



## PDS(M)-752(D) PPDS(M)-752(D)-MTCP

Programmable (4x 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
- Supports Modbus TCP to RTU/ASCII Gateway
- 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
- 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.

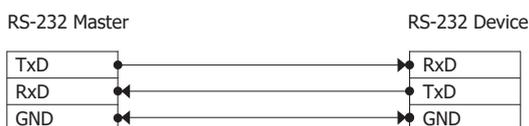
The PDS-700 series includes a powerful and reliable Xserver programming structure that allows you to design your robust Ethernet applications in one day. The built-in, high-performance MiniOS7 boots the PDS-700 up in just one second and gives you fastest responses. It also works as a Modbus TCP to RTU/ASCII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

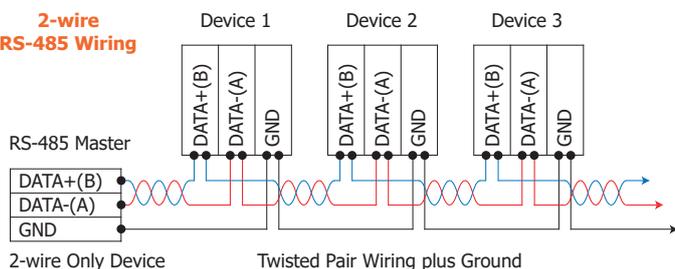
The PDS(M)-752(D) and PPDS(M)-752(D)-MTCP is equipped with 4 RS-232 ports and 1 RS-485 port. The removable on-board terminal block connector is designed for easy and robust wiring in industrial situations.

