transmit)
7, 8	Not used	

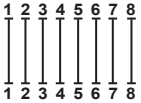
A.2 RJ45 cable Pin Assignments



The standard RJ45 receptacle/connector

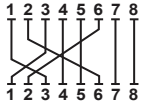
There are 8 wires on a standard UTP/STP cable and each wire is color-coded. The following shows the pin allocation and color of straight-through cable and crossover cable connection:

Straight Cable



	SIDE 1	SIDE 2
1	White/Orange	White/Orange
2	Orange	Orange
3	White/Green	White/Green
4	Blue	Blue
5	White/Blue	White/Blue
6	Green	Green
7	White/Brown	White/Brown
8	Brown	Brown

Cross Over Cable



	SIDE 1	SIDE 2
1	White/Orange	White/Green
2	Orange	Green
3	White/Green	White/Orange
4	Blue	Blue
5	White/Blue	White/Blue
6	Green	Orange
7	White/Brown	White/Brown
8	Brown	Brown

Figure A-1: Straight-through and Crossover Cables

Please make sure your connected cables are with same pin assignment and color as the above picture before deploying the cables into your network.

EC Declaration of Conformity

For the following equipment:

*Type of Product : 4+1 / 4+2 100FX Port Industrial Ethernet Switch
*Model Number : ISW-511 / ISW-511S15 / ISW-511T / ISW-511TS15
ISW-621 / ISW-621S15 / ISW-621T / ISW-621TS15 / ISW-621TF

* Produced by:
Manufacturer's Name : **Planet Technology Corp.**
Manufacturer's Address : 10F., No.96, Minquan Rd., Xindian Dist.,
New Taipei City 231, Taiwan (R.O.C.)

is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility Directive on (2004/108/EC).
For the evaluation regarding the EMC, the following standards were applied:

Emission	EN 55022	(Class A: 2006)
Harmonic	EN 61000-3-2	(2006)
Flicker	EN 61000-3-3	(1995 + A1: 2001 + A2: 2005)
Immunity	EN 55024	(1998 + A1: 2001 + A2: 2003)
ESD	IEC 61000-4-2	(2001)
RS	IEC 61000-4-3	(2008)
EFT/ Burst	IEC 61000-4-4	(2004)
Surge	IEC 61000-4-5	(2005)
CS	IEC 61000-4-6	(2008)
Magnetic Field	IEC 61000-4-8	(2001)
Voltage Disp	IEC 61000-4-11	(2004)

Responsible for marking this declaration if the:

☒ **Manufacturer** ☐ **Authorized representative established within the EU**

Authorized representative established within the EU (if applicable):

Company Name: **Planet Technology Corp.**

Company Address: **10F., No.96, Minquan Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.)**

Person responsible for making this declaration

Name, Surname **Kent Kang**

Position / Title : **Product Manager**

Taiwan	25nd, March, 2011	Kent Kang
Place	*Date*	*Legal Signature*