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NABE5-BL2
IoT Device

Brightway NABE5-BL2 IoT Device User Manual

Contents

Brightway NABE5-BL2 IoT Device

Specifications

- **Model:** NABE5-BL2

- **Region:** North America
- **Technology:** LTE-FDD GSM
- **Operating Band (MHz):** GSM850/GSM1900/LTE Band 2/Band 4/Band 5/Band 12/Band 13

Product Usage Instructions

- **Installation**
  - **Install the SIM Card**
    - Follow these steps to install the SIM card:
    - Remove the screws and open the back cover.
    - Remove the waterproof rubber plug and SIM card holder.
    - Insert the SIM card into the holder, reseal the waterproof plug, cover the back, and tighten the screws.
  - **Install the IoT Device**
    - To install the IoT device, either place it in a dedicated scooter or use the corresponding connector to connect it to the IoT device.
  - **LED Indicator**
    - The NABE5-BL2 LED indicator has two colors: red and white. The meanings are as follows:

Name	Description
WHITE	Breathing – Working normally Flashing quickly – Network Error Flashing slowly – GPS Error Light Off – Transport Mode/Low power Mode/Power Off
RED	Flashing slowly – Light Off – Network Error GPS Error Transport Mode/Low power Mode/Power Off

FAQs

- **Q: What is the main function of the NABE5-BL2 product?**
  - **A:** The main functions of the NABE5-BL2 product include network communication, positioning, enabling remote control of vehicles, and uploading vehicle end data.
- **Q: Does the NABE5-BL2 support 4G connectivity?**
  - **A:** Yes, the NABE5-BL2 supports 4G connectivity along with dual-band positioning.
- **Q: How is the NABE5-BL2 installed in a vehicle?**
  - **A:** The NABE5-BL2 product is embedded in the vertical pipe of a scooter and can be secured with its waterproof design and anti-theft alarm features.

PRODUCT INTRODUCTION

Document Title	NABE5-BL2 User Manual
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Revision History

Version	Date	Author	Description of Change
1.01	2024-01-05	Martin	Initial

Introduction

The NABE5-BL2 product is an IoT that supports 4G and dual-band positioning. It serves as a vehicle networking module for operating vehicles in shared business scenarios, with network communication and positioning as the main functions, enabling remote control of vehicles and uploading vehicle end data. The NABE5-BL2 product is embedded in the vertical pipe of the scooter and has many features such as a waterproof design and anti-theft alarm.

Product Network

Table 1. NABE5-BL2 Product

Model No.	Region	Technology	Operating Band (MHz)
NABE5-BL2	North America	LTE-FDD GSM	GSM850:/GSM1900: LTE Band 2/ Band 4/Band 5 /Band 12/Band 13

Reference

Table 2. NABE5-BL2 Protocol Reference

SN	Document Name	Remark
[1]	NABE5-BL2 IoT Server Standard Protocol	The air protocol interface between **NABE5-BL2** and the **Backend Server**.

Terms and Abbreviations

Table 3. Terms and Abbreviations

Abbreviation	Description
PWR	Power
GND	Ground
CAN-H	CAN High Signal
CAN-L	CAN Low Signal
TX	Transmit Data
RX	Receive Data

Product Overview

Product Appearance

Figure 1. NABE5-BL2 Products View

Figure 1. NABE5-BL2 Products View

Parts List

Table 4. NABE5-BL2 Parts List

Name	Picture	Description
NABE5-BL2 IoT Device		LTE Cat.M1 /NB2 / GNSS Tracker 187.04*43.4*79.7mm

Interface Definition

The NABE5-BL2 has a 4-pin interface connector which contains the connections for Power, GND, TX, RX. The sequence and definition of the 4-pin connector are shown in the following figure:
Table 5. Description of 4-pin Connections

Index	Description	Color	Comment
PIN 1	POWER	Red	DC36V
PIN 2	TX	Green	Transmit data
PIN 3	RX	Yellow	Receive data
PIN 4	GND	Black	Ground

