Features

- Supports Modbus TCP/UDP master and slave
- Supports Modbus RTU/ASCII master and slave
- Max. TCP connections (masters) per serial port: 32
- Read-cache ensures faster Modbus TCP/UDP response
- Supports UDP responder for device discovery (UDP Search)
- Static IP or DHCP network configuration
- Easy firmware update via the Ethernet (BOOTP, TFTP)
- Built-in Web Server (HTTP)
- 2-port Ethernet Switch (LAN Bypass) for Daisy-Chain Wiring
- Includes redundant power inputs: PoE (IEEE 802.3af, Class 1) and DC supply

GW-2200i Series

Modbus/TCP to RTU/ASCII Gateway with 2-port Ethernet Switch and Isolated RS-232/422/485 Ports

Introduction

Modbus has become a de facto standard industrial communication protocol, and is now the most commonly available means of connecting industrial electronic devices. For example, a system that measures temperature and humidity and communicates the results to a computer. Modbus is often used to connect a supervisory computer with a remote terminal unit (RTU) in supervisory control and data acquisition (SCADA) systems.

The GW-2200 is a Modbus TCP to RTU/ASCII gateway that enables a Modbus/TCP host to communicate with serial Modbus RTU/ASCII devices through an Ethernet network, and eliminates the cable length limitation of legacy serial communication devices. The module can be used to create a pair-connection application (as well as serial-bridge or serial-tunnel application), and can then route data over TCP/IP between two serial Modbus RTU/ASCII devices, which is useful when connecting mainframe computers, servers or other serial devices that use Modbus RTU/ASCII protocols and do not themselves have Ethernet capability.

The read-cache function is used to store previous requests and responses in the memory buffer of the GW-2200 module. When other HMI/SCADA master controllers send the same requests to the same RTU slave device, the cached response is returned immediately. This feature dramatically reduces the loading on the serial port communication, ensures faster TCP responses, and improves the stability of the entire system.

The GW-2200 module features a powerful 32-bit MCU to enable efficient handling of network traffic, and also has a built-in web server that provides an intuitive web management interface that allows users to modify the configuration of the module, including the DHCP/Static IP, the gateway/mask settings and the serial port settings.

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 GW-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.

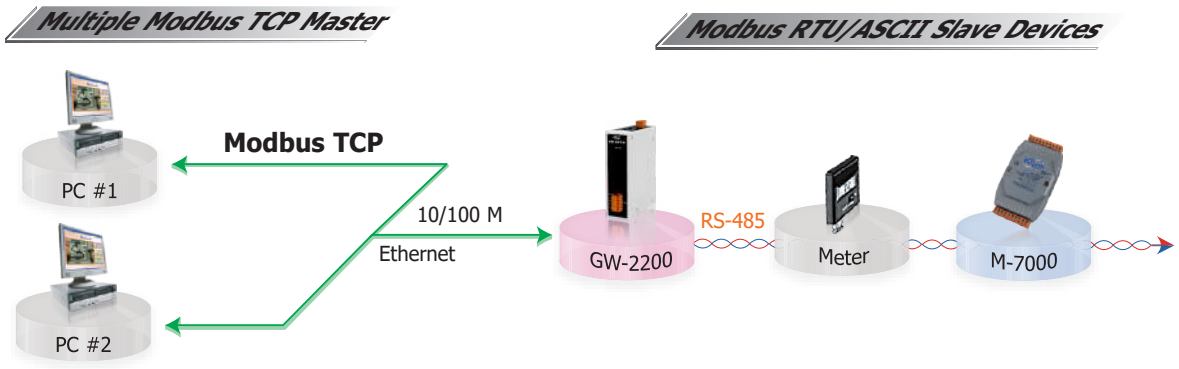
With 2 Ethernet ports, the GW-2200 allows daisy chain connection which permits the flexibility in locating devices, eases installation and lowers infrastructure costs. The GW-2200 module offers true IEEE 802.3af-compliant (classification, Class 1) Power over Ethernet (PoE) functionality using a standard 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.

ICP Electronics
Australia Pty Ltd

TEL: 02 9457 6011
sales@icp-australia.com.au
www.icp-australia.com.au

Applications

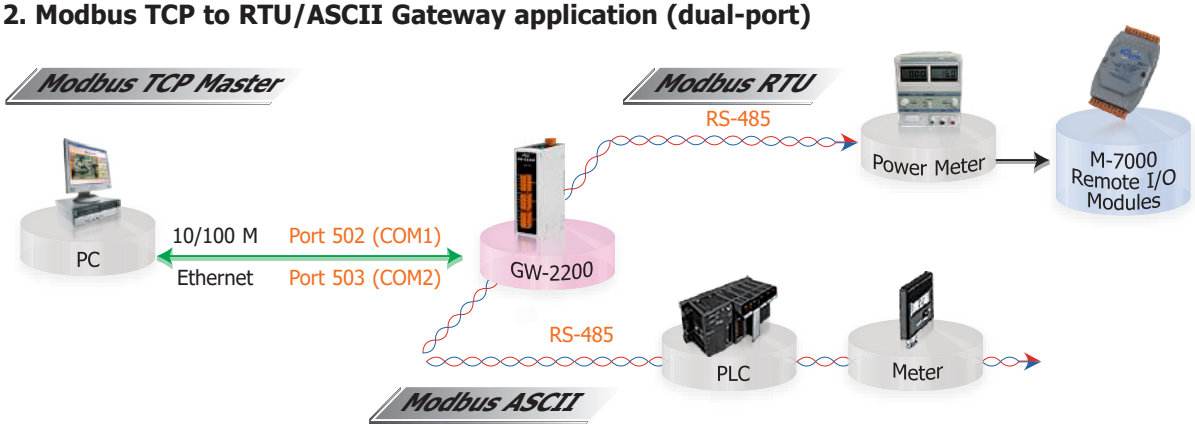
1. Modbus TCP Masters to RTU/ASCII Gateway application



