

Industrial RS-232/ RS-422/ RS-485 over Ethernet Media Converter



Cost Effective Solution for RS-232 / RS-422 / RS-485 to Industrial Ethernet Application

PLANET ICS-210x series Smart Media Converter / Device Server offer conversion of serial RS-232 / RS-422 / RS-485 communication to Industrial Fast Ethernet networking. There are RJ-45 and SC connectors with single-mode or multi-mode media available for your network needs. It allows serial and Ethernet communications to connect efficiently and inexpensively. The ICS-210x is a time-saving and cost-effective solution for user and SI to quickly transform its serial equipments to the Ethernet network with no need of replacing the existing Serial equipment and software system.

Extend Distance

The ICS-210x series media converter extends the deployment distance of serial equipments and hosts. The fiber-optic wires for different distance applications are available for choice to fit with your needs. The ICS-210x perfectly satisfy the diverse demands in various industrial networks while providing reliable and efficient network solutions with budgets of installation.

Remote Manageable

The ICS-210x makes the connected serial equipments become the IP-based facilities and be able to connect to a TCP/IP networking immediately. It also provides Web Management Interface for efficient network management. The powerful Web-Smart Media Converter supports Application mode and Serial operation mode for alarm or IP address connection, which helps reduce a network administrator's time in detecting and locating network problems without requiring visual inspection of cabling and equipment. Multiple connection options are available for large networking environment as well.

Stable Performance under Difficult Environments

The ICS-210x 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. The feature of operating temperature range from -10 to 60 Degree C allows the ICS-210x to be placed in almost any difficult environment.

The ICS-210x equip with compact, IP-30 standard metal case that allows either DIN rail or wall mounting for efficient use of cabinet space. The ICS-210x also provides an integrated power supply source with wide range of voltages (12 to 48V DC) ideally suitable for worldwide operation with high availability applications requiring dual or backup power inputs.

KEY FEATURES

SERIAL INTERFACE

- One RS-232 port and one RS-422/485 port to 10/100Base-TX or 100Base-FX Media Conversion
- Cost effective for RS-232/ RS-422/ RS-485 to Ethernet application
- Supports RS-232 with DB9 interface, 4-wire RS-422 or 2-wire RS-485 with terminal block operation
- Asynchronous serial data rates up to 230400bps

ETHERNET INTERFACE

- Complies with IEEE 802.3, IEEE 802.3u 10/100Base-TX, 100Base-FX standard
- Supports auto MDI/MDI-X function on RJ-45 Port for ICS-2100
- Supports 100Base-FX multi-mode SC concocter up to 2km for ICS-2102
- Supports 100Base-FX single-mode SC concocter up to 15km for ICS-2102S15

SMART FUNCTIONS

- Standard TCP/IP interface and versatile operation modes
- Software Protocol supports ARP, ICMP, TCP/IP, UDP, HTTP server, DHCP client, Telnet server/client
- Built-in IP-Based Web interface for remote management
- Serial Operation mode selected via Web management
- Pair Connection mode for connecting two serial devices over a network
- PLANET Smart Discovery utility automatically finds the client devices on the network
- Firmware upgrade via HTTP protocol

