Features

- Supports Modbus RTU protocol (up to 3 Modbus RTU slaves can be connected)
- Supports ICP DAS NB-DA Server
- Supports MQTT protocol
- Supports power backup with a 3.7V Li-ion battery

RTU-540P-NB

NB-IoT Remote Terminal Unit with GPS (Asia only)

Introduction

The RTU-540P-NB is an NB-IoT remote terminal unit with built-in GPS functionality.

When connected to the NB-DA Server, users can flexibly access device data through multiple methods, including Modbus TCP, MQTT, databases, and RAM Disk. Additionally, the RTU-540P-NB supports the MQTT protocol, making it well-suited for Internet of Things (IoT) applications. It features a lithium battery backup, which provides power during temporary main power interruptions and ensures uninterrupted system operation. With these capabilities, the RTU-540P-NB is an ideal solution for machine-to-machine (M2M) applications such as environmental monitoring, remote device management, and vehicle tracking.

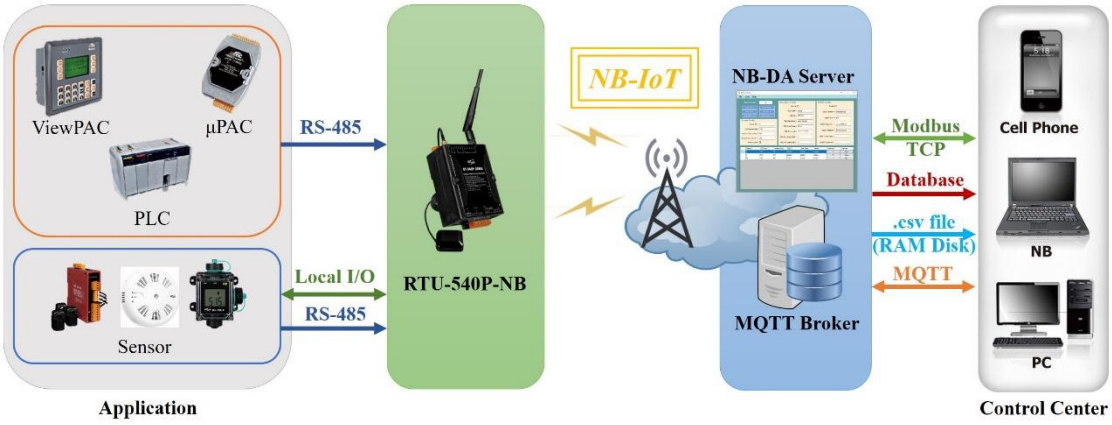
Specifications

Software	
Service	NB-IoT Gateway
CPU Module	
CPU	ARM Microprocessor
Watchdog Timer	Yes
LED Indicators	
Status	1 x EXT 1 x NB 1 x STA 1 x GPS
4G System	
Data Transmission Rate	NB-IoT Downlink transfer: Max. 34 Kbps; Uplink transfer: Max. 66 Kbps
Frequency Band	LTE NB-IoT: B1/B3/B5/B8/B20/B28
GPS/GNSS	
Acquisition Time	Hot start (Open Sky) = 2 s(typical) Cold start (Open Sky) = 36 s(typical)
Protocol	GPRMC format (NMEA 0183 version 3.01)
Sensitivity	Tracking = up to -159 dBm (with external LNA)

