

Product Specification

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

ICS-100
ICS-102
ICS-102S15
ICS-105A

Version 1.2

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Change History:

Revision	Date	Author	Change List
Version 0.9	2008/01/15	Kent Kang	Initial release
Version 1.0	2008/03/21	Berton Yeh	Initial release
Version 1.1	2008/04/05	Kent Kang	PIN define revise
Version 1.2	2012/4/5	Bryant Wu	Add New Model ICS-105A

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Reviewed by:	Kent Kang	Approved by:	Tom Shih

1. PRODUCT DESCRIPTION

The **Web-Smart** Media Converters – **ICS-10X**, makes them the ideal choice for connecting your RS-232/RS-485 serial devices, such as card readers and payment terminals to an IP-based Ethernet LAN. This converter can be used as a stand-alone unit or as a slide-in module to the PLANET Media Converter Chassis (**MC-700** and **MC-1500**).

The **ICS-10X** support several operation mode, including “**TCP Server**”, “**TCP Client**”, “**UDP Client**”, “**Virtual COM**”, “**Telnet Server**”, “**Pair connection (local)**” and “**Pair connection (Master)**”.

Each Web-Smart converter is able to manage through the Web Interface. The powerful Web-Smart Media Converter supports ARP, ICMP, TCP/IP, UDP, HTTP server, DHCP client, Telnet server/client and SMTP.



2. PRODUCT FEATURES

Serial Interface

- One **RS-232/422/485** port to one **10/100Base-TX** or **100Base-FX** Media Converter
- Cost effective solution for RS-232 to Ethernet application
- Supports RS-232, 4-wire RS-422 or 2/4-wire RS485 operation
- Asynchronous serial data rates up to 921600b/s

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
- Choice of fiber-connector from SC / LC, multi-mode / single-mode fiber

Smart Functions

- Standard TCP / IP interface and versatile operation modes
- Software Protocol Support ARP, ICMP, TCP/IP, UDP, HTTP server, DHCP client, Telnet server/client
- Built-in IP-Base **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 finds ICS-10x devices on the network automatically
- Firmware upgrade via HTTP protocol

Hardware

- Compact size for easy Installation:
 - Standalone - Wall mountable or DIN-Rail mounting (Optional accessory)
 - Co-work with PLANET MC family Media Chassis (**MC-700/1500**)
- LED indicators for easy network diagnose
- Reset Button at the front panel for reset to factory default

3. PRODUCT SPECIFICATION

3.1 MAIN COMPONENT

Microcontroller	IC Plus IC-210S
RS-485 Controller	ET-485E
Fiber Transceiver	Vary by models

3.2 Functional Specifications

Products		ICS-100	ICS-101	ICS-102	ICS-102S15	ICS-105A
Hardware Specification						
Serial Port	Interface	RS-232 / RS-422 / RS-485				
	Connector	3-in-1 DB9				
	Baud rate	300 to 921600bps				
	Character Bits	5,6,7,8				
	Parity type	1, 1.5/2				
	Stop Bit	Odd, Even, None, Space, Mark				
	Flow Control	H/W, None				
	Signals	RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND RS-422: Tx+, Tx-, Rx+, Rx-, GND RS-485 (2-wire): Data+, Data- RS-485 (4-wire): Tx+, Tx-, Rx+, Rx-				
Ethernet Port	Standard	IEEE 802.3 Ethernet ,10Bas-T IEEE 802.3u Fast Ethernet, 10/100Base-TX, 100Base-FX				
	Connector	RJ-45	ST	SC		LC
	Fiber Mode	-	Multi-Mode		Single-Mode	Single-Mode Multi-Mode
	Transmission Mode	Full-Duplex / Half-Duple	Full-Duplex			
	Distance	100m	2km		15km	Depend of SFP module
	Optical Wavelength	-	1300nm		1310nm	Depend of SFP module
Cable	Twisted-pair	50/125µm or 62.5/125µm multi-mode fiber cable		9/125µm single-mode cable	50 or 62.5/125µm multi-mode fiber cable 9/125µm single-mode cable	
Protection	Built-in 1.5KV magnetic isolation					
LED Indicators	System: Power TP or Fiber Port: Link / Active Serial Port: Link / Active					
Management	Web Management PLANET VCOM Utility PLANET Smart Discovery 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)	97 x 70 x 26mm
Weight	200g
Power Supply	External Power Adaptor 5V DC / 2A max.
Power Consumption	5.5 Watts (maximum)
Mechanical	Metal
Environment	Operating Temperature: 0~50 Degree C Storage Temperature: -10~70 Degree C Humidity: 10%~90% RH (operating) 5%~90% RH (Storage)
Emissions	FCC Class A, CE Certification
Standards	IEEE 802.3 Ethernet, 10Base-T IEEE 802.3u Fast Ethernet, 100Base-TX / 100Base-FX EIA/TIA RS-232/422/485
Regulatory Approval	RoHS
Compatible Media Converter Chassis	MC-700 / 1500 / 1500R
Note.	Reset Button at the rear panel for reset to factory default