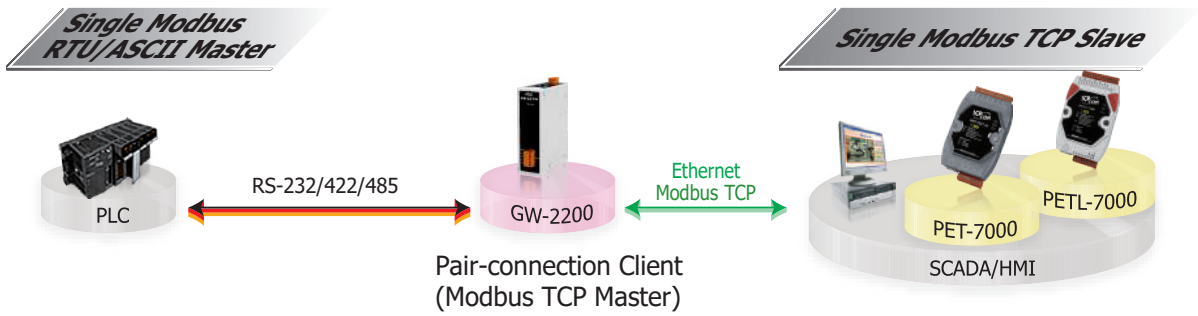
Max. TCP connections (Masters) per serial port: 32 (RevB)

Max. Device (Slave) per serial port: 247

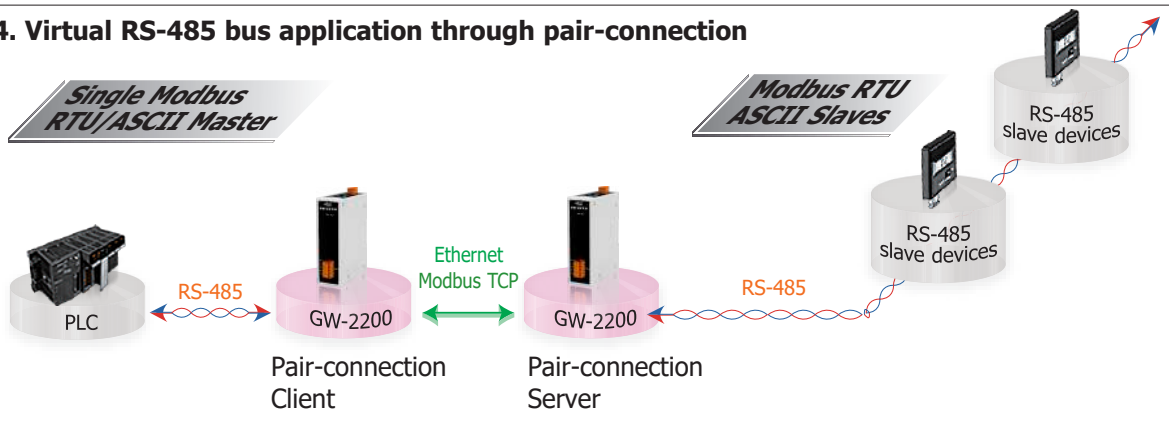
2. Modbus TCP to RTU/ASCII Gateway application (dual-port)



3. Modbus RTU/ASCII to TCP Gateway application (like pair-connection)



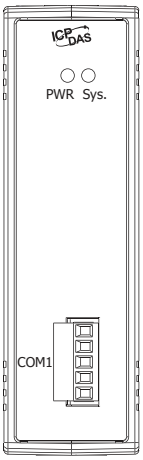
4. Virtual RS-485 bus application through pair-connection



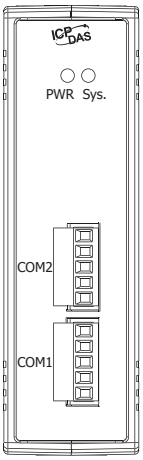
Specifications

Models	GW-2212i	GW-2222i	GW-2232i	GW-2215i	GW-2225i	GW-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	1000VDC					
Signal Isolation	3000VDC					
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 H x D)	90mm x 110mm x 33mm (without connectors)					
Installation	DIN-Rail Mounting					
Environment						
Operating Temperature	-25 ~ +75 °C					
Storage Temperature	-30 ~ +80 °C					
Humidity	10 ~ 90% RH, non-condensing					

