Industrial EtherCAT Junction Slave Series

Product Features

- Interfaces
  - IECJ-400
    - 4 x 100BASE-TX RJ45 bus interfaces
  - IECJ-410FT
  - 3 x 100BASE-TX RJ45 bus interfaces
- 1 x 100BASEFX SFP interface
- LED indicators for the input status
- 9 ~ 48V DC wide input voltage range
- EtherCAT Distributed Clock (DC) mode
- Verified by EtherCAT conformance test tool

Powering the Digital Transformation with EtherCAT

PLANET IECJ-400 and IECJ-410FT industrial EtherCAT junction slaves are equipped with the EtherCAT protocol for today's distributed industrial applications. The IECJ-400 has 4 RJ45 ports while the IECJ-410FT has 3 RJ45 ports that can be used in an EtherCAT Terminal segment at any desired position between the EtherCAT Terminals and they enable the configuration of the **EtherCAT star topology**. Besides, the IECJ-410FT has one SFP port that could serve as a media converter from copper to optical fiber to connect with PLANET IECC-210R Industrial EtherCAT Media Converter for distance extension. The A modular EtherCAT star hub can be realized by using several IECJ units in a station. Its compact size and DIN-rail mounting make installation in a cabinet easy. Pluggable terminal blocks and LED indicator help users to maintain and set up their system.


Flexible Installation

The IECJ-series is an ideal EtherCAT junction solution which provides quick installation, real-time connection status monitoring, wide-ranging power input and wide operating temperature to improve work efficiency, making them suitable for the harsh environment. Besides, both of them come with multple 100BASE-TX RJ45 ports (IECJ-400 has 4 ports and IECJ-410FT has 3 ports) or one 100BASE-FX SFP slot (only IECJ-410FT). Through the EtherCAT technology, up to 65,535 devices can be supported without the limitation of the type of topology -- line, bus, tree, star or any arrangement -- being used.

Synchronization

An EtherCAT slave is an electronic device that carries out cyclical sequences of calculations and/or data copying tasks at a certain interval (cycle). The EtherCAT slave working cycle (e.g. in the range of a few µs up to several ms) can be derived from different sources. EtherCAT node can measure time difference between leaving and returning frame. With distributed clocks, EtherCAT can realize a precise synchronization time of <1us between each slave module.
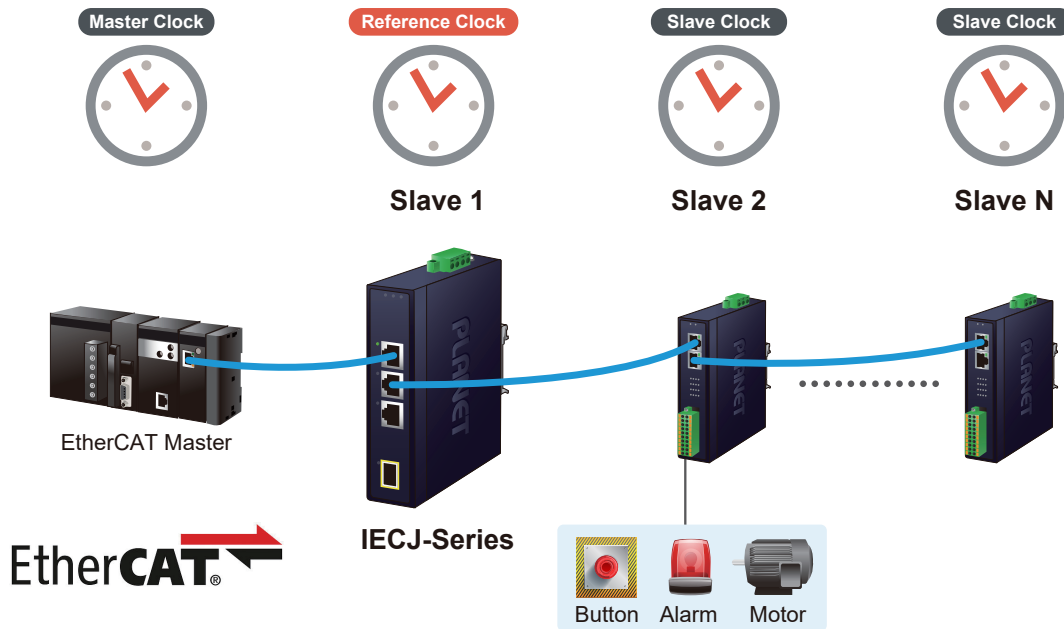
Convenient and Reliable Power System

