

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



Cost-effective Solutions of RS-232 / RS-422 / RS-485 for Industrial Ethernet Applications

PLANET ICS-2100 Smart Media Converter / Device Server series offers conversion of serial RS-232 / RS-422 / RS-485 communication to Industrial Fast Ethernet networking. It allows serial and Ethernet communications to connect efficiently and inexpensively. The ICS-2100 is a time-saving and cost-effective solution for users and SIs to quickly transform its serial equipment to the Ethernet network with no need of replacing the existing serial equipment and software system.

Remote Management

The ICS-2100 makes the connected serial equipment become the IP-based facilities and 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 by 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-2100 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. Its operating temperature range from -10 to 60 degrees C allows the ICS-2100 to be placed in almost any difficult environment.

The ICS-2100 is equipped with the compact, IP30 standard metal case that allows either DIN rail or wall mounting for efficient use of cabinet space. The ICS-2100 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.

Serial Interface

- One RS-232 port and one RS-422/485 port to 10/100Base-TX Media Conversion
- Cost effective solutions of RS-232/ RS-422/ RS-485 for Ethernet applications
- 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 standard
- Supports auto MDI/MDI-X function

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

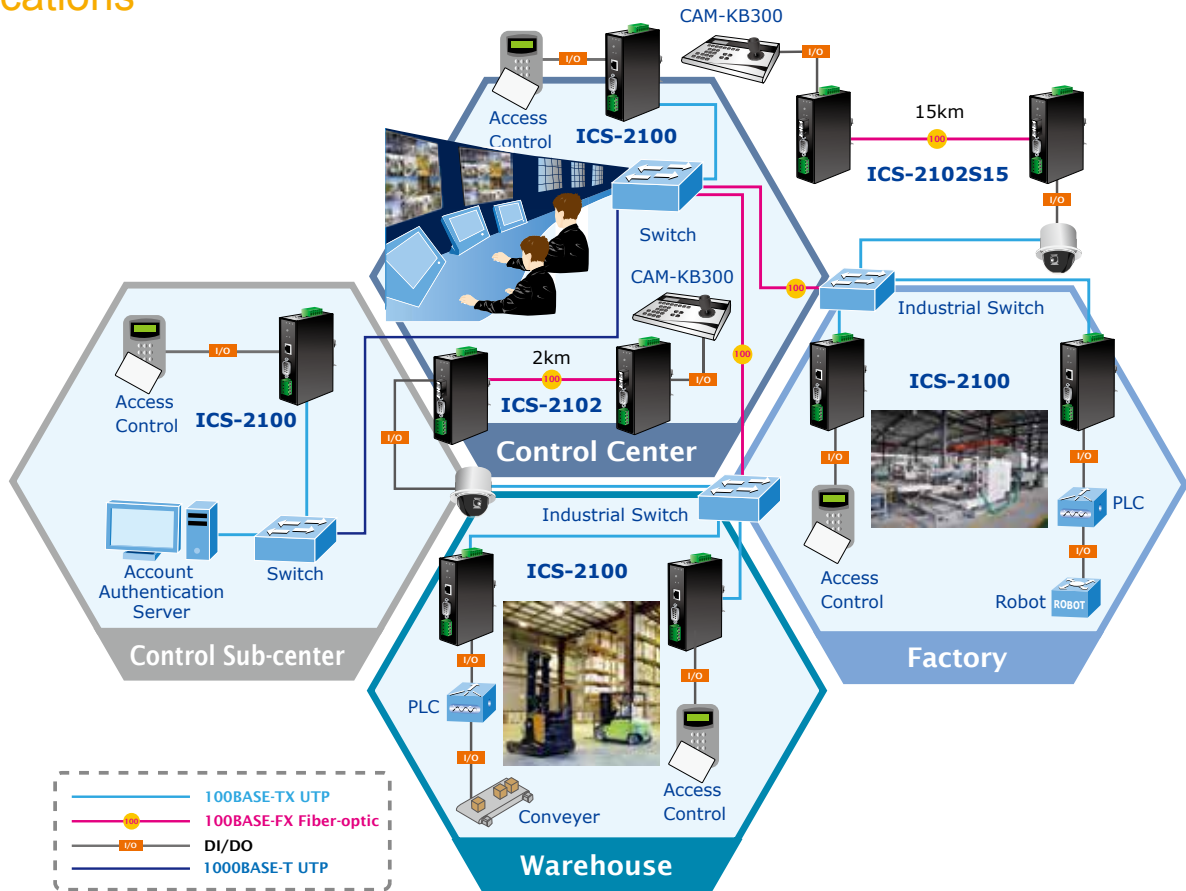
Hardware

- LED indicators for easy network diagnostics
- Reset Button on the front panel for resetting to factory default

