



NEW PDS-721(D) Available PPDS-721(D)-MTCP

Programmable Device Server with 1 RS-232 port and 1 RS-485 port

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.

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 PPDS-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-721(D) and PPDS-721(D)-MTCP is equipped with 1 RS-232 port, 1 RS-485 port and DI/DO. The removable on-board terminal block connector is designed for easy and robust wiring in industrial situations.

Applications_

Factory, Building and Home Automation

I/O Specifications

Models: PDS-721/PD			
Digital Output			
Output Channel	7		
Output Type	Open Collector (Sink/NPN)		
Load Voltage	30 Voc, max.		
Load Current	100 mA, max.		
Isolated Voltage	Non-isolated		
Digital Input			
Input Channel	6		
Input Type	Source (Dry Type), Common Ground		
Off Voltage Level	+1 V max.		
On Voltage Level	+3.5 ~ +30 V		
Isolated Voltage	Non-isolated		
	Channels: 6		
Counters	Max. Count: 16-bit (65535)		
counters	Max. Input Frequency: 100 Hz		
	Min. Pulse Width: 5 ms		

RS-232/RS-485

Features

- Incorporate Serial Devices in an Ethernet network
- 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
- 5-digit LED Display (for versions with a display)
- 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)
- PPDS-721(D)-MTCP supports Modbus/TCP and Modbus/RTU

X

PoE

- PPDS-721(D)-MTCP supports PoE (IEEE 802.3af, Class 1)
- Supports D/I, Latched D/I and Counter Functions Low power consumption
- Palm-Sized with multiple Serial Ports

