

# PDS(M)-742(D)
# PPDS(M)-742(D)-MTCP

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

## 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
- Serial Port +/-4 kV ESD Protection Circuit
- Self-Tuner ASIC Controller on the RS-485 Port
- Built-in High Performance MiniOS7 from ICP DAS
- Supports Modbus TCP to RTU/ASCII Gateway
- 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.

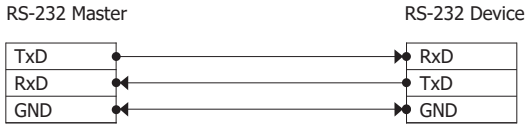
The PDS-700 series includes a powerful and reliable Xserver programming structure that allows you to design your robust Ethernet applications in one day. The built-in, high-performance MiniOS7 boots the PDS-700 up in just one second and gives you fastest responses. It also works as a Modbus TCP to RTU/ASCII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

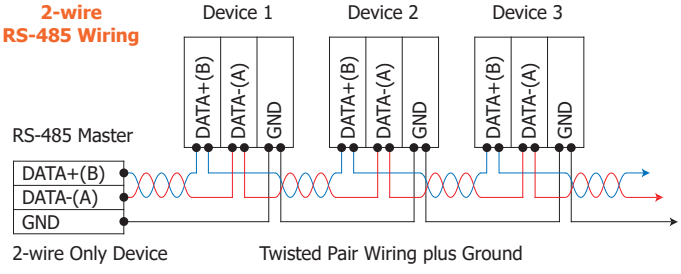
The PDS(M)-742(D) and PPDS(M)-742(D)-MTCP is equipped with 3 RS-232 ports and 1 RS-485 port. The removable on-board terminal block connector is designed for easy and robust wiring in industrial situations.

## Wiring

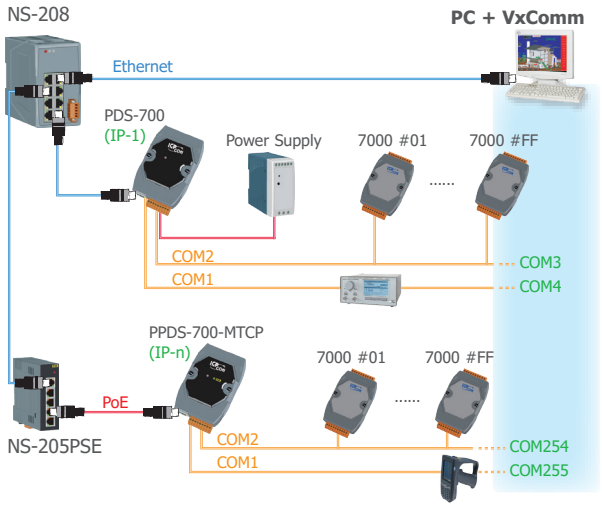
**3-wire RS-232 Wiring**




**2-wire RS-485 Wiring**




## Applications





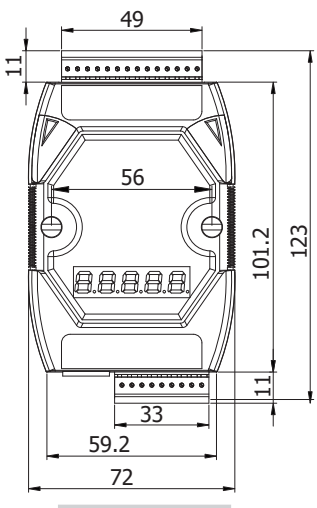

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## System Specifications

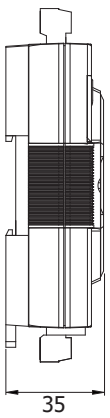
| Models | | PDS-742<br>PDSM-742 | PDS-742D<br>PDSM-742D | PPDS-742-MTCP<br>PPDSM-742-MTCP | PPDS-742D-MTCP<br>PPDSM-742D-MTCP |
|---|---|---|---|---|---|
| **CPU** | | | | | |
| CPU | | 80186, 80 MHz or compatible | | | |
| SRAM | | 512 KB | | | |
| Flash Memory | | Flash ROM: 512 KB; Erase unit is one sector (64 KB); 100,000 erase/write cycles | | | |
| EEPROM | | 16 KB; Data retention: 40 years;<br>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, RTS, CTS, GND) | | | |
| | COM4 | RS-232 (TxD, RxD, RTS, CTS, GND, DSR,DTR, DCD, RI) | | | |
| 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<br>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 | | PoE or +12 VDC ~ +48 VDC | |
| 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 L x H) | | (P)PDS: 72 mm x 35 mm x 123 mm，(P)PDSM: 102 mm x 29 mm x 125 mm | | | |
| Installation | | (P)PDS-700 Series: DIN-Rail or Wall mounting, (P)PDSM-700 Series: 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 | | | |

