3.4. PPDS-700-IP67 Programmable Device Servers

Available soon

PPDS-741-IP67(/DIN)
PPDS-742-IP67(/DIN)
PPDS-743-IP67(/DIN)

Programmable Device Server with 4 RS-232 or RS-485 ports, PoE and IP67 Casing

RS-232/RS-485

☑ Features

- Incorporate Serial Devices in an Ethernet network
- "Virtual COM" extends PC COM ports
- 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
- Low power consumption
- 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)
- Plastic Casing with IP67 Waterproof
- Supports PoE (IEEE 802.3af, Class 1)
- ODM Service is available

CE FC RoHS PoE IP67

☑ Introduction

The PPDS-700-IP67 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 PPDS-700-IP67 series into standard COM ports on a PC. By virtue of its protocol independence, a small-core OS and high flexibility, the PPDS-700-IP67 series is able to meet the demands of every network-enabled application.

The PPDS-700-IP67 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 PPDS-700-IP67 up in just one second and gives you fastest responses.

The PPDS-700-IP67 is a special design for the toughest applications. It can be directly mounted to any machine or convenient flat surface. The rugged packaging and IP67 connectors are rated to protect against water, oil, dust, vibration, and much more.
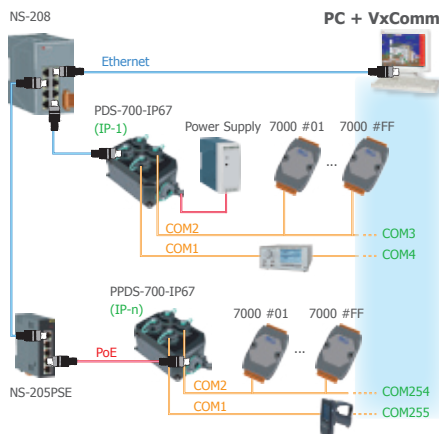
The PPDS-700-IP67 supports PoE (Power over Ethernet) function that allows power and data to be carried over a single Ethernet cable, so a device can operate solely from the power it receives through the data cable. This innovation allows greater flexibility in office design, higher efficiency in systems design, and faster turnaround time in set-up and implementation. When there is no PoE switch on site, the PPDS-700-IP67 accepts power input from a +12 V_{DC} ~ +48 V_{DC} adapter.

When using PoE devices such as the PPDS-700-MTCP, PPDS-700-IP67 and PET-7000 (Ethernet I/O module with PoE), you can select the ICP DAS "PoE" switch — "NS-205PSE" — as the power source. The NS-205PSE automatically detects whether the connected devices are PoE devices or not. This mechanism ensures that the NS-205PSE will work with both PoE and non-PoE devices simultaneously.

As a power source for PoE devices, the NS-205PSE requires a power input ranging from +46 V_{DC} ~ +55 V_{DC}.

☑ Applications

Factory, Building and Home Automation

ICP DAS CO., LTD Professional Provider of High Quality **I**ndustrial **C**omputer **P**roducts and **D**ata **A**cquisition **S**ystems

Specifications

Models	PPDS-741-IP67(/DIN)	PPDS-742-IP67(/DIN)	PPDS-743-IP67(/DIN)
CPU			
CPU	80186, 80MHz 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		
Watchdog Timer	Yes		
Communication Interface			
COM1	5-wire RS-232		
COM2	Isolated 2-wire RS-485		
COM3	Isolated 2-wire RS-485	5-wire RS-232	5-wire RS-232
COM4	Isolated 2-wire RS-485	Isolated 2-wire RS-485	5-wire RS-232
Ethernet	10/100 Base-TX, RJ-45 port (Auto-negotiating, Auto MDI/MDI-X, LED indicators), PoE (IEEE 802.3af, Class 1)		
COM Port Formats			
Data Bit	5, 6, 7, 8		
Parity	None, Even, Odd, Mark, Space		
Stop Bit	1, 2		
Baud Rate	115200 bps max.		
LED Indicators			
System	Red: Sys		
Ethernet	Green: Link/Act (E1)		
	Orange: 10/100M (E1)		
OM1 ~ COM4	Green: RxD		
	Orange: TxD		
Power			
Protection	Power input reverse polarity protection		
Required Supply Voltage	+12 V_{DC} ~ +48 V_{DC} (non-regulated) or PoE (IEEE 802.3af, Class 1)		
Power Consumption	2.2 W		
Mechanical			
Flammability	Fire Retardant Materials (UL94-V0 Level)		
Dimensions (W x H x D)	85 mm x 76 mm x 137 mm (89 mm x 90 mm x 138 mm for /DIN versions)		
Installation	Wall mounting (DIN-Rail mounting for /DIN versions)		
Environment			
Operating Temperature	-10 °C ~ +60 °C		
Storage Temperature	-10 °C ~ +60 °C		
Humidity	100% RH for operating temperature -10 °C ~ +60 °C		
Note: 5-wire RS-232: TxD, RxD, CTS, RTS, GND Isolated 2-wire RS-485: DATA+, DATA-, GND; Self-tuner Inside; 2500 V$_{rms}$ Isolation			

