



Features

- OPC UA Server
- MQTT Client Service
- MQTT Broker Inside
- ARM CPU, 1.0 GHz
- 512 MB RAM and 512 MB Flash
- Linux kernel 3.2.14 OS
- Real-Time Capability
- Support Local Data log / Remote Database
- Support IFTTT Logic Control & APP Notify
- Support PID Logic Operation
- 10/100/1000 Mbit/s Ethernet Port
- 4 Serial Ports (RS-232/RS-485)
- Operating Temperature: -25 ~ +75°C

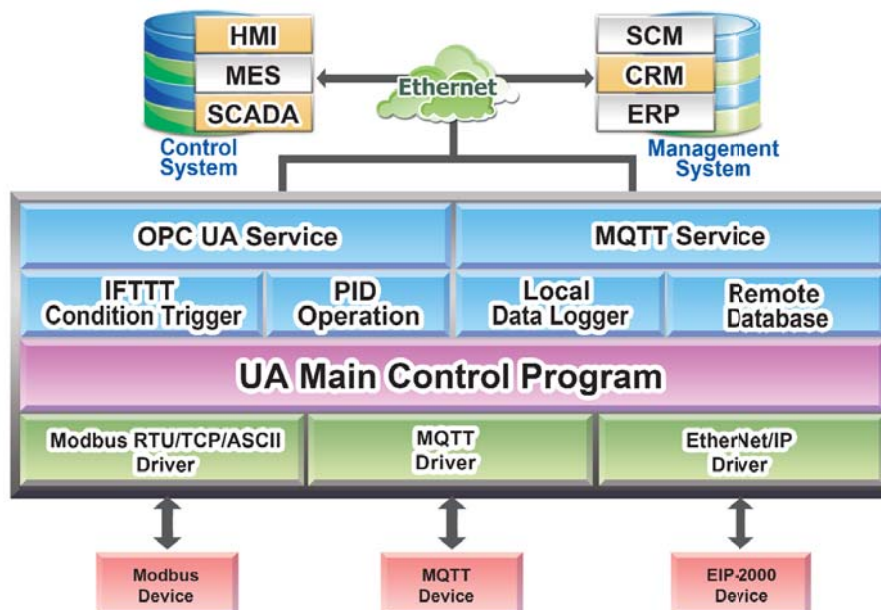


UA Series IIoT Communication Server

Introduction

UA Series (UA-5200/UA-2200) is a series of IIoT (Industrial IoT) Communication Server for integrating the system and devices of IT and OT. UA features the IIoT Gateway function that allows users to access the remote I/O modules and controllers via Modbus TCP/RTU/ASCII, MQTT, and EtherNet/IP communication protocols. IIoT gateway function can also convert these I/O data to OPC UA or MQTT protocols for the needs of connecting with the MES, ERP, SCADA and Cloud services. Besides, UA features the Data Logger function that allows users to write the I/O data directly into the remote database (MS SQL / MySQL / MariaDB), and save to the local file (.csv) as the historical records. UA supports Cloud platform that can connect to Amazon AWS, Microsoft Azure or other Cloud platforms to send over the I/O data; and support Cloud logic service platform "IFTTT" which can connect many web APPs that allows users to receive first-hand notification messages through the most commonly used mobile APPs when an event triggered. UA Series enhances the networking and interoperability between IT and OT. Through UA series, users can easily deploy for Industrial IoT.

