# 1. Package Contents

Thank you for purchasing PLANET 1-Port 10/100/1000BASE-T to 2-Port 100/1000BASE-X Media Converter, GT-1205A.

Open the box of the GT-1205A and carefully unpack it. The box should contain the following items:

Gigabit Media Converter x 1	User's Manual x 1
AC-DC Adapter (Output: 5V DC, 2A max.) x 1	
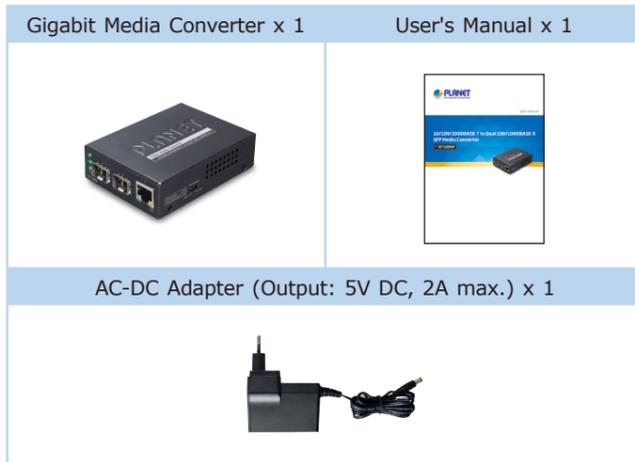
If any item is missing or damaged, please consult the dealer from whom you purchased your GT-1205A.

Note	The GT-1205A comes with two vacant SFP module slots. The mini GBIC SFP module is not bundled with in the package.

2. Product Features

➢ **Interface**
- Dual 100/1000BASE-X SFP fiber-optic slots
- One 10/100/1000BASE-T copper port with auto MDI/MDIX function
- Auto-negotiation for 10/100/1000BASE-T; half-duplex or full-duplex for 10Mbps and 100Mbps, full-duplex for 1000Mbps
- Supports maximum frame size up to 10K jumbo packet size
- IEEE 802.1Q tagged VLAN transparent, multicast passthrough

➢ **Redundancy**
- Link status auto-detection and redundancy of dual ports with the same connector type
- Allows only the Primary Port or the Backup Port to activate at a time
  - When Primary Port link failure occurs, the traffic swaps to Backup Port automatically
  - Once the Primary Port link regains, the traffic swaps from the Backup Port to the Primary Port
  - Redundant hardware fiber port

➢ **Mechanical**
- External 5V DC, 2A power supply
- LED indicators for easy network diagnostics
- DIP switch for 100FX or 1000X SFP module supports on dual SFP slots
- DIP switch for 3-port operation in Gigabit switch mode or redundant mode

- Compact in size, easy installation
- Co-works with PLANET's 10"/19" Media Converter Chassis **(MC-700/MC-1500/MC-1500R/MC-1500R48)**
- Wall mounting and DIN-rail installation supported

➢ **Standard**
- Complies with IEEE 802.3 10BASE-T
- Complies with IEEE 802.3u 100BASE-TX/100BASE-FX
- Complies with IEEE 802.3ab 1000BASE-T
- Complies with IEEE 802.3z 1000BASE-SX/LX
- IEEE 802.3x full-duplex flow control; back pressure for half duplex to prevent packet loss

3. Hardware Introduction

3.1 Front Panel and LED Indicators

■ GT-1205A Front Panel

The GT-1205A consists of two 100/1000BASE-X SFP slots and one auto-sensing 10/100/1000Mbps Ethernet RJ45 port. Figure 1 shows the front panel of the GT-1205A.
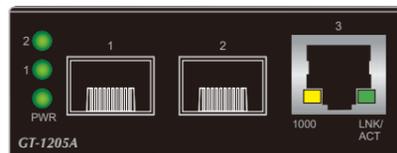

Figure 1: GT-1205A Front Panel

■ GT-1205A LED Indication

➢ **System**

LED	Color	Function
PWR	Green	Lit when +5V DC power is detected.

➢ **100/1000BASE-X SFP Slots**

LED	Color		Function
1	Green	Lit	Indicates that the fiber optical port is linked up.
		Blink	Indicates that the converter is actively sending or receiving data over that port.
		Off	Indicates that the fiber optical port is linked down.
2	Green	Lit	Indicates that the fiber optical port is linked up.
		Blink	Indicates that the converter is actively sending or receiving data over that port.
		Off	Indicates that the fiber optical port is linked down.

➢ **10/100/1000BASE-T Port**

LED	Color		Function
LNK/ACT	Orange	Lit	Indicates that the copper port is linked up.
		Blink	Indicates that the converter is actively sending or receiving data over that port.
		Off	Indicates that the copper port is linked down.
1000	Green	Lit	Indicates that the copper port is operating at **1000Mbps**.
		Off	Indicates that the copper port is **linked down** or **10/100Mbps**.

