3.3. DS-700 Serial-to Ethernet Device Servers

NEW DS-712
Available soon PPDS-712-MTCP

Serial-to-Ethernet Device Server with 1 RS-232 port

RS-232

Features

- Incorporate Serial Devices in an Ethernet network
- "Virtual COM" Extend COM Ports
- Virtual COM on Windows NT 4.0, 2000/XP/2003 and
- High Performance Device Server
- Watchdog Timer suitable for use in harsh environments
- Power Reverse Polarity Protection
- Serial Port +/-4 kV ESD Protection Circuit
- RoHS Compliant with no Halogen
- Built-in High Performance MiniOS7 from ICP DAS
- 10/100 Base-TX, RJ-45 Port
  (Auto-negotiating, auto MDI/MDI-X, LED indicator)
- PPDS-712-MTCP supports Modbus/TCP and Modbus/RTU
- PPDS-712-MTCP supports PoE (IEEE 802.3af, Class 1)
- Low power consumption
- Palm-Size with DIN-Rail Mounting
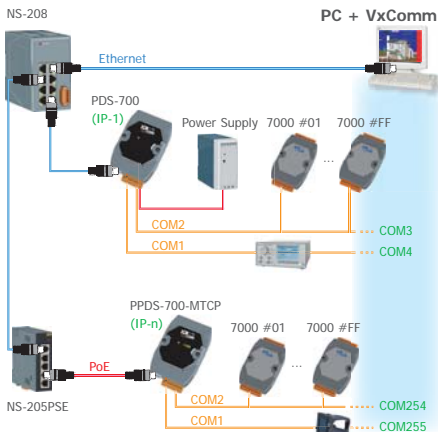- Made from fire retardant materials (UL94-V0 Level))
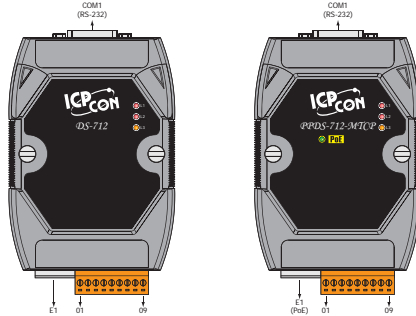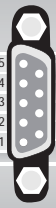- Male DB-9 Connector

Introduction

The DS-700 is a series of Serial-to-Ethernet Device Servers that are designed for linking RS-232/422/485 devices to an Ethernet network. By using the VxComm Driver/Utility, the built-in COM port of the DS-700 series can be virtualized to a standard PC COM port in Windows. By virtue of its protocol independence, a small size and flexibility, the DS-700 series meets the demands of virtually any network-enabled application.

The DS-712 is equipped with a male DB-9 connector and supports a 5-wire RS-232 port, while the DS-715 is equipped with a removable terminal block connector and supports a 4-wire RS-422 port or a 2-wire RS-485 port with 2000 Vrms isolation.

The DS-700 is a non-programmable device server, while the PPDS-700-MTCP is a programmable product. The PPDS-700-MTCP series features true IEEE 802.3af-compliant (classification, Class 1) Power over Ethernet (PoE) using a standard category 5 Ethernet cable to receive power from a PoE switch like the NS-205PSE. The PPDS-700-MTCP also works as a Modbus/TCP to Modbus/RTU gateway that supports most SCADA/HMI communications based on the Modbus/TCP protocol.