CEFC

System Specifications_

Models PDS-721 PDS-721 PDS-721 MT02 P055-721 MT02 CPU 80186, 80 MHz or compatible 9705-7210 MT02 9705-7210 MT02 CPU 80186, 80 MHz or compatible 512 K8 Fiash ROM: 512 K8; Fiash ROM: 510 K8; Fiash ROM: 510 K8; Fiash ROM: 510 K8; Fiash ROM: 510 K8; Fiash ROM								
	Models		PDS-721	PDS-721D	PPDS-721-MTCP	PPDS-721D-MTCP		
SRAM 512 KB Flash Memory Flash ROM: 512 KB; Flash Memory Flash ROM: 512 KB; Flash Memory Flash ROM: 512 KB; EEPROM 16 KB: Data retention: 40 years; 1,000,000 erase/write cycles 16 KB: Data retention: 40 years; Built-in Yes Communication Interface Ves Communication Interface 10/100 Base-TX, RJ-45 port (Auto-negotiating, auto MDI/MDLX, LED indicator) PoE - COM Port Formats 10/100 Base-TX, RJ-45 port (Auto-negotiating, auto MDI/MDLX, LED indicator) PoE - Data Bit 7, 8: for COM1 and COM2 Parity None, Even, Odd, Mark, Space Stop Bit 1: for COM1 and COM2 Baud Rate 115200 bps max. LED Indicators 5-digit 7 Segment S-digit 7 Segment - Yes PoE - Green Power - PoE or+12 Vsc +48 Vsc (non-regulated) Power Consumption 2.0 W 2.7 W 2.9 W Mechanical File Retardant Materials (UL94-V0 Level) Pomerating 72 mm x 123 mm x 35 mm (VX H x D)	CPU							
Flash Memory Flash ROM: 512 KB; Erase unit is one sector (64 KB); 10:000 erase/write cycles EEPROM 16 KB: Data retention: 40 years; 10:000 erase/write cycles Built-in Watchdog Ture Yes Communication Interface COM2 COM2 RS-485 (02+, D2, GND) Isolated COM2 RS-485 (02+, D2, GND) IEEE 802.3af COM0 COM Eave-TX, RAT-45 port (Auto-negotiating, auto MDI/MD1-X, LED indicator) IEEE 802.3af COM Part Formats IEEE 802.3af Data Bit 7, 8: for COM1 and COM2 Baud Rate 115200 bps max. LED Indicators Ses Stop Bit 1: for COM3 and COM2 Baud Rate 115200 bps max. LED Indicators Green Poet - Green Power - Green Power 2.0 W 2.2 W 2.9 W Power Required 10 Vsc - + 30 Vsc (non-regulated) P6 G r +12 Vsc - +48 Vsc (non-regulated) Power Romanical 2.0 W 2.2 W 2.9 W Power Romanical IV Vsc - + 30 Vsc (mon-regulated) P6 G r +12 Vsc - +48 Vsc (non-regulated) Power Romanical <td< td=""><td>CPU</td><td></td><td colspan="4">80186, 80 MHz or compatible</td></td<>	CPU		80186, 80 MHz or compatible					
Frase unit is one sector (64 K8); 100.000 erase/write cyclesIDELEMENTEEPROMFrase unit is one sector (64 K8); 100.000 erase/write cyclesBuilt-in Watchdog TimeYesCommunication TimeTraceNon- IsolatedCOMMRS-232 (TxD, RxD, RTS, CTS, GND)Some Col MIRS-232 (TxD, RxD, RTS, CTS, GND)ISOLATE TRACETOMONESCOMMRS-232 (TxD, RxD, RTS, CTS, GND)Ethernet10/100 Rss-27X, RJ-45 port (Auto-ru-gutatiding, auto MDI/MD-X, LED indicator)PoE7A 8: ASS (D2+, D2-, GND)TOMON TOMETEEE 802.3aTCOM TOMONETOMONEPoet7Stop BitT: for COM1 and COM2Termonegulated)TEREMENTSolgit 7 Segment?YesSolgit 7 Segment?YesSolgit 7 Segment?YesSolgit 7 Segment?YesPowerPowerYesPower?YesPower?YesPower? <th ?<="" colspan="2" td="" th<=""><td>SRAM</td><td></td><td>512 KB</td><td></td><td></td><td></td></th>	<td>SRAM</td> <td></td> <td>512 KB</td> <td></td> <td></td> <td></td>		SRAM		512 KB			
1,000,000 erase/write cycles Non, 000, 000 erase/write cycles Vers Communication Interface Non, 000, 000 erase/write cycles Interface Non, 000, 000 erase/write cycles Interface Communication Interface Non, 000, 000 erase/write cycles Interface Interface Interface PoE Interface COM Port Former Interface Odd Mark, Space Stop Bit 1 for COM1 and COM2 Baud Rate 15200 bps max. LED Indicators Sofigit 7 Segment PoE PoE Yes Solg IV 7 Segment Power Yes Potection Pote colspan="2" Pote colspan="2" <th c<="" td=""><td>Flash Memo</td><td>iry</td><td colspan="4">Erase unit is one sector (64 KB);</td></th>	<td>Flash Memo</td> <td>iry</td> <td colspan="4">Erase unit is one sector (64 KB);</td>	Flash Memo	iry	Erase unit is one sector (64 KB);				