3.2 Rear Panel

The rear panel of the GT-1205A has one DC jack, which accepts an input power of 5V DC with 2A. The brand-new DIP switch designed for 1000BASE-X SFP module or 100BASE-FX SFP module supports on dual SFP slots. The default DIP switch mode is 1000BASE-X.

Figure 2: GT-1205A Rear Panel

⚠ Caution	Please power off and power on the GT-1205A after adjusting the DIP switch setting.

Power Information

The center pin diameter of the GT-1205A's power jack is 2.5mm and the power jack allows an input power of 5V DC. It conforms to the bundled AC-DC adapter and PLANET's media chassis. Should you have any issue about the power connection, please contact your local sales representative.

Please keep the AC-DC adapter as a spare part when your GT-1205A is installed to a Media Chassis.

2.5mm
DC Receptacle 2.5mm
+5V for each slot

DC receptacle is 2.5mm wide that conforms to the GT-1205A's 2.5mm DC jack's central post. Do not install any improper unit.
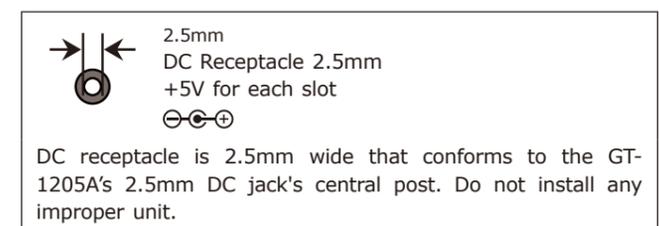
The device is a power-required device, meaning it will not work till it is powered. If your networks should be active all the time, please consider using UPS (uninterrupted power supply) for your device. It will prevent you from network data loss or network downtime.

In some areas, installing a surge suppression device may also help to protect the GT-1205A from being damaged by unregulated surge or current.

3.3 Side View

The side panel of the GT-1205A has a DIP switch for setting to the 3-port switch mode or the 2-port redundant mode. When **"ON"**, it is in the 2-port redundant mode. And when **"OFF"**, it is in the 3-port switch mode.
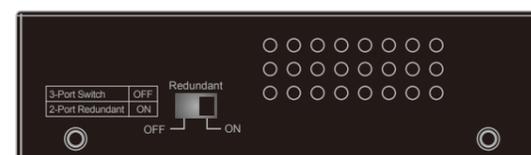
Figure 3: GT-1205A Side Panel

4. Redundancy Overview

The GT-1205A provides rapid fiber redundancy of link for highly critical Ethernet applications. The redundant mode supports auto-recover function. If the destination port of a packet is linked down, it will forward the packet to the other port of the backup pair. The following figure shows the redundant function.
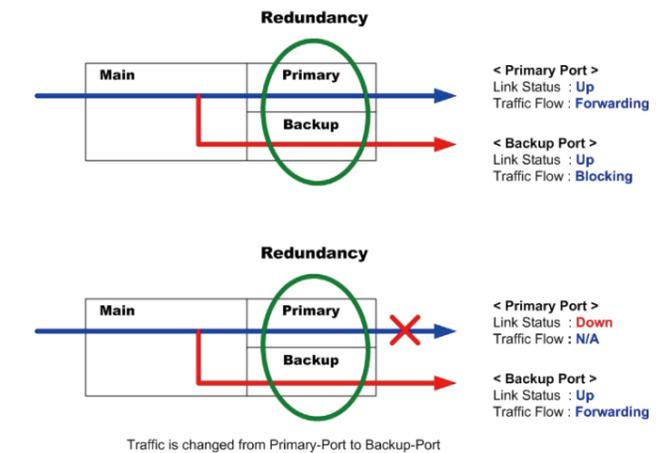

Figure 4: Redundancy Behavior Topology

- Link status auto detection and redundancy of dual ports with the same connector type.
- Only the Primary Port is active at a time, the Backup Port is blocked.

- When the Primary Port's link failure occurs, the traffic will swap to Backup Port automatically.
- Once the link of the Primary Port is back, the traffic will swap from Backup Port to Primary Port.

5. Installing The Converter

The GT-1205A can be connected over fiber optic cabling at a distance extended from 550 meters to 2km (multi-mode fiber) to 10/20/40/60/80/120 kilometers (single-mode fiber or WDM fiber), using the 100/1000BASE-X SFP modules. The SFP modules are hot-pluggable and hot-swappable. You can plug in and out the SFP modules to and from any SFP port without having to power down the GT-1205A.

To install GT1205A, please follow these steps to install the GT-1205A:

Ethernet Installation

Step 1: Turn off the power of the device/station in a network to which the GT-1205A will be attached.

Step 2: Ensure that there is no activity in the network.

