

## 1. Package Contents

Thank you for purchasing PLANET Industrial 10G Media Converter. In the following section, unless specified, the term **"Industrial Media Converter"** mentioned in this manual refers to the IXT-705AT.

Open the box of the Industrial Media Converter and carefully unpack it. The box should contain the following items:

Industrial Media Converter x 1	User's Manual x 1	DIN-rail Kit
		
Wall-mount Kit	SFP+ Dust Cap x 1	RJ45 Dust Cap 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.

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## 1.1 Product Features

### IXT-705AT Physical Port

- > 1-port 10000/5000/2500/1000/100BASE-T RJ45 with auto MDI/MDI-X function
- > 1-port 10GBASE-X SFP+

### Layer 2 Features

- > IEEE 802.3u/802.3ab/802.3bz/802.3ae Ethernet standard compliant
- > Supports auto-negotiation and 100Mbps half/full duplex and 1/2.5/5/10Gbps full duplex mode
- > Prevents packet loss with back pressure (half-duplex) and IEEE 802.3x pause frame flow control (full-duplex)
- > 16K jumbo frame size support
- > Automatic address learning and address aging

### Industrial Case and Installation

- > Slim-type IP30 metal case
- > DIN-rail or wall-mount design
- > Redundant power design
- > 12 to 48V DC, redundant power with reverse polarity protection
- > AC 24V power adapter acceptable
- > Supports 6000 VDC Ethernet ESD protection
- > 100 meters over Cat 6A at 10Gbps
- > -40 to 75 degrees C operating temperature
- > Plug and Play installation

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## 2. Product Specifications

Model	IXT-705AT
Hardware Specifications	
Copper Interface	1 x 10000/5000/2500/1000/100 BASE-T RJ45 Auto-MDI/MDI-X, auto-negotiation
Fiber Optic Interface	1 10GBASE-SR/LR SFP+ interface
Connector	Removable 6-pin terminal block Pin 1/2 for Power 1, Pin 3/4 for fault alarm, Pin 5/6 for Power 2
Alarm	Provides one relay output for power failure Alarm relay current carry capacity: 1A @ DC 24V
LED	<b>System:</b> Fault Alert (Red), PWR (Green) <b>10000/5000/2500/1000/100 BASE-T RJ45 Interfaces</b> 1/10G LNK (Orange) 5000/2500/100M LNK (Green)
ESD Protection	6KV DC
Enclosure	IP30 type metal case
Installation	DIN-rail kit and wall-mount ear
Dimensions (WxDxH)	32 x 87 x 135mm
Weight	458g

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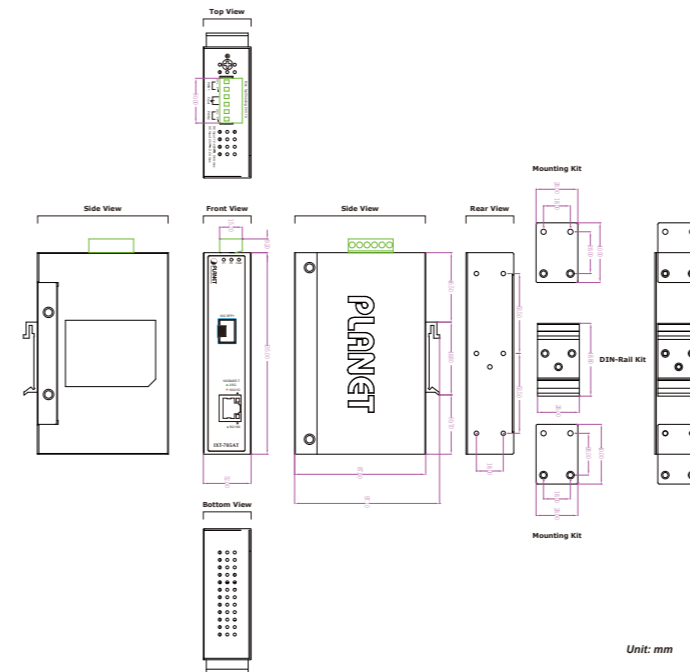
Power Requirements	DC 12~48V or 24V AC
Converter Specifications	
Flow Control	Back pressure for half duplex IEEE 802.3x pause frame for full duplex
Fabric	20Gbps
Address Table	9K entries, automatic source address learning and aging
Jumbo Frame	16K
Network Cables	<b>10000/5000/2500/1000/100 BASE-T:</b> Cat5e, 6, 6A, 7 UTP cable (100 meters, max.) EIA/TIA-568 100-ohm STP (100 meters, max.) <b>10GBASE-LR/SR/BX:</b> 50/125µm or 62.5/125µm multi-mode fiber optic cable, up to 300m 9/125µm single-mode fiber optic cable, up to 60km
Standards Conformance	
Standards Compliance	IEEE 802.3u 100BASE-TX IEEE 802.3ab 1000BASE-T IEEE 802.3bz 2.5G/5GBASE-T IEEE 802.3an 10GBASE-T IEEE 802.3ae 10Gbps Ethernet IEEE 802.3x full-duplex flow control
Regulatory Compliance	FCC Part 15 Class A, CE
Stability Testing	IEC60068-2-32 (Free fall) IEC60068-2-27 (Shock) IEC60068-2-6 (Vibration)