The IECJ series is equipped with one 4-pin DC power input connector with screws for power supply installation. With power magnetic protection design, it can avoid the device burnout due to wrong wiring. In addition, it also possesses an integrated power supply source with wide-ranging voltages (9 to 48V DC) for worldwide high availability applications.
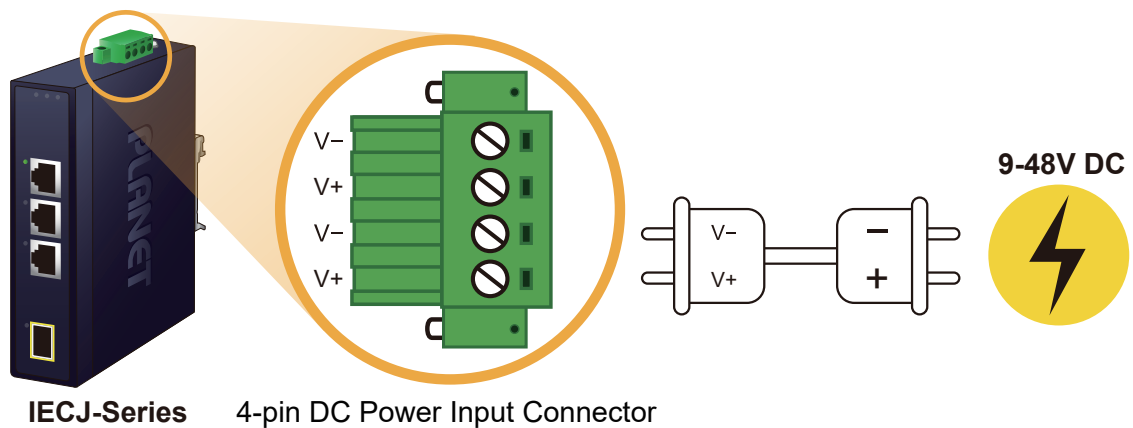
Dual Power Input for High Availability Network System

The IECJ series features a strong dual power input system with wide-ranging voltages (9V~48V DC) incorporated into customer's automation network to enhance system reliability and uptime. In the example below, when power supply 1 fails to work, the hardware failover function will be activated automatically to keep powering the IECJ series via power supply 2 alternatively without any loss of operation.

Dual Power Input with Auto Failover

Power Line (DC)
100BASE-TX UTP
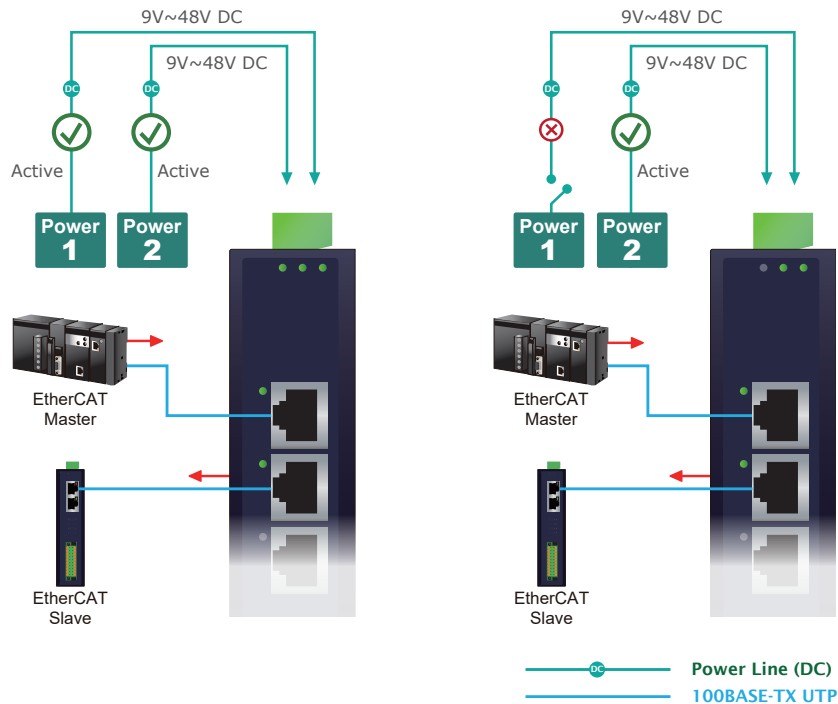
Flexible and Easy Installation with Limited Space