PIN1
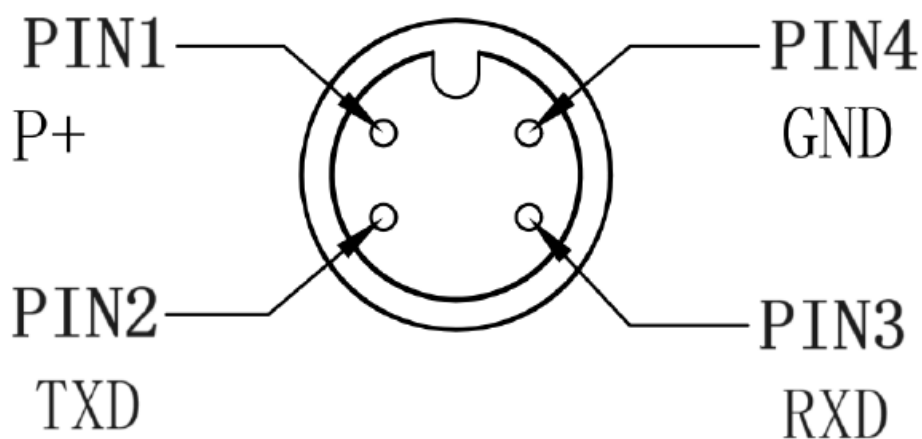P+

PIN4
GND

PIN2
TXD

PIN3
RXD

Figure 2. The 4-pin Connector on the NABE5-BL2
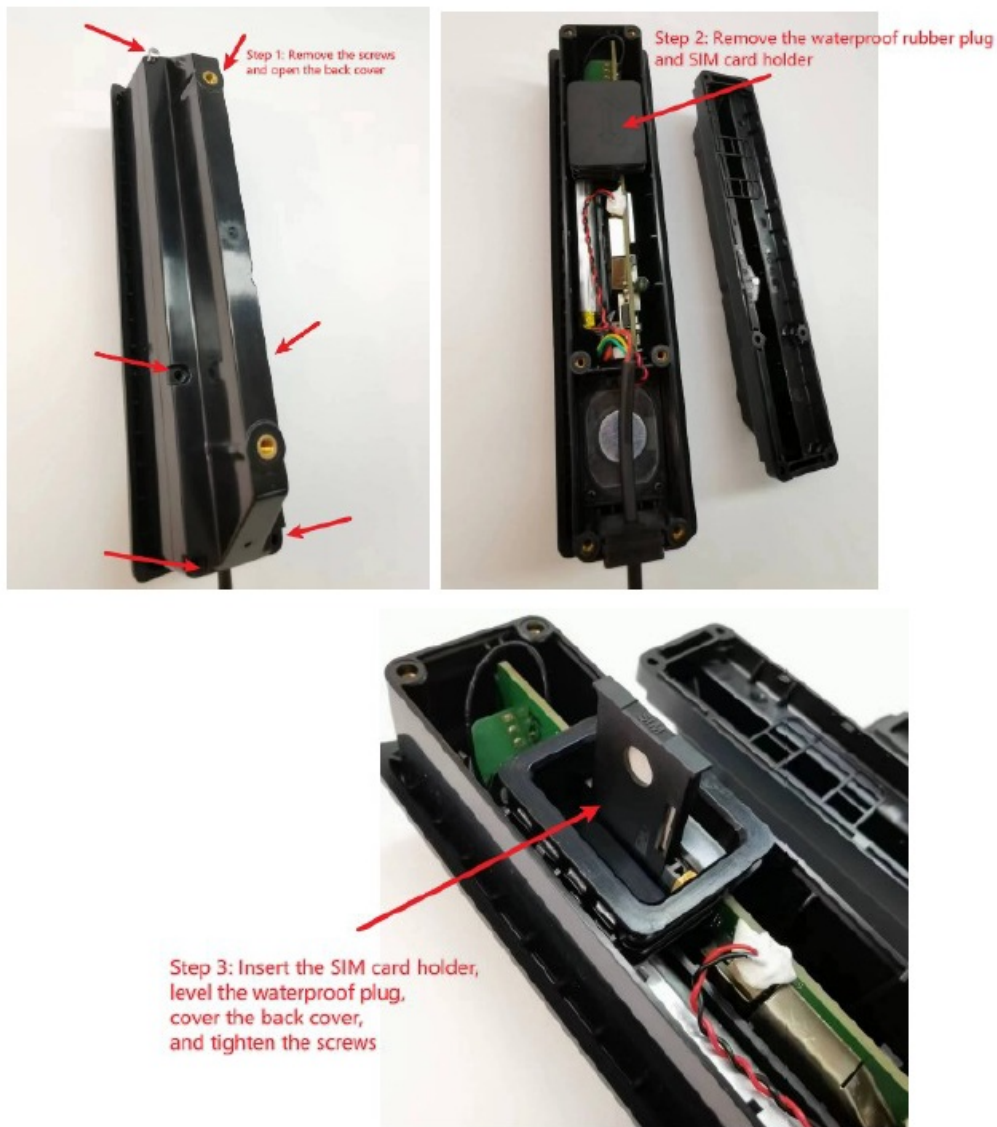
Getting Started

