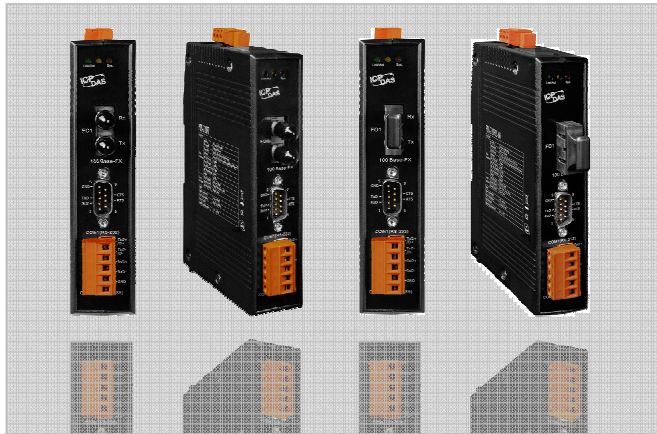


PDS-220Fx Series Programmable Device Servers



~NEW~ PDS-220Fx

Programmable Device Server with 1 RS-232, 1 RS-422/485 and 1 Fiber ports

RS-232 / RS-485

Feature

- Adds optical fiber connectivity to serial devices
- "Virtual COM" extends PC COM ports
- Virtual COM for 32-bit and 64-bit Windows XP/2003/Vista/7
- 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
- RoHS compliant with no halogen
- Built-in high performance MiniOS7 from ICP DAS
- 100 Base-FX (SC/ST connectors)
- ODM service is available
- Low power consumption
- Made from fire retardant materials (UL94-V0 level)



Introduction

The PDS-220Fx series is a family of Programmable Device Servers, also known as "Serial-to-Fiber gateway", that are designed for adding optical fiber connectivity to RS-232/422/485 devices.

The fiber-optic communications permits transmission over longer distances than other forms of communications because of the signals travel along them with less loss and no crosstalk. It has following important features:

- Immunity to electromagnetic interference (EMI) — Motors, relays, welders and other industrial equipment generate a tremendous amount of electrical noise that can cause major problems with copper cabling.
- High electrical resistance, making it safe to use near high-voltage equipment or between areas with different earth potentials.
- No sparks — important in flammable or explosive gas environments.
- Not electromagnetically radiating, and difficult to tap without disrupting the signal — important in high-security environments.

Because of these reasons, optical fibers have largely replaced copper wire communications in core networks in the developed world.

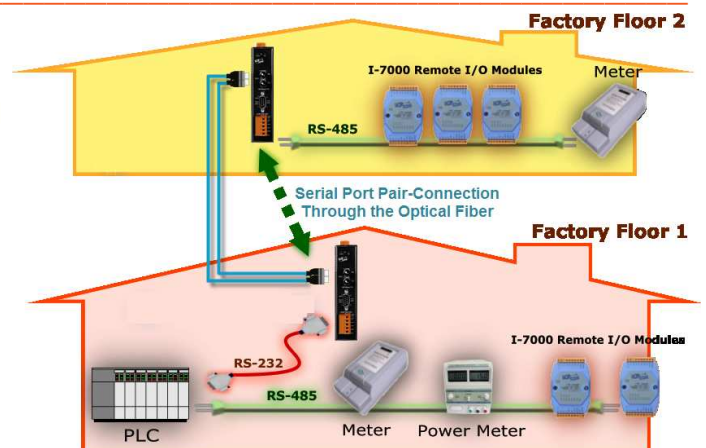
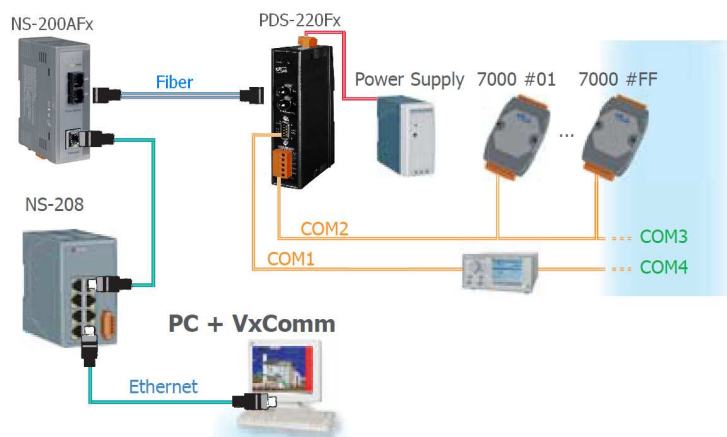
The user-friendly VxComm Driver/Utility allows users to easily turn the built-in COM ports of the PDS-220Fx series into standard COM ports on a PC. By virtue of its protocol independence, a small-core OS and high flexibility, the PDS-220Fx series is able to meet the demands of every network-enabled application.