NS-208   PC + VxComm

PDS-700 (IP-1)   Power Supply   7000 #01   7000 #FF

COM2
COM1   COM3
COM4

PPDS-700-MTCP (IP-n)   7000 #01   7000 #FF

PoE

NS-205PSE
COM2   COM254
COM1   COM255

Applications

Factory, Building and Home Automation

System Specifications

Models	DS-712	PPDS-712-MTCP
CPU		
CPU	80186, 80 MHz or compatible	
SRAM	512 KB	
Flash Memory	Flash ROM: 512 KB	
EEPROM	16 KB; Data retention: 40 years	
Built-in Watchdog Timer	Yes	
Communication Interface		
Non-isolated COM1	RS-232 (TxD, RxD, RTS, CTS, GND)	
Ethernet	10/100 Base-TX, RJ-45 port (Auto-negotiating, auto MDI/MDI-X, LED indicator)	
PoE	-	IEEE 802.3af
COM Port Formats		
Data Bit	7, 8: for COM1	
Parity	None, Even, Odd, Mark, Space	
Stop Bit	1: for COM1	
Baud Rate	115200 bps max.	
LED Indicators		
L1	Run (Red)	
L2	Link/Act (Red)	
L3	10/100M (Orange)	
PoE	-	Green
Power		
Protection	Power Reverse Polarity Protection	
Required Supply Voltage	+12 VDC ~ +48 VDC (non-regulated)	PoE or +12 VDC ~ +48 VDC (non-regulated)
Power Consumption	2.0 W	2.2 W
Mechanical		
Flammability	Fire Retardant Materials (UL94-V0 Level)	
Dimensions	72 mm x 118 mm x 35 mm (W x H x D)	
Installation	DIN-Rail or Wall mounting	
Environment		
Operating Temperature	-25 °C ~ +75 °C	
Storage Temperature	-40 °C ~ +80 °C	
Humidity	5 ~ 90% RH, non-condensing	

Pin Assignments

Terminal No.	Pin Assignment
E1	
01	N/A
02	N/A
03	N/A
04	N/A
05	INIT*
06	N/A
07	N/A
08	(R)+Vs
09	(B)GND

COM1 (RS-232)

DS-712

COM1 (RS-232)

PPDS-712-MTCP

E1   01   09

E1 (PoE)   01   09

Pin Assignment	Terminal No.		Pin Assignment
GND	05	09	--
--	04	08	CTS
TxD	03	07	RTS
RxD	02	06	--
--	01		

COM1: Male DB-9 Connector

Wiring

3-wire RS-232 Wiring

RS-232 Master		RS-232 Device
TxD		RxD
RxD		TxD
GND		GND

Dimensions (Unit: mm)

56.06

32.91

72

Front View

35.40

56.0

118.0

Back View

Top View

35

Bottom View

35

39.50

Din-Rail Mounting Bracket

31.50

2-SCREW M3

Side View
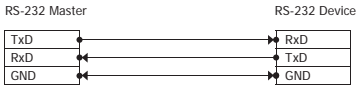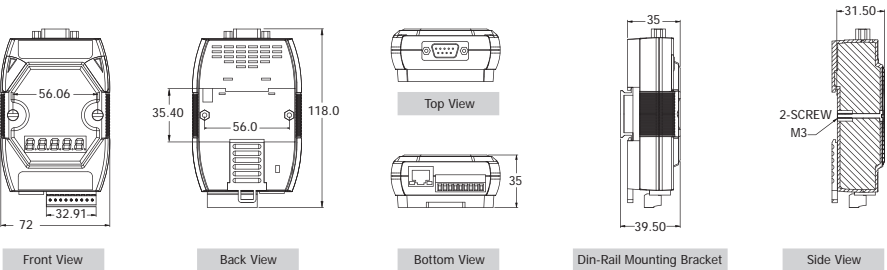
Ordering Information

DS-712 CR	Device Server with 1 RS-232 port (RoHS)
PPDS-712-MTCP CR	Programmable Device Server with PoE, Modbus/TCP and 1 RS-232 port (RoHS)

Accessories

GPSU06U-6	24 V$_{DC}$/0.25 A, 6 W Power Supply
MDR-20-24	24 V$_{DC}$/1 A, 24 W Power Supply with DIN-Rail Mounting
DIN-KA52F-48	48 V$_{DC}$/0.52 A, 25 W Power Supply with Din-Rail Mounting
CA-0915	9-Pin Male-Female D-Sub Cable, 1.5 m Cable
NS-205 CR	Unmanaged 5-port Industrial Ethernet Switch (RoHS)
NS-205PSE CR	Unmanaged Ethernet Switch with 4 PoE Ports and 1 RJ-45 Uplink (RoHS)
DN-09-2F	I/O Connector Block with DIN-Rail Mounting and Two 9-Pin Male Header Includes CA-0910F x 2 (9-Pin Female-Female D-Sub Cable 1.0 m)