MDC-211-ZT

ZigBee Modbus data concentrator with 1 x Ethernet, 1 x RS-232 and 1 x RS-485

Features

- ISM 2.4 GHz Operating Frequency(IEEE802.15.4 / ZigBee Pro)
- Wireless Transmission Range up to 700 m (Default)
- Supports the Modbus RTU Master and Slave
- Upgrade Modbus/RTU Devices with Ethernet Communication Ability
- Accelerate the Reading of Multiple Modbus/RTU Devices
- Supports Execution of up to 240 Modbus Polling Commands
- Supports up to 9600 Modbus Registers for each DI/DO/AI/AO
- Supports Friendly Web UI Configuration
- Easy System Backup and Copy with .CSV file

Introduction & Applications

Functions

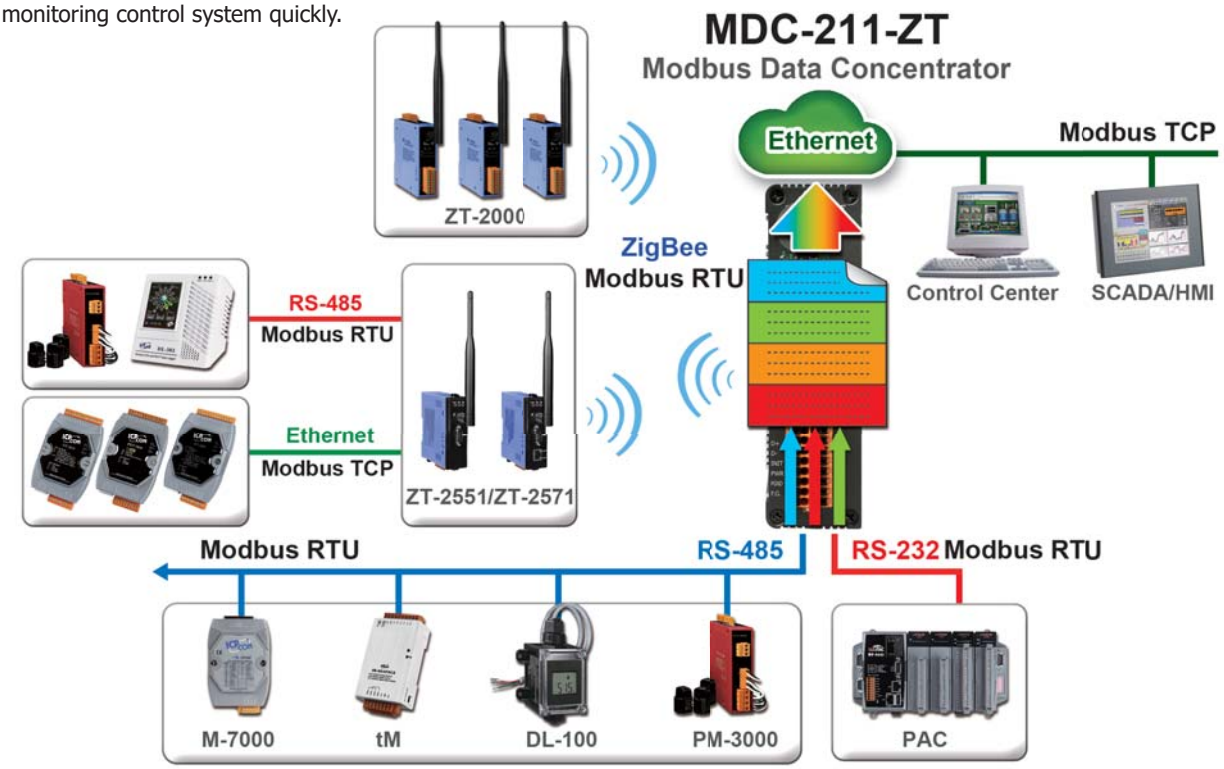
MDC-211-ZT Modbus data concentrator developed by ICP DAS, with Ethernet, ZigBee Wireless, RS-232 and RS-485 communication interfaces, can link the Modbus RTU devices to the Ethernet network. MDC-211-ZT can read the data of Modbus RTU device according to the user-defined command table, and integrate the data of different Modbus RTU devices into the format of the continuous address so that the remote monitor host can connect to MDC-211-ZT from Ethernet to access the data of multiple Modbus RTU devices at once.

