Waterproof Long Range Wireless NB-IoT Sensor Node

Fennec

OVERVIEW:

Fennec is a Long Range NB-IoT Sensor Node. It is designed for outdoor data logging and powered by 8500mAh Li/SOCl2 battery for long term use and secure data transmission. System Integrator can use Fennec to rapidly deploy NB-IoT sensor node for their IoT solution. Fennec is easy to program, create and connect things everywhere.

NarrowBand-Internet of Things (NB-IoT) is a standards-based low power wide area (LPWA) technology developed to enable a wide range of new IoT devices and services. NB-IoT significantly improves the power consumption of user devices, system capacity and spectrum efficiency, especially in deep coverage.

To use Fennec, user needs to check if there is NB-IoT coverage in local area and with the bands SN50V3-NB supports. If the local operate support it, user needs to get a NB-IoT SIM card from local operator and install Fennec to get NB-IoT network connection.

Features:

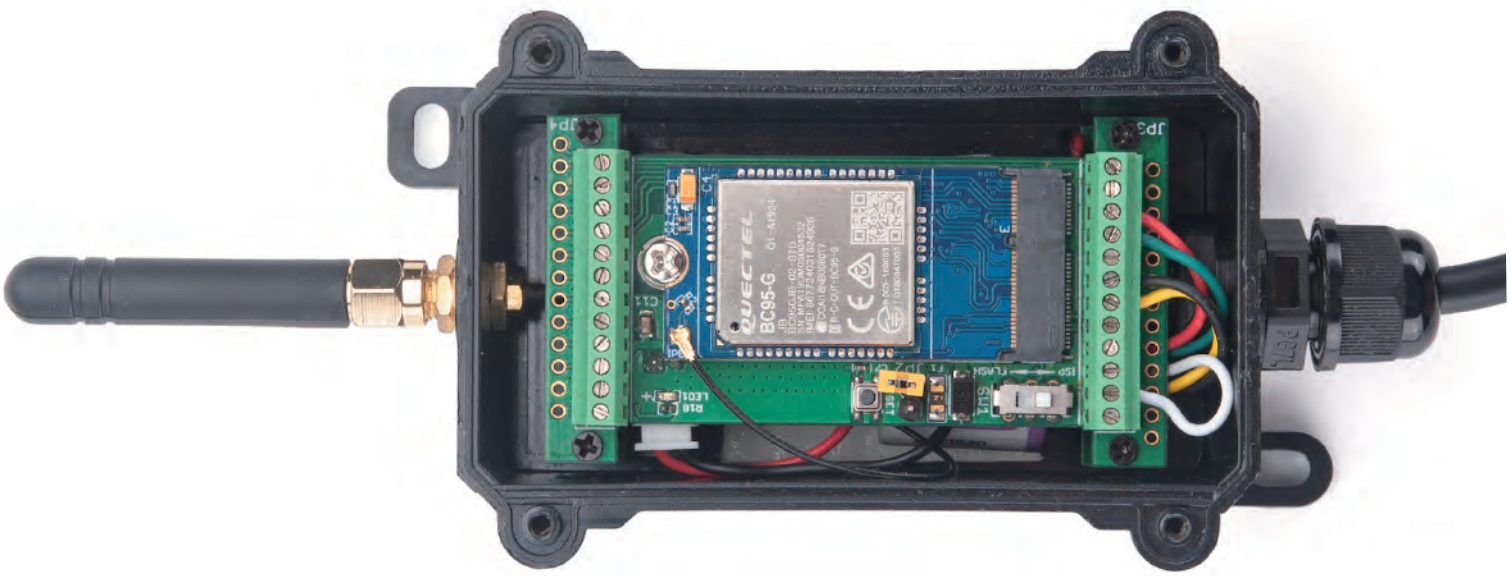
- Logging Resolution 30min
- Twice Daily Transmissions
- 4096 Logs Stored
- IP68 Waterproof Enclosure (Potted)
- 1 x 12bit ADC
- 2 x Digital I/Os
- Configurable Digital Inputs
- Micro SIM card slot for NB-IoT SIM
- Built in night-flow detection
- Ultra Low Power consumption
- 8.5 Ah Battery for long term use

MEASURE MONITOR MANAGE

NB-IoT Sensor Node

Fennec

Internal View



Specifications:

MCU Side:

- MCU: STM32L072CZT6
- Flash:192KB
- RAM:20KB
- EEPROM:6KB
- Clock Speed: 32Mhz

NB-IoT Module:

- NB Module: Quectel BC660K-GL
  - B8 @H-FDD: 900MHz
  - B28 @H-FDD: 700MHz
- Protocol: CoAP, MQTT

Absolute Maximum Ratings :

- I/O pins: 0.5v ~ VCC+0.5V

Common DC Characteristics :

- Supply Voltage: 2.1v ~ 3.6v
- Operating Tempature: -40 ~ 85°C
- I/O pins: Refer to STM32L072 datasheet

Power Consumption:

- STOP Mode: 10 uA @ 3.3v
- NB Transmit Mode:
  Average 40 ~ 200mA.

Battery:

- Li/SOCI2 unchargable battery
- Capacity: 8.5 Ah
- Self Discharge: <1% / Year @ 25°C
- Max continuously current: 500mA
- Max boost current: 2A, 1 second

Applications:

- Wireless Alarm and Security Systems
- Home and Building Automation
- Automated Meter Reading
- Industrial Monitoring and Control
- Long range Irrigation Systems, etc.

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