2-Port RS232/RS422/RS485 Serial Device Server

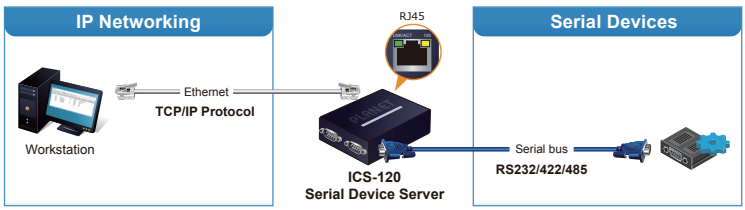
Cost-effective Solution for RS232/422/485 Serial-to-Ethernet Application

PLANET ICS-120 Serial Device Server is specially designed to convert two serial RS232/RS422/RS485 communication interfaces into Fast Ethernet networking to extend the network distance efficiently and inexpensively.

There is one 10/100BASE-TX RJ45 port in the ICS-120, making connected serial equipment become IP-based, and able to also connect to a TCP/IP networking immediately. And its operating temperature ranging from -10 to 60 degrees C is designed for all your network requirements.

The ICS-120 is a time-saving and cost-effective solution for users and system integrators to quickly transform their serial devices into the Ethernet network with no need of replacing the existing serial devices and software system.

Converting Serial Communication to IP Networking



Serial Interface

- Two DB9 interfaces that support RS232, 2-wire RS485, 4-wire RS485 and RS422 operation
- Asynchronous serial data rates up to 921600bps
- Data mode includes VCOM, RFC2217, TCP server, TCP client, UDP, remote pairing, Modbus converter server / client and serial telnet modes

Ethernet Interface

- 1-port 10/100BASE-TX RJ45 with auto MDI/MDI-X function

Management

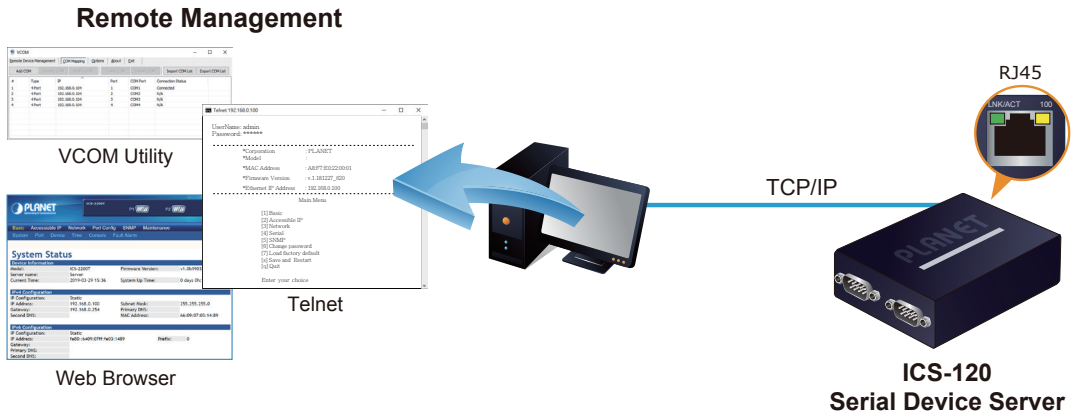
- IPv4 and IPv6 dual stack management
- Remote Management Interfaces
  - IP-based Web management
  - Telnet console management
  - Windows-based VCOM utility supports searching, monitoring and configuration setting
- IP NTP (Network Time Protocol)
- Standard TCP/IP interface and versatile operation modes
- Software Protocol supports ICMP, TCP/IP, UDP, HTTP server, DHCP client, Telnet server/client
- Serial operation mode selected via management interface
- Pair connection mode for connecting two serial devices over a network
- Allows a maximum of 4 hosts to be accessed as TCP client mode
- Firmware upgrade via HTTP protocol
- Accessible IP security control to prevent illegal users
- Event notification
  - Remote syslog server
  - SNMP trap
- DHCP client for IP address assignment
- PLANET Smart Discovery utility automatically finds the client devices on the network

Case and Installation

- Compact size for easy Installation:
  - Standalone -- Wall mounting or DIN-rail mounting (optional accessory)
- External power adaptor 5V DC, 2A max.
- Supports 6000 VDC Ethernet ESD protection
- -10 to 60 degrees C operating temperature
- Supports extensive LED indicators for network diagnosis
- Reset button for resetting to factory default

