



## RS-232/RS-485

### Features

- Incorporate Serial Devices in an Ethernet network
- Virtual COM on Windows NT 4.0, 2000/XP/2003 and Vista32
- 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
- 5-digit LED Display (for versions with a display)
- RoHS Compliant with no Halogen
- Built-in High Performance MiniOS7 from ICP DAS
- 10/100 Base-TX Ethernet, RJ-45 Port (Auto-negotiating, auto MDI/MDI-X, LED Indicator)
- PPDS-732(D)-MTCP supports Modbus/TCP and Modbus/RTU
- PPDS-732(D)-MTCP supports PoE (IEEE 802.3af, Class 1)
- Supports D/I, Latched D/I and Counter Functions
- Low power consumption
- Palm-Sized with multiple Serial Ports



### 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.

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.

The PDS-732(D) and PPDS-732(D)-MTCP is equipped with 2 RS-232 ports, 1 RS-485 port and D/I/DO. The removable on-board terminal block connector is designed for easy and robust wiring in industrial situations.

### Applications

Factory, Building and Home Automation

### I/O Specifications

Models: PDS-732/PDS-732D/PPDS-732-MTCP/PPDS-732D-MTCP	
<b>Digital Output</b>	
Output Channel	4
Output Type	Open Collector (Sink/NPN)
Load Voltage	30 V <sub>DC</sub> , max.
Load Current	100 mA, max.
Isolated Voltage	Non-isolated
<b>Digital Input</b>	
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

### System Specifications

Models	PDS-732	PDS-732D	PPDS-732-MTCP	PPDS-732D-MTCP
<b>CPU</b>				
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			
<b>Communication Interface</b>				
Non-isolated	COM1	RS-232 (Tx/D, Rx/D, RTS, CTS, GND)		
	COM2	RS-485 (D2+, D2-, GND)		
	COM3	RS-232 (Tx/D, Rx/D, RTS, CTS, GND)		
Ethernet	10/100 Base-TX, RJ-45 port (Auto-negotiating, auto MDI/MDI-X, LED indicator)			
PoE	-	-	IEEE 802.3af	
<b>COM Port Formats</b>				
Data Bit	7, 8: for COM1 and COM2 5, 6, 7, 8: for COM3			
Parity	None, Even, Odd, Mark, Space			
Stop Bit	1: for COM1 and COM2 1, 2: for COM3			
Baud Rate	115200 bps max.			
<b>LED Indicators</b>				
5-digit 7 Segment	-	Yes	-	Yes
System	Red			
PoE	-	-	Green	
<b>Power</b>				
Protection	Power Reverse Polarity Protection			
Required Supply Voltage	+10 V <sub>DC</sub> ~ +30 V <sub>DC</sub> (non-regulated)		PoE or +12 V <sub>DC</sub> ~ +48 V <sub>DC</sub> (non-regulated)	
Power Consumption	2.0 W	2.7 W	2.2 W	2.9 W
<b>Mechanical</b>				
Flammability	Fire Retardant Materials (UL94-V0 Level)			
Dimensions	72 mm x 123 mm x 35 mm (W x H x D)			
Installation	DIN-Rail or Wall mounting			
<b>Environment</b>				
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	Link/Act 10/100M
COM1	01 CTS1 02 RTS1 03 RxD1 04 TxD1 05 INIT*
COM2	06 D2+ 07 D2- 08 (R) +Vs 09 (B)GND

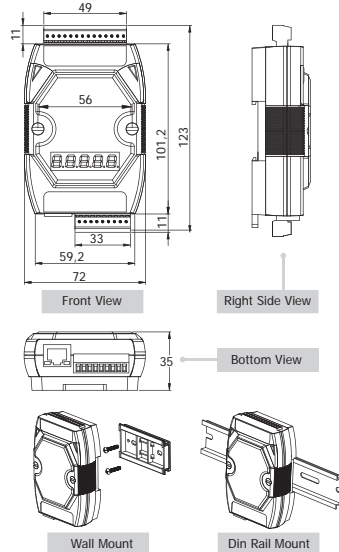


Terminal No.	Pin Assignment
23	DO3
22	DO2
21	DO1
20	DO0
19	DO.PWR
18	GND
17	DI3
16	DI2
15	DI1
14	DI0
13	RxD3
12	TxD3
11	RTS3
10	CTS3

## Wiring

Input Type	DI Value as 0	DI Value as 1
	Relay ON	Relay Off
Relay Contact		
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
	Relay ON	Relay Off
Drive Relay		
Resistance Load		

## Dimensions (Unit: mm)



## Ordering Information

Art. No. 119363	PDS-732 CR	Programmable Device Server with 2 RS-232 ports and 1 RS-485 port (RoHS) Includes One CA-0910 Cable
Art. No. 119364	PDS-732D CR	Programmable Device Server with 2 RS-232 ports, 1 RS-485 port and an LED Display (RoHS) Includes One CA-0910 Cable
Art. No. 123211	PPDS-732-MTCP CR	Programmable Device Server with PoE, Modbus/TCP, 2 RS-232 ports and 1 RS-485 port (RoHS) Includes One CA-0910 Cable
Art. No. 123248	PPDS-732D-MTCP CR	Programmable Device Server with PoE, Modbus/TCP, 2 RS-232 ports, 1 RS-485 port and an LED Display (RoHS) Includes One CA-0910 Cable

## Accessories

GPSU06U-6	24 V <sub>DC</sub> /0.25 A, 6 W Power Supply
MDR-20-24	24 V <sub>DC</sub> /1 A, 24 W Power Supply with DIN-Rail Mounting
DIN-KA52F-48	48 V <sub>DC</sub> /0.52 A, 25 W Power Supply with Din-Rail Mounting
CA-0903	9-Pin Female D-Sub and RS-232 Connector Cable, 30 cm Cable
CA-0910	9-Pin Female D-Sub and 3-wire RS-232 Cable, 1 m Cable
NS-205 CR	Unmanaged 5-port Industrial Ethernet Switch (RoHS)
NS-205PE CR	Unmanaged Ethernet Switch with 4 PoE Ports and 1 RJ-45 Uplink (RoHS)
DN-09-2	I/O Connector Block with DIN-Rail Mounting and Two 9-Pin Male Header. Includes CA-0915 x 2 (9-Pin Male-Female D-Sub Cable 1.5 m)
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)