Functions



Hardware Specifications

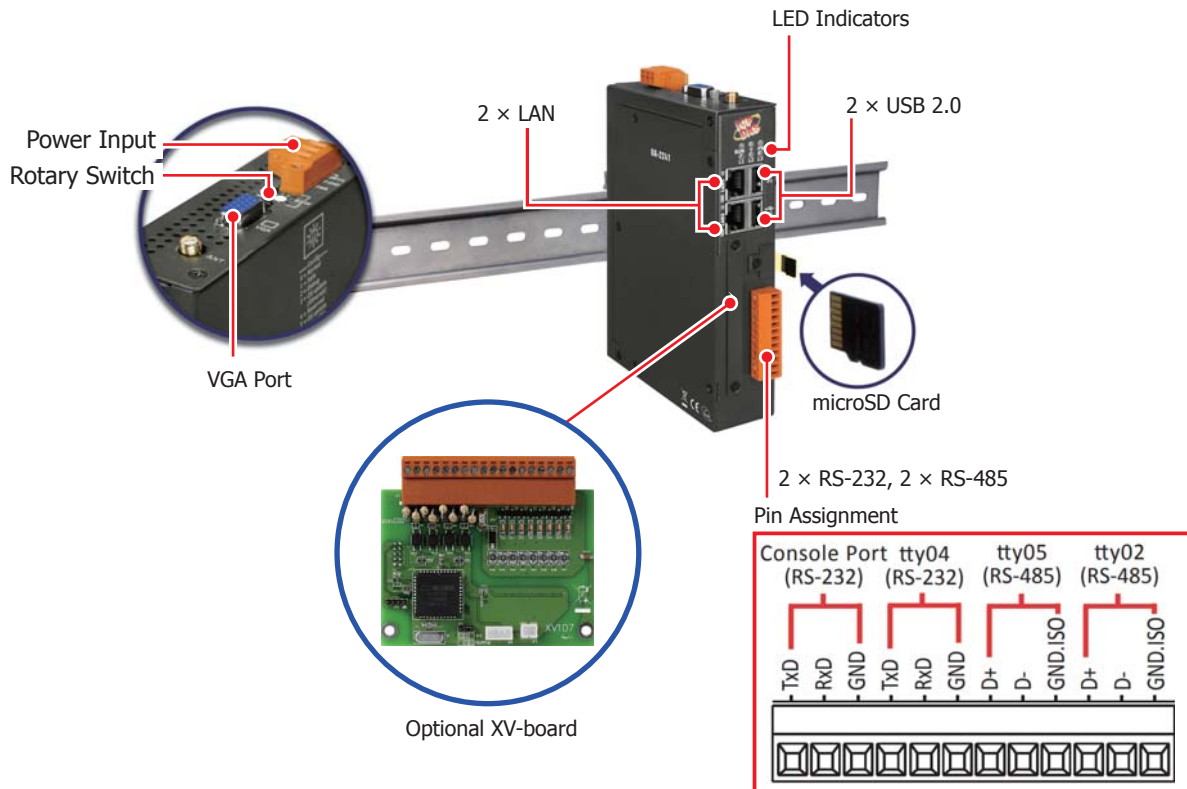
Model	UA-2241M	UA-5231	UA-5231M	UA-5231M-3GWA	UA-5231M-4GE UA-5231M-4GC
System Software					
OS	Linux Kernel 3.2.14				
Embedded Service	SFTP server, Web server, SSH				
CPU Module					
CPU	ARM CPU, 1.0 GHz				
DDR3 SDRAM	512 MB				
Flash	512 MB				
FRAM	64 KB				
Expansion Flash Memory	microSD socket with one 4 GB microSD card (support up to 32 GB microSDHC card)				
RTC (Real Time Clock)	Provide second, minute, hour, date, day of week, month, year				
LED Indicators	PWR (Power), RUN (Running), L1, L2, L3	PWR/RUN, L1, L2	PWR/RUN, L1, L2, 3G	PWR/RUN, L1, L2, 4G	
Rotary Switch	Yes (0 ~ 9)				
Communication Interface					
VGA	1 (resolution: 640 × 480, 800 × 600, 1024 × 768, 1280 × 720), reserved				
Ethernet	2 x RJ-45	1 x RJ-45			
	10/100/1000 Based-TX (Auto-negotiating, Auto MDI/MDI-X, LED indicators)				
USB 2.0 (Host)	2	1			
Console Port	RS-232 (Rx/D, Tx/D and GND); Non-isolated				
ttyO2	RS-485 (Data+, Data-);				
	2500 VDC isolated	Non-isolated			
ttyO4	RS-232 (Rx/D, Tx/D and GND); Non-isolated				
ttyO5	RS-485 (Data+, Data-); 2500 VDC isolated				
I/O Expansion					
I/O Expansion Bus	1	-			
	For one optional XV-board (Support XV511i to expand 4 RS-485 ports)				
Mechanical					
Dimensions (W x L x H)	33 x 160 x 129 (mm)	91 x 132 x 52 (mm)	117 x 126 x 58 (mm)		
Installation	DIN-Rail Mounting				
Environmental					
Operating Temperature	-25 ~ +75°C				
Storage Temperature	-40 ~ +80°C				
Ambient Relative Humidity	10 ~ 90% RH (non-condensing)				
Power					
Input Range	+12 ~ +48 VDC				
Consumption	4.8 W			6.5 W	
Wireless Communication					
3G System	-	3GWA : WCDMA 850/900/1900/2100 MHz 4GE : WCDMA 850/900/2100 MHz 4GC : WCDMA 900/2100 MHz; TD-SCDMA 1900/2100 MHz; CDMA2000 (BC0) 800 MHz			
4G System	-	4GE : FDD LTE: B1/B3/B5/B7/B8/B20 MHz 4GC : FDD LTE: B1/B3/B8 MHz; TDD LTE: B38/B39/B40/B41 MHz			