Industrial Case / Installation

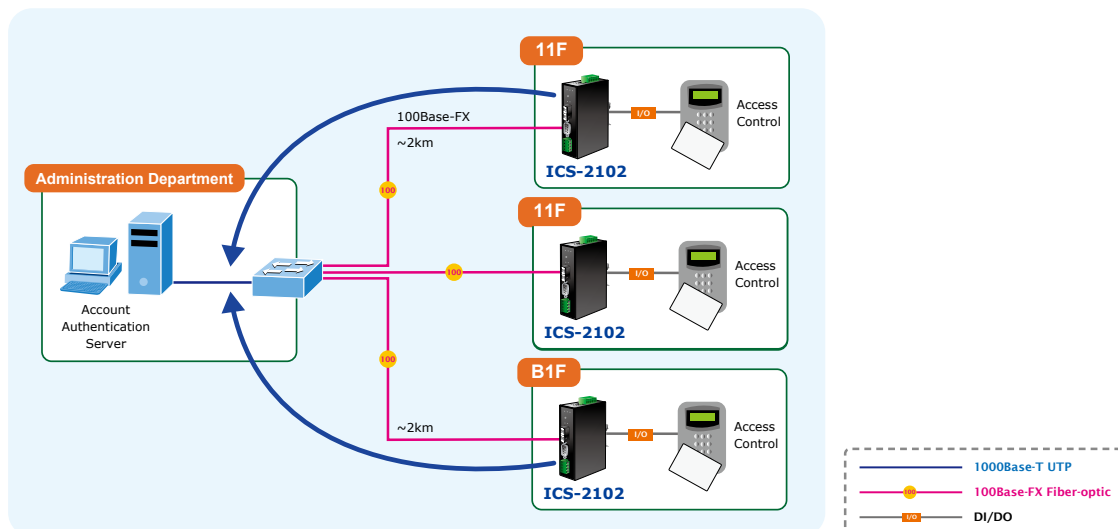
- IP30 metal case protection
- DIN rail and wall mount design
- 12 to 48V DC, redundant power with polarity reverse protect function and connective removable terminal block for master and slave power
- Supports EFT protection 6000V DC for power line
- Supports 6000V DC Ethernet ESD protection
- -10 to 60 degrees C operating temperature

Applications



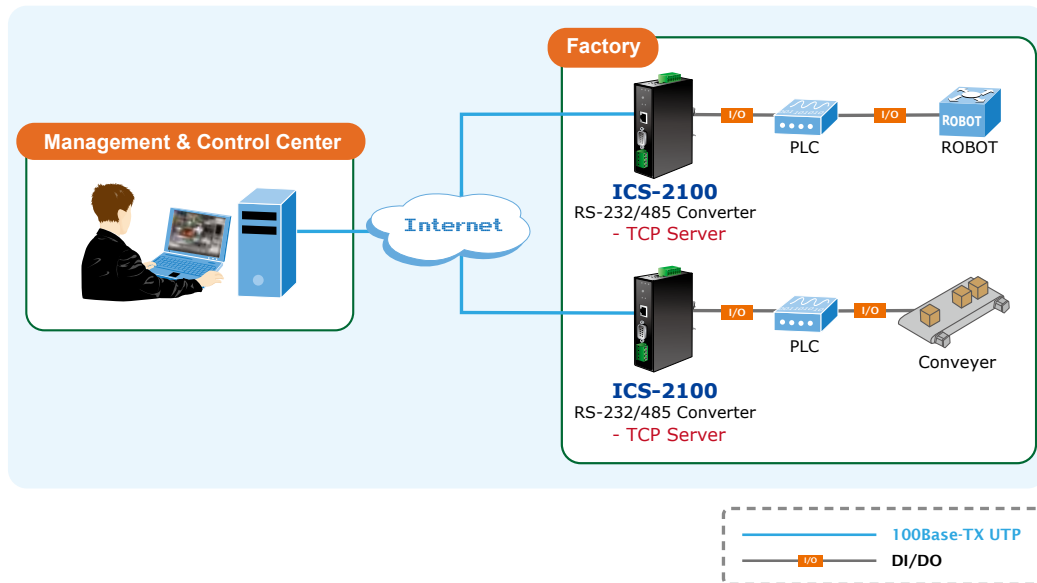
Access Control System – traditional installation