Watchdog Time Yes Communication Interface Non- isolated COMI RS-232 (TxD, RxD, RTS, CTS, GND) RS-232 (TxD, RxD, RTS, CTS, GND) RS-232 (TxD, RxD, RTS, CTS, GND) Ethernet RS-232 (TxD, RxD, RTS, CTS, GND) Ethernet RS-232 (TxD, RxD, RTS, CTS, GND) PoE ato MDI/MDI-X, LED indicators PoE 7, 8: for COM1 and COM2 Parity 7, 8: for COM1 and COM2 Parity 7, 8: for COM1 and COM2 Baud Rate 115200 bps max. ED Indicators Red System Red Poce - Yes System Red (non-regulated) Power +10 Voc - +30 Voc (non-regulated) (non-regulated) Power consumption 2.0 W 2.7 W 2.9 W Mechanical Yes non-regulated) (non-regulated) Flarmability Fire Retardart Materials (UL94-Vo Level) US %/tx ND Installation DIN-Rail or Wall mounting 2.9 With X ND Operating -25 °C - +75 °C -25 °C + 75 °C <	EEPROM							
$\begin{tabular}{ c c c c } \hline COM1 & RS-232 (TxD, RxD, RTS, CTS, GND) & $$$$ Com2 & RS-485 (C2+, D2-, GND) & $$$$$$$$$ Com2 & RS-485 (C2+, D2-, GND) & $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$		imer	Yes					
Note None, Even, Odd, Mark, Space Ethernet 10/100 Base-TX, RJ-45 port (Auto-negotiating, auto MDI/MDI-X, LED indicator) PoE - IEEE 802.3af COM Port Formats 7, 8: for COM1 and COM2 Farly Data Bit 7, 8: for COM1 and COM2 Farly Parity None, Even, Odd, Mark, Space IEEE 802.3af Stop Bit 1: for COM1 and COM2 Farly Baud Rate 115200 bps max. IEED Indicators S-digit 7 Segment - Yes - PoE - Green Poe Portection Power Reverse Polarity Protection Required (non-reguiated) Power Consumption 2.0 W 2.7 W 2.9 W Adexon-reguiated) Power Consumption 2.0 W 2.7 W 2.9 W Adexon-reguiated) Power Consumption 2.0 W 2.7 W 2.9 W Adexon-reguiated) Installation DIN-Rail or Walt mounting Installator DIN-Rail or Walt mounting Environment -25 °C - +75 °C -25 °C - +80 °C -26 °C + 80 °C -40 °C	Communicatio	n Interfa	ice					
$\begin{tabular}{ c c c c c } \hline left for the left for th$	Non-	COM1	RS-232 (Tx	D, RxD, RTS	, CTS, GND)			
auto MDI/MDI-X, LED indicator)auto MDI/MDI-X, LED indicator)PoE-IEEE 802.3afCOM Port FormatsIEEE 802.3afData Bit7, 8: for COM1 and COM2ParityNone, Even, Odd, Mark, SpaceStop Bit1: for COM1 and COM2Baud Rate115200 bps max.LED Indicators-5-digit 7 SegmentRedPoE-PoE-PordectionPower Reverse PolarityProtectionPower Reverse PolarityPortection2.0 w2.0 w2.1 w2.0 w2.2 w2.0 w2.2 w2.0 mabilityFilamabilityFire Retardant MaterialsUIN-Rail or Wall mountingEnvironmentOperating-25 °C - +75 °CStorage Temperature-40 °C - +80 °C	isolated	COM2	RS-485 (D2	2+, D2-, GNE))			
$\begin{tabular}{ c c c } \hline COM Port Formats & $$Varphi (CM) Port Formats & $$Varphi (CM) and COM2$ \\ \hline Parity & $None, Even, Odd, Mark, Space $$Stop Bit 1: for COM1 and COM2$ \\ \hline Baud Rate & $115200 bps max. $$Uarphi (CM) COM2$ \\ \hline Baud Rate & $115200 bps max. $$Uarphi (CM) CM2$ \\ \hline Baud Rate & $115200 bps max. $$Uarphi (CM) CM2$ \\ \hline Baud Rate & $$115200 bps max. $$Uarphi (CM) CM2$ \\ \hline Baud Rate & $$115200 bps max. $$Uarphi (CM) CM2$ \\ \hline Baud Rate & $$115200 bps max. $$Uarphi (CM) CM2$ \\ \hline Sdigit 7 Segment & $$$-$ $$Yes & $$Varphi (CM) CM2$ \\ \hline Sdigit 7 Segment & $$$Cer $$ $$ $$Cer $$$ $$$ $$Cer $$$ $$$ $$Cer $$ $$Cer $$ $$Cer $$$ $$Cer $$ $$Cer $$ $$Cer $$ $$Cer $$$ $$Cer $$ $$Cer $$$Cer $$$Cer $$ $$Cer $$ $$Cer $$$ $$Cer $$ $$Cer $$ $$Cer $$ $$Cer $$	Ethernet		10/100 Base-TX, RJ-45 port (Auto-negotiating, auto MDI/MDI-X, LED indicator)					
Data Bit 7, 8: for COM1 and COM2 Parity None, Even, Odd, Mark, Space Stop Bit 1: for COM1 and COM2 Baud Rate 115200 bps max. LED Indicators Yes < System Red Yes PoE - Green Poer Power Portection Power Reverse Polarity Protection Required 10 Vbc ~ + 30 Vbc (non-regulated) PoE or +12 Vbc ~ + 48 Vc (non-regulated) PoE or +12 Vbc ~ + 48 Vc Power Consumption 2.0 W 2.7 W 2.2 W 2.9 W Mechanical Fire Retardant Materials (UL94-V0 Level) Dimensions 72 mm x 123 mm x 35 mm (W x H x D) Dintstalation DIN-Rail or Wall mounting Environment Operating Temperature -25 °C ~ +75 °C	PoE		-		IEEE 802.3	af		
Damme From Record Analysis Parity None, Even, Odd, Mark, Space Stop Bit 1: for COM1 and COM2 Baud Rate 115200 bps max. LED Indicators - S-digit 7 Segment - PoE - PoE - Protection Power Protection Power Reverse Polarity Protection Required +10 Voc - +30 Voc (non-regulated) Power Consumption 2.0 W 2.7 W 2.9 W Mechanical File Retardant Materials (UL94-V0 Level) Installation DIM-Rail or Wall mounting Environment - Operating Temperature -25 °C - +75 °C - Storage Temperature -40 °C - +80 °C -	COM Port Forr	nats						