Software Specifications

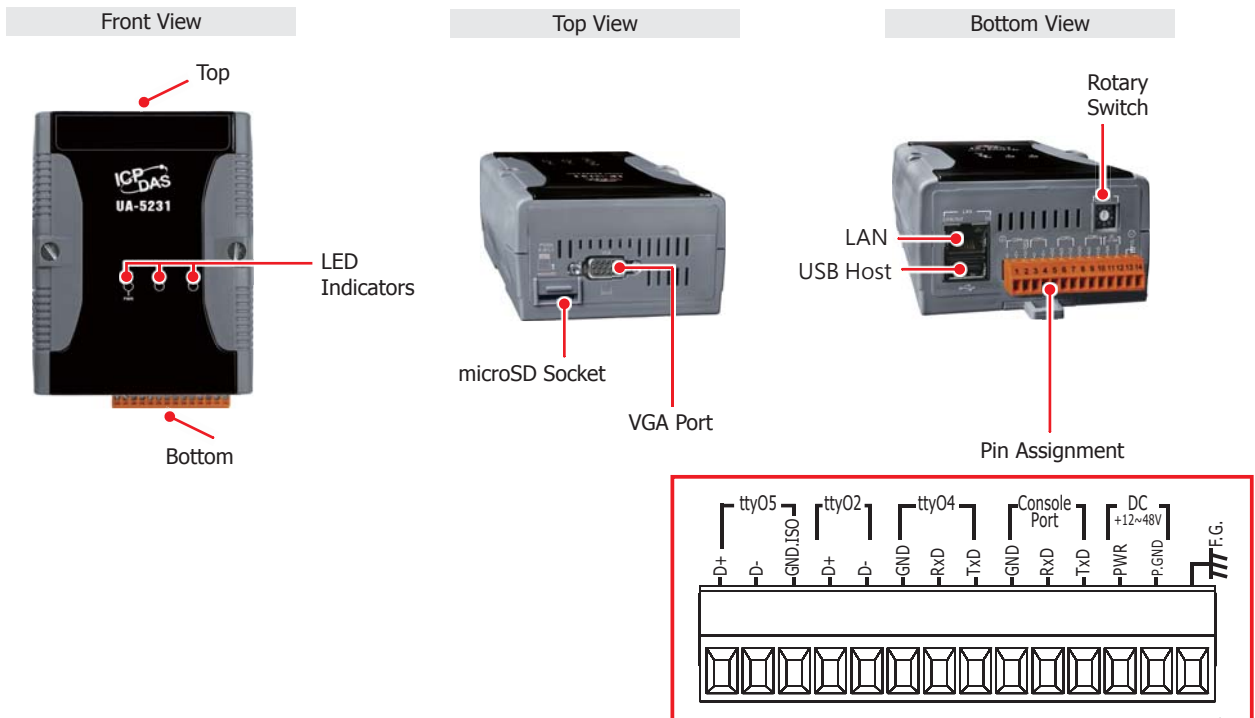
UA Series Software Specifications	
OPC UA	
OPC UA Server	<ul style="list-style-type: none"> • OPC Unified Architecture: 1.02 • Core Server Facet • Data Access Server Facet • Method Server Facet • UA-TCP UA-SC UA Binary • User Token User Name Password & X509 Certificate • Security Policy <ul style="list-style-type: none"> ◦ None ◦ Basic128Rsa15 <ul style="list-style-type: none"> • Sign • Sign & Encrypt ◦ Basic256 <ul style="list-style-type: none"> • Sign • Sign & Encrypt <p>Recommend to keep the maximum number of sessions within 20 connections.</p>
Modbus Master	
Modbus TCP	To read or control the devices that support standard Modbus TCP Slave protocol. Recommend to keep the maximum number of devices within 100 connections.
Modbus RTU/ASCII	A max. of 3 ports: ttyO2, ttyO4, ttyO5 to connect other Modbus RTU Slave devices (e.g. M-7000). Recommend no more than 32 devices per port for better communication quality.
MQTT	
MQTT Client	Connect the MQTT Broker to read/control the devices supporting the MQTT protocol.
MQTT Service	Connect the MQTT Broker to externally read/control the devices supporting other protocols that linking with the UA series.
MQTT Broker	Compliance with MQTT v3.1.1 protocol. Support MQTT message distribution management. Recommend to keep the connection number of Client within 400.
EtherNet/IP	
Scanner	Support connect EIP-2000 series modules of ICP DAS. Recommend no more than 50 devices per UA.
Data Logger	
Local Data Logger	Record I/O data, and save to the local MicroSD card in CSV format.
Remote Database	Record I/O data, and send to the remote database of MS SQL / MySQL / MariaDB. Recommend to keep only one database connected.
Cloud Support	
Microsoft Azure	MQTT Service can connect to MS Azure IoT Hub.
Amazon Web Services	MQTT Service can connect to AWS IoT Core.
IFTTT	Support Logic event sending to IFTTT.
Virtual Device	
PID Function	Combine the remote I/O devices for the PID logic control system.