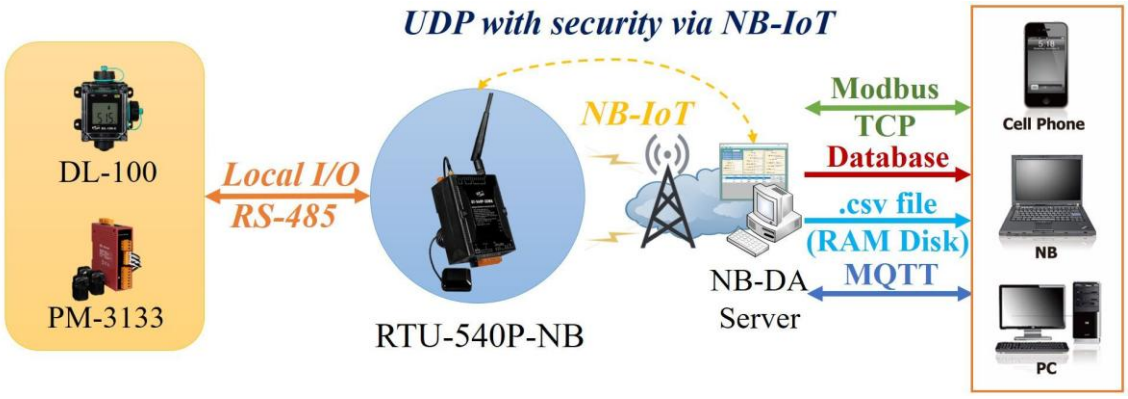
	Cold start = up to -146 dBm (with external LNA)
Support Channels	32
Analog Input	
Channels	1
Type	Current
Range	0 ~ 20 mA
Resolution	12 bit
Digital Input	
Channels	6
Type	Wet Contact
Sink/Source (NPN/PNP)	Sink/Source, Isolated channel with common power or ground
ON Voltage Level	+3.5 ~ 30 VDC
OFF Voltage Level	+1V max.
Isolation	3750Vrms
COM Ports	**COM Ports**
Digital Input	
Channels	2
Type	Open-Collector (100mA@30VDC)
Sink/Source (NPN/PNP)	NPN
Load Voltage	+30 V max
Load Current	100 mA max
COM Ports	
Ports	1 x RS-232(Use for device configuration and debug)
Environment	
Operating Temperature	-25 ~ 75 °C
Storage Temperature	-30 ~ 80 °C
Humidity	相對濕度 5 ~ 95 %，無結露

Application

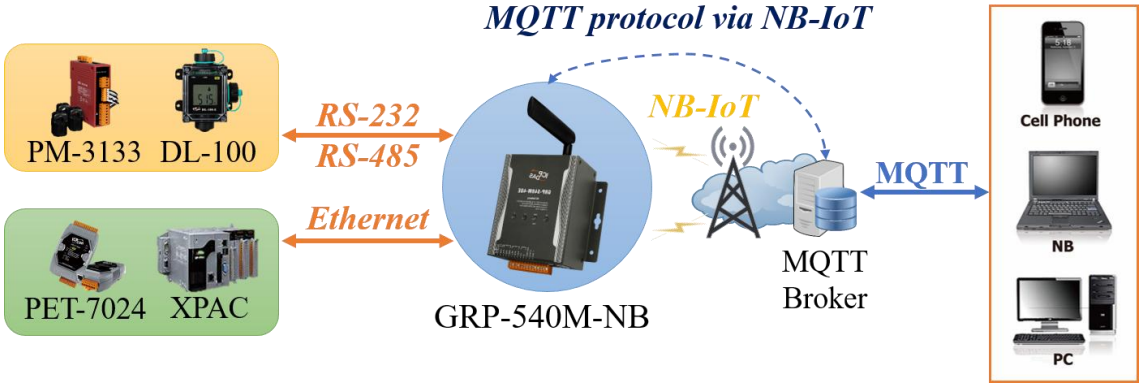
NB-IoT Gateway



■ Data Collection and Remote Control (via NB-DA Server)



■ Data Collection and Remote Control (via MQTT Broker)



Ordering Information

RTU-540P-NB CR	NB-IoT Remote Terminal Unit with GPS (Asia only, RoHS)

Accessories

ANT-115-03-02 CR	GPS/Glonass magnetic mount antenna with 5M cable (SMA Male Plug) (RoHS)
ANT-421-05 CR	5 dBi, 4G LTE omni-directional antenna (SMA Male Plug) (RoHS)
BX-ENEL5-1 CR	Battery Box with a cable (RoHS)