Install the SIM card

Figure 3. Use the Case

- **Step 1:** Remove the screws and open the back cover.
- **Step 2:** Remove the waterproof rubber plug and SIM car holder.
- **Step 3:** Insert the SIM card holder, level the waterproof plug, cover the back cover, and tighten the screws.

Install the IoT device

Please install the IoT device into a dedicated Scooter or use the corresponding connector to connect to the IoT device.

Figure 4. Install the IoT device

LED Indicator

The LED indicator light of NABE5-BL2 is a Two color light (Red and White). Red means an error, and Green means normal.

Table 6. Description of LED Indicator

Name	Description	Color	Comment
Two Colour	WHITE	Breathing	Working normal
	RED	Flashing quickly	Network Error
		Flashing slowly	GPS Error
	Light Off		Transport Mode/Low power Mode/Power Off

Installation reference

The equipment of NABE-BL2 is placed in the riser of the scooter and locked with screws from behind the riser.

Installation Precautions

- Make the side with the antenna face the sky to have better signal reception.
- Do not install the device under a metal surface or in enclosed environments if you have difficulty in getting GPS and network signals.
- Install the device in places away from rainwater or water may be ponded, otherwise, water may seep into the connector to damage the device.
- **Installation Direction:** Keep the connector downside if the device is installed vertically, otherwise water (dust) will be held up in the connector to damage the device.

- **Please pay attention to environmental parameters:**
    - **Charge Temperature:** 10~45℃
    - **Working Temperature:** -10℃~+55℃

Troubleshooting and Safety Info

Troubleshooting

Table 7. NABE5-BL2 Troubleshooting List

Problem	Possible Reason	Solution
Messages can't be reported to the backend server by the net work.	APN is not right.	Ask the network operator for the right APN.
	The IP address or port of the backend server is wrong.	Make sure the IP address for the backend server is identified in the internet.
There is no response from UART when the device is configured by using UART.	The port is not ready or the device is not powered on.	Please check the port and the device to ensure they are working properly.
The device can't get a GPS fix .	The GPS signal is weak.	Move the device to a place under open sky.
		It is better to make the side with antenna face the sky.

Safety Info

- Do not disassemble the device by yourself.
- Do not put the device in an overheated or too humid place, and avoid exposure to direct sunlight. Too high a temperature will damage the device or even cause a battery explosion.
- Do not use the device on the airplane or near medical equipment.

FCC

FCC Statement
Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This device complies with part 15 of the FCC Rules.

Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

FCC Radiation Exposure Statement:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment . This equipment should be installed and operated with a minimum distance of 20cm between the radiator& your body.
Note: This equipment has been tested and found to comply with the limits for a Class B digital device, under part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used following the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. Suppose this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on. In that case, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

SED RSS Warning/ISED RF Exposure Statement ISED RSS Warning:

This device complies with the Innovation, Science and Economic Development Canada license-exempt RSS standard(s).
Operation is subject to the following two conditions:

1. this device may not cause interference, and
2. this device must accept any interference, including interference that may cause undesired operation of the device.

ISED RF exposure statement:
This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator& your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment. The device has been evaluated to meet general RF exposure requirements.
Version: 1.01

Documents / Resources

NABE5-BL2 User Manual *Version 1.01*	**Brightway NABE5-BL2 IoT Device** [pdf] User Manual NABE5-BL2, NABE5-BL2 IoT Device, IoT Device, Device

References

- **User Manual**