Appearance

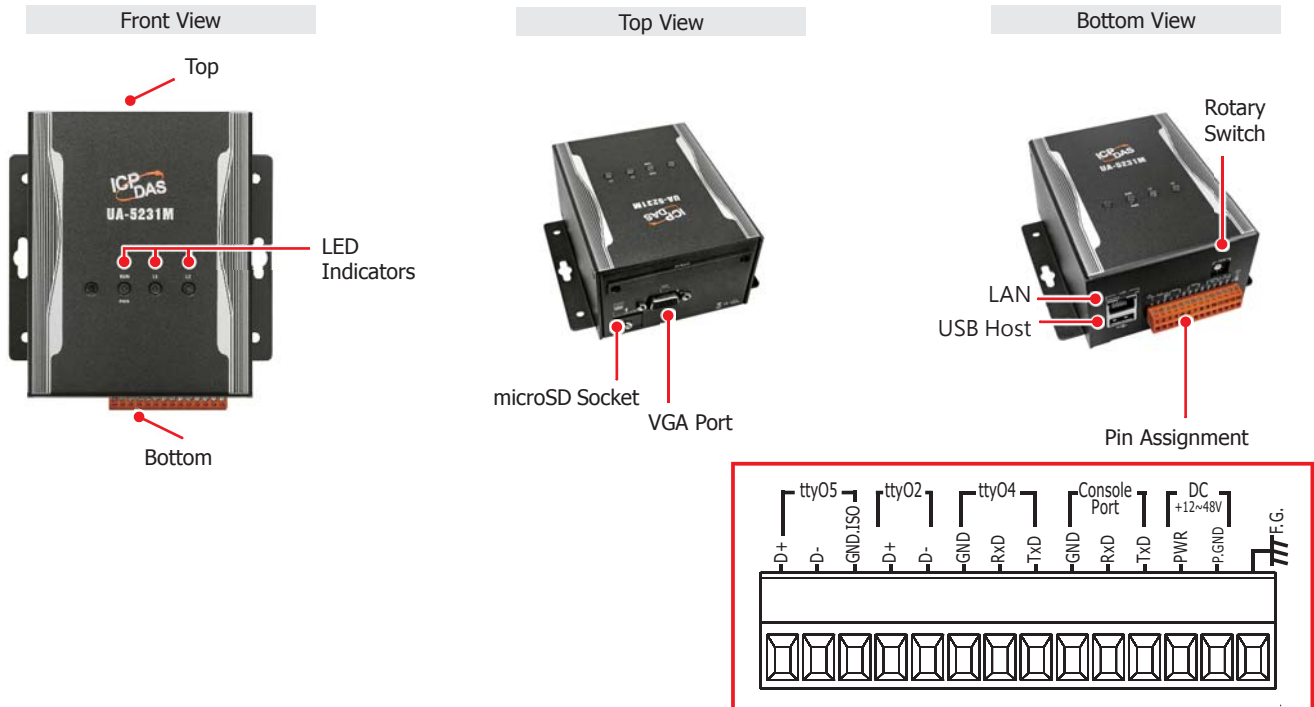
UA-2241M



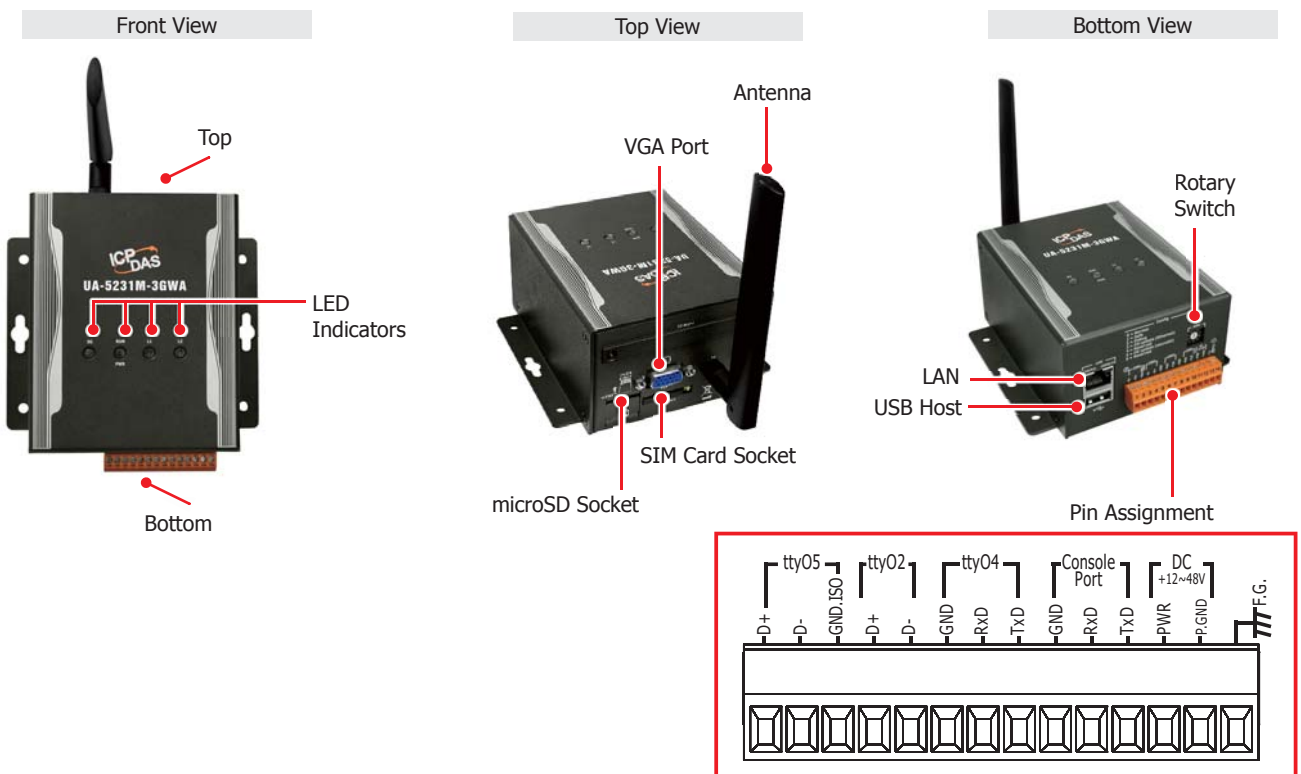
UA-5231



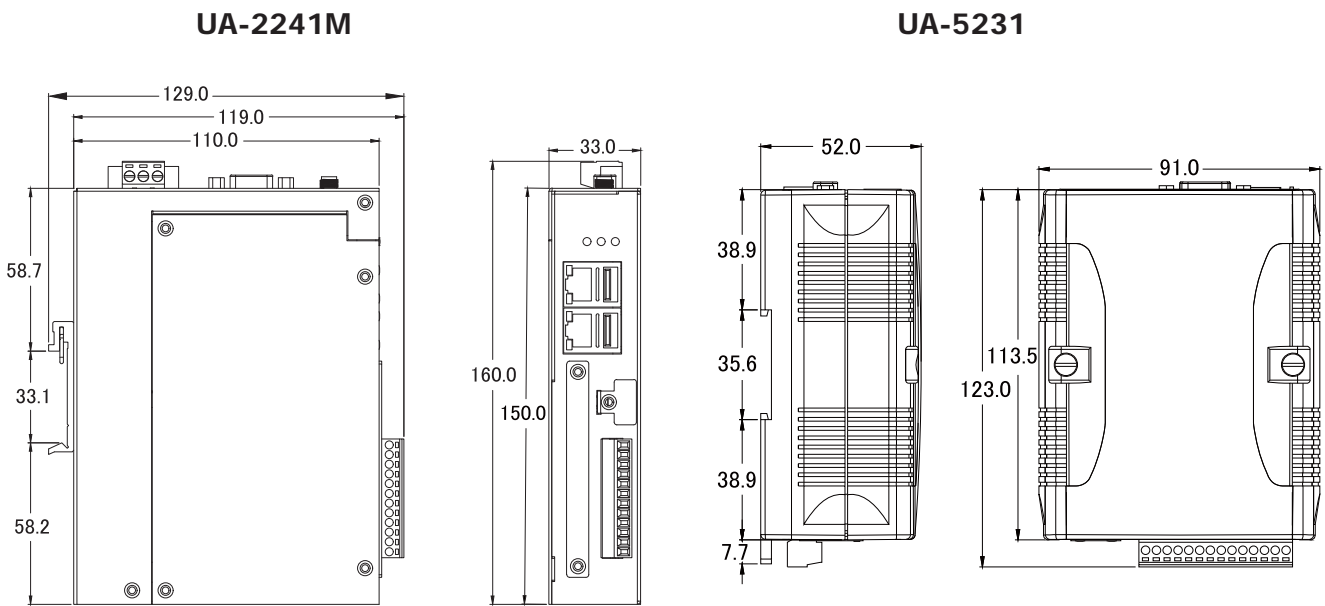
UA-5231M



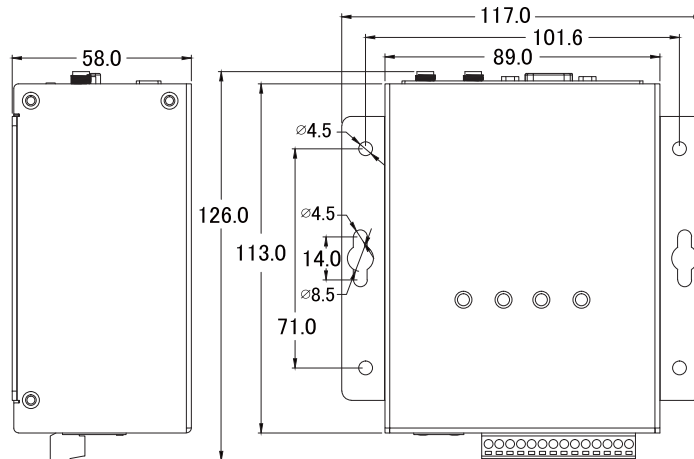
UA-5231M-3GWA/UA-5231M-4GE/UA-5231M-4GC



■ Dimensions (Units: mm)



UA-5231M / UA-5231M-3GWA / UA-5231M-4GE / UA-5231M-4GC



■ Ordering Information

UA-2241M CR	IIoT Communication Server (Metal) with 2 Ethernet Ports (RoHS)
UA-5231 CR	IIoT Communication Server (RoHS)
UA-5231M CR	IIoT Communication Server (Metal) (RoHS)
UA-5231M-3GWA CR	IIoT Communication Server (Metal). Support 3G Wireless Communication (RoHS)
UA-5231M-4GE CR	IIoT Communication Server (Metal). Support 4G Wireless Communication (RoHS) Frequency Band for EMEA, Korea, Thailand, India and Taiwan
UA-5231M-4GC CR	IIoT Communication Server (Metal). Support 4G Wireless Communication (RoHS) Frequency Band for China

■ Option Accessories (For UA-2241M)

XV511i CR	4-channel RS-485 I/O Expansion Board (RoHS)
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