3.3 Physical Specification

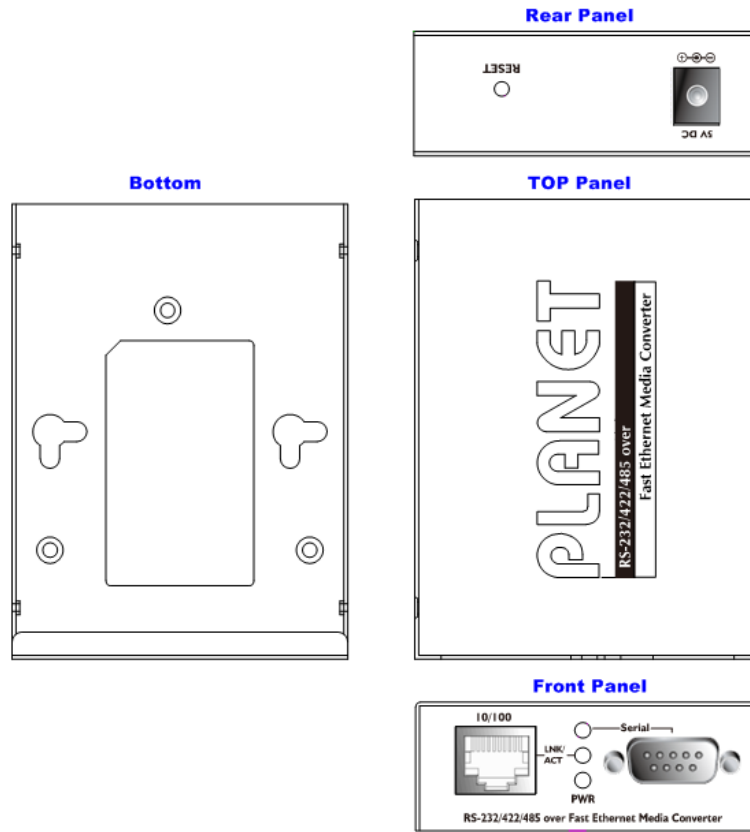
➤ **Dimensions**

96 x 70 x 26 mm (W x D x H)