Remote Management

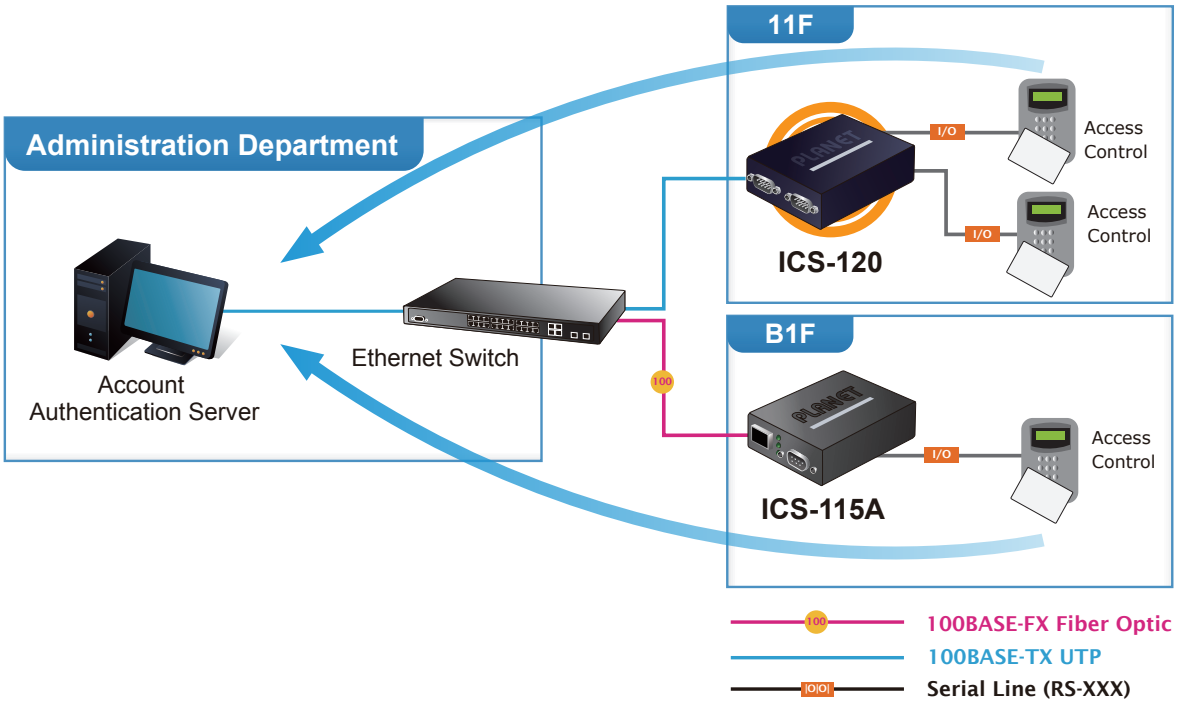
As the ICS-120 provides easy serial-to-Ethernet connectivity and connection to a TCP/IP network, the remote network system can thus be managed efficiently via its Web, telnet, and VCOM management interfaces. It supports both application and serial operation modes for alarm or IP address connection, which saves the administrator's time in detecting and locating network problems without visual inspection of the cabling and devices. Multiple connection options are available for a large networking environment as well.



Applications

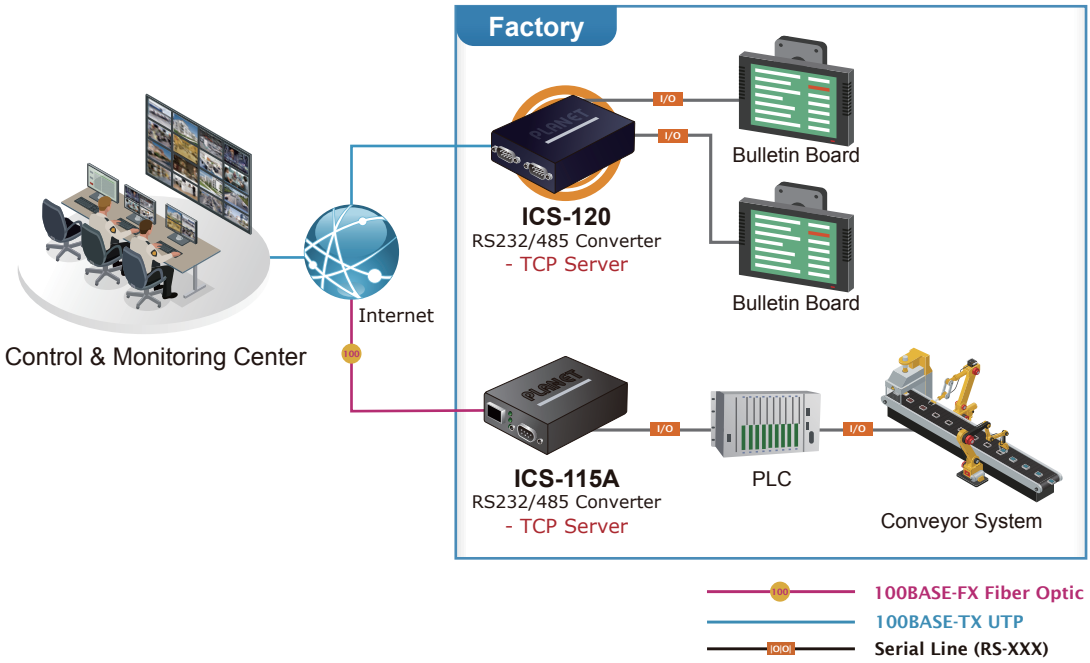
Access Control System – Traditional System Application