The PDS-220Fx 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-220Fx up in just one second and gives you fastest responses.

The PDS-220Fx is equipped with 1 RS-232 port and 1 RS-422/485 port. The removable on-board terminal block connector is designed for easy and robust wiring in industrial situations.



Application

Factory, Building and Home Automation



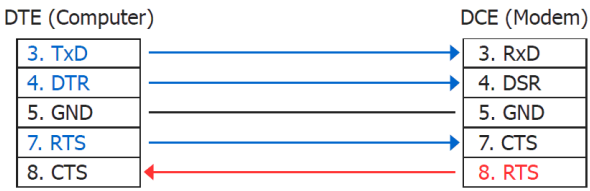
Specifications

Models	PDS-220FT	PDS-220FC	PDS-220FCS	PDS-220FCS-60
System				
CPU	80186, 80MHz or compatible			
SRAM	512 KB			
Flash	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	Yes			
LED Indicators	Sys, Link/Act			
Init Pin	Yes			
Interface				
Fiber Port	100 Base-FX, ST connector	100 Base-FX, SC connector	100 Base-FX, SC connector	100 Base-FX, SC connector
Mode	Multi-mode fiber cables: 50/125, 62.5/125 or 100/140 μ m Wavelength : 1300 or 1310nm Min. TX Output: -20 dBm Max. TX Output: -14 dBm Max. RX Sensitivity: -32 dBm Max. RX Overload: -8 dBm Budget: 12 dBm	Single mode fiber cables: 8.3/125, 8.7/125, 9/125 or 10/125 μ m Wavelength: 1300 or 1310nm Min. TX Output: - 15 dBm, Max. TX Output: -8 dBm Max. RX Sensitivity: -34 dBm, Max. RX Overload: -5 dBm Budget: 19 dBm	Single mode fiber cables: 8.3/125, 8.7/125, 9/125 or 10/125 μ m Wavelength: 1300 or 1310nm Min. TX Output: - 5 dBm, Max. TX Output: 0 dBm Max. RX Sensitivity: -35 dBm, Max. RX Overload: -5 dBm Budget: 30 dBm	
Distance	2 km, (62.5/125 μ m recommended) for full duplex	30 Km, (9/125 μ m recommended) for full duplex	60 Km, (9/125 μ m recommended) for full duplex	
Serial Ports				
COM1	Male DB-9, 5-wire RS-232 (RxD, TxD, CTS, RTS, GND) Note: +/- 4 kV ESD Protection			
COM2	Removable Terminal Block, 2-wire RS-485 (D+, D-, GND) with Self-tuner ASIC or 4-wire RS-422 (TxD+, TxD-, RxD+, RxD-, GND) Note: +/- 4 kV ESD Protection			
UART	16c550 or compatible			
Baud rate	115200 bps Max.			
Data bits	7, 8			
Parity	None, Odd, Even, Mark, Space			
Stop bits	1			
General				
Power Input	+12 ~ +48 VDC (non-regulated)			
Power Consumption	0.14A @24 VDC			
Protection	Power reverse polarity protection			
Frame GND	Yes, for EMS Protection.			
Dimensions	25 mm x 168 mm x 135 mm (W x L x H)			
Case	Fire Retardant Plastic (UL94-V0 level)			
Mounting	DIN-Rail			
Operating Temperature	-25°C ~ +75°C			
Storage Temperature	-30 ~ +85°C			
Humidity	10% ~ 90% RH, non-condensing			

Fiber Port Connector	SC	ST
Pictures		

Wiring

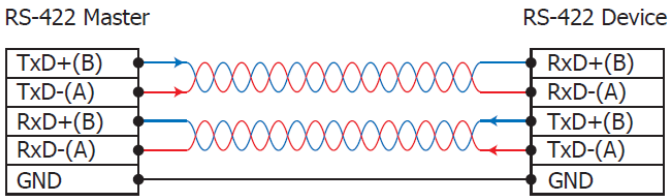
5-wire RS-232 Connection (DB-9)



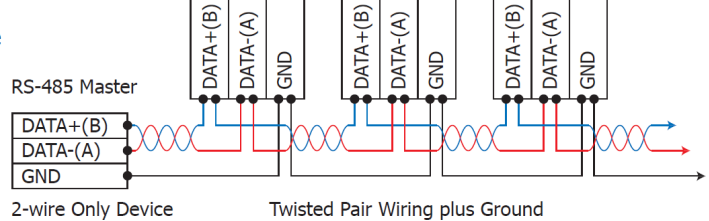
Fiber Optic Wiring



4-wire RS-422 Wiring



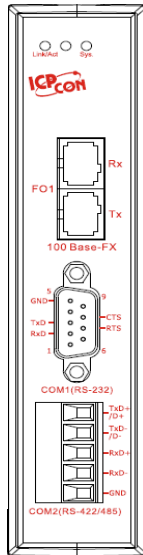
2-wire RS-485 Wiring



Pin Assignment

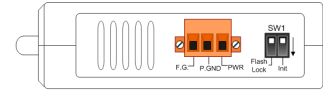
Pin Assignment	Terminal No.	Pin Assignment
GND	05	09
--	04	08
TxD	03	07
RxD	02	06
--	01	

