Industrial EtherCAT Media Converter Kit

IECC-210T/IECC-210R

User's Manual

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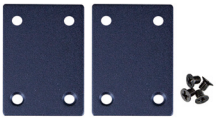
1. Package Contents

Thank you for purchasing PLANET Industrial EtherCAT Media Converter Kit. In the following sections, the term "**Industrial EtherCAT Media Converter Kit**" means the IECC-210T and IECC-210R.

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

IECC-210T and IECC-210R	QR code sheet x 1
	

Wall-mount Kit x 2	SFP dust cap x 2	Copper dust cap x 2
		

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.

2. Product Features

- 1 x 100BASE-TX RJ45 bus interface
- 1 x 100BASE-FX SFP slot interface
- LED indicators for the input status
- 9 ~ 48V DC wide input voltage range
- Supports EtherCAT Distributed Clock (DC) mode
- EtherCAT conformance test tool verified

3. Product Specifications

Model		IECC-210T	IECC-210R
Communication Interface			
Copper	Port	1 x 100BASE-TX RJ45	
	Distance between Stations	max. 100 m (100BASE-TX)	
	Data Transfer Medium	Ethernet/EtherCAT cable (min. cat5), shielded	
Fiber	Port	1 x 100BASE-FX SFP slot	
	Distance between Stations	Depending on the ability of SFP module	
	Data Transfer Medium	Depending on the ability of SFP module	
EtherCAT			
Protocol		EtherCAT	
Power			
Input Voltage Range		9~48V DC	
Power Consumption		1.92W max.	
Mechanical			
Dimensions (W x D x H)		33 x 70 x 104mm	
Installation		DIN-rail mounting and wall mounting	
Case Material		IP30 metal	
Environment			
Operating Temperature		-40~75°C	
Storage Temperature		-40~75°C	
Relative Humidity		5~95% (non-condensing)	

4. Hardware Introduction

4.1 Three-View Diagram

The three-view diagram of the **Industrial EtherCAT Media Converter Kit** consists of one 100BASE-TX **RJ45 copper**, one 100BASE-FX **SFP slot**, and one **removable 4-pin power terminal block**. The LED indicators are also located on the front panel.