Most of the enterprises and government use access control plate and Mifare or RFID to authorize entrance identity. Traditionally, the access control machines use RS232 or RS485 serial interface with their cables connecting to login server. By applying the ICS-120 Serial Device Server, the access control machine is able to extend the network over longer distances via Ethernet interfaces. In addition, the ICS-120 can be linked to an xDSL router to get the internet access capability so that the access control can be set and monitored over the internet.



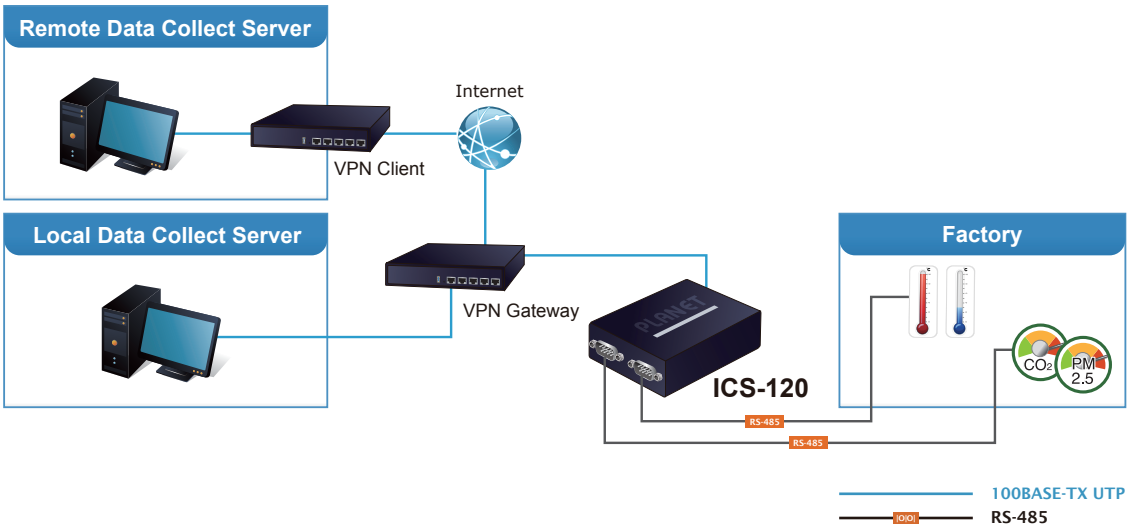
Process Control

To monitor, configure and manage the robotic conveyer including other production machines, PLC (programmable logical control) is required to drive the above manufacturing process. The ICS-120 can be set to the TCP server mode and connected to the PLC. Thus, the administrator can configure and set command settings through Fast Ethernet intranet to remotely control the PLC, without having to stand by the I/O machine.



