RN-30-EG01

Industrial IoT Data Acquisition System





Main Features

- NVIDIA® Jetson Orin™ Nano 4GB SOM, 20 TOPS
- RN-30-EG01: Single sensor port for NEXCOM Smart Staff Gauge or compatible sensor connection
- Provides pre-installed NEXCOM Smart Staff Gauge data acquisition RS-485 MODBUS API
- Support NB-IoT, LoRa & Wi-Fi wireless data transmitting
- Support both AGPS & GNSS
- Provide 14400 mAh Lithium Battery
- Power input: DC 12V, 3-pin IP67 connector
- IP67 design

Product Overview

Edge AI Computing and machine learning now enable efficient, accurate, and fully on-site monitoring and analysis of hydrological data --- including water level, sediment level, flood prediction, and local meteorological information --- without relying on cloud resources. By preforming machine learning inference at the edge, the system transforms traditional static sensors into adaptive, intelligent instruments. This shift moves beyond conventional threshold rules toward data-driven predictive intelligence, establishing a new benchmark for smart city and climate-resilience infrastructure.

Paired with NEXCOM Smart Staff Gauge, it enables near real-time EC profile data collection and transmission at multiple depths in specific locations within a water body. These EC variations, combined with concurrent water-level changes, provide early and reliable indicators of river dynamics.

Specifications

Wireless

- NB-IoT: All regions
- Bands: B1, B2, B3, B4, B5, B8, B12, B13, B18, B19, B20, B25, B26, B27, B28, B66, B85
- NB-IoT Antenna Gain: 2 dBi
- LoRa: 863~928MHz
- LoRa Antenna Gain: 1.6 dBi
- GPS AGPS & GNSS
- GPS Antenna Gain: 22 dBi

Data Transmission Interval

- 5~60 minutes, user define

- **AI Computing**
  - NVIDIA Jetson Orin Nano™ 4GB SOM, 20 TOPS

- **Storage**
  - Internal M.2 NVMe 2280 SSD 128 GB

I/O Interface

- Sensor port: One M12 A-Coded 5-pin Female connector
- Power On/Off switch
- SIM card socket
- DC 12V, 3-pin IO67 connector
- SD card socket
- Antenna: NB-IoT, LoRa, Wi-Fi, and GPS
  - Wi-Fi 802.11 a/b/n, Wi-Fi antenna Gain: 1.6 dBi

User Setting Item

- Device ID, Database IP, SIM card, APN
- Data transmission interval, LoRa ID
- Staff Gauge type, Height origin, etc.

Power Supply

- DC 12V, 3-pin IP67 connector

Battery

- 14400 mAh Lithium Battery

Mechanical

- 438 (L) x 257 (W) x 90 (H) mm / 17.2 (L) x 10.1 (W) x 3.5 (H) inches
- Aluminum alloy chassis
- IP67 design

Mounting

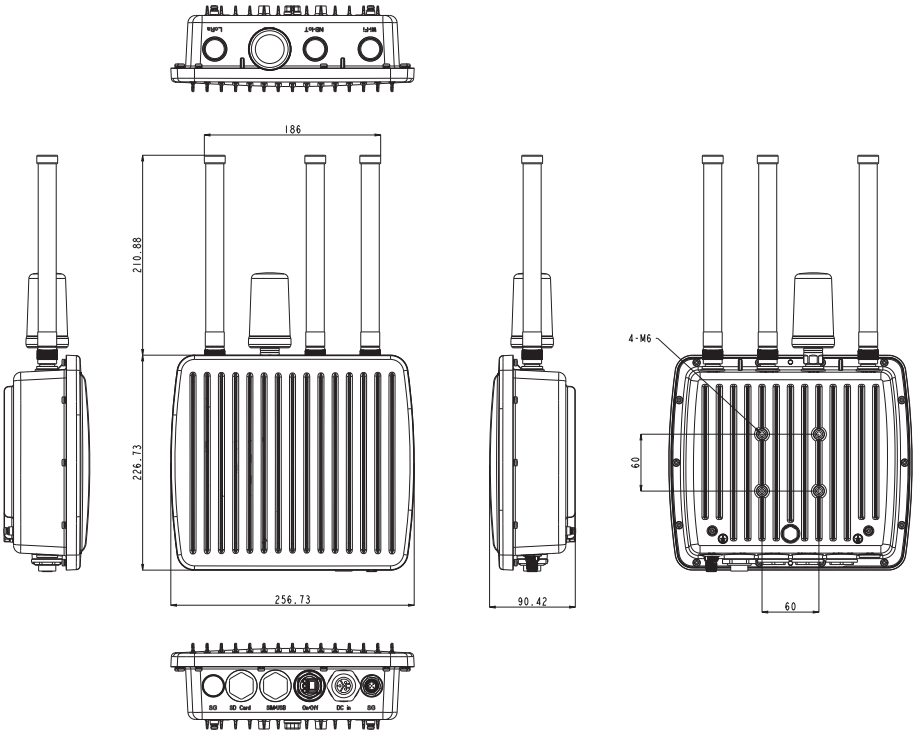
- Mounting holes: 60mm x 60 mm
- Screw: M6 x 12 mm, 4 pcs
- Robust pole mount kit with adjustable angle (optional accessory)

Environment

- Operating temperature: Ambient with air flow: -5°C~60°C (23°F~140°F)
- Storage temperature: -20°C~80°C (-4°F~176°F)
- Relative humidity: 10%~90% (non-condensing)
- Vibration protection: Random: 1.15 Grms@1~200Hz

We reserve the right to change specifications and product descriptions at any time without prior notice.

Dimension Drawing



Certifications

- CE
- FCC

Ordering Information

- **RN-30-EG01 (P/N: 10RA000RN04X0)**
  AI data acquisition system, NB-IoT, LoRa, Wi-Fi and GPS
  Single sensor port for Smart Staff Gauge Connection
- **RN-30-SG02 (P/N: 10RA000RN01X0)**
  Smart Staff Gauge, 160 CM, RS-485
- **Optional: Robust pole mount kit with adjustable angle (P/N: 5040450166X00)**
  Adjustable-angle mounting kit for directional alignment and stable installation.
  Mounting hole: 60 x 60 mm, Screw: M6 x 12 mm, 4 pcs
- **Optional: SD card (P/N: 73AE032G11X00)**
  RN-30-EG01 comes bundled with a 32GB SD card. Additional cards available as optional accessories for backup.
  32GB Industrial grade, -25 ~ 85°C