

DS-2200i Series

Device Server with 2-port Ethernet Switch and Isolated RS-232/422/485 Ports

Features

- Incorporates any RS-232/422/485 serial device in Ethernet
- Application Modes: Virtual COM, TCP Server, TCP Client
- VxComm Utility supports 32/64-bit Windows 7 SP1/10/2012/2016
- Supports pair-connection (serial-bridge, serial-tunnel) applications
- Supports UDP responder for device discovery (UDP Search)
- Static IP or DHCP network configuration
- Built-in Web Server (HTTP)
- 2-port Ethernet Switch (LAN Bypass) for Daisy-Chain Wiring

Introduction

The DS-2200 is a series of Serial-to-Ethernet device servers designed to add Ethernet and Internet connectivity to any RS-232/422/485 device, and to eliminate the cable length limitation of legacy serial communication. By using the VxComm Utility, the built-in COM port of the DS-2200 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 VxComm Utility supports the most popular operating system in the world, including 32-bit and 64-bit Windows 7 SP1/10/2012/2016. The virtual COM works transparently and is protocol independent, enabling perfect integration with your current central computer. The utility provides an easy configuration interface that can be used to quickly create and map virtual COM ports to one or several DS-2200 modules. In addition, the utility contains a built-in terminal program, so users can send/receive command/data via the terminal program for easy testing.

The DS-2200 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 computers, servers or other serial devices that do not themselves have Ethernet capability. By virtue of its protocol independence and flexibility, the DS-2200 meets the demands of virtually any network-enabled application.

The DS-2200 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.

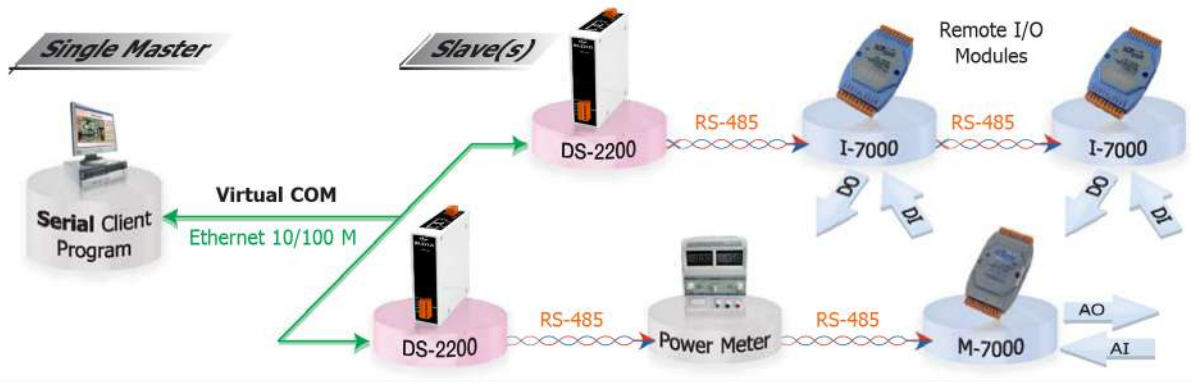
The module contains a dual watchdog, including a CPU watchdog (for hardware functions) and a host watchdog (for software functions). The CPU watchdog automatically resets the CPU if the built-in firmware is operating abnormally, while the host watchdog automatically resets the CPU if there is no communication between the module and the host (PC or PLC) for a predefined period of time (system timeout). The dual watchdog is an important feature that ensures the module operates continuously, even in harsh environments. In addition, the DS-2200 series (for i version) 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.

With 2 Ethernet ports, the DS-2200 allows daisy chain connection which permits the flexibility in locating devices, eases installation and lowers infrastructure costs. The DS-2200 module 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 module will also accept power input from a DC Terminal Block.