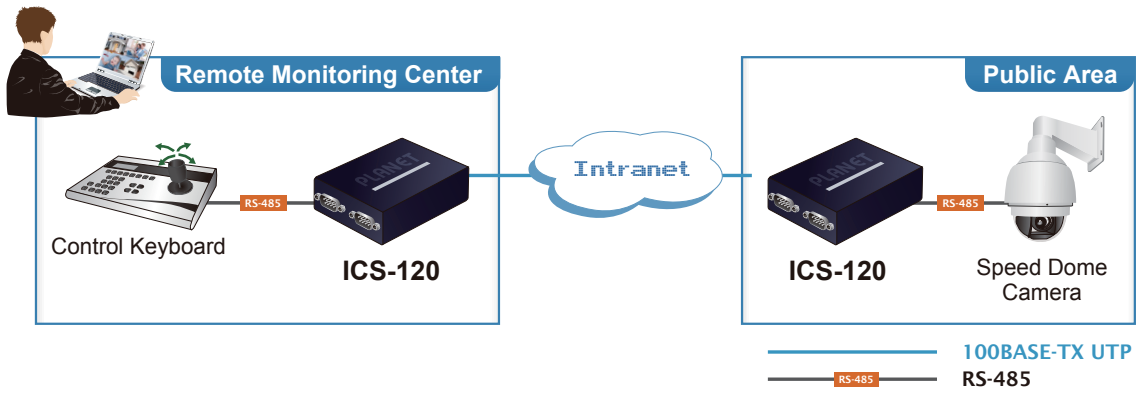
RTU Data Collect – UDP Mode

Connect with RTU (remote terminal unit) to collect and monitor the data of waves, signal and power utilization. The ICS-120 can be used to set up UDP mode and send data over Fast Ethernet to local server or over Internet to remote server automatically.

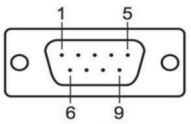


Surveillance Motion Control – Pair Connection Mode

Using pair connection mode via the fiber optic patch cord, the ICS-120 can extend the distance of the deployed devices via RS232, RS422 and RS485 interfaces, making the remote management of these devices from the monitoring center easier and efficient.



Product Specifications

Product	ICS-120
Serial Interface	
Serial Port	2 x DB9 male
Serial Standards	RS232/RS422/4-wire RS485/2-wire RS485
Baud Rate (Data Rate)	50bps to 921Kbps
Data Bits	5, 6, 7, 8
Stop Bit	1, 1.5, 2
Parity Type	Odd, Even, None, Space, Mark
Flow Control	RTS/CTS and DTR/DSR (RS232 only) XON/XOFF
Signals	RS232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND RS422: Tx+, Tx-, Rx+, Rx-, GND 4-wire RS485: Tx+, Tx-, Rx+, Rx-, GND 2-wire RS485: Data A (+), Data B (-), GND
Pin Assignment	

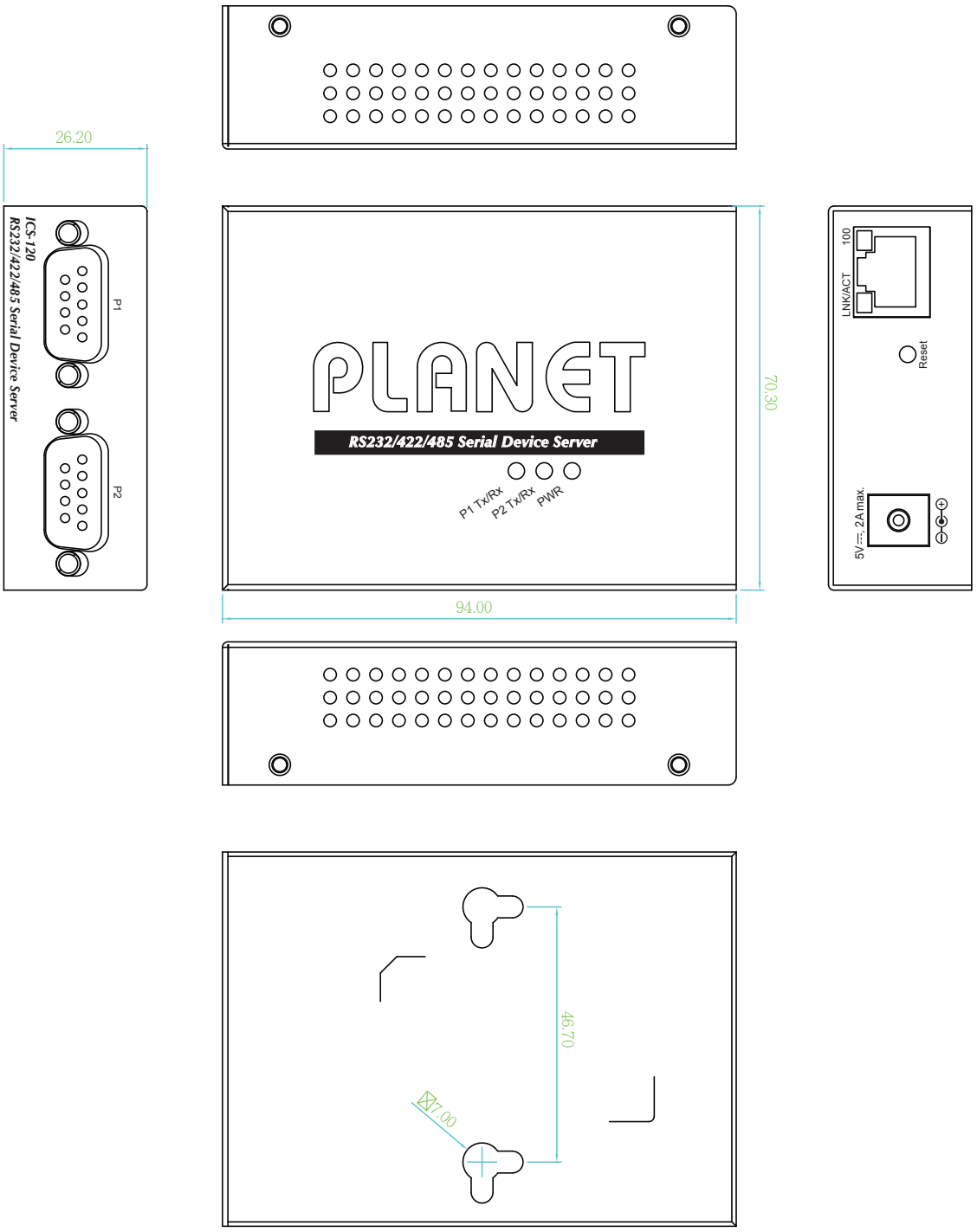
Male DB9	Pin	RS232	RS422 RS485-4W	RS485-2W
	1	DCD	TxD+	--
	2	RxD	TxD-	--
	3	TxD	RxD-	Data-
	4	DTR	RxD+	Data+
	5	GND	GND	GND
	6	DSR	--	--
	7	RTS	--	--
	8	CTS	--	--
	9	--	--	--

