



PDS(M)-743(D) PPDS(M)-743(D)-MTCP

Programmable (3x RS-232 and 1x RS-485)
Serial-to-Ethernet Device Server with 4x DI and 4x DO

System Specifications

Models	PDS-743 PDSM-743	PDS-743D PDSM-743D	PPDS-743-MTCP PPDSM-743-MTCP	PDS-743D-MTCP PPDSM-743D-MTCP
CPU				
CPU	80186, 80 MHz or compatible			
SRAM	512 KB			
Flash Memory	Flash ROM: 512 KB; Erase unit is one sector (64 KB); 100,000 erase/write cycles			
EEPROM	16 KB; Data retention: 40 years; 1,000,000 erase/write cycles			
Built-in Watchdog Timer	Yes			
Communication Interface				
Non-isolated	COM1	RS-232 (TxD, RxD, RTS, CTS, GND)		
	COM2	RS-485 (D2+, D2-, GND)		
	COM3	RS-232 (TxD, RxD, GND)		
	COM4	RS-232 (TxD, RxD, 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 and COM2 ∙ 5, 6, 7, 8: for COM3 and COM4			
Parity	None, Even, Odd, Mark, Space None parity is required when using 8 data bits and 2 stop bits on COM1/COM2.			
Stop Bit	1, 2: for COM1 ~ COM4			
Baud Rate	115200 bps max.			
LED Indicators				
5-digit 7 Segment	-	Yes	-	Yes
System	Red			
PoE	-		Green	
Power				
Protection	Power Reverse Polarity Protection			
Required Supply Voltage	+10 VDC ~ +30 VDC (non-regulated)		PoE or +12 VDC ~ +48 VDC (non-regulated)	
Power Consumption	2.0 W	2.7 W	2.2 W	2.9 W
Mechanical				
Flammability	Fire Retardant Materials (UL94-V0 Level)			
Dimensions (W x H x D)	(P)PDS: 72 mm x 123 mm x 35 mm ∙ (P)PDSM: 102 mm x 125mm x 29 mm			
Installation	DIN-Rail or Wall mounting			
Casing	Metal for PDSM/PPDSM ∙ Plastic for other			
Environment				
Operating Temperature	-25 °C ~ +75 °C			
Storage Temperature	-40 °C ~ +80 °C			
Humidity	5 ~ 90% RH, non-condensing			

Features

- Incorporate Serial Devices in an Ethernet network
- "Virtual COM" Extend COM Ports
- Virtual COM supports 32-bit and 64-bit Windows 7 SP1/10/2012/2016
- Powerful Programmable Device Server
- Watchdog Timer suitable for use in harsh environments
- Power Reverse Polarity Protection
- Serial Port +/-4 kV ESD Protection Circuit
- Self-Tuner ASIC Controller on the RS-485 Port
- Built-in High Performance MiniOS7 from ICP DAS
- 5-digit LED Display (for versions with a display)
- Supports Modbus TCP to RTU/ASCII Gateway
- Supports D/I, Latched D/I and Counter Functions
- Supports PoE (IEEE 802.3af, Class 1) [PPDS(M)-743(D)-MTCP only]
- 10/100 Base-TX Ethernet, RJ-45 Port (Auto-negotiating, auto MDI/MDI-X, LED indicator)
- Palm-Sized with multiple Serial Ports
- PDSM/PPDSM is the Metal Case
- Low power consumption



Introduction

The PDS-700 series is a family of Programmable Device Servers, also known as "Serial-to-Ethernet gateway", that are designed for linking RS-232/422/485 devices to an Ethernet network. The user-friendly VxComm Driver/Utility allows users to easily turn the built-in COM ports of the PDS-700 series into standard COM ports on a PC. By virtue of its protocol independence, a small-core OS and high flexibility, the PDS-700 series is able to meet the demands of every network-enabled application.

The PDS-700 series includes a powerful and reliable Xserver programming structure that allows you to design your robust Ethernet applications in one day. The built-in, high-performance MiniOS7 boots the PDS-700 up in just one second and gives you fastest responses. It also works as a Modbus TCP to RTU/ASCII gateway that supports most SCADA/HMI communications based on the Modbus/TCP protocol.

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 PDSM-700 is the PDS-700 with Metal Case (RoHS) and the PPDSM-700-MTCP is the PPDS-700-MTCP with Metal Case (RoHS). Metal Case version includes stronger protection than PDS-700 and PPDS-700-MTCP.

The PDS(M)-743(D) and PPDS(M)-743(D)-MTCP is equipped with 3 RS-232 ports, 1 RS-485 port and DI/DO. The removable on-board terminal block connector is designed for easy and robust wiring in industrial situations.

Wiring

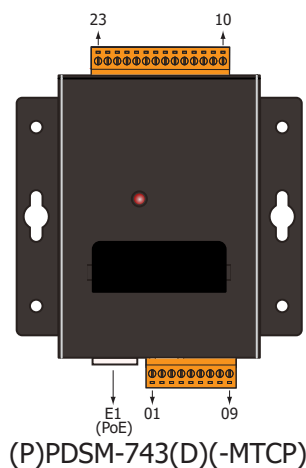
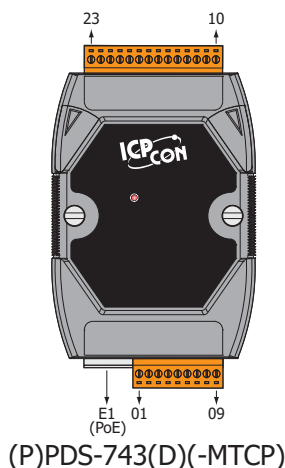
Input Type	DI Value as 0	DI Value as 1
Relay Contact	Relay ON 	Relay Off
TTL/CMOS Logic	Voltage < 1V 	Voltage > 3.5V
Open Collector	Open Collector On 	Open Collector Off
Output Type	DO Command as 1	DO Command as 0
Drive Relay	Relay ON 	Relay Off
Resistance Load		