The compact-sized IECJ series is specially designed to be installed in a narrow environment, such as wall enclosure. It can be installed by fixed wall mounting or DIN rail, thereby making its usability more flexible and easier in any space-limited location.
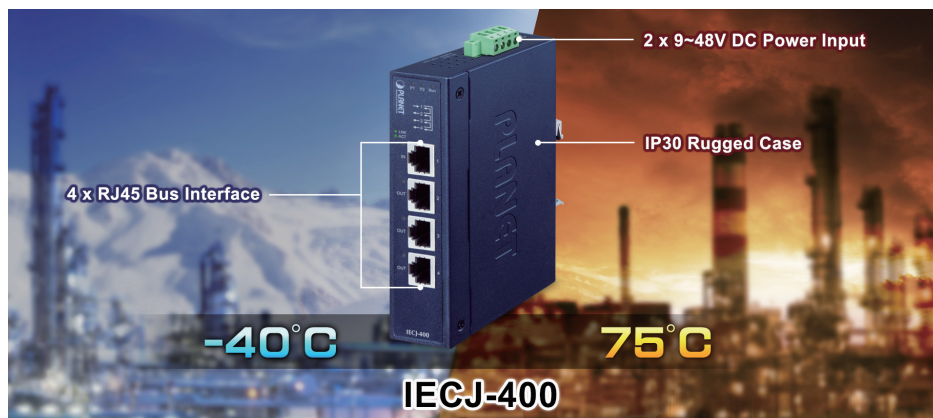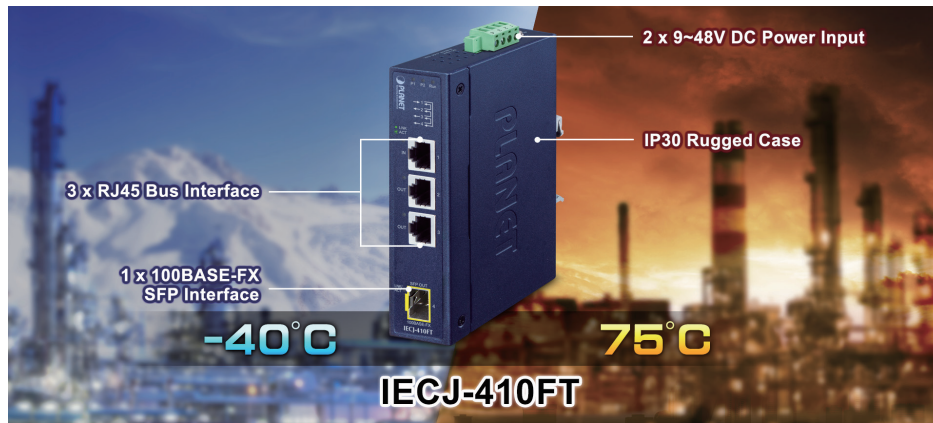
Optional installation method

| DIN-rail Mounting | Wall Mounting | Side Wall Mounting (Space saving) |

* The above pictures are for illustration only.