Stop Bit 1: for COM1 and COM2 Baud Rate 115200 bps max. LED Indicators - S-digit 7 Segment - Yes System Red PoE - Green Power - PoE or +12 Vsc -+48 Vsc (non-regulated) Power Consumption 2.0 W 2.7 W 2.9 W Mechanical - 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 -25 °C - +75 °C - Strage Targature -40 °C - +80 °C -	Data Bit		7, 8: for COM1 and COM2					
Baud Rate 115200 bps max. LED Indicators - Yes - Yes 5-digit 7 Segment - Yes - Yes System Red - Green - Pote - Green - Potestime - + - - - + - - - - <td< td=""><td>Parity</td><td></td><td>None, Ever</td><td>, Odd, Mark</td><td>, Space</td><td></td></td<>	Parity		None, Ever	, Odd, Mark	, Space			
LED Indicators Yes Yes Yes 5-digit 7 Segment - Yes - Yes System Red - Green - Pobe - Green - - Potection Power - Vec - 48 Vec Supply Voltage (non-regulated) PoE or +12 Vec - +48 Vec (non-regulated) (non-regulated) -	Stop Bit		1: for COM1 and COM2					
S-digit 7 Segment - Yes - Yes System Red - Green Power - Poen Poen - Poen - Poen - Poen - Poen	Baud Rate		115200 bps max.					
System Red Green PoE - Green Power Power Reverse Polarity Protection Power Reverse Polarity Protection Required +10 Voc - + 30 Voc (non-regulated) Po E or +12 Voc - +48 Voc (non-regulated) Power Consumption 2.0 W 2.7 W 2.9 W Mechanical Journal 2.2 W 2.9 W Flammability Fire Retardant Materials (UL94-V0 Level) Dimensions Dimensions 72 mm x 123 mm x 35 mm (W x H x D) Installation Operating -25 °C - +75 °C	LED Indicators	S						
PoE - Green Power - Green Protection Power Reverse Polatity Protection Required supply Voltage +10 Voc ~ +30 Voc (non-regulated) PoE or +12 Voc ~ +48 Voc (non-regulated) Power Consumption 2.0 W 2.7 W 2.2 W 2.9 W Mechanical - - - - - Flanmability 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 -	5-digit 7 Se	gment	-	Yes	-	Yes		
Power Power Reverse Polarity Protection Required +10 Voc - +30 Voc (non-regulated) PoE or +12 Voc - +48 Voc (non-regulated) Power Consumption 2.0 W 2.7 W 2.2 W 2.9 W Mechanical Fire Retardant Materials (UL94-V0 Level) Dimensions 72 mm x 123 mm x 35 mm (W x H x D) Installation Dimensions 72 mm x 123 mm x 35 mm (W x H x D) Environment Operating Temperature -25 °C - +75 °C Storage Temperature -40 °C - +80 °C -40 °C -40 °C -40 °C	System		Red					
$\begin{tabular}{ c c c c c } \hline Protection & Power Reverse Polarity Protection \\ \hline Required & +10 Voc - +30 Voc & PoE or +12 Voc - +48 Voc & (non-regulated) \\ \hline Power Consumption & 2.0 W & 2.7 W & 2.2 W & 2.9 W \\ \hline Mechanical & & & & & & & & & & & & & & & & & & &$	-		- Green					
Required Supply Voltage 110 Voc - + 30 Voc (non-regulated) PoE or +12 Voc - +48 Voc (non-regulated) Power Consumption 2.0 W 2.7 W 2.2 W 2.9 W Mechanical 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 Dimensions 72 mm x 123 mm x 35 mm (W x H x D) Operating -25 °C - +75 °C	Power							
Supply Voltage (non-regulated) (non-regulated) Power Consumption 2.0 W 2.7 W 2.2 W 2.9 W Mechanical Immability 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 -00 °C - +75 °C Storage -40 °C - +80 °C	Protection		Power Reve	erse Polarity	Protection			
Power Consumption 2.0 W 2.7 W 2.2 W 2.9 W Mechanical								
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 Operating Temperature -25 °C - +75 °C Storage -40 °C - +80 °C								
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 - +75 °C Storage -40 °C - +80 °C	Mechanical							
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 - +75 °C Storage -40 °C - +80 °C	Flammability Fire Retardant Materials (UL94-V0 Level)			evel)				
Environment	Dimensions							
Environment C Operating Temperature -25 °C ~ +75 °C Storage Temperature -40 °C ~ +80 °C	Installation		, ,					
Temperature -25 °C ~ +75 °C Storage -40 °C ~ +80 °C Temperature -40 °C ~ +80 °C	Environment				-			
Temperature -40 °C ~ +80 °C			-25 °C ~ +75 °C					
		e	-40 °C ~ +80 °C					
			5 ~ 90% RH, non-condensing					