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 with their cables connecting 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 optic interface. The distance can be up to 15km in a local range. In another 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.



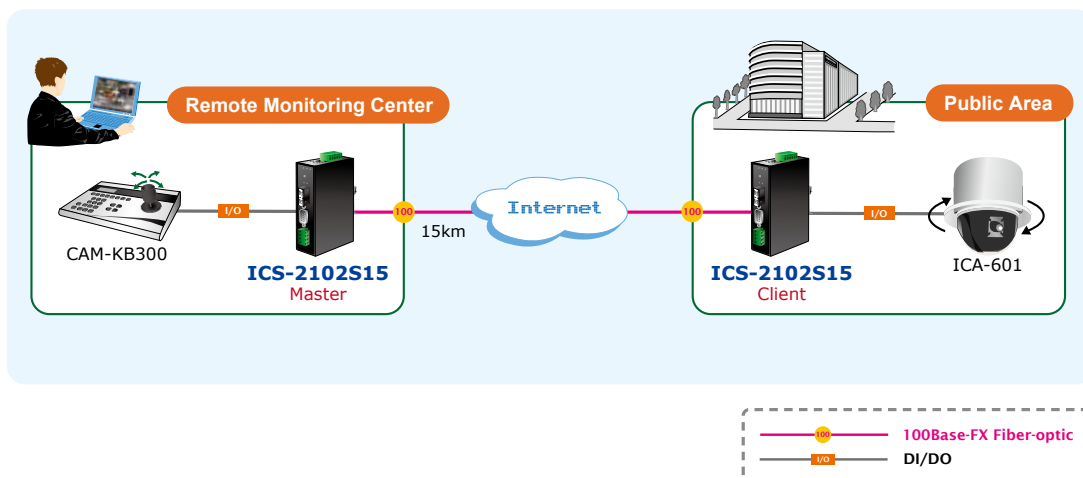
Process Control

To monitor, configure and manage the Robot conveyor 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 is not necessary to stand by the I/O machine.



