**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 MiniOST7 boots the PDS-700 up in just one second and gives you fastest responses.

The PDS-700-MTCP series features true IEEE 802.3af-compliant (classification, Class 1) PoE over Ethernet (PoE) using a standard category 5 Ethernet cable to receive power from a PoE switch like the NS-205PSE. The PDS-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-755(D) and PPDS-755(D)-MTCP is equipped with 1 RS-232 port and 4 RS-485 ports. The removable on-board terminal block connector is designed for easy and robust wiring in industrial situations.

**System Specifications**

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>80186, 80 MHz or compatible</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>RAM</td>
<td>512 KB</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Flash Memory</td>
<td>512 KB; Erase unit is one sector (64 KB); 100,000 erase/write cycles</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>EEPROM</td>
<td>16 KB; Data retention: 40 years; 1,000,000 erase/write cycles</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Ethernet</td>
<td>10/100 Base-TX, RJ-45 port (Auto-negotiating, auto MDI/MDI-X, LED indicator)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PoE</td>
<td>IEEE 802.3af</td>
<td>-</td>
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</tr>
</tbody>
</table>

**Communication Interface**

- **Non-isolated**
  - COM1: RS-232 (TxD, RxD, RTS, CTS, GND)
  - COM2: RS-485 (D0+, D0-, GND)
  - COM3: RS-485 (DATA+, DATA-, GND)
  - COM4: RS-485 (DATA+, DATA-, GND)
  - COM5: RS-485 (DATA+, DATA-, GND)

- **Ethernet**
  - 10/100 Base-TX, RJ-45 port (Auto-negotiating, auto MDI/MDI-X, LED indicator)

**Models**

<table>
<thead>
<tr>
<th>COM Port Formats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Bit</td>
</tr>
<tr>
<td>Parity</td>
</tr>
<tr>
<td>Stop Bit</td>
</tr>
<tr>
<td>Baud Rate</td>
</tr>
</tbody>
</table>

**LED Indicators**

- **5-digit 7 Segment**
  - YES
- **System**
  - Red
- **PoE**
  - Green

**Power**

- **Protection**
  - Power Reverse Polarity Protection
- **Required Supply Voltage**
  - +10 VDC to +30 VDC (non-regulated)
  - PoE or +12 VDC to +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**
  - 72 mm x 123 mm x 35 mm (W x H x D)
- **Installation**
  - DIN-Rail or Wall mounting
- **Environment**
  - Operating Temperature: -25 °C to +75 °C
  - Storage Temperature: -40 °C to +80 °C
  - Humidity: 5 ~ 90% RH, non-condensing
Industrial Communication Products

Programmable Device Servers (Serial-to-Ethernet)

PDS-700 & PPD-700-MTCP Series

Pin Assignments

<table>
<thead>
<tr>
<th>Terminal No.</th>
<th>Pin Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td>Link/Act</td>
</tr>
<tr>
<td>COM0</td>
<td>01 CTS1</td>
</tr>
<tr>
<td></td>
<td>02 RTS1</td>
</tr>
<tr>
<td></td>
<td>03 RxD1</td>
</tr>
<tr>
<td></td>
<td>04 TxD1</td>
</tr>
<tr>
<td></td>
<td>05 INIT*</td>
</tr>
<tr>
<td>COM1</td>
<td>06 D2+</td>
</tr>
<tr>
<td></td>
<td>07 D2-</td>
</tr>
<tr>
<td></td>
<td>08 (R)+Vs</td>
</tr>
<tr>
<td></td>
<td>09 (B)GND</td>
</tr>
</tbody>
</table>

Wiring

3-wire RS-232 Wiring

<table>
<thead>
<tr>
<th>RS-232 Master</th>
<th>TxD</th>
<th>RxD</th>
<th>GND</th>
</tr>
</thead>
<tbody>
<tr>
<td>TxD</td>
<td>RxD</td>
<td>GND</td>
<td></td>
</tr>
</tbody>
</table>

2-wire RS-485 Wiring

<table>
<thead>
<tr>
<th>RS-485 Master</th>
<th>DATA+ (B)</th>
<th>DATA- (A)</th>
<th>GND</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATA+ (B)</td>
<td>DATA- (A)</td>
<td>GND</td>
<td></td>
</tr>
</tbody>
</table>

Dimensions (Unit: mm)

Front View

Right Side View

Bottom View

Ordering Information

PDS-755 CR
Programmable Device Server with 1 RS-232 port and 4 RS-485 ports (RoHS)
Includes One CA-0910 Cable

PDS-755D CR
Programmable Device Server with 1 RS-232 port, 4 RS-485 ports and an LED Display (RoHS)
Includes One CA-0910 Cable

PPDS-755-MTCP CR
Programmable Device Server with PoE, Modbus/TCP, 1 RS-232 port and 4 RS-485 ports (RoHS)
Includes One CA-0910 Cable

PPDS-755D-MTCP CR
Programmable Device Server with PoE, Modbus/TCP, 1 RS-232 port, 4 RS-485 ports and an LED Display (RoHS)
Includes One CA-0910 Cable

Accessories

GPSU06U-6 24 Vdc/0.25 A, 6 W Power Supply
MWD-20/24 24 Vdc/1 A, 24 W Power Supply with DIN-Rail Mounting
DIN-KA52F-48 48 Vdc/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)