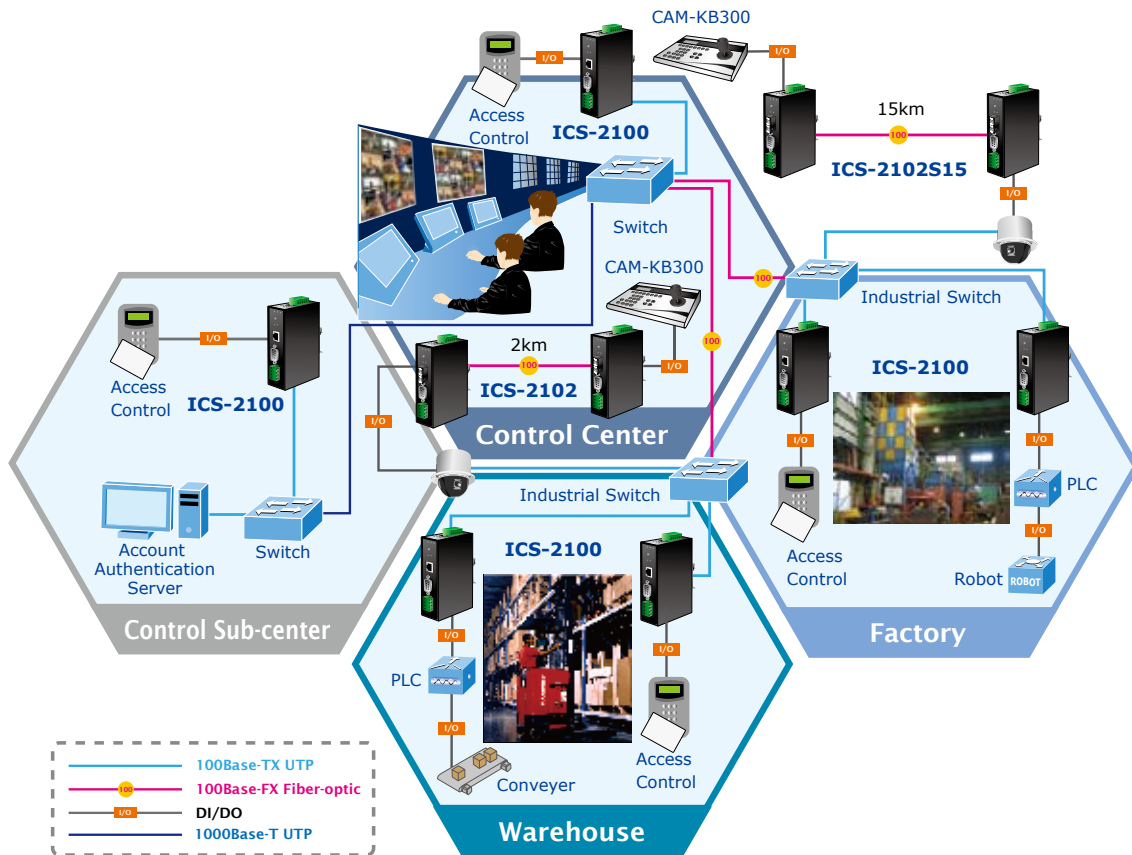
HARDWARE

- LED indicators for easy network diagnose
- Reset Button at the front panel for reset to factory default

INDUSTRIAL CASE / INSTALLATION

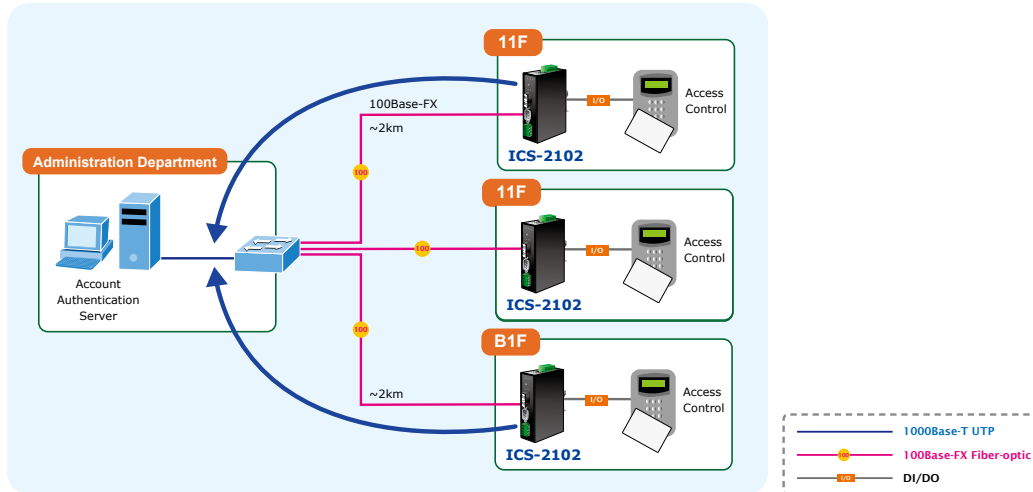
- IP-30 Metal case protection
- DIN Rail and Wall Mount Design
- 12 to 48V DC, Redundant power with polarity reverse protect function and connective removable terminal block for master and slave power
- Supports EFT protection 6000 VDC for power line
- Supports 6000 VDC Ethernet ESD protection
- -10 to 60 Degree C operation temperature

