



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
- 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 PoE (IEEE 802.3af, Class 1) [PPDS(M)-742(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.

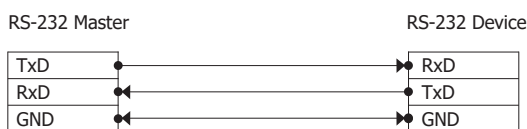
The PDS-700 series includes a powerful and reliable Xserver programming structure that allows you to design your robust Ethernet applications in one day. The built-in, high-performance MiniOS7 boots the PDS-700 up in just one second and gives you fastest responses. It also works as a Modbus TCP to RTU/ASCII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

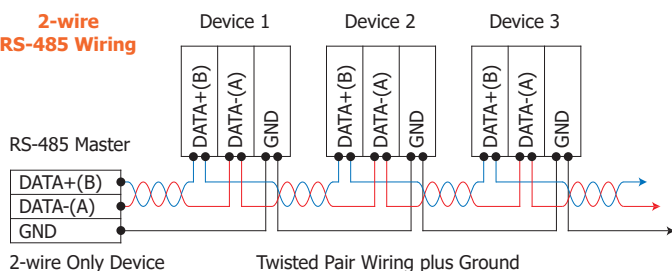
The PDS(M)-742(D) and PPDS(M)-742(D)-MTCP is equipped with 3 RS-232 ports and 1 RS-485 port. The removable on-board terminal block connector is designed for easy and robust wiring in industrial situations.

Wiring

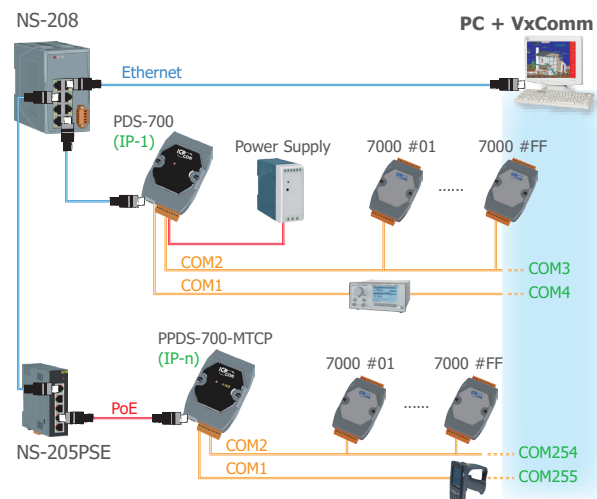
3-wire RS-232 Wiring



2-wire RS-485 Wiring



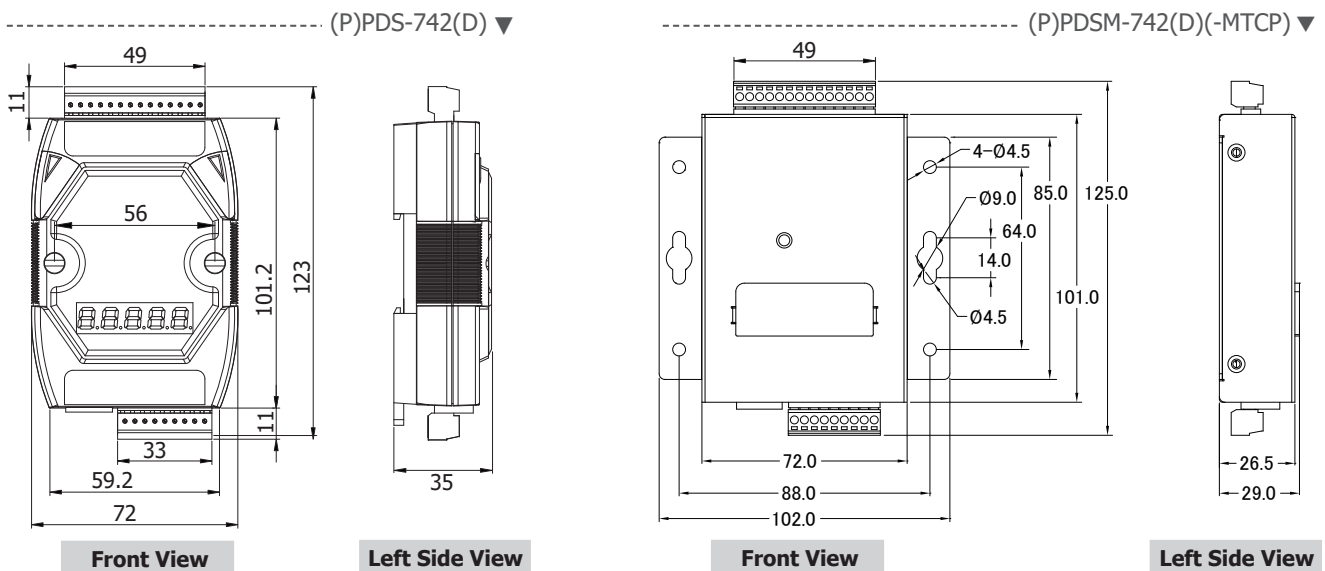
Applications



System Specifications

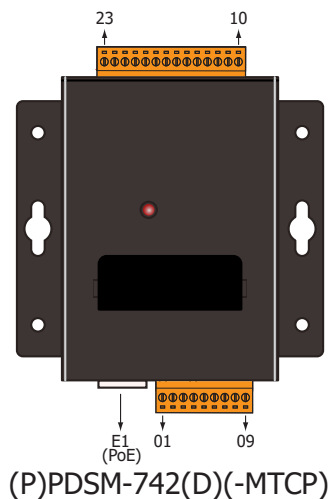
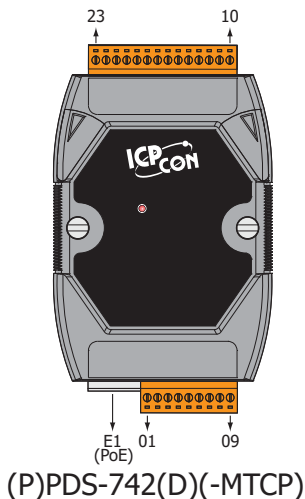
| Models | PDS-742 PDSM-742 | PDS-742D PDSM-742D | PPDS-742-MTCP PPDSM-742-MTCP | PPDS-742D-MTCP PPDSM-742D-MTCP |
|--------------------------------|--|--|--|-----------------------------------|
| CPU | | | | |
| CPU | 80186, 80 MHz or compatible | | | |
| SRAM | 512 KB | | | |
| Flash Memory | Flash ROM: 512 KB; Erase unit is one sector (64 KB); 100,000 erase/write cycles | | | |
| EEPROM | 16 KB; Data retention: 40 years; 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 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 | | | |

Dimensions (Units: mm)



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 |
|--------------|----------------|
| COM4 | 23 RI4 |
| | 22 DCD4 |
| | 21 DTR4 |
| | 20 DSR4 |
| | 19 CTS4 |
| | 18 RTS4 |
| | 17 TxD4 |
| | 16 RxD4 |
| | 15 GND4 |
| | 14 GND3 |
| COM3 | 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) Includes CA-0910 Cable |
| PDS-742D CR | Programmable (3x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server and LED Display (RoHS) 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) 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) Includes CA-0910 Cable |
| PDSM-742 CR | Programmable (3x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server (Metal Case) (RoHS) 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) 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) 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) 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) |