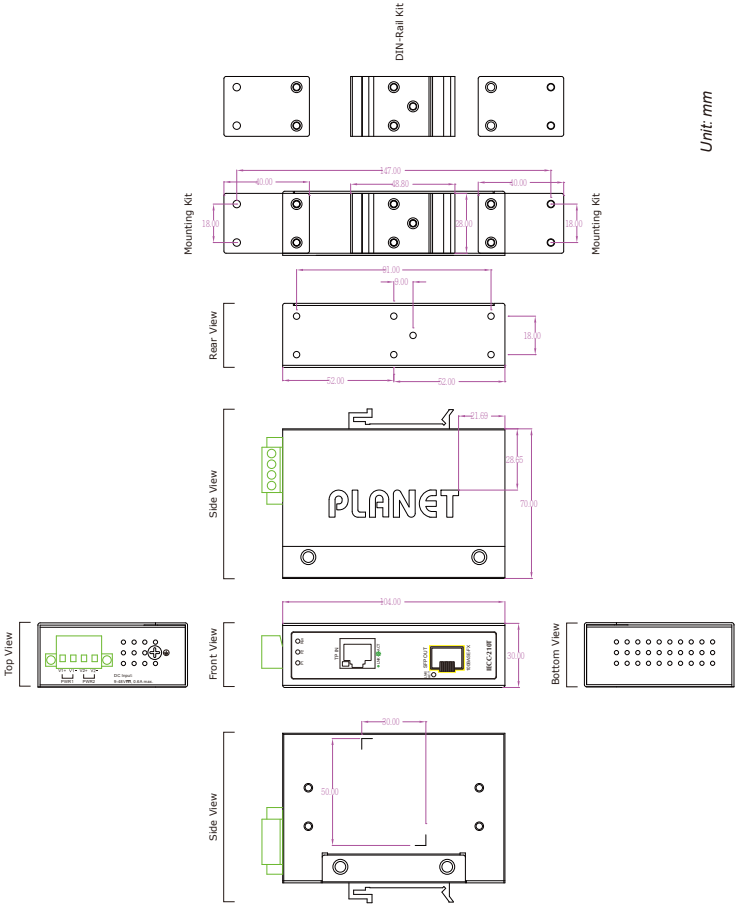


Figure 1: IECC-210T/IECC-210R Three-View Diagram

Front View

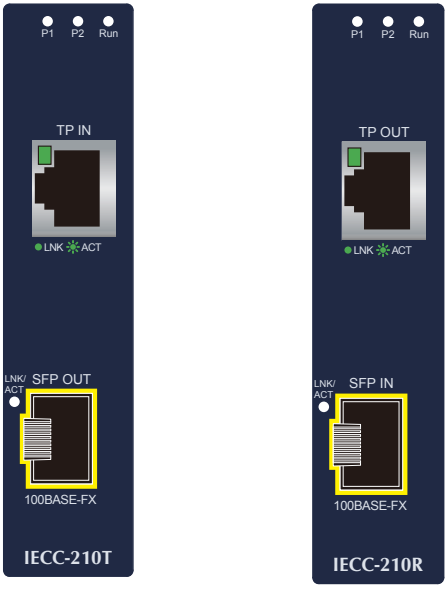


Figure 2: IECC-210T/IECC-210R Front View

LED Definition:

System

LED	Color	Function	
P1	Green	Lights to indicate power 1 has power.	
P2	Green	Lights to indicate power 2 has power.	
Run	Green	Light	The device is in the state of operation.
		Single Flash	The device is in the state of operation without risk.
		Blinking	The device is ready to be operated.
		Off	The device is in the initialization mode

100BASE-TX RJ45 Port (Port Input/Port Output)

LED	Color	Function	
LNK/ ACT	Green	Light	Indicating that the port is linked up.
		Blinking	Indicating that the module is actively sending or receiving data over that port.
		Off	Indicating that the port is linked down.

100BASE-FX SFP Port (Port Input/Port Output)

LED	Color	Function	
LNK/ ACT	Green	Light	Indicating that the port is linked up.
		Blinking	Indicating that the module is actively sending or receiving data over that port.
		Off	Indicating that the port is linked down.

4.2 Wiring the Power Inputs

The 4-contact terminal block connector on the top panel of Industrial EtherCAT Media Converter module is used for one DC power input. Please follow the steps below to insert the power wire.

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.

1. Insert positive and negative DC power wires into contacts 1 and 2 for POWER.

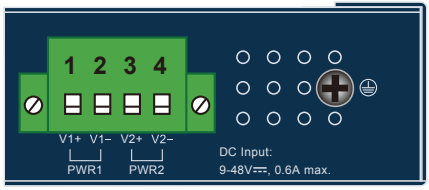
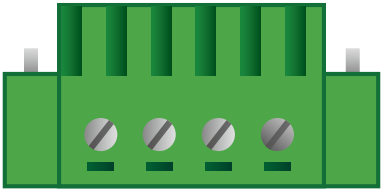


Figure 3: IECS-210T/IECC-210R Top View

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



Note

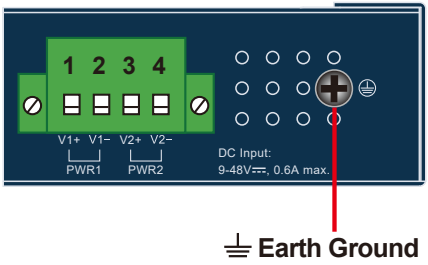
1. The DC power input range is 9-48V DC.
2. The device provides input voltage polarity protection.

Caution

PWR1 and PWR2 must provide exactly the same DV voltage for power load balance while operating with dual power input.

4.3 Grounding the Device

Users **MUST** complete grounding wired with the device; otherwise, a sudden lightning could cause fatal damage to the device.



Note

EMD (Lightning) DAMAGE IS NOT COVERED UNDER WARRANTY.