Environmentally Hardened Design

With the IP30 metal industrial case, the **IECJ series** provides a high level of immunity against electromagnetic interference and heavy electrical surges which are usually found on plant floors or in curb-side traffic control cabinets without air conditioning. It features a ventilated construction in which a cooling fan is not necessary, thereby making its operation noiseless. Being able to operate under the temperature range from -40 to 75 degrees C, the **IECJ series** can be placed in almost any difficult environment.
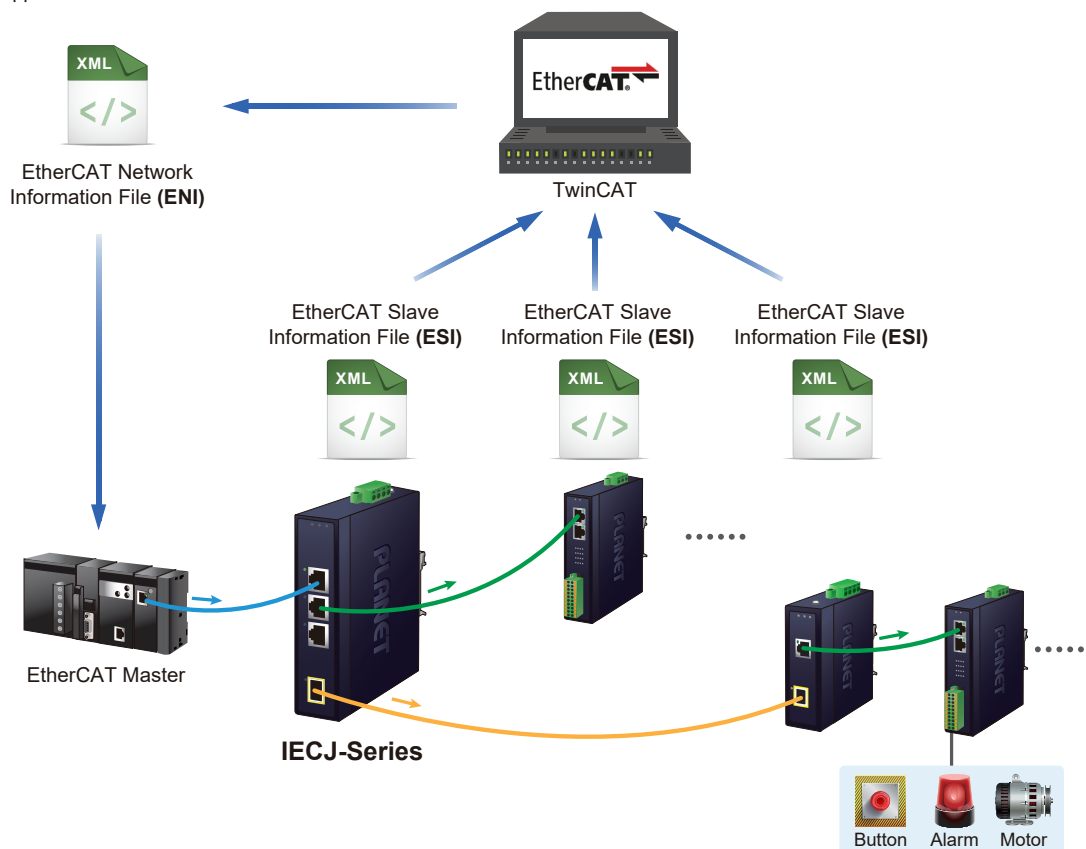