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## 3. Hardware Introduction

### 3.1 Physical Dimensions

IXT-705AT dimensions (W x D x H): 32 x 87 x 135mm



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### 3.2 Converter Front Panel and LED Indicators

Figure 3-1 shows the front panels of the Industrial Media Converter.

#### System

LED	Color	Function
P1	Green	<b>Lit:</b> Power 1 is active <b>Off:</b> Power 1 is inactive
P2	Green	<b>Lit:</b> Power 2 is active <b>Off:</b> Power 2 is inactive
FAULT	Red	<b>Lit:</b> indicates either power 1 or power 2 has no power. <b>Off:</b> No failure

#### Per 10000/5000/2500/1000/100BASE-T Port

LED	Color	Function
10/2.5/1G	Green	<b>Lit:</b> To indicate that the port is operating at <b>2.5Gbps</b> .
	Orange	<b>Lit:</b> To indicate that the port is operating at <b>10/1Gbps</b> .
5G/100M	Green	<b>Lit:</b> To indicate that the port is operating at <b>5Gbps/100Mbps</b> .

Figure 3-1: IXT-705AT Front Panel

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## 3.3 Converter Upper Panel

The upper panel of the IXT-705AT consists of one terminal block connector within two DC power inputs. Figure 3-2 shows the upper panel of the IXT-705AT.

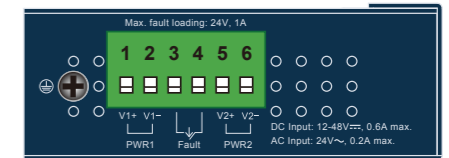


Figure 3-2: IXT-705AT Upper Panel

## 4. Hardware Installation

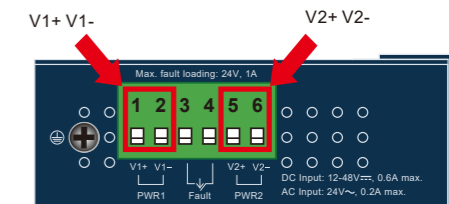
This section describes how to install the Industrial Media Converter and makes connections to it. Please read the following sections and perform the procedures in the order being presented.

This section describes the functionalities of the Industrial Media Converter's components and guides you to how to install it on the DIN rail and wall. Basic knowledge of networking is assumed. Please read this chapter completely before continuing.

### 4.1 Wiring the Power Inputs

The 6-contact terminal block connector on the top panel of Industrial Media Converter is used for two DC redundant power inputs. 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.



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



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



Note

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



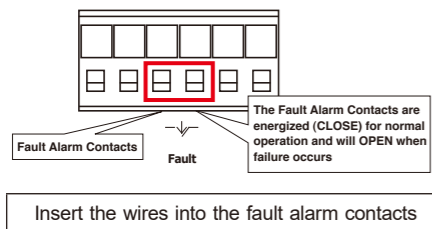
Note

1. The DC power input range is 12V ~ 48V DC and supports 24V AC.
2. Please just use one power input when using 24V AC.

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## 4.2 Wiring the Fault Alarm Contact

The fault alarm contacts are in the middle of the terminal block connector as the picture shows below. When inserting the wires, the Industrial Media Converter 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 fault alarm contacts.



