ICP DAS

Features

- Read/Write Modbus register via IEC-61850
- Maps Modbus registers to IEC-61850 data objects via utility automatically
- Supports Logical Node GGIO and Data Object Ind, IntIn, SPCSO, ISCSO
- Offers secure remote operations with a Select-Before-Operate feature
- Supports Modbus function code 1, 2, 3, 4, 5 and 6
- Allows up to 32 Modbus TCP server and 5 IEC-61850 MMS client connections
- Allows 9600 Modbus registers in total. (Includes coil, discrete inputs, input registers and hold registers)
- Provides ICD file via utility
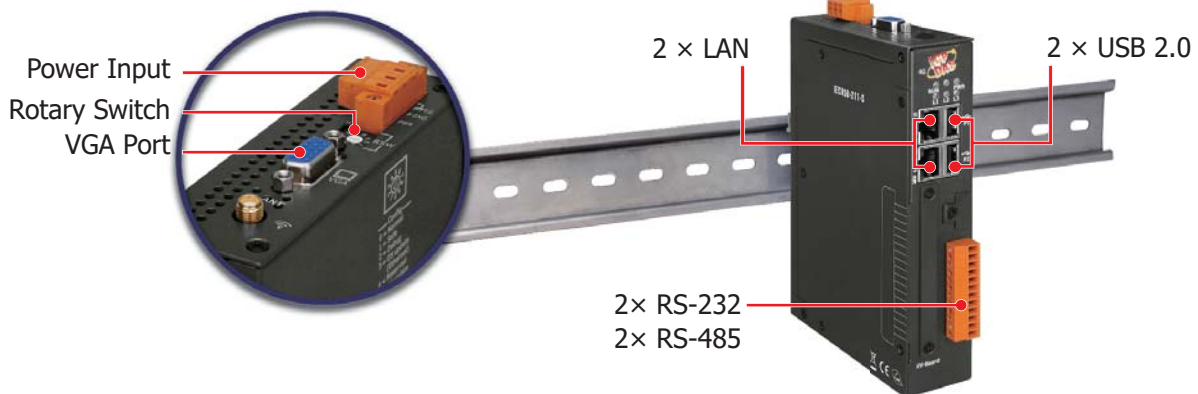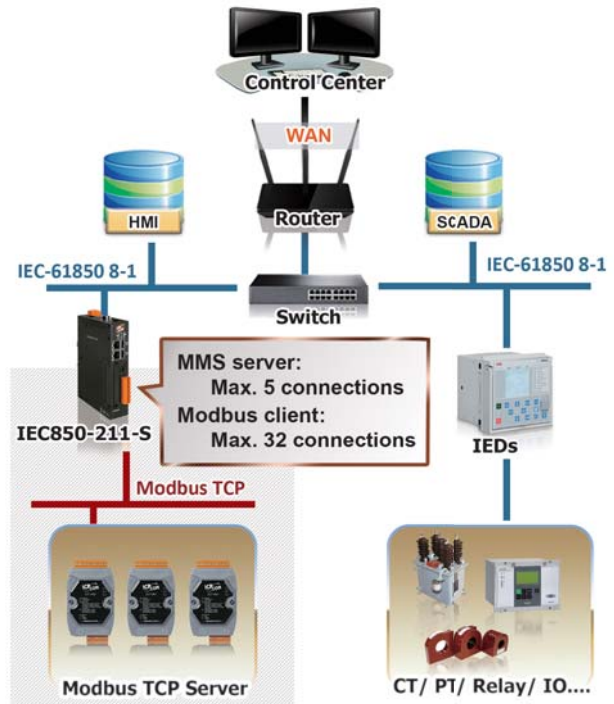
CE RoHS

IEC850-211-S
Modbus TCP to IEC-61850 Gateway

Introduction

IEC 61850 is an international standard defining communication protocols for intelligent electronic devices at electrical substations. It is developed by the International Electrotechnical Commission's (IEC) Technical Committee 57 reference architecture for electric power systems. The objective of the standard is to specify requirements and to provide a framework to achieve interoperability between the IEDs supplied from different suppliers. This protocol can run over TCP/IP networks or substation LANs using high speed switched Ethernet to obtain the necessary response times below four milliseconds for protective relaying.