### Wiring

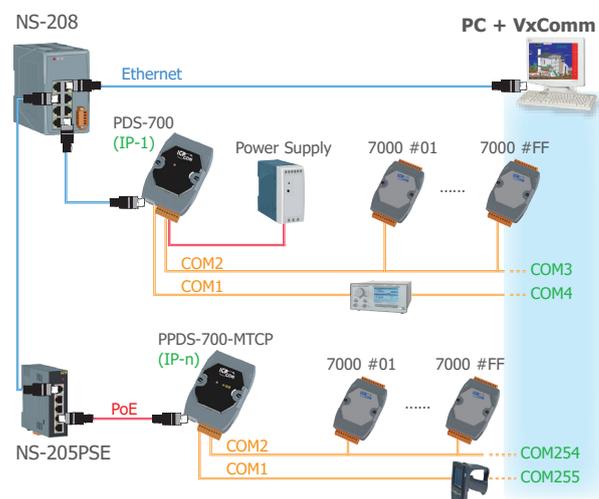
#### 3-wire RS-232 Wiring



#### 2-wire RS-485 Wiring



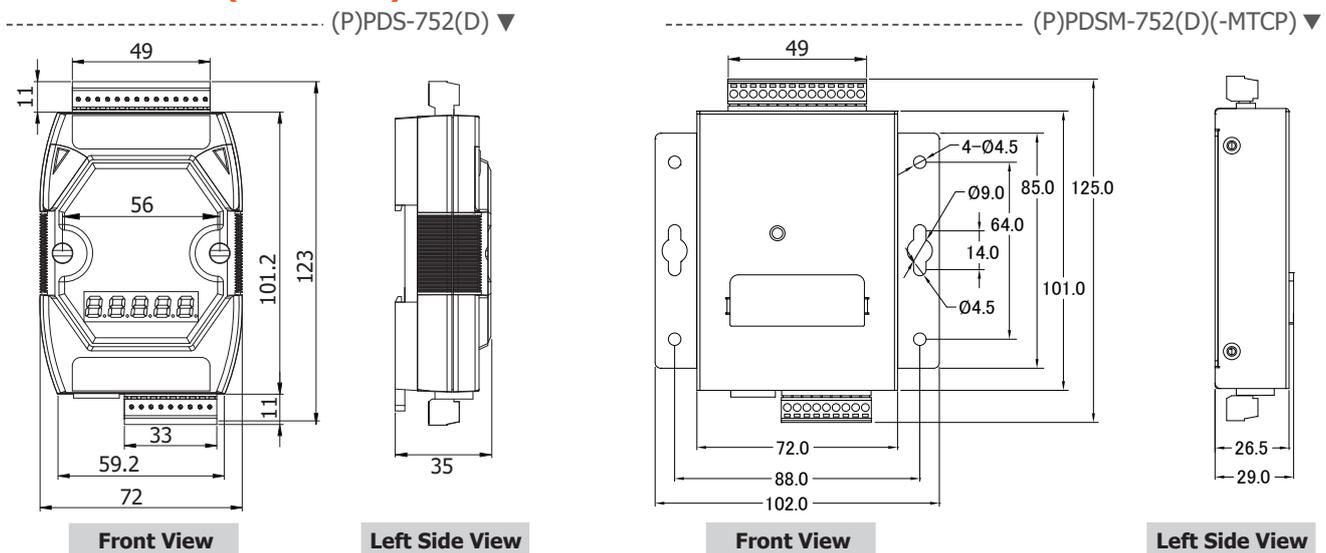
### Applications



## System Specifications

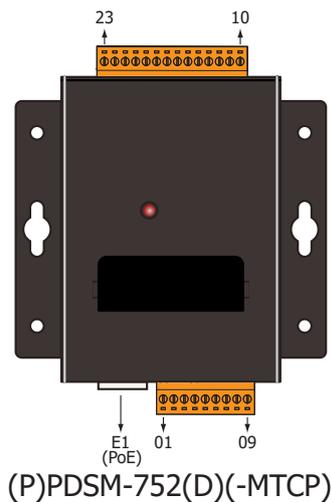
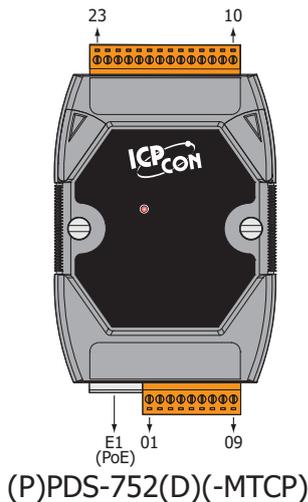
| Models                         | PDS-752<br>PDSM-752  | PDS-752D<br>PDSM-752D            | PPDS-752-MTCP<br>PPDSM-752-MTCP | PPDS-752D-MTCP<br>PPDSM-752D-MTCP |
|--------------------------------|--|----------------------------------|---------------------------------|-----------------------------------|
| <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 (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) |                                 |                                   |
|                                | COM5   | RS-232 (TxD, RxD, 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 and COM5  |                                  |                                 |                                   |
| 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 ~ COM5  |                                  |                                 |                                   |
| 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 Vdc ~ +30 Vdc  |                                  | PoE or +12 Vdc ~ +48 Vdc        |                                   |
| 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 (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   |                                  |                                 |                                   |
| <b>Environment</b>             |  |                                  |                                 |                                   |
| 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<br>10/100M                                  |
| COM1         | 01 CTS1<br>02 RTS1<br>03 RxD1<br>04 TxD1<br>05 INIT* |
| COM2         | 06 D2+<br>07 D2-<br>08 (R)+Vs<br>09 (B)GND           |



| Terminal No. | Pin Assignment |
|--------------|----------------|
| COM5         | 23 RxD5        |
|              | 22 TxD5        |
|              | 21 RTS5        |
|              | 20 CTS5        |
|              | 19 GND         |
| COM4         | 18 RxD4        |
|              | 17 TxD4        |
|              | 16 RTS4        |
|              | 15 CTS4        |
|              | 14 GND         |
| COM3         | 13 RxD3        |
|              | 12 TxD3        |
|              | 11 RTS3        |
|              | 10 CTS3        |

## Ordering Information

|                    |  |
|--------------------|--|
| PDS-752 CR         | Programmable (4x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server (RoHS)<br>Includes CA-0910 Cable   |
| PDS-752D CR        | Programmable (4x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server and LED Display (RoHS)<br>Includes CA-0910 Cable                                   |
| PPDS-752-MTCP CR   | Programmable (4x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server, PoE and Modbus Gateway (RoHS)<br>Includes CA-0910 Cable                           |
| PPDS-752D-MTCP CR  | Programmable (4x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server, PoE, Modbus Gateway and LED Display (RoHS)<br>Includes CA-0910 Cable              |
| PDSM-752 CR        | Programmable (4x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server (Metal Case) (RoHS)<br>Includes CA-0910 Cable                                      |
| PDSM-752D CR       | Programmable (4x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server and LED Display (Metal Case) (RoHS)<br>Includes CA-0910 Cable                      |
| PPDSM-752-MTCP CR  | Programmable (4x RS-232 and 1x RS-485) Serial-to-Ethernet Device Server, PoE and Modbus Gateway (Metal Case) (RoHS)<br>Includes CA-0910 Cable              |
| PPDSM-752D-MTCP CR | Programmable (4x 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) |