APPLICATIONS



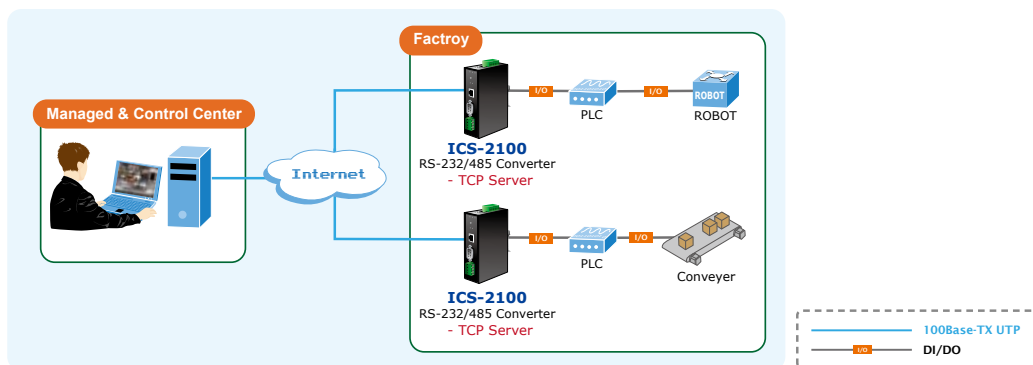
Access Control System – traditional installation

Most of the enterprises and government use access control plate and Mifare or RFID to authorize entrance identity. Traditionally, access control machines use RS-232 or RS-485 serial interface and their cables connect to login server. By connecting to ICS-210x Serial over Ethernet Converter, the access control machine is able to extend the network over longer distances via fiber optical interface. The distance can be up to 15km in a local range. In other way, the ICS-210x can be linked to a xDSL router to get the internet access capability so that the access control can be set and monitored over the internet.



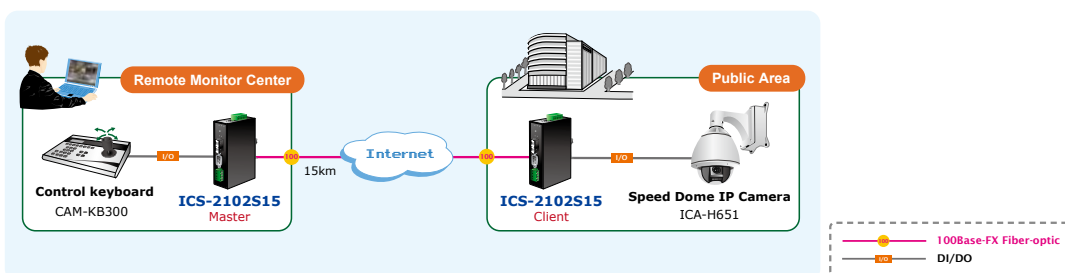
Process Control

To monitor, configure and manage the Robot conveyer including other machines in manufacturing, PLC (Programmable Logical Control) is required to drive the above manufacturing process. The ICS-210x can be set to the TCP Server mode and connect to the PLC. Thus, the administrator can configure and set command settings through Fast Ethernet intranet to remotely control the PLC, the administrator and workstation. It would be no need of being always by side of the I/O machine.