Step 3: Slide in the 100/1000BASE-X SFP module. Make sure both sides of the SFP modules are with the same media type, for example, 100BASE-FX/2km multi-mode to 100BASE-FX/2km multi-mode, 1000BASE-SX/550m multi-mode to 1000BASE-SX/550m multi-mode or 1000BASE-LX/20km single mode to 1000BASE-LX/20km single mode.
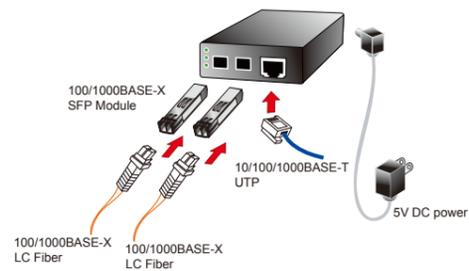
Figure 5: GT-1205A Gigabit Media Converter Standalone Installation

Step 4: Connect the fiber cable. Attach the duplex LC connector on the network cable to the SFP modules.

Step 5: Attach fiber cable from the GT-1205A to the fiber network. TX, RX must be paired at both ends.

Step 6: Connect the 5V DC power adapter to the GT-1205A and verify that the Power LED lights up.

Step 7: Turn on the power of the device/station; the LINK LED should light up when all cables are well attached.

Note

1. It is recommended to use PLANET **MFB/MGB** series SFP modules for the GT-1205A. If you insert an SFP module that is not supported, the GT-1205A will not recognize it. Please go visit our Web site for detailed specification. http://www.planet.com.tw

2. To prevent from optic acceptor malfunction, check both the wires and transmitter before powering on the converter.

Note

3. To remove the SFP module, please remove the fiber connectors in advance and push the belt or latch of the module. Pull out the module with force may damage the module and the GT-1205A.

Media Converter Chassis Installation

To install the GT-1205A in a **10-inch** or **19-inch** standard rack, follow the instructions described below.

Step 1: Place your GT-1205A on a hard flat surface, with the front panel positioned towards your front side.

Step 2: Carefully slide in the module until it is fully and firmly fitted into the slot of the chassis; the Power LED of the GT-1205A will turn ON.
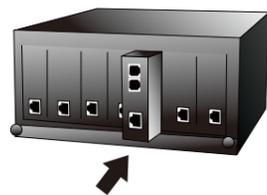
Figure 6: Inserting GT-1205A into an available slot

Caution

1. Never push the converter into the slot with force; it could damage the chassis.

2. The Media Converter Chassis supports hot-swap; there is no need to turn off the whole chassis before sliding in the new converter.

6 Cable Connection Parameter

The wiring details are shown below:

Duplex	Connection	Limitation (max.)
Twisted Pair		
Half/Full	Node to Node Node to Switch/Hub	100 meters
Fiber Optic Cables:		
Standard (Wavelength)	100BASE-FX (1310nm)	1000BASE-SX (850nm)	1000BASE-LX (1310nm)
Fiber Type & Cable Specifications	Multi-mode	50/125µm or 62.5/125µm	
	Single-mode	9/125µm	

7. Product Specifications

Model	GT-1205A	
Interface Specifications		
Hardware Version	4	
Ports	Copper	1 x 10/100/1000BASE-T port
	Fiber	2 x 100/1000BASE-X SFP slots

Cable	Twisted-pair	10BASE-T: 2-pair UTP Cat 3, 4, 5, up to 100 meters 100BASE-TX: 2-pair UTP Cat 5, 5e up to 100 meters 1000BASE-T: 4-pair UTP Cat 5e, 6 up to 100 meters
	Fiber-optic Cable	**1000BASE-SX:** 50/125µm or 62.5/125µm multi-mode fiber cable, from 220 and 550 meters to 2km. **1000BASE-LX:** 9/125µm single-mode cable, with distance of 10/20/40/80/120km (vary on SFP module) **100BASE-FX:** 50/125µm or 62.5/125µm multi-mode fiber cable, up to 2km (vary on SFP module) 9/125µm single-mode cable, with distance for 20/40/60m (vary on SFP module)

Hardware Specifications	
Switch Architecture	Store and Forward
Flow Control	Back pressure for half duplex. IEEE 802.3x pause frame for full duplex
Fabric	6Gbps
Throughput (packet per second)	4.4Mpps
Maximum Packet Size	10K bytes

LED Display	**System:** One Power LED (Green) **Fiber Port:** Two LNK/ACT LEDs (Green) **TP Port :** One Speed LED (Green), One LNK/ACT LED (Orange)
Dimensions (W x D x H)	94 x 70 x 26mm
Weight	180g (device only)
Power Requirement	5V DC, 2A max.
Power Consumption	2.8 watts/9.5BTU per hour (max.)
Environment	
Operating environment	0 ~ 50 degrees C
Storage environment	-10 ~ 70 degrees C
Operating Humidity	5 ~ 95%, relative humidity (non-condensing)
Storage Humidity	5 ~ 95%, relative humidity (non-condensing)
Standard Conformance	
EMI Safety	FCC Class B, CE
Standard Compliance	IEEE 802.3 IEEE 802.3u IEEE 802.3ab IEEE 802.3z IEEE 802.3x	10BASE-T 100BASE-TX/100BASE-FX 1000BASE-T 1000BASE-SX/LX Flow Control

www.PLANET.com.tw

10/100/1000BASE-T to Dual 100/1000BASE-X SFP Media Converter

▶ **GT-1205A**