Through MDC-211-ZT's Modbus data centralized management function, as well as the Ethernet network convenient link and the communication ability, it can quickly establish a stable remote monitoring system, simplify the complexity during the process of data acquisition operation, reduces the Ethernet network traffic load, and enhances the system efficiency.

Advantages

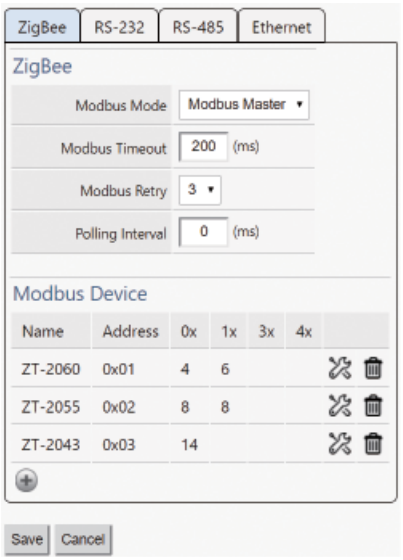
The MDC-211-ZT Modbus data concentrator not only helps users to manage the on-site RS-232 or RS-485 Modbus RTU devices, it also can works in remote distance where the wiring is difficult to deploy, with the ZigBee wireless mesh network communication ability, it is easy to link the remote distributed ZT-2000 I/O series modules to the general Modbus RTU devices.

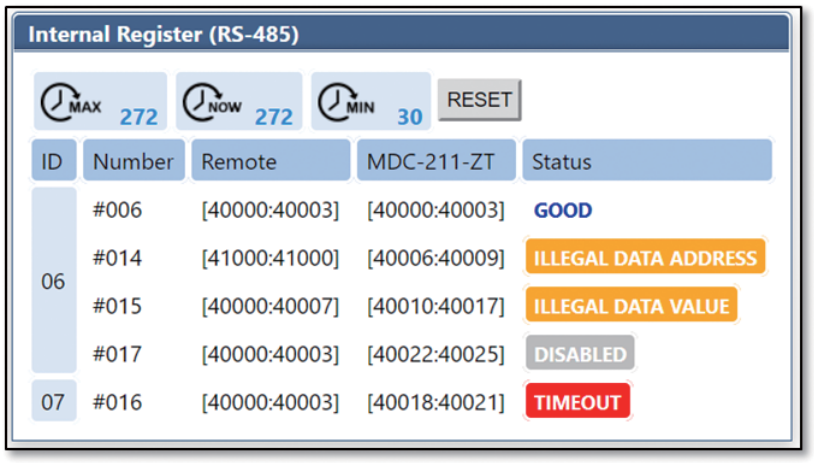
MDC-211-ZT Modbus data concentrator is perfect to work with the Supervisory Control and Data Acquisition (SCADA) system which is widely used in all kinds of industries. With a few simple settings, MDC-211-ZT Modbus data concentrator can link the distributed Modbus RTU devices and the ZigBee I/O modules to the Ethernet network, which is the best solution for the user to establish a remote monitoring control system quickly.



Support Web-based UI Operations

MDC-211-ZT provides a simple, friendly Web interface (UI), users can login the MDC-211-ZT Web page via a Web Browser to set up and real-time detect the MDC-211-ZT for the communication status and update frequency of each Modbus RTU command.





Support System Setup and Backup via CSV File

CSV (Comma-Separated Values) is a text file format that can be edited in spreadsheet software or plain text files and has the advantage of being easy to use, read and maintain. MDC-211-ZT parameter setting includes the Modbus TCP communication ID and port number, the Serial port communication parameters and the Modbus RTU commands that settings can also be edited in a *.csv file and import into the MDC-211-ZT from the Web UI, and then start to monitor the data of the remote Modbus RTU devices.

	A	B	C	D	E	F	G	H
9	#	SerialPort						
10	#	PortName	BaudRate	DataBit	Parity	StopBit	Inter-char	
11	*	RS-232	115200	8	0	1	3.5	
12	*	RS-485	115200	8	0	1	3.5	
13	#							
14	#	Modbus						
15	#	PortName	PortNo.	ModbusMc	ModbusID	Retry	Timeout	Interval
16	*	ZigBee	0	1	1	3	200	0
17	*	RS-232	1	0	1	3	200	0
18	*	RS-485	2	1	1	3	200	20
19	*	Ethernet	N/A	N/A	1			
20	#							
21	#	ModbusDevice						
22	#	PortNo.	ModbusSla	ModuleNa	FunctionCc	RegStartAc	RegCount	
23	*	0	1	ZT-2060	1	0	4	
24	*	0	1	ZT-2060	2	0	6	
25	*	0	2	ZT-2055	1	0	8	
26	*	0	2	ZT-2055	2	0	8	
27	*	0	3	ZT-2043	1	0	14	

