ICP DAS

NEW **PDS-721(D)**

Available soon **PPDS-721(D)-MTCP**

Programmable Device Server with 1 RS-232 port and 1 RS-485 port

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-721(D)-MTCP supports Modbus/TCP and Modbus/RTU
- PPDS-721(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

CE FC RoHS PoE

☑ 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-721(D) and PPDS-721(D)-MTCP is equipped with 1 RS-232 port, 1 RS-485 port and DI/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-721/PDS-721D/PPDS-721-MTCP/PPDS-721D-MTCP	
Digital Output	
Output Channel	7
Output Type	Open Collector (Sink/NPN)
Load Voltage	30 V$_{DC}$, max.
Load Current	100 mA, max.
Isolated Voltage	Non-isolated
Digital Input	
Input Channel	6
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: 6
	Max. Count: 16-bit (65535)
	Max. Input Frequency: 100 Hz
	Min. Pulse Width: 5 ms

☑ System Specifications

Models	PDS-721	PDS-721D	PPDS-721-MTCP	PPDS-721D-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)			
Non-isolated COM2	RS-485 (D2+, D2-, 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			
Parity	None, Even, Odd, Mark, Space			
Stop Bit	1: for COM1 and COM2			
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 V$_{DC}$ ~ +30 V$_{DC}$ (non-regulated)		PoE or +12 V$_{DC}$ ~ +48 V$_{DC}$ (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	72 mm x 123 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		Link/Act
		10/100M
COM1	01	CTS1
	02	RTS1
	03	RxD1
	04	TxD1
COM2	05	INIT*
	06	D2+
	07	D2-
	08	(R)+Vs
	09	(B)GND
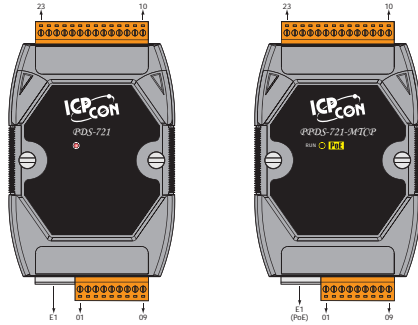
Terminal No.		Pin Assignment
DI	23	DI0
	22	DI1
	21	DI2
	20	DI3
	19	DI4
	18	DI5
DO	17	DO.PWR
	16	DO0
	15	DO1
	14	DO2
	13	DO3
	12	DO4
	11	DO5
	10	DO6

Wiring

Input Type	DI Value as 0	DI Value as 1
Relay Contact	Relay ON	Relay Off
	Relay Close — DIx / GND	Relay Open — DIx / GND
TTL/CMOS Logic	Voltage < 1V	Voltage > 3.5V
	Logic Level Low / Logic GND — DIx / GND	Logic Level High / Logic GND — DIx / GND
Open Collector	Open Collector On	Open Collector Off
	On — DIx / GND	Off — DIx / GND

Output Type	DO Command as 1	DO Command as 0
Drive Relay	Relay ON	Relay Off
	DO.PWR / DOx / DO.GND	DO.PWR / DOx / DO.GND
Resistance Load		
	DO.PWR / DOx / DO.GND	DO.PWR / DOx / DO.GND

Dimensions (Unit: mm)

Front View

Right Side View

Bottom View

Wall Mount

Din Rail Mount
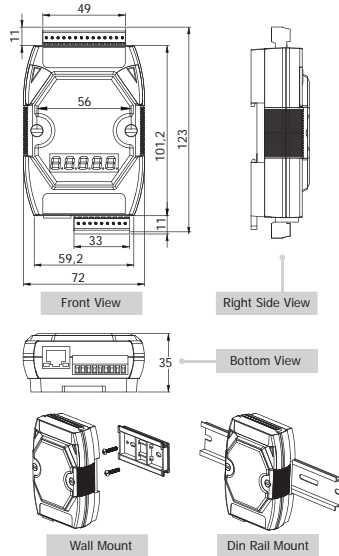
Ordering Information

PDS-721 CR	Programmable Device Server with 1 RS-232 port and 1 RS-485 port (RoHS)
	Includes One CA-0910 Cable
PDS-721D CR	Programmable Device Server with 1 RS-232 port , 1 RS-485 port and an LED Display (RoHS)
	Includes One CA-0910 Cable
PPDS-721-MTCP CR	Programmable Device Server with PoE, Modbus/TCP, 1 RS-232 port and 1 RS-485 port (RoHS)
	Includes One CA-0910 Cable
PPDS-721D-MTCP CR	Programmable Device Server with PoE, Modbus/TCP, 1 RS-232 port, 1 RS-485 port and an LED Display (RoHS)
	Includes One CA-0910 Cable

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-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-205PSE CR	Unmanaged Ethernet Switch with 4 PoE Ports and 1 RJ-45 Uplink (RoHS)