2 x 9~48V DC Power Input

IP30 Rugged Case

4 x RJ45 Bus Interface

-40°C   75°C

IECJ-400

2 x 9~48V DC Power Input

IP30 Rugged Case

3 x RJ45 Bus Interface

1 x 100BASE-FX SFP Interface

-40°C   75°C

IECJ-410FT

Applications

Suitable for Factory Automation and More

Designed for distributed industrial applications, the IECJ series EtherCAT junction is suitable for factory automation and more. IECJ-400's 4 copper ports (one input and two output), IECJ-410FT's 3 copper ports (one input and two output) and IECJ-410FT's one fiber port (out) can expand network for data transmission. It provides powerful features though it is compact in size. Its DIN-rail mounting and daisy-chain wiring powered by EtherCAT technology can easily install the slave modules in the network segment. With the standard ESI file, users can always find suitable I/O modules for their high-speed EtherCAT-based applications.
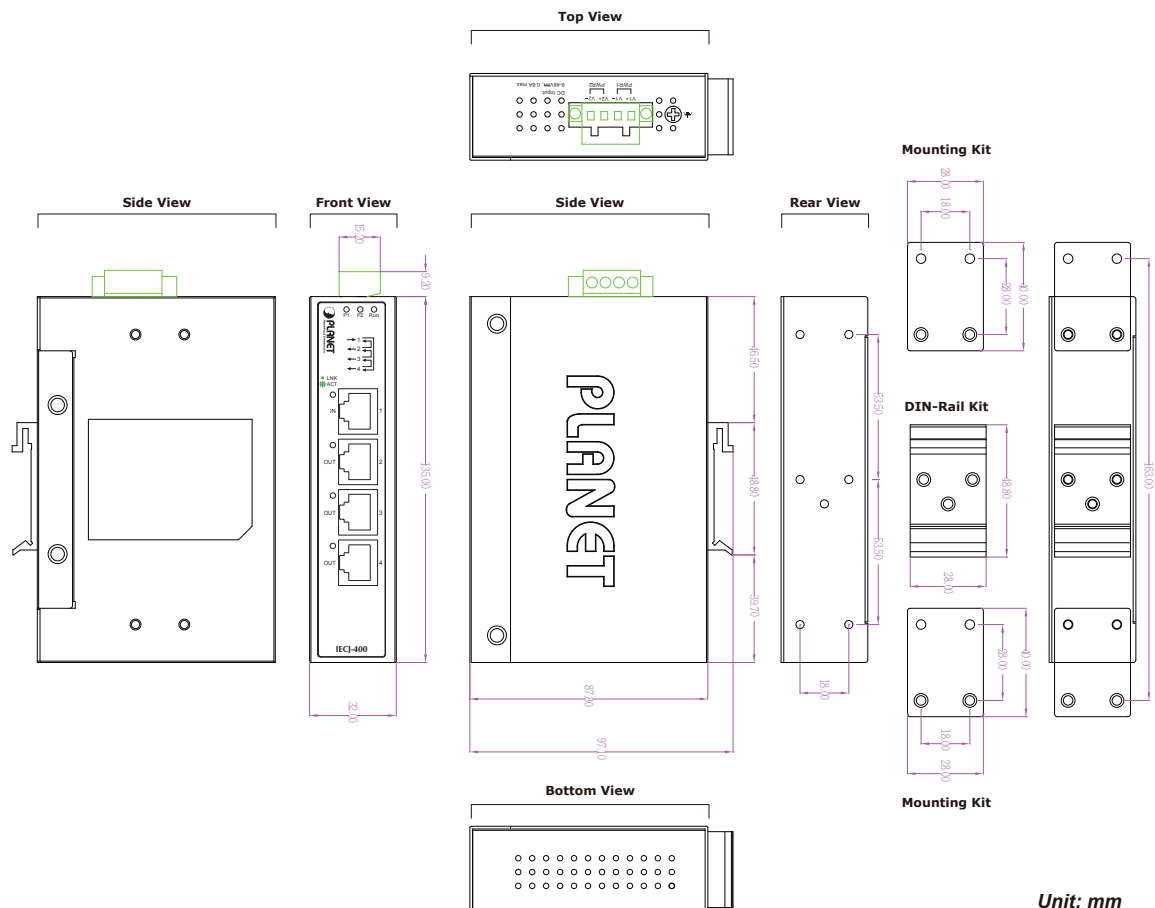

EtherCAT Network Information File **(ENI)**

TwinCAT

EtherCAT Slave Information File **(ESI)**

EtherCAT Slave Information File **(ESI)**

EtherCAT Slave Information File **(ESI)**

EtherCAT Master

IECJ-Series

Button   Alarm   Motor

Specifications

Product	IECJ-410FT		IECJ-410FT	
Communication Interface				
Copper	Port	4 x 100BASE-TX RJ45 port **(1 IN, 3 OUT)**	3 x 100BASE-TX RJ45 port **(1 IN, 2 OUT)**	
	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 (OUT)	
	Distance between Stations	-	Depending on the ability of SFP module	
	Data Transfer Medium	-	Depending on the ability of SFP module	
Communication Interface				
Protocol		EtherCAT		
Power				
Input Voltage Range		Dual 9~48V DC Redundant power with reverse polarity protection		
Power Consumption		2.44W max.	2.83W max.	
Mechanical				
Dimensions (W x D x H)		32 x 87 x 135mm	32 x 87 x 135mm	
Weight		383 g	383 g	
Installation		DIN-rail and wall mounting		
Case Material		IP30 metal		
Environment				
Operating Temperature		-40~75 degrees C		
Storage Temperature		-40~85 degrees C		
Relative Humidity		5~95% (non-condensing)		