3

PDS-721(D)/PPDS-721(D)-MTCP

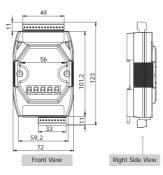
Pin Assignments_____

Termi No		Pin Assignment	23 1	00000000	10 10 10	23 1 ΦΦΦΦΦ	10 1 1 1 1 1 1 1 10		minal No.	Pin Assignmen
		-Link/Act	//		\mathcal{D}	//	\square		23	D10
			the second		10				22	DI1
E1					<u>∽</u>			D	21	DI2
				ICPCO	n N		ICPCON	D	20	DI3
		L10/100M	Ĩ	PDS-72;	1) 🕅		DS-721-MTCP		19	D14
	01	CTS1	A		18	D15				
	02	RTS1	P			17	DO.PWR			
COM1	03	RxD1							16	DO0
	04	TxD1							15	DO1
	05	INIT*			14	DO2				
COM2	06	D2+	M Č					DC	13	DO3
	07	D2-							12	DO4
	08	(R)+Vs		0000	00000		@@@@@@@@@ @		11	D05
	09	(B)GND			t Na	E1 (PoE)	+ + 01 09		10	D06

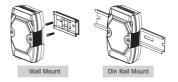
Wiring

Input Type	DI Value as 0	DI Value as 1	
	Relay ON	Relay Off	
Relay Contact	Relay Close	Relay Open C C C C C C C C C C C C C C C C C C C	
	Voltage < 1V	Voltage > 3.5V	
TTL/CMOS Logic	Logic Level Low Logic GND	Logic Level High Logic GND	
	Open Collector On	Open Collector Off	
Open Collector	$ \begin{array}{c c} \hline \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $	$ \begin{array}{c c} \hline \ \ \ \ \ \ \ \ \ \ \ \ \$	
Output Type	DO Command as 1	DO Command as 0	
	Relay ON	Relay Off	
Drive Relay			
Resistance Load	ČELIČE DO.PWR	t sixt= □⊖ DO.PWR	

Dimensions (Unit: mm)







Ordering Information

PDS-721 CR	Programmable Device Server with 1 RS-232 port and 1 RS-485 port (RoHS)
PD3-721 CK	Includes One CA-0910 Cable
PDS-721D CR	Programmable Device Server with 1 RS-232 port , 1 RS-485 port and an LED Display (RoHS)
PD3-721D CR	Includes One CA-0910 Cable
PPDS-721-MTCP CR	Programmable Device Server with PoE, Modbus/TCP, 1 RS-232 port and 1 RS-485 port (RoHS)
FFD3=721=WITCF CK	Includes One CA-0910 Cable
PPDS-721D-MTCP CR	Programmable Device Server with PoE, Modbus/TCP, 1 RS-232 port, 1 RS-485 port and an LED Display (RoHS)
FFD3=721D=WITCF CK	Includes One CA-0910 Cable

Accessories_____

24 Vbc/0.25 A, 6 W Power Supply
24 Vbc/1 A, 24 W Power Supply with DIN-Rail Mounting
48 Vpc/0.52 A, 25 W Power Supply with Din-Rail Mounting
9-Pin Female D-Sub and RS-232 Connector Cable, 30 cm Cable
9-Pin Female D-Sub and 3-wire RS-232 Cable, 1 m Cable
Unmanaged 5-port Industrial Ethernet Switch (RoHS)
Unmanaged Ethernet Switch with 4 PoE Ports and 1 RJ-45 Uplink (RoHS)

PDS-721(D)/PPDS-721(D)-MTCP