Surveillance motion control – Pair Connection Mode

Using pair connection along with fiber optical patch cord, the ICS-210x extend RS-232 / RS-422 / RS-485 interfaces distance from surveillance and scanner to the control keyboard/ joystick installed in the remote monitor center.



SPECIFICATION

Product	Industrial RS-232/ RS-422/ RS-485 over Ethernet Media Converter		
Model	ICS-2100	ICS-2102	ICS-2102S15
Serial Port			
Interface	RS-232 x 1 RS-422 / RS-485 x 1		
Connector	DB9 for RS-232 Terminal block for RS-422 / RS-485		
Baud Rate (Data Rate)	300bps to 230400bps		
Data Bits	5,6,7,8		
Parity Type	1, 1.5/2		
Stop Bit	Odd, Even, None, Space, Mark		
Flow Control	Hardware, None		
Signals	RS-232: DCD, RxD, TxD, GND, RI RS-422: Tx+, Tx-, Rx+, Rx- RS-485: Data A (+), Data B (-)		
Fast Ethernet Port			
Standard	10/100Base-TX	100Base-FX	
Connector	RJ-45	SC	
Mode	-	Multi-Mode	Single-Mode
Distance	100m	2km	15km
Optical Wavelength	-	1300nm	1310nm
Cable	Twisted-pair	50/125µm or 62.5/125µm multi-mode fiber cable	9/125µm single-mode cable
Hardware			
LED Indicators	System: Power 1, Power 2, Fault TP or Fiber Port: Link / Active Serial Port: Serial port mode, RS-232, RS-422 or RS-485		
Management	Web Management PLANET Smart Discovery Utility VCOM Utility		
Operation Mode	TCP Server TCP Client UDP Client Virtual COM Telnet Server Pair Connection – Remote (Slave) Pair Connection – Local (Master)		
Dimension (W x D x H)	135 x 97 x 32 mm		
Weight	425g	431g	431g
Power Supply	12~48V DC, Redundant power with polarity reverse protection function		
Power Consumption	10.1 Watts / 34.44 BTU (max)		
Installation	DIN rail kit and wall mount ear		
Alarm	Provides one relay output for power fail, Alarm Relay current carry ability: 1A @ DC 24V		
Mechanical	Metal		
Environment	Operating Temperature: -10~60 Degree C Storage Temperature: -20~75 Degree C Operating Humidity: 10~90% RH Storage Humidity: 5~90% RH		
Emissions	FCC Class A, CE Certification Class A		
Standards	IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX / 100Base-FX EIA/TIA RS-232/422/485		
Regulatory Approval	RoHS		
Stability Testing	IEC60068-2-32(Free fall) IEC60068-2-27(Shock) IEC60068-2-6(Vibration)		
Button	1 x Reset Button at the front panel for reset to factory default		

ORDERING INFORMATION

ICS-2100	Industrial RS-232/RS-422/RS-485 over 10/100Base-TX Media Converter (Copper, RJ-45)
ICS-2102	Industrial RS-232/RS-422/RS-485 over 100Base-FX Media Converter (Fiber, MM/2km)
ICS-2102S15	Industrial RS-232/RS-422/RS-485 over 100Base-FX Media Converter (Fiber, SM/15km)

RELATIVE PRODUCTS (SERIAL OVER FAST ETHERNET MEDIA CONVERTER)

ICS-100	RS-232/422/485 over Fast Ethernet Media Converter (RJ-45) – 100m
ICS-101	RS-232/422/485 over Fast Ethernet Media Converter (ST, MM) – 2km
ICS-102	RS-232/422/485 over Fast Ethernet Media Converter (SC, MM) – 2km
ICS-102S15	RS-232/422/485 over Fast Ethernet Media Converter (SC, SM) – 15km
ICS-105A	RS-232/422/485 over Fast Ethernet Media Converter (SFP) – Vary on module