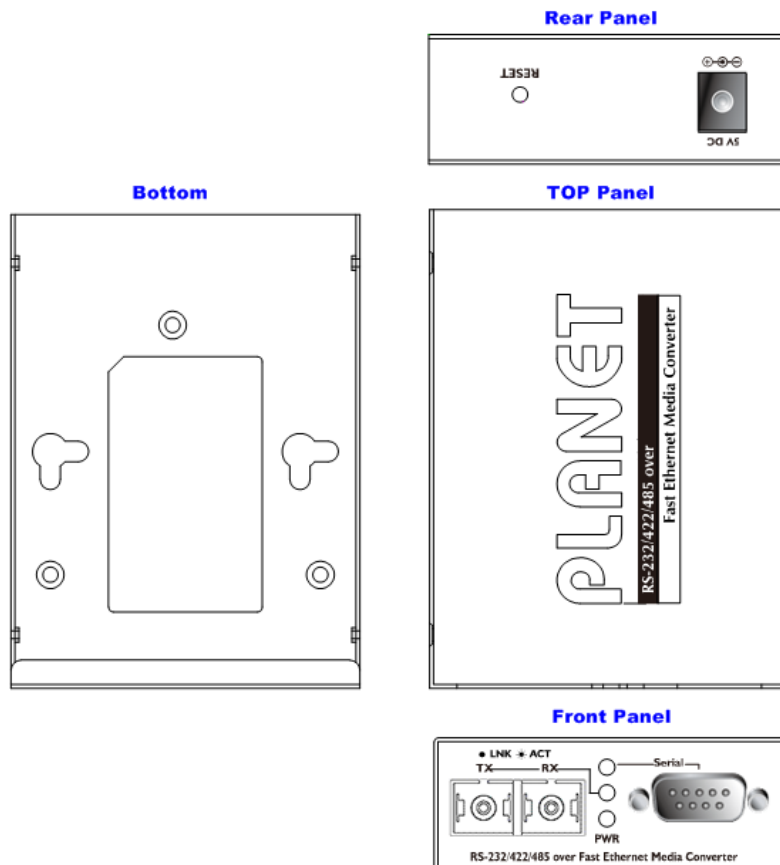
➤ **Weight:**

0.2 kg

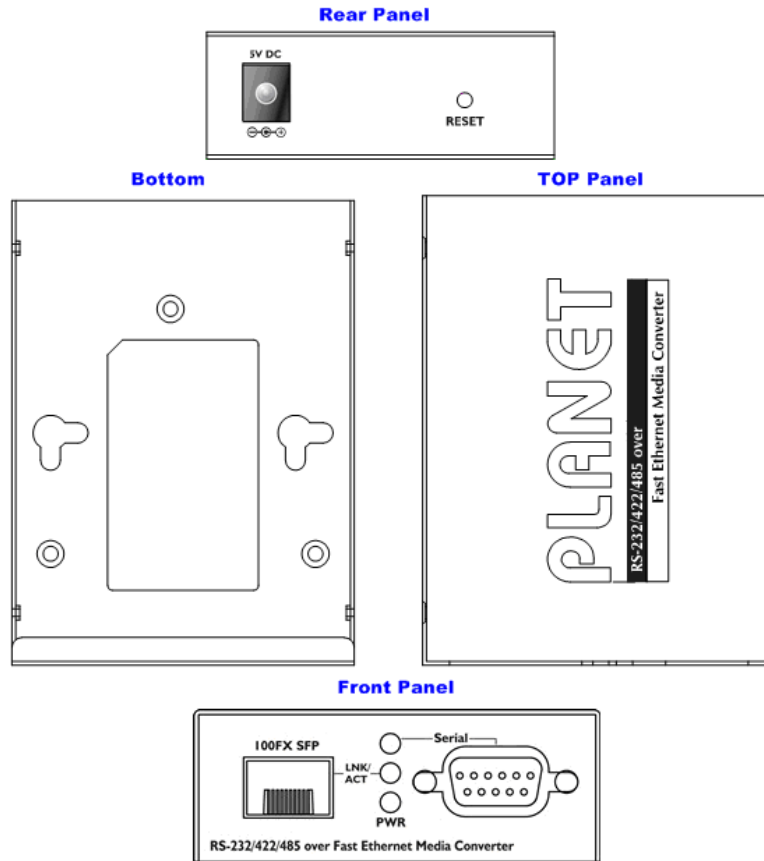
➤ **ICS-100 Panel layout**



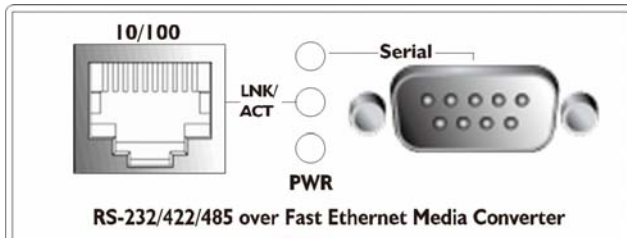
➤ **ICS-102 / ICS-102S Panel Layout**



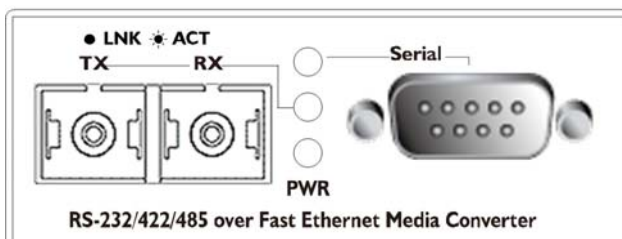
➤ **ICS-105A Panel Layout**



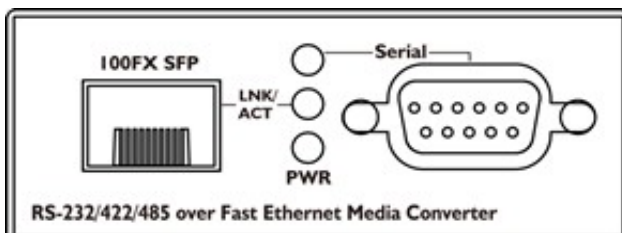
➤ **ICS-100 Front Panel**



➤ **ICS-102 / ICS-102S15 Front Panel**



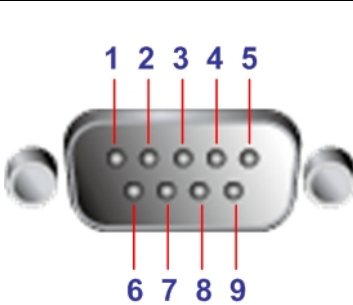
➤ **ICS-105A Front Panel**



➤ LED definition

LED	Color	Function	
PWR	Green	Lights	To indicate that the Switch is powered on.
TP or Fiber	Green	Lights	To indicate that the Fast Ethernet Port is successfully connecting to the network at 10Mbps or 100Mbps
		Blinks	To indicate the Fast Ethernet Port is receiving or sending data
Serial	Green	Lights	To indicate that the RS-232 Port is connected successfully
		Lights and off	To indicate the RS-422 Port is receiving or sending data