Ethernet Interface	
Ethernet Ports	1 x RJ45
Standard	10/100BASE-TX
Distance	100m
ESD Protection	6KV
Hardware	
Dimensions (W x D x H)	97 x 70 x 26mm
Weight	184g
LED Indicators	System: Link TP Port: Link/ Active Serial Port: Active
Power Requirements	External Power Adaptor 5V DC, 2A max.
Power Consumption	5.5 watts (max.)
Enclosure	Metal
Installation	Standalone, wall-mount , and DIN-rail kit (optional)
Reset Button	< 5 sec: System reboot > 5 sec: Factory default
Management	
Management Interfaces	Web management Telnet Console management Windows-based VCOM Utility management SNMPv1, v2c / SNMP trap UNI-NMS monitoring PLANET Smart Discovery Utility
IP Version	IPv4 and IPv6
Operation Mode	■ TCP server / TCP client ■ UDP client ■ Virtual COM ■ RFC2217 ■ Telnet server ■ Pair connection – Remote (Slave) ■ Pair connection – Local (Master) ■ Modbus converter server / client

Virtual COM Utility Platform Support	Windows-based 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) Windows 10
Fault Alarm	Record: System log / SNMP trap
Time	NTP
Security	Accessible IP (white list)
SNMP	SNMP v1 and v2c
Standards Conformances	
Regulatory Compliance	FCC Part 15 Class A, CE Certification Class A
Standards	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX RFC 768 UDP RFC 793 TFTP RFC 791 IP RFC 792 ICMP RFC 854 Telnet RFC 958 NTP RFC 1908 SNMPv2c RFC 2068 HTTP RFC 2131 DHCP Client RFC 2732 Format for Literal IPv6 Addresses in URL's RFC 3315 DHCPv6 Client RFC 3513 IPv6 Addressing Architecture RFC 4443 ICMPv6 EIA/TIA RS232/422/485
Regulatory Approval	RoHS
Environment	
Operating Temperature	-10 ~ 60 degrees C
Storage Temperature	-10 ~ 70 degrees C
Humidity	5 ~ 95% (non-condensing)

Dimensions

- ICS-120



Unit: mm

Ordering Information

ICS-120	2-Port RS232/422/485 Serial Device Server

Related Products

ICS-110	1-Port RS232/422/485 Serial Device Server
ICS-115A	1-Port RS232/422/485 Serial Device Server with 1-Port 100BASE-FX SFP
ICS-2100T	IP30 Industrial 1-Port RS232/RS422/RS485 Serial Device Server (1 x 10/100TX, -40~75 degrees C)
ICS-2105AT	IP30 Industrial 1-Port RS232/RS422/RS485 Serial Device Server (1 x 100FX, -40~75 degrees C)
IMG-2200T	IP30 Industrial 2-Port RS232/RS422/RS485 Modbus Gateway (2 x 10/100TX, -40~75 degrees C, 2KV isolation)
IMG-2400T	IP30 Industrial 4-Port RS232/RS422/RS485 Modbus Gateway (2 x 10/100TX, -40~75 degrees C, 2KV isolation, 2 x DI + 2 x DO)

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