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

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

System Specifications

Models		PDS-743 PDSM-743	PDS-743D PDSM-743D	PPDS-743-MTCP PPDSM-743-MTCP	PPDS-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			

Introduction

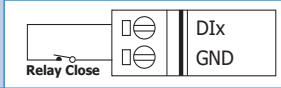
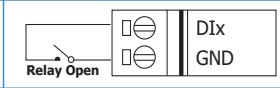
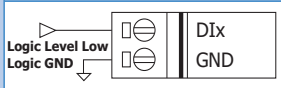
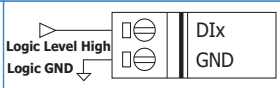
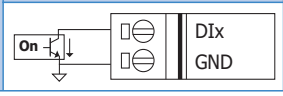
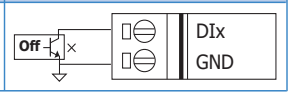
The PDS-700 series is a family of Programmable Device Servers, also known as "Serial-to-Ethernet gateway", that are designed for linking RS-232/422/485 devices to an Ethernet network. The user-friendly VxComm Driver/Utility allows users to easily turn the built-in COM ports of the PDS-700 series into 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.

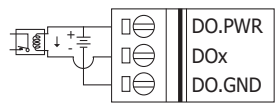
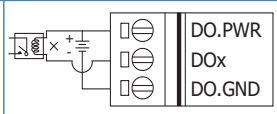
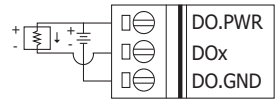
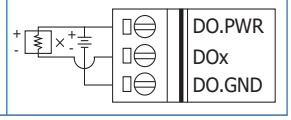
The PDS-700 series includes a powerful and reliable Xserver programming structure that allows you to design your robust Ethernet applications in one day. The built-in, high-performance MiniOS7 boots the PDS-700 up in just one second and gives you fastest responses. It also works as a Modbus TCP to RTU/ASCII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

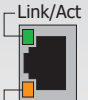
Input Type	DI Value as 0	DI Value as 1
Relay Contact	Relay ON	Relay Off
		
TTL/CMOS Logic	Voltage < 1V	Voltage > 3.5V
		
Open Collector	Open Collector On	Open Collector Off
		

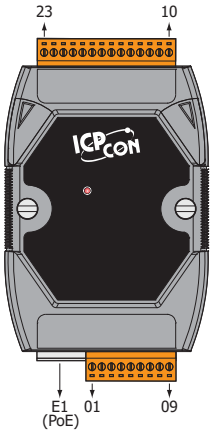
Output Type	DO Command as 1	DO Command as 0
Drive Relay	Relay ON	Relay Off
		
Resistance Load		
		

I/O Specifications

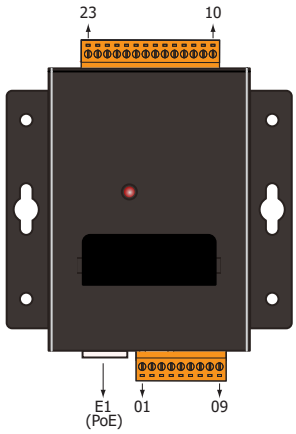
Models	
Digital Output	
Output Channel	4
Output Type	Open Collector (Sink/NPN)
Load Voltage	30 VDC, max.
Load Current	100 mA, max.
Isolated Voltage	Non-isolated
Digital Input	
Input Channel	4
Input Type	Source (Dry Type), Common Ground
Off Voltage Level	+1 V max.
On Voltage Level	+3.5 ~ +30 V
Isolated 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		
COM1	01	CTS1
	02	RTS1
	03	RxD1
	04	TxD1
	05	INIT*
COM2	06	D2+
	07	D2-
	08	(R)+Vs
	09	(B)GND



(P)PDS-743(D)(-MTCP)

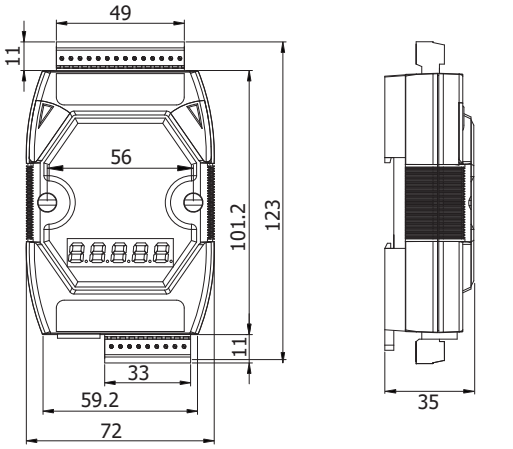


(P)PDSM-743(D)(-MTCP)

Terminal No.		Pin Assignment
DO	23	DO3
	22	DO2
	21	DO1
	20	DO0
	19	DO.PWR
	18	GND
DI	17	DI3
	16	DI2
	15	DI1
	14	DI0
COM3	13	TxD3
	12	RxD3
COM4	11	TxD4
	10	RxD4

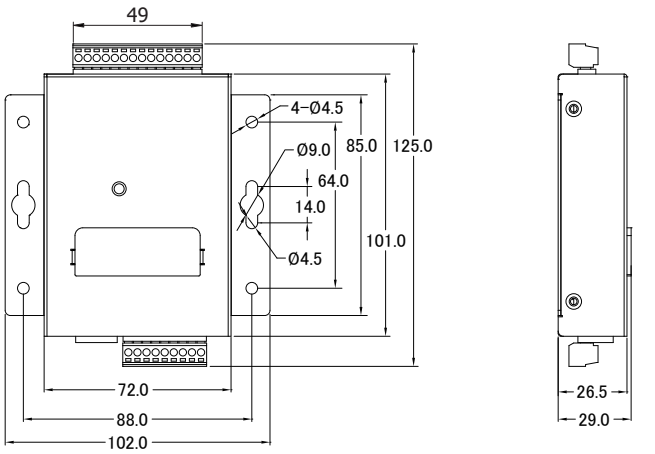
Dimensions (Units: mm)

(P)PDS-743(D) ▼



Front View | Left Side View

(P)PDSM-743(D)(-MTCP) ▼



Front View | Left Side View

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)