Trademarks

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Copyright Statement

FCC Warning

These devices have been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These standards are designed to provide reasonable protection against harmful interference when these devices are operated in a commercial environment. These devices generate, use, and can radiate radio frequency energy and may cause harmful interference to radio communications unless installed in accordance with this User's Guide. Operation of these devices in a residential area is likely to cause harmful interference which will make the user responsible for the appropriate remedial action at his / her own expense.

CE Mark Warning

These are Class A products. In a domestic environment these products may cause radio interference in which case the user will need to consider adequate preventative methods.

1. Checklist

The package should contain the following items:

- IPC-3012-PT Media Converter
- User's Guide
- Installation Guide

Please notify your sales representative immediately if any item is missing or damaged.

As for power adapters, please refer to Section 8 for more detailed information.

2. Overview

The IPC-3012-PT Ethernet media converter is designed for industrial applications in the harsh environment. IPC-3012-PoE++ provides 1x10/100/1000Base-T PoE Ethernet port and 1x100/1000Base-X SFP optical port to flexibly meet different network architecture requirements.

With an extended operation temperature range of -40 to 75°C and ITU-T K.21 enhanced test level up to 6KV surge immunity on the RJ-45 copper port, it makes the media converter suitable for industrial applications.

Major Features:

- Provide one Gigabit RJ-45 Copper Port & one SFP Port 100/1000Base-X
- Compatible with IEEE 802.3af/at PoE+
- PoE Setting - Auto/Force Power
- Support Link Alarm
- Support 9K Jumbo Frames
- 6KV Surge Immunity on RJ-45 Copper Port (K.21*)
- Dual Power Input (12~57VDC) & Built-in Power Booster
- Relay Output for Fault Alarm Notification (Ports)
- Aluminum Housing
- Operating Temperature -40ºC~75ºC

3. Network Installation

Please follow the steps described below and refer to Figure 1 and 2 to complete the network installation.

❶ Attach fiber cable from the converter to the fiber network.
❷ Attach a UTP cable from the 10/100/1000Base-T network to the RJ-45 port on the media converter.
❸ Connect the power supply to the converter and the Power LED will light up. The TP and SFP LEDs will light up as soon as all the cable connections are satisfactory.

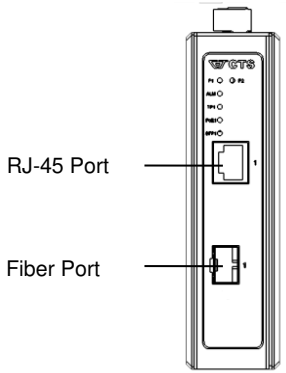

Figure 1. IPC-3012-PT Media Converter Front Panel

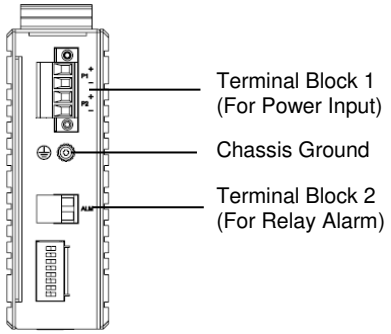

Figure 2. IPC-3012-PT Media Converter Top Panel

4. Terminal Blocks

Terminal Block 1 Power Supply: Two sets of power inputs ranging from DC 12V~57V, P1 and P2, are offered for power redundancy purpose. You can use both pairs of power supply for redundancy purpose or use either one pair of power supply on this terminal block and AC external power supply to create redundant setup. The redundant power supply will take over seamlessly when one power source is down to protect your device or network from the loss of power. When you use only one power supply, no redundant power will be available. Please refer to the following figure to insert the negative/positive DC wires into the V-/V+ terminals as indicated. (ATTENTION: For high power input devices, please use the 14AWG or better power wire to connect to the power input contact.)