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 24V, max. 1A currents

## 4.3 Grounding the Device

Users **MUST** complete grounding wired with the device; otherwise, a sudden lightning could cause fatal damage to the device. EMD (Lightning) DAMAGE IS NOT COVERED UNDER WARRANTY.

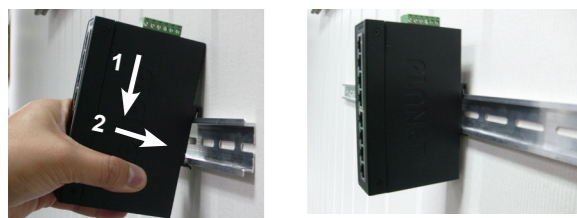
## 4.4 DIN-rail Mounting Installation

This section describes how to install the Industrial Media Converter on the DIN rail and wall. Basic knowledge of networking is assumed. Please read this chapter completely before continuing.

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



## 4.5 Wall-mount Plate Mounting



You must use the screws supplied with the wall-mounting brackets. Damage caused to the parts by using incorrect screws would invalidate your warranty.

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## 5. Fiber and UTP Cable Connection

### Installing the SFP+ Transceiver

The sections describe how to insert an SFP+ transceiver into an SFP+ slot.

The SFP+ transceivers are hot-pluggable and hot-swappable. You can plug in and out the transceiver to/from any SFP+ port without having to power down the Industrial Media Converter



Figure 5-1: Plug in the SFP+ Transceiver



It is recommended to use PLANET SFP+ on the Industrial Media Converter. If you insert an SFP+ transceiver that is not supported, the Industrial Media Converter will not recognize it.

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### 10GBASE-X SR/LR:

Before connecting the other switches, workstation or Media Converter, please do the following:

1. Make sure both sides of the SFP+ transceiver are with the same media type; for example, 10GBASE-SR to 10GBASE-SR, 10GBASE-LR to 10GBASE-LR.
  - To connect to 10GBASE-SR SFP+ transceiver, use the **multi-mode** fiber cable with one side being the male duplex LC connector type.
  - To connect to 10GBASE-LR SFP+ transceiver, use the **single-mode** fiber cable with one side being the male duplex LC connector type.
2. Check whether the fiber-optic cable type matches the SFP+ transceiver model.

### Connecting the fiber cable

1. Attach the duplex LC connector on the network cable to the SFP+ transceiver.
2. Connect the other end of the cable to a device, switches with SFP+ installed, fiber NIC on a workstation or a Media Converter.



Never pull out the module without pulling the lever or the push bolts on the module. Directly pulling out the module with effort could damage the module and SFP+ module slot of the Industrial Media Converter.

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User's Manual

www.PLANET.com.tw

Industrial 10G/5G/2.5G/1G/100M Copper to 10GBASE-X SFP+ Media Converter

IXT-705AT



### PLANET Technology Corp.

10F., No. 96, Minquan Rd., Xindian Dist., New Taipei City 231, Taiwan

**Warning:**  
This device is compliant with Class A of CISPR 32.  
In a residential environment this device may cause radio interference.  
2350-AH1250-003



### 100/1000/2500/5000/10000BASE-T

#### Connecting the UTP Cable

The 100/1000/2500/5000/10000BASE-T port uses RJ45 socket -- similar to phone jack -- for connection of unshielded twisted-pair cable (UTP). See table below for required Category cables.

Standard	Transfer Speed	100M Cable Requirement
10GBASE-T	10000Mbit/s	Cat 6A/7
5GBASE-T	5000Mbit/s	Cat 6/6A/7
2.5GBASE-T	2500Mbit/s	Cat 5e/6/6A/7
1000BASE-T	1000Mbit/s	Cat 5e/6/6A/7
100BASE-TX	100Mbit/s	Cat 5/5e/6/6A/7



Be sure the connected network devices support MDI/MDI-X. If it does not support, then use the crossover Category 5e cable.

## 6. Customer Support

Thank you for purchasing PLANET products. You can browse our online FAQ resource on PLANET web site first to check if it could solve your issue. If you need more support information, please contact PLANET switch support team.

PLANET online FAQs:  
<http://www.planet.com.tw/en/support/faq.php>

Support team mail address:  
[support@planet.com.tw](mailto:support@planet.com.tw)

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