Support ZigBee Communication Protocol

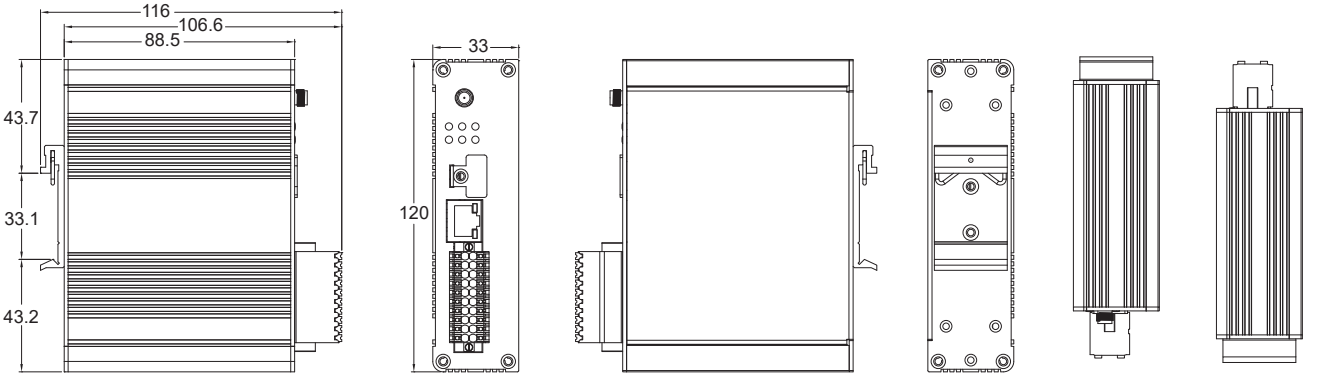
ZT series module of ICP DAS includes a variety of ZigBee to Modbus Digital/Analog I/O modules, and also provides many ZigBee to RS-232/RS-485/Ethernet converter that can upgrade the normal Modbus devices to ZigBee wireless devices.

The advantages of ICP DAS's ZT series products are its ZigBee low cost, low power consumption features, FCC ID certification, and wireless communication capabilities up to 700 meters (Line of Sign, LOS) standard transmission distance, plus the dynamics mesh network that allows users to easily monitor Modbus device information in environments where cabling is not easy.

System Specifications

Model	MDC-211-ZT
Radio Standard	
RF Channel	16
Antenna (2.4 GHz)	5 dBi Omni-Directional antenna
Transmit Power	11 dBm
Transmit Range (LOS)	700 m (Typical)
Certification	FCC/FCC ID, CE (RED excluded)
Ethernet Network	
Port	x1, 10/100 Base-TX
Protocol	Modbus TCP Slave
Serial port (COM)	
RS-232	x1, (TxD, RxD and GND)
RS-485	x1, (D+, D-)
Baud Rate	1200 ~ 115200 (bps)
Data Format	N81, N82, O71, O81, E71, E81, S71, S81, M71, M81
Protocol	Modbus RTU Master/Slave
Polling Definition	Up to 240 Modbus command definitions for all ZigBee/RS-232/ RS-485 ports
Shared Memory	9600 registers for each of AI, AO, DI and DO data
Institutions	
Casing	Metal
Dimensions (L x W x H)	120 mm x 33 mm x 116 mm
Installation	DIN-Rail
Power	
Protection	Power reverse polarity protection
EMS Protection	ESD, Surge, EFT
Required Supply Voltage	+10 VDC ~ +30 VDC
Power Consumption	5 W @ 24 VDC
Environment	
Operating Temperature	-25°C ~ +75°C
Storage Temperature	-30°C ~ +80°C
Humidity	10 ~ 90% RH, Non-condensing

Dimensions (Units: mm)



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

Ordering Information

MDC-211-ZT CR	ZigBee Modbus data concentrator with 1 x Ethernet, 1 x RS-232 and 1 x RS-485 (RoHS)

Accessories

External Antenna	2.4 GHz External Antenna, RP-SMA Male (Plug)
External Cable	3S00x-1, RG58A/U x Meter Long RP-SMA male to RP-SMA Female