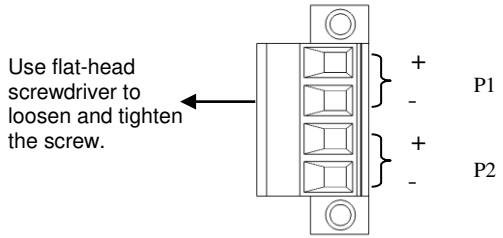

Figure 3. Terminal Block 1 Top View

Terminal Block 2 Fault Alarm: One pair of fault connection on the terminal block 2 is used to connect alarm devices such as speakers or LEDs to alert users when the port link disconnects. (NOTE: Alarm Contact capacity 1A@30V)

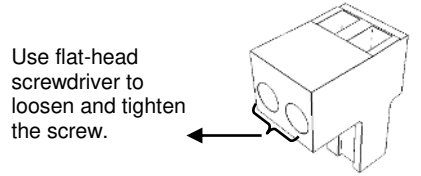

Figure 4. Terminal Block 2 Side View

5. LED Description

LED	Color	Function
P1, P2 (Power)	Green	Power is available.
ALM	OFF	No alarm occurs.
	Red	Lit when port link is down. Blinking when system boot fails.
TP	OFF	TP port link is down.
	Green	Lit when TP 1000M port link is up. Blinking when TP port is receiving and transmitting data at the speed of 1000M.
	Orange	Lit when TP 10/100M port link is up. Blinking when TP port is receiving and transmitting data at the speed of 10/100M.
PoE	OFF	No PSE (Power Sourcing Equipment) exists.
	Green	Detect whether power (Max. Power: 30W) is supplied through TP port or not. (Auto Mode)
	Orange	Enforce to supply 60W power through TP port. (Force Mode)
SFP	Green	Lit when Fiber 1000M port link is up. Blinking when Fiber port is receiving and transmitting data at the speed of 1000M.
	Orange	Lit when Fiber 100M port link is up. Blinking when Fiber port is receiving and transmitting data at the speed of 100M.

6. DIP SWITCH Setting

The default setting for PIN 1 through PIN 8 is OFF.

PIN No.	Function	OFF	ON
1.	External Port Link Alarm	Disable	Enable
2.	PoE Trigger	Disable	Enable
3.	Fiber Speed	1000Mbps	100Mbps
4.	Fiber Mode	Auto-Negotiation Mode	Force Mode
5.	N/A	Always Keep OFF	
6.	N/A	Always Keep OFF	
7.	TP Port PoE Configure	Auto Mode	Force Mode
8.	N/A	Always Keep OFF	

NOTE:

1. Before adjusting the configuration of the DIP Switch, the power should be unplugged.
2. Fiber Mode (PIN 4) only works as Fiber speed (PIN 3) is set to OFF (1000Mbps). When Fiber speed (PIN 3) is set to ON (100Mbps), it will ignore the Fiber Mode (PIN 4) setting.
3. When PoE Trigger (PIN 2) is ON, once the link-down of TP is caused by the link-down of F/O (due to Link Alarm), TP will stop providing power for the PD (disabling PoE Trigger will have the power resumed). Power will not be cut off when PIN 2 is OFF.

7. Link Alarm

Link Alarm allows users to easily identify and diagnose the linking status. The UTP and fiber port can link up only when both linking conditions are good. In addition, if the fiber or UTP port link is down during the operation, the other port link will also be turned into the "Down" status to alert the user. Link Alarm provides users transparent link indication between two network devices interconnected by IPC-3012-PT.

8. Technical Specifications

Standards	IEEE 802.3 10Base-T,IEEE 802.3u 100Base-TX, IEEE 802.3ab 1000Base-T,IEEE 802.3z 1000Base-X,IEEE 802.3af Power over Ethernet, IEEE 802.3at Power over Ethernet Enhancements
Interface	1 X 10/100/1000Base-T RJ45 (Supports full/half duplex mode) 1 X 100/1000Base-X SFP 1 X Relay Alarm, Contact capacity 1A@30V
LED	P1, P2, ALM, TP, PoE, and SFP
Power	DC Input Voltage: 12~57VDC DC Terminal Block with 4 contacts
Shipping Weight	0.62kg
Dimensions	36(W)x110(D)x135(H)mm
Temperature	Operating: -40°C~75°C; Storage: -40°C~85°C
Humidity	5%~90% RH non-condensing
EMC Safety	FCC Part 15 Class A, CE
Media	TP: EIA/TIA-568 CAT 5e Fiber: 50/125, 62.5/125um multi-mode fiber 9/125, 10/125um single-mode fiber

*Please contact us for further reports and updates.

NOTE: Specifications may change without prior notice.

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CTS
CONNECTION TECHNOLOGY SYSTEMS

IPC-3012-PT (Link Alarm & PoE Trigger Version)

10/100/1000Base-T to 100/1000Base-X PoE/PSE Media Converter

User's Guide

Version 1.3