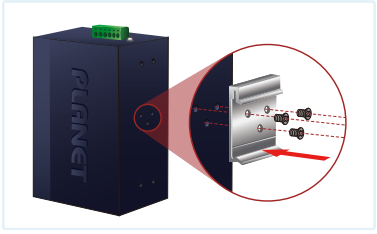
5. Installation

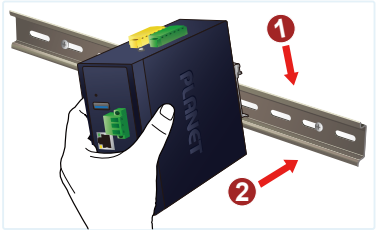
This section describes the functionalities of the Industrial EtherCAT Media Converter module's components and guides you to installing it on the DIN rail and wall. Please read this chapter completely before continuing.

Note

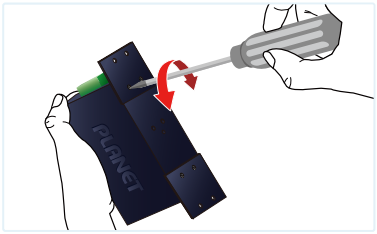
This following pictures show the user how to install the device, and the device is not IECC-210-KIT.

5.1 DIN-rail Mounting Installation

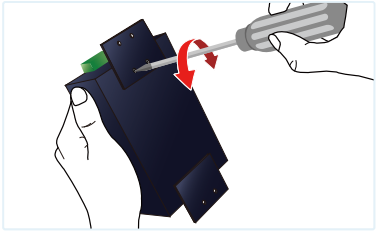




5.2 Wall-mount Plate Mounting



5.3 Side Wall-mount Plate Mounting



Caution

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

6. Getting Started

This chapter provides a basic overview of how to configure and operate your IECC-210 series.

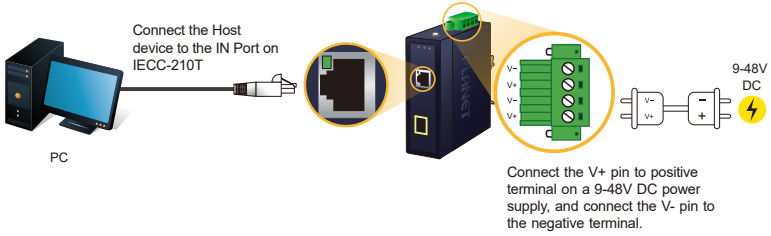
6.1 Connecting the Power and the Host PC

Step 1: Connect both the **TP IN** port of the **IECC-210T** and RJ45 Ethernet port of Host PC.
Ensure that the network settings on the Host PC have been correctly configured and are functioning normally. Ensure that the Windows firewall and any anti-virus firewall is properly configured to allow incoming connections; if not, temporarily disable these functions.

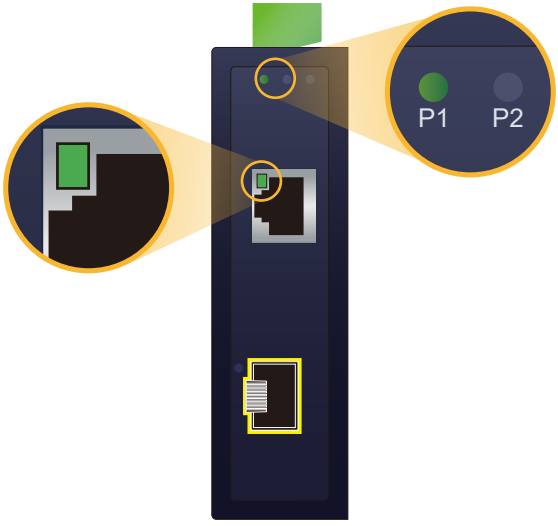

Note

Attaching an ESC (EtherCAT Slave Controller) directly to an office network will result in network flooding, since the ESC will reflect any frame – especially broadcast frames – back into the network (broadcast storm).