		Lights and off faster	To indicate the RS-485 Port is receiving or sending data

➤ DB9 Pin Define for RS-232 / RS-422 / RS-485

	DB9-PIN	RS-232	RS-422/485 4-wire	RS-485 2-wire
	1	DCD		
	2	RXD		
	3	TXD		
	4	DTR		
	5	GND		
	6	DSR		
	7	RTS		
	8	CTS		
	9	RI		
			RX-	Data B(-)
			TX-	
			RX+	Data A(+)
			TX+	

3.4 ENVIRONMENTAL SPECIFICATION

Operating

Temperature: 0~50°C
Relative Humidity: 10~90% RH (non-condensing)

Storage

Temperature: -25~70°C
Relative Humidity: 10~90% RH (non-condensing)

3.5 ELECTRICAL SPECIFICATION

Input Power: External power adapter 5V / 2.5A
Power Consumption: 5.5 Watts / 20.7 BTU (maximum)

3.6 REGULATORY COMPLIANCE

FCC Class A, CE

3.7 RELIABILITY

MTBF > 50,000Hrs

3.8 BASIC PACKAGING

Serial over Ethernet Converter	X1
External 5V / 2.5A AC-to-DC Power Adapter	X1
CD User's Manual	X1
Quick Installation Guide	X1

3.9 PACKING DIMENSION

■ Dimension

285 x 137 x 65 mm (W x D x H)

■ Weight

0.53kg (gross weight)

20pcs in one carton