IEC850-211-S is a network gateway allowing IEC-61850 MMS client to access Modbus TCP network as a Modbus TCP client. IEC-61850 protocol is used in substation automation. The IEDs exchange information with other IEDs or SCADA via IEC-61850 protocol for protection and control devices. IEC850-211-S support Logical Node GGIO and Data Object Ind, IntIn, SPCSO, ISCSO. It also support data set and unbuffered report function to exchange data with a client. The data mapping rule can be configured via ICPDAS Utility.

Applications

Appearance

Power Input
Rotary Switch
VGA Port

2 × LAN

2 × USB 2.0

2× RS-232
2× RS-485

■ Specifications

System

CPU	Cortex-A8, 1 GHz
SDRAM	512 MB
Flash	512 MB
FRAM	64 KB
LED Indicators	PWR(Power), RUN(Running), L1, L2, L3

Communication Ports

VGA	1 (reserved)
Ethernet	RJ-45 x 2, 10/100/1000 Based-TX (Auto-negotiating, Auto MDI/MDI-X, LED indicators)
USB 2.0	2 (reserved)
Console Port	RS-232 (RxD, TxD and GND); Non-isolated
ttyO2	RS-485 (reserved) (Data+, Data-); Non-isolated
ttyO4	RS-232 (reserved) (RxD, TxD and GND); Non-isolated
ttyO5	RS-485 (reserved) (Data+, Data-); 2500 VDC isolated

Protocol

Modbus	identity	Modbus TCP client
	Function	1, 2, 3, 4, 5, 6
	connection	Max. 32 Modbus TCP servers
IEC-61850	identity	IEC-61850 MMS server
	connection	Max. 5 MMS clients
	Logical Node	LLN0、LPHD、GGIO
	Data Object	Ind, IntIn, SPCSO, ISCSO
	control	status-only direct-with-normal-security direct-with-enhanced-security sbo-with-normal-security sbo-with-enhanced-security

Power

Supply Voltage	+12 to +48 VDC
Consumption	4.8 W
Connector	3-pin Removable Terminal Block

Mechanism

Dimensions	35 mm x 167 mm x 119 mm
Casing	Metal
Installation	DIN-Rail

Environment

Operating Temp.	-25°C ~ +75°C
Storage Temp	-40°C ~ +80°C
Humidity	10 ~ 90% RH, non-condensing

■ Dimensions (Units: mm)

Left View

Front View
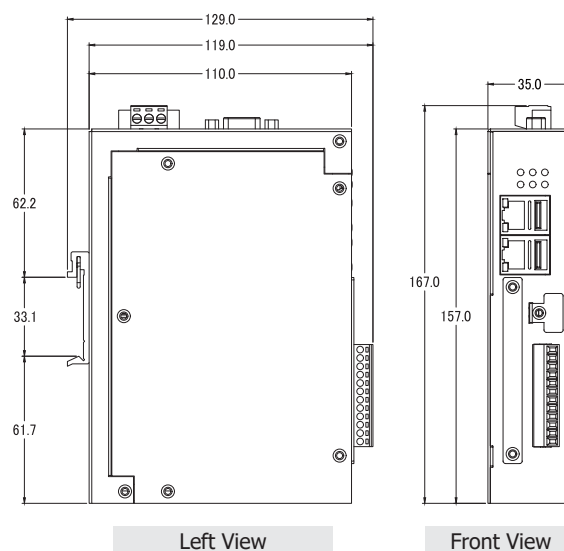
■ Pin Assignments
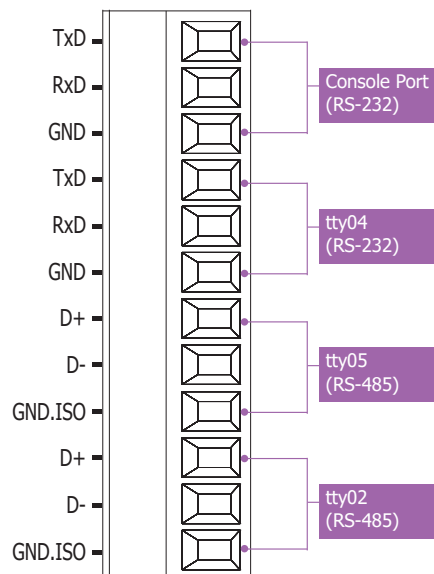
■ Ordering Information

IEC850-211-S	Modbus TCP to IEC-61850 Gateway (RoHs)