Wiring

2-wire RS-485 Wiring	Device 1	Device 2	Device 3

RS-485 Master

DATA+(B)
DATA-(A)
GND

2-wire Only Device   Twisted Pair Wiring plus Ground

3-wire RS-232 Wiring

RS-232 Master / RS-232 Device

TxD	RxD
RxD	TxD
GND	GND

Pin Assignments

PDS-741-IP67

PPDS-741-IP67

COM3: RS-485   COM4: RS-485

COM1: RS-232   COM2: RS-485

E1: Ethernet

PDS-742-IP67

PPDS-742-IP67

COM3: RS-232   COM4: RS-485

COM1: RS-232   COM2: RS-485

E1: Ethernet

PDS-743-IP67

PPDS-743-IP67

COM3: RS-232   COM4: RS-232

COM1: RS-232   COM2: RS-485

E1: Ethernet

COM1 ~ COM4

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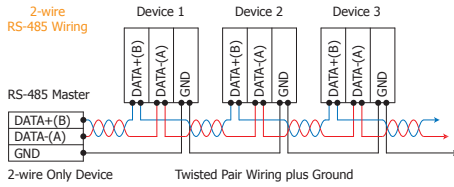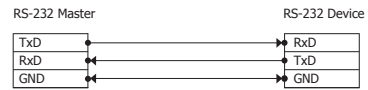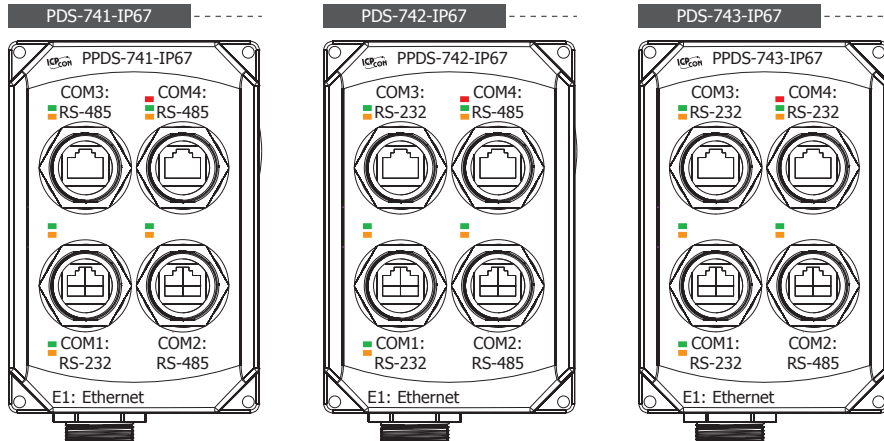
Pin	5-wire RS-232	2-wire RS-485
1	--	--
2	RTS	--
3	GND	GND
4	TxD	--
5	RxD	DATA+
6	--	DATA-
7	CTS	--
8	--	--

DC +12 ~ +48 V_{DC}

+Vs
Init
F.G.
GND
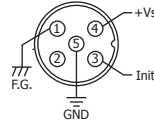
Pin	Name
1	F.G.
2	--
3	Init
4	+Vs
5	GND

LED Indicators

System	Red	Sys.
Ethernet	Green	Link/Act (E1)
	Orange	10/100M (E1)
COM1 ~ COM4	Green	RxD
	Orange	TxD

Dimensions (Unit: mm)

PPDS-741-IP67/PPDS-742-IP67/PPDS-743-IP67

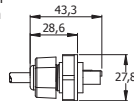Left Side View | Front View | Right Side View | Back View | Top View | Bottom View
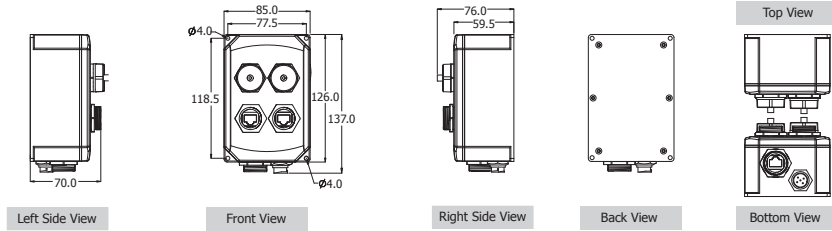
IP67 Ethernet Cap with Tether
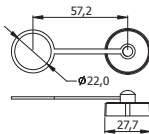
IP67 Ethernet Plug
Cable Dia:
Max. 7.0 mm
Min. 5.5 mm

IP67 PWR Plug
Cable Dia:
Max. 6.5 mm
Min. 5.0 mm
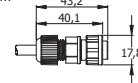
Ordering Information

PPDS-741-IP67 CR	Programmable Device Server with 1 RS-232 port, 3 RS-485 ports, PoE and IP67 Casing (RoHS)
PPDS-741-IP67/DIN CR	Programmable Device Server with 1 RS-232 port, 3 RS-485 ports, PoE, IP67 Casing and DIN-Rail Mounting (RoHS)
PPDS-742-IP67 CR	Programmable Device Server with 2 RS-232 ports, 2 RS-485 ports, PoE and IP67 Casing (RoHS)
PPDS-742-IP67/DIN CR	Programmable Device Server with 2 RS-232 ports, 2 RS-485 ports, PoE, IP67 Casing and DIN-Rail Mounting (RoHS)
PPDS-743-IP67 CR	Programmable Device Server with 3 RS-232 ports, 1 RS-485 port, PoE and IP67 Casing (RoHS)
PPDS-743-IP67/DIN CR	Programmable Device Server with 3 RS-232 ports, 1 RS-485 port, PoE, IP67 Casing and DIN-Rail Mounting (RoHS)

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
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)