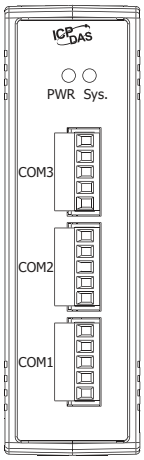
Apparances



GW-221xi



GW-222xi



GW-223xi

GW-2212i		
COM1	05	GND1
	04	CTS1
	03	RTS1
	02	RxD1
	01	TxD1

GW-2222i		
COM2	10	GND2
	09	CTS2
	08	RTS2
	07	RxD2
	06	TxD2
COM1	05	GND1
	04	CTS1
	03	RTS1
	02	RxD1
	01	TxD1

GW-2215i		
COM1	05	GND1
	04	RxD1-
	03	RxD1+
	02	TxD1-/D1-
	01	TxD1+/D1+

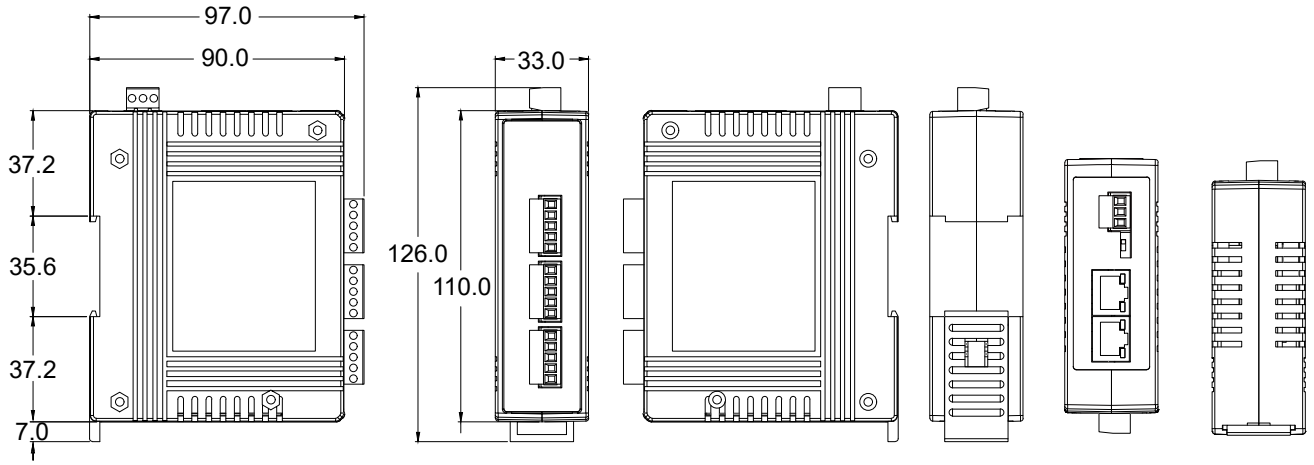
GW-2225i		
COM2	10	GND2
	09	RxD2-
	08	RxD2+
	07	TxD2-/D2-
	06	TxD2+/D2+
COM1	05	GND1
	04	RxD1-
	03	RxD1+
	02	TxD1-/D1-
	01	TxD1+/D1+

GW-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

GW-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+

ICP Electronics
Australia Pty Ltd
TEL: 02 9457 6011
sales@icp-australia.com.au
www.icp-australia.com.au

Dimensions (Units: mm)



Left Side View | Front View | Right Side View | Rear View | Top View | Bottom View

Ordering Information

GW-2212i	Modbus/TCP to RTU/ASCII Gateway with 2-port Ethernet Switch and 1 Isolated RS-232 Port (RoHS)
GW-2222i	Modbus/TCP to RTU/ASCII Gateway with 2-port Ethernet Switch and 2 Isolated RS-232 Ports (RoHS)
GW-2232i	Modbus/TCP to RTU/ASCII Gateway with 2-port Ethernet Switch and 3 Isolated RS-232 Ports (RoHS)
GW-2215i	Modbus/TCP to RTU/ASCII Gateway with 2-port Ethernet Switch and 1 Isolated RS-422/485 Port (RoHS)
GW-2225i	Modbus/TCP to RTU/ASCII Gateway with 2-port Ethernet Switch and 2 Isolated RS-422/485 Ports (RoHS)
GW-2235i	Modbus/TCP to RTU/ASCII Gateway with 2-port Ethernet Switch and 3 Isolated RS-422/485 Ports (RoHS)

Accessories

DIN-KA52F CR

24V/1.04A, 25 W Power Supply with DIN-Rail Mounting (RoHS, for NS-205 and NS-205PSE-24V)

DIN-KA52F-48 CR

48V/0.52A, 25 W Power Supply with DIN-Rail Mounting (RoHS, for NS-205PSE)

NS-205PSE CR

Unmanaged Ethernet Switch with 4 PoE Ports and 1 RJ-45 Uplink (RoHS)

NS-205PSE-24V CR

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