Making Data Acquisition Easy

Programmable Serial to Ethernet Device Servers

Nowadays, the Ethernet protocol has become the standard for local area networks. Connectivity via the Internet is now common in many of the latest applications from home appliances, to vending machines, to testing equipment, to UPS, etc. An Ethernet network can link office automation and industrial control networks, access remote systems and share data and information between machines from multiple vendors, and also provides a cost-effective solution for industrial control networks.

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.

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Model: tDS-700 Series

Model: tDSM-712

https://www.icpdas-usa.com/tds_700_serial_to_ethernet_device_servers.html

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The tDS-700 is a series of Serial-to-Ethernet device servers that are designed to add Ethernet and Internet connectivity to any RS-232 and RS-422/485 device, and to eliminate the cable length limitation of legacy serial communication. By using the VxComm Driver/Utility, the built-in COM port of the tDS-700 series can be virtualized to a standard PC COM port in Windows. Therefore, users can transparently access or monitor serial devices over the Internet/Ethernet without software modification.

The tDS-700 device servers can be used to create a pair-connection application (as well as serial-bridge or serial-tunnel), and can then route data over TCP/IP between two serial devices, which is useful when connecting mainframe computers, servers or other serial devices that do not themselves have Ethernet capability. By virtue of its protocol independence and flexibility, the tDS-700 meets the demands of virtually any network-enabled application.

DHCP minimizes configuration errors caused by manual IP address configuration, such as address conflicts caused by the assignment of an IP address to more than one computer or device at the same time. The tDS-700 supports the DHCP client function, which allows the tDS-700 to easily obtain the necessary TCP/IP configuration information from a DHCP server. The tDS-700 also contains a UDP responder that transmits its IP address information in response to a UDP search from the VxComm Utility, making local management more efficient.

The tDS-700 features a powerful 32-bit MCU to enable efficient handling of network traffic. It also has a built-in web server that provides an intuitive web management interface to allow users to modify the settings of the module, including DHCP/Static IP, gateway/mask and serial ports.Based on an amazing tiny form-factor, the tDS-700 achieves the maximum space savings that allows it to be easily installed anywhere, even directly attached to a serial device or embedded into a machine.

The tDS-700 series also contains a built-in CPU watchdog, which automatically resets the CPU if the built-in firmware is operating abnormally, or if there is no communication between the tDS-700 and the host for a predefined period of time (system timeout). This is an important feature that ensures the tDS-700 operates continuously, even in harsh environments. In addition, the tDS-700 series (for i version)

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also adds 3000 VDC isolation and +/-4 kV ESD protection component that diverts the potentially damaging charge away from sensitive circuit to protects the module and equipment from the sudden and momentary electric current.

The tDS-700 offers true IEEE 802.3af-compliant (classification, Class 1) Power over Ethernet (PoE) functionality using a standard category 5 Ethernet cable to receive power from a PoE switch such as the NS-205PSE. If there is no PoE switch on site, the tDS-700 will also accept power input from a DC adapter. The tDS-700 is designed for ultra-low power consumption, reducing hidden costs from increasing fuel and electricity prices, especially when you have a huge amount of device servers installed. Reducing the amount of electricity consumed by choosing energy-efficient equipment can have a positive impact on maintaining a green environment. The tDS-712 is equipped with a male DB-9 connector, while other models are equipped with a removable terminal block connector to allow easy wiring, and also supports automatic RS-485 direction control when sending and receiving data.

Selection Guide

tDS-700 Series (Tiny Device Server with PoE and DC jack) : Includes one CA-002 cable.