## Dimensions (Units: mm)

(P)PDS-742(D) ▼

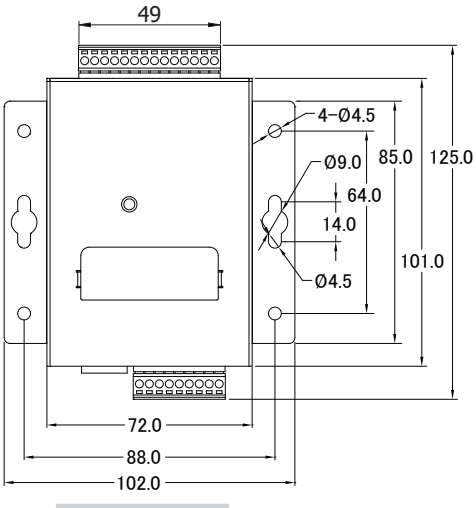



Front View

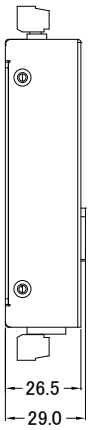



Left Side View

(P)PDSM-742(D)(-MTCP) ▼




Front View



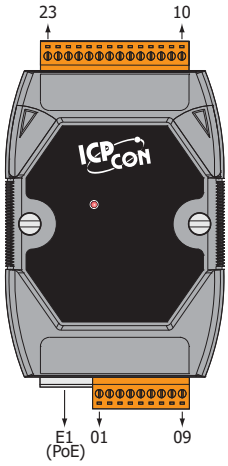

Left Side View



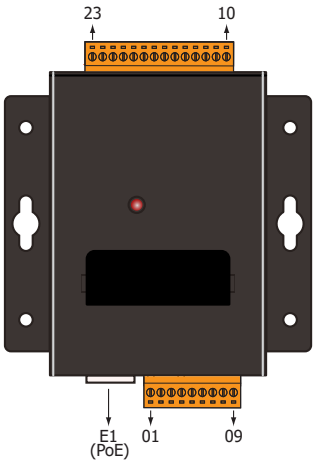
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## Pin Assignments

| Terminal No. | | Pin Assignment |
|---|---|---|
| E1 | | Link/Act<br>10/100M |
| COM1 | 01 | CTS1 |
| | 02 | RTS1 |
| | 03 | RxD1 |
| | 04 | TxD1 |
| | 05 | INIT* |
| COM2 | 06 | D2+ |
| | 07 | D2- |
| | 08 | (R)+Vs |
| | 09 | (B)GND |




(P)PDS-742(D)(-MTCP)




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| Terminal No. | | Pin Assignment |
|---|---|---|
| COM4 | 23 | RI4 |
| | 22 | DCD4 |
| | 21 | DTR4 |
| | 20 | DSR4 |
| | 19 | CTS4 |
| | 18 | RTS4 |
| | 17 | TxD4 |
| | 16 | RxD4 |
| | 15 | GND4 |
| COM3 | 14 | GND3 |
| | 13 | RxD3 |
| | 12 | TxD3 |
| | 11 | RTS3 |
| | 10 | CTS3 |

## Ordering Information

| | |
|---|---|
| PDS-742 CR | Programmable (3x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server (RoHS)<br>Includes CA-0910 Cable |
| PDS-742D CR | Programmable (3x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server and LED Display (RoHS)<br>Includes CA-0910 Cable |
| PPDS-742-MTCP CR | Programmable (3x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server, PoE and Modbus Gateway (RoHS)<br>Includes CA-0910 Cable |
| PPDS-742D-MTCP CR | Programmable (3x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server, PoE, Modbus Gateway and LED Display (RoHS)<br>Includes CA-0910 Cable |
| PDSM-742 CR | Programmable (3x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server (Metal Case) (RoHS)<br>Includes CA-0910 Cable |
| PDSM-742D CR | Programmable (3x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server and LED Display (Metal Case) (RoHS)<br>Includes CA-0910 Cable |
| PPDSM-742-MTCP CR | Programmable (3x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server, PoE and Modbus Gateway (Metal Case) (RoHS)<br>Includes CA-0910 Cable |
| PPDSM-742D-MTCP CR | Programmable (3x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server, PoE, Modbus Gateway and LED Display (Metal Case) (RoHS)<br>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) |



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