Dimensions

■ IECJ-400

Top View

Side View   **Front View**   **Side View**   **Rear View**

Mounting Kit

DIN-Rail Kit

Mounting Kit

Bottom View

Unit: mm

■ IECJ-410FT

Top View

Side View **Front View** **Side View** **Rear View**

Mounting Kit

DIN-Rail Kit

Mounting Kit

Bottom View
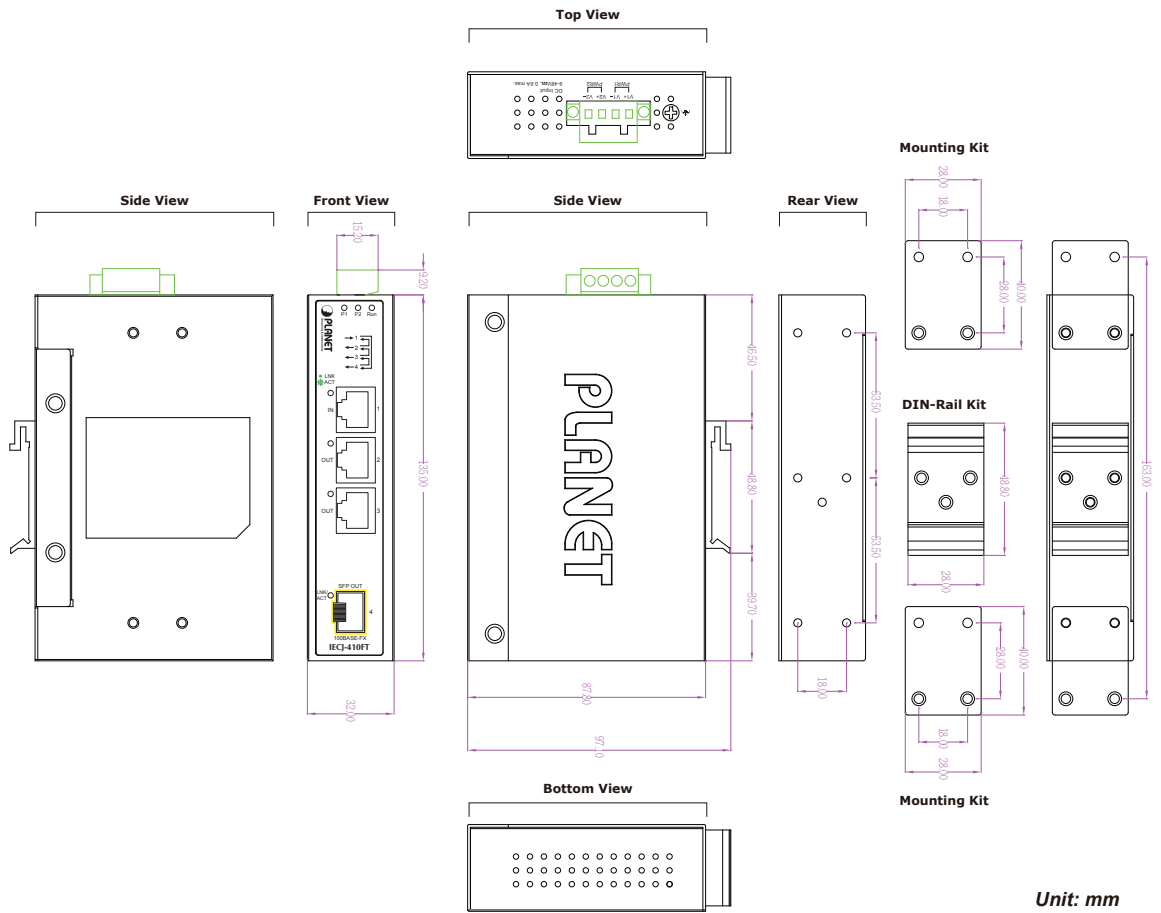
Unit: mm

Ordering Information

IECJ-410FT	Industrial 3-Port RJ45 + 1-Port SFP EtherCAT Junction Slave
IECJ-400	Industrial 4-Port EtherCAT Junction Slave

Related Products

IECS-1116-DO	Industrial EtherCAT Slave I/O Module with Isolated 16-ch Digital Output
IECS-1116-DI	Industrial EtherCAT Slave I/O Module with Isolated 16-ch Digital Input
IECC-210-KIT	Industrial EtherCAT Media Converter Kit (IECC-210T + IECC-210R)
IECJ-300	Industrial 3-Port EtherCAT Junction Slave

Accessories

PWR-40-24	DC Single Output Industrial DIN-rail Power Supply Units
PWR-60-24	DC Single Output Industrial DIN-rail Power Supply Units
PWR-75-24	DC Single Output Industrial DIN-rail Power Supply Units

IECJ-400/IECJ-410FT