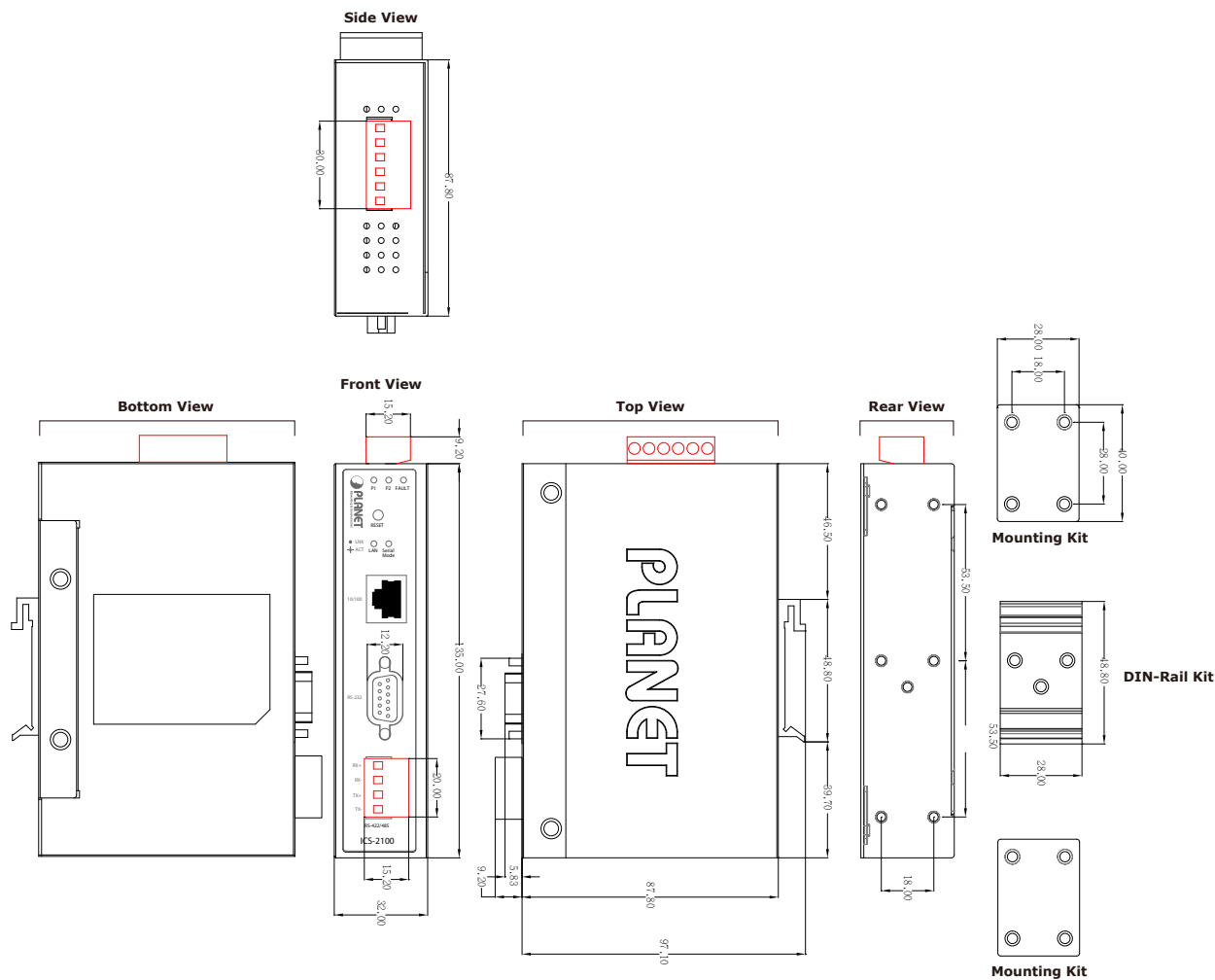
Surveillance Motion Control – Pair Connection Mode

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



Specifications

Model	ICS-2100
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 921600bps
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
Connector	RJ-45
Distance	100m
Cable	Twisted-pair
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
Virtual COM Utility Platform Supports	Windows Base Only: Windows XP Windows Server 2003 Windows 7 Windows Server 2008 Windows 8 (Must install the latest version of WinPcap) Windows Server 2012 (Must install the latest version of WinPcap)
Operation Mode	TCP Server TCP Client UDP Client Virtual COM Telnet Server Pair Connection – Remote (Slave) Pair Connection – Local (Master)
Dimensions (W x D x H)	135 x 97 x 32 mm
Weight	425g
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 failure; alarm relay current carry ability: 1A @ DC 24V
Mechanical	Metal
Environment	Operating Temperature: -10~60 degrees C Storage Temperature: -20~75 degrees C Operating Humidity: 10~90% RH Storage Humidity: 5~90% RH
Regulation Compliance	FCC Class A, CE Certification Class A
Standards Compliance	IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX EIA/TIA RS-232/422/485
Regulatory Approval	RoHS
Stability Testing	IEC60068-2-32(Free Fall), IEC60068-2-27(Shock), IEC60068-2-6(Vibration)
Note	Reset Button on the front panel for resetting to factory default



Dimensions (unit = mm)

Ordering Information

ICS-2100	Industrial RS-232/RS-422/RS-485 over 10/100Base-TX Media Converter (Copper, RJ-45)
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Related Products

ICS-100	RS-232 / RS-422 / RS-485 over Fast Ethernet Media Converter
ICS-102 / ICS-102S15 / ICS-105A	RS-232 / RS-422 / RS-485 over Fast Ethernet Media Converter
ICS-2102 / ICS-2102S15 / ICS-2105A	Industrial RS-232/ RS-422/ RS-485 over Ethernet Media Converter

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