I/O Specifications

Models	
Digital Output	
Output Channel	4
Output Type	Open Collector (Sink/NPN)
Load Voltage	30 VDC, max.
Load Current	100 mA, max.
Isolated Voltage	Non-isolated
Digital Input	
Input Channel	4
Input Type	Source (Dry Type), Common Ground
Off Voltage Level	+1 V max.
On Voltage Level	+3.5 ~ +30 V
Isolated Voltage	Non-isolated
Counters	Channels: 4
	Max. Count: 16-bit (65535)
	Max. Input Frequency: 100 Hz
	Min. Pulse Width: 5 ms

Pin Assignments

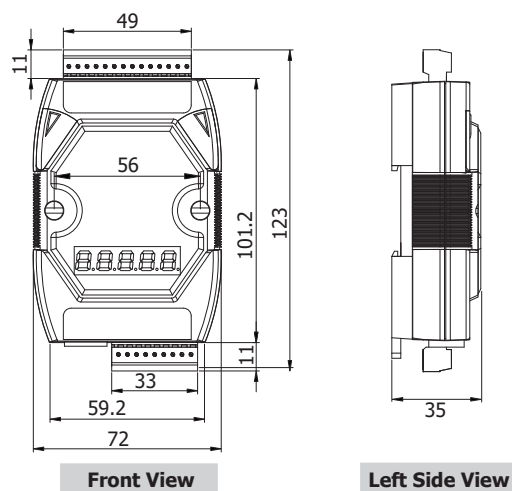
Terminal No.	Pin Assignment
E1	Link/Act
	10/100M
COM1	01 CTS1
	02 RTS1
	03 Rx/D1
	04 Tx/D1
COM2	05 INIT*
	06 D2+
	07 D2-
	08 (R)+Vs
	09 (B)GND



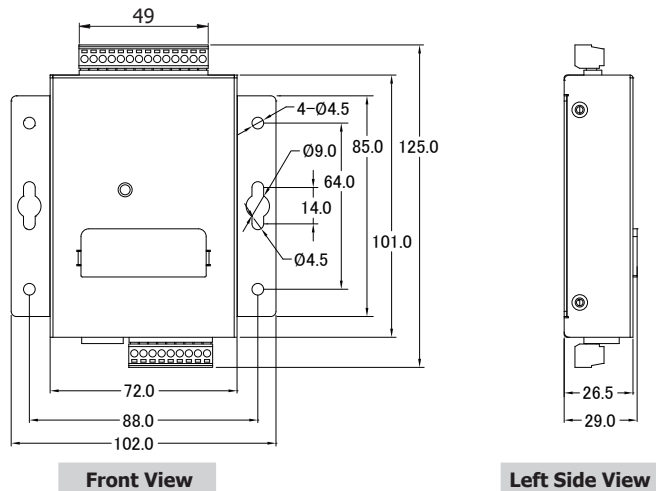
Terminal No.	Pin Assignment
DO	23 DO3
	22 DO2
	21 DO1
	20 DO0
	19 DO.PWR
DI	18 GND
	17 DI3
	16 DI2
	15 DI1
	14 DI0
COM3	13 Tx/D3
	12 Rx/D3
COM4	11 Tx/D4
	10 Rx/D4

■ Dimensions (Units: mm)

----- (P)PDS-743(D) ▼



----- (P)PDSM-743(D)(-MTCP) ▼



■ Ordering Information

PDS-743 CR	Programmable (3x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server with 4x DI and 4x DO (RoHS) Includes CA-0910 Cable
PDS-743D CR	Programmable (3x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server with 4x DI and 4x DO and LED Display (RoHS) Includes CA-0910 Cable
PPDS-743-MTCP CR	Programmable (3x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server with 4x DI and 4x DO, PoE and Modbus Gateway (RoHS) Includes CA-0910 Cable
PPDS-743D-MTCP CR	Programmable (3x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server with 4x DI and 4x DO, PoE, Modbus Gateway and LED Display (RoHS) Includes CA-0910 Cable
PDSM-743 CR	Programmable (3x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server with 4x DI and 4x DO (Metal Case) (RoHS) Includes CA-0910 Cable
PDSM-743D CR	Programmable (3x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server with 4x DI and 4x DO and LED Display (Metal Case) (RoHS) Includes CA-0910 Cable
PPDSM-743-MTCP CR	Programmable (3x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server with 4x DI and 4x DO, PoE and Modbus Gateway (Metal Case) (RoHS) Includes CA-0910 Cable
PPDSM-743D-MTCP CR	Programmable (3x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server with 4x DI and 4x DO, PoE, Modbus Gateway and LED Display (Metal Case) (RoHS) Includes CA-0910 Cable

■ Accessories

CA-0903 CR	DB9 Female to 5-wire Cable [RS-232], 30cm (RoHS)
NS-205 CR	Unmanaged 5-port Industrial Ethernet Switch (RoHS)
NS-205PSE CR	Unmanaged 5-port 10/100 Mbps PoE (PSE) Ethernet Switch (RoHS)