Model (Non-Isolated)	Model (Isolated)	Case	RS-232	RS-422	RS-485	COM1	COM2	COM3
tDS-712 CR	tDS-712i CR	Plastic	1	-	-	5-wire RS-232	-	-
tDSM-712 CR		Metal						
tDS-722 CR	tDS-722i CR	Plastic	2	-	-	5-wire RS-232	5-wire RS-232	-
tDS-732 CR	tDS-732i CR	Plastic	3	-	-	3-wire RS-232	3-wire RS-232	3-wire RS-232
tDS-715 CR	tDS-715i CR	Plastic	-	1		2-wire RS-485 4-wire RS-422	-	-
tDS-725 CR	tDS-725i CR	Plastic	-	-	2	2-wire RS-485	2-wire RS-485	-
tDS-735 CR	tDS-735i CR	Plastic	-	-	3	2-wire RS-485	2-wire RS-485	2-wire RS-485
tDS-718	tDS-718i CR	Plastic	1			3-wire RS-232 2-wire RS-485 4-wire RS-422	-	-
-	tDS-718i-D CR	Plastic	1			5-wire RS-232 2-wire RS-485 4-wire RS-422	-	-
tDS-724 CR	tDS-724i CR	Plastic	1	-	1	2-wire RS-485	5-wire RS-232	-
tDS-734 CR	tDS-734i CR	Plastic	2	-	1	2-wire RS-485	3-wire RS-232	3-wire RS-232
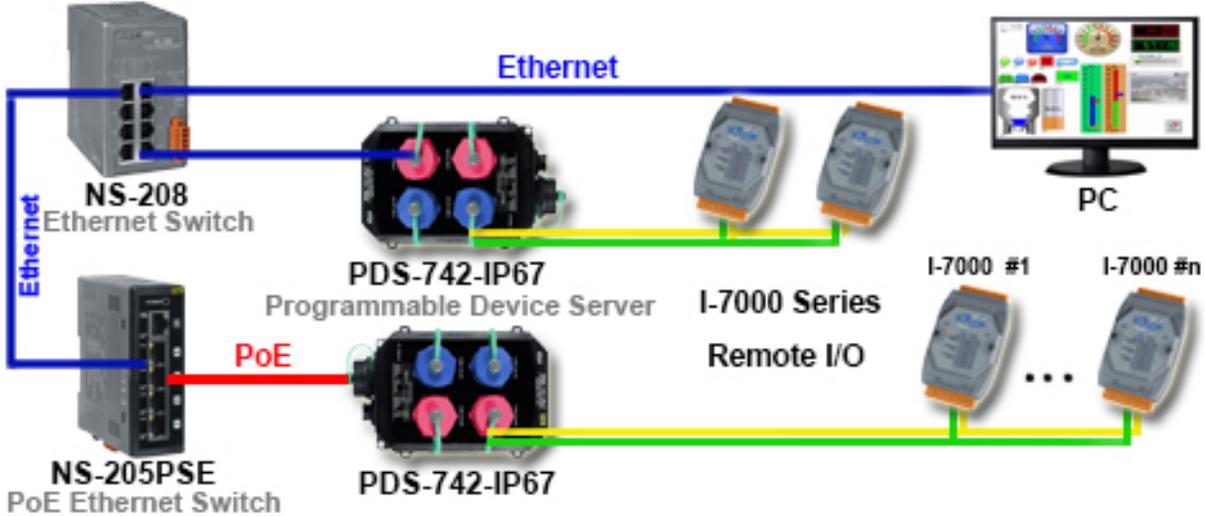
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The PDS-700 series includes a powerful and reliable Xserver programming structure that allows you to design your robust Ethernet applications in one day. The built-in, high-performance MiniOS7 boots the PDS-700 up in just one second and gives you fastest responses.
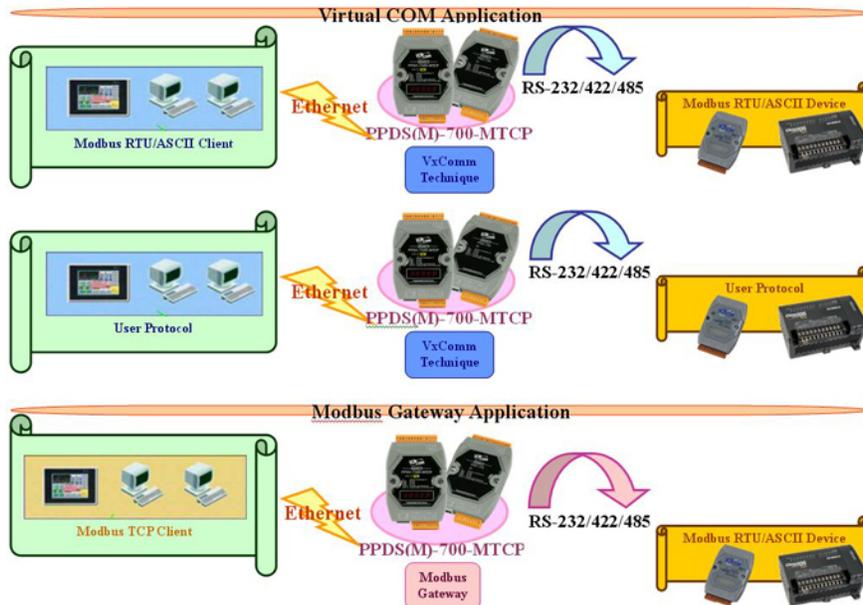
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The PPDS-700-MTCP series features true IEEE 802.3af-compliant (classification, Class 1) Power over Ethernet (PoE) using a standard category 5 Ethernet cable to receive power from a PoE switch like the NS-205PSE. The PPDS-700-MTCP also works as a Modbus TCP to RTU/ASCII gateway that supports most SCADA/HMI communications based on the Modbus/TCP protocol.

The PPDS(M)-700-MTCP and PDS-5105D-MTCP also works as a Modbus TCP to Modbus RTU gateway that supports most SCADA/HMI communications based on the Modbus TCP protocol. 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.

If you have other Programmable Device Servers requirements or have some questions, we can certainly help you to choose the best solution. Please call our technical support team at (310) 517-9888 X102