Step 2: Apply power to the IECS-210T



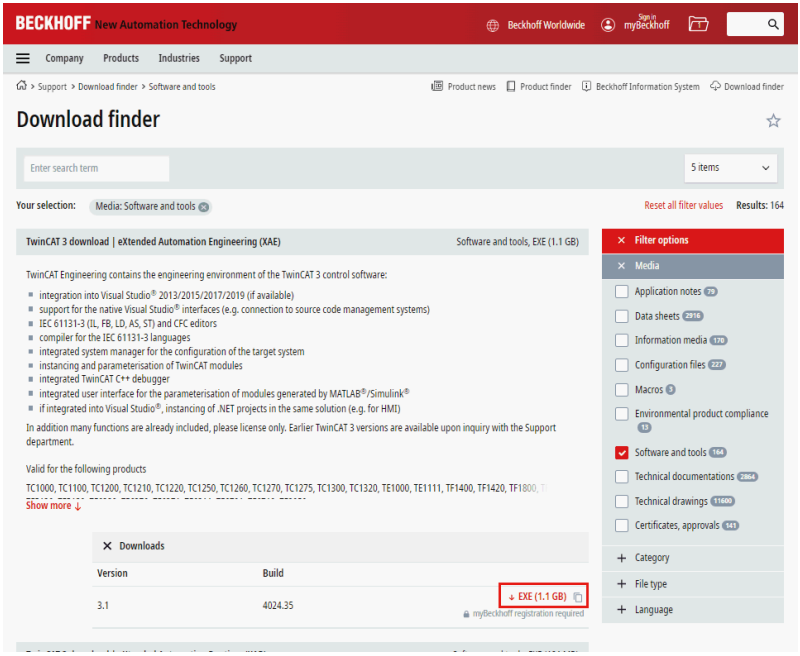
Step 3: Verify the "P1" LED indicator on the IECC-210T module is Green; **"TP IN"** LED indicator is Green.



6.2 Configuration and Operation

Beckhoff TwinCAT 3.x is the most commonly used EtherCAT Master software to operate the IECC-210T and IECC-210R.

Click on the link below to download Beckhoff TwinCAT 3.x:
https://www.beckhoff.com/en-en/support/download-finder/software-and-tools/



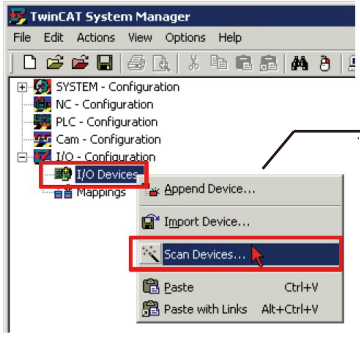
Inserting into the EtherCAT network

Note

Installation of the latest XML device description (ESI).
Make sure to use the latest installation description to install the latest XML device. This can be downloaded from PLANET website (https://www.planet.com.tw/en/support/downloads?method=keyword&keyword=IECC-210-KIT) and check the online FAQs for the installation of the XML device.

Step 1: Automatic Scanning

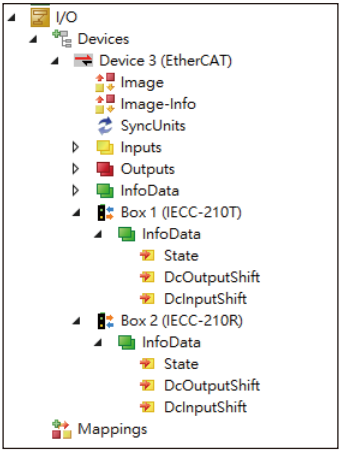
- The EtherCAT system must be in the safe, de-energized state before the IECC-210-KIT module is connected to EtherCAT network.
- Switch on the operating voltage, open the TwinCAT System Managed (Config mode), and scan the devices as shown in the print screen instructions below. Acknowledge all dialogs with "OK", so that the configuration is in the "FreeRun" mode.



Scanning the configuration
(I/O Devices -> right-click -> Scan Devices...)

Step 2: Configuration via TwinCAT

In the left-hand window of the TwinCAT System Manager, click on the brand of the EtherCAT Box you wish to configure (IECC-210T and IECC-210R in this example). Click Box 1 or Box 2 to get and configure state.



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