COM1: Male DB-9 Connector



Terminal No.	Pin Assignment
01	TxD+ / D+
02	TxD- / D-
03	RxD+
04	RxD-
05	GND

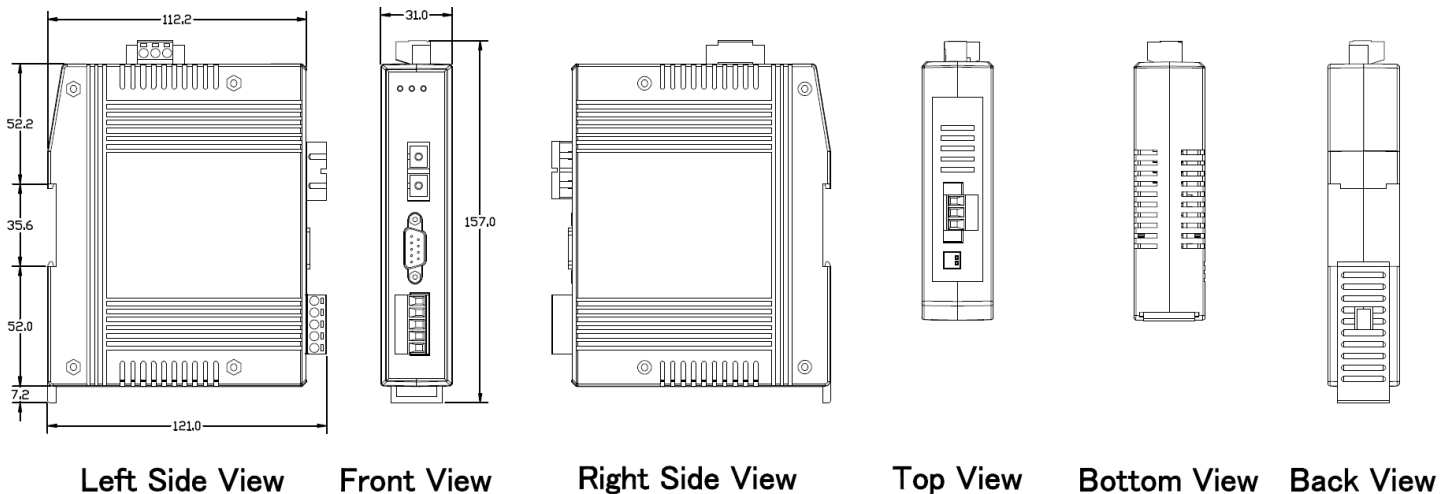
COM2: Removable Terminal Block



Terminal No.	Pin Assignment
01	F.G.
02	P.GND
03	PWR

Power Input: Removable Terminal Block

Dimensions (Unit: mm)



Ordering information

PDS-220FT	Programmable Device Server with 1 RS-232, 1 RS-422/485 and 1 Multi-mode ST Fiber Ports (RoHS)
PDS-220FC	Programmable Device Server with 1 RS-232, 1 RS-422/485 and 1 Multi-mode SC Fiber Ports (RoHS)
PDS-220FCS	Programmable Device Server with 1 RS-232, 1 RS-422/485 and 1 Single-mode SC Fiber Ports (RoHS)
PDS-220FCS-60	Programmable Device Server with 1 RS-232, 1 RS-422/485 and 1 Single-mode SC Fiber Ports (RoHS)

Accessories

GPSU06U-6	24 VDC/0.25 A, 6 W Power Supply
MDR-20-24 CR	24 VDC/1 A, 24 W Power Supply with DIN-Rail
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-200AFT CR	Industrial 10/100 Base-T to 100 Base-FX Media Converter; 1 multi-mode ST connector (RoHS)
NS-200AFC CR	Industrial 10/100 Base-T to 100 Base-FX Media Converter; 1 multi-mode SC connector (RoHS)
NS-200AFCS CR	Industrial 10/100 Base-T to 100 Base-FX Media Converter; 1 single mode SC connector (RoHS)
NS-200AFCS-40T CR	Industrial 10/100 Base-T to 100 Base-FX Media Converter; 1 (40Km)single mode SC connector (RoHS)
NS-205 CR	Unmanaged 5-port Industrial Ethernet Switch (RoHS)
DIN-KA52F-48	48 VDC/0.52 A, 25 W Power Supply with Din-Rail