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Applications

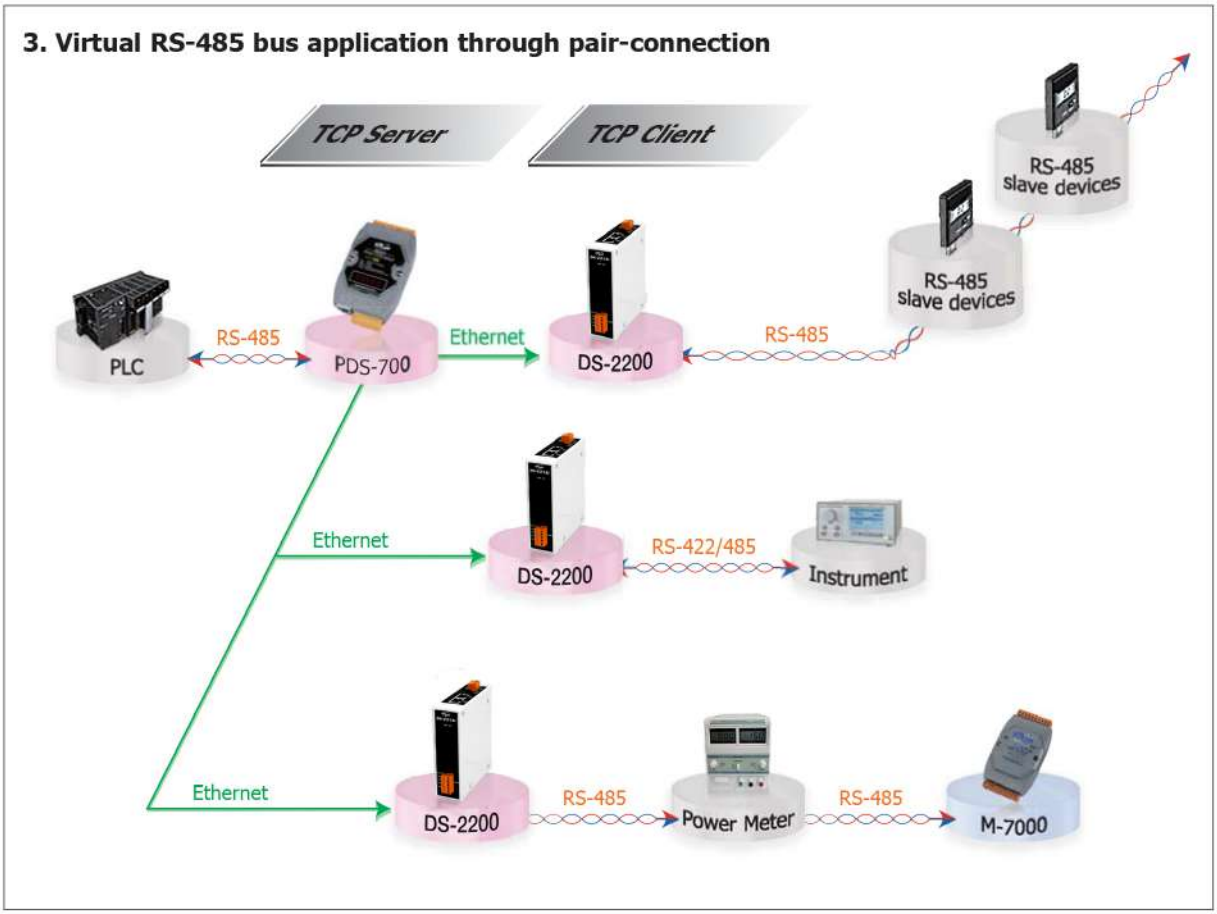
1. Access serial device via Virtual COM ports



2. Access serial device via TCP/IP socket connection



3. Virtual RS-485 bus application through pair-connection

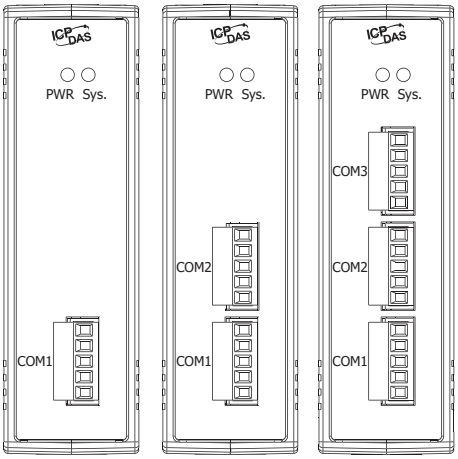


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Specifications

Models	DS-2212i	DS-2222i	DS-2232i	DS-2215i	DS-2225i	DS-2235i
CPU Module						
CPU	32-bit ARM					
COM Ports						
Ports	1 x RS-232	2 x RS-232	3 x RS-232	1 x RS-485/422	2 x RS-485/422	3 x RS-485/422
Band Rate	115200 bps Max.					
Bias Resistor	-			Yes, 1 KΩ		
Parity	None, Odd, Even, Mark, Space					
Data Bit	5, 6, 7, 8					
Stop Bit	1, 2					
Node Address	-			254 (max.)		
ESD Protection	+/- 4KV					
Power Isolation	1000 VDC					
Signal Isolation	3000 VDC					
Ethernet						
Ports	10/100 Base-TX, 8-pin RJ-45 x 2, (Auto-negotiating, Auto-MDI/MDIX, LED indicator) PoE (IEEE 802.3af, Class 1)					
Power						
Consumption	0.07 A @ 24 VDC					
Powered from PoE	IEEE 802.3af, Class 1					
Powered from Terminal Block	+12 ~ 48 VDC					
Mechanical						
Casing	Plastic					
Dimensions (W x L x H)	97mm x 33mm x 126mm					
Installation	DIN-Rail Mounting					
Environment						
Operating Temperature	-25 ~ +75 °C					
Storage Temperature	-30 ~ +80 °C					
Humidity	10 ~ 90% RH, non-condensing					

Apparances



DS-221xi DS-222xi DS-223xi

DS-2212i

COM1	05	GND1
	04	CTS1
	03	RTS1
	02	RxD1
	01	TxD1

DS-2222i

COM2	10	GND2
	09	CTS2
	08	RTS2
	07	RxD2
	06	TxD2
COM1	05	GND1
	04	CTS1
	03	RTS1
	02	RxD1
	01	TxD1

DS-2215i

COM1	05	GND1
	04	RxD1-
	03	RxD1+
	02	TxD1-/D1-
	01	TxD1+/D1+

DS-2225i

COM2	10	GND2
	09	RxD2-
	08	RxD2+
	07	TxD2-/D2-
	06	TxD2+/D2+
COM1	05	GND1
	04	RxD1-
	03	RxD1+
	02	TxD1-/D1-
	01	TxD1+/D1+

DS-2232i

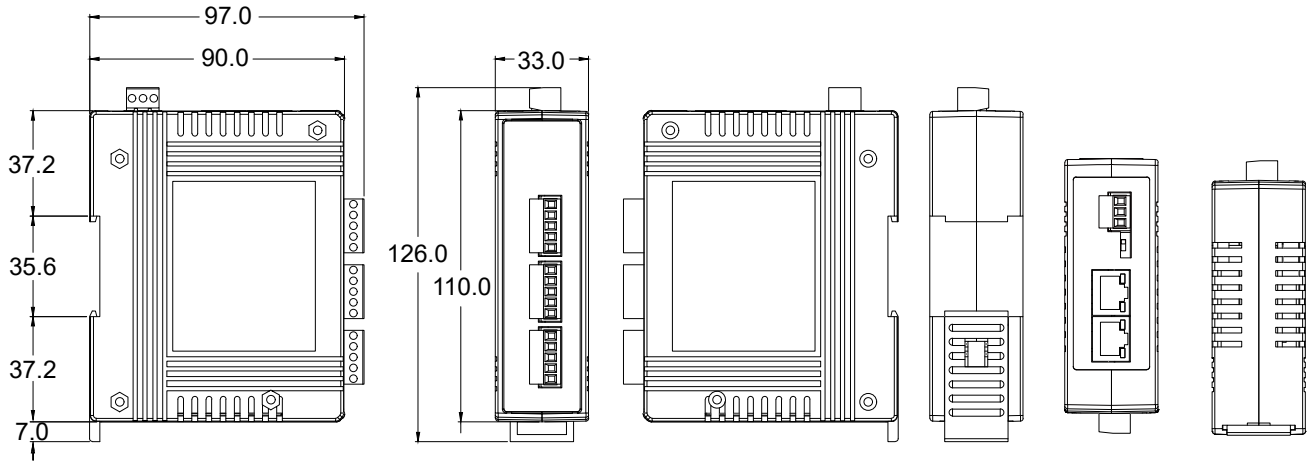
COM3	15	GND3
	14	CTS3
	13	RTS3
	12	RxD3
	11	TxD3
COM2	10	GND2
	09	CTS2
	08	RTS2
	07	RxD2
	06	TxD2
COM1	05	GND1
	04	CTS1
	03	RTS1
	02	RxD1
	01	TxD1

DS-2235i

COM3	15	GND3
	14	RxD3-
	13	RxD3+
	12	TxD3-/D3-
	11	TxD3+/D3+
COM2	10	GND2
	09	RxD2-
	08	RxD2+
	07	TxD2-/D2-
	06	TxD2+/D2+
COM1	05	GND1
	04	RxD1-
	03	RxD1+
	02	TxD1-/D1-
	01	TxD1+/D1+

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Dimensions (Units: mm)



Ordering Information

DS-2212i	Device Server with 2-port Ethernet Switch and 1 Isolated RS-232 Port (RoHS)
DS-2222i	Device Server with 2-port Ethernet Switch and 2 Isolated RS-232 Port (RoHS)
DS-2232i	Device Server with 2-port Ethernet Switch and 3 Isolated RS-232 Port (RoHS)
DS-2215i	Device Server with 2-port Ethernet Switch and 1 Isolated RS-422/485 Port (RoHS)
DS-2225i	Device Server with 2-port Ethernet Switch and 2 Isolated RS-422/485 Port (RoHS)
DS-2235i	Device Server with 2-port Ethernet Switch and 3 Isolated RS-422/485 Port (RoHS)

Accessories

GST25A24-DA1-DIN CR

Power Supply, 85~264 VAC to 24 VDC/1.04 A, 25 W, DIN-Rail Mounting (RoHS)



ES25A48-DA1-DIN CR

Power Supply, 90~264 VAC to 48 VDC/0.52 A, 25 W, DIN-Rail Mounting (RoHS)



NS-205PSE CR

Unmanaged 5-port 10/100 Mbps PoE (PSE) Ethernet Switch (RoHS)



NS-205PSE-24V CR

Unmanaged 5-port 10/100 Mbps PoE (PSE) Ethernet Switch with +24 VDC Input (RoHS)



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