Original User Manual

E-scooter IoT module Bolt IOTD-2

FCC ID: 2BHTW-BOLT-IOTD-2

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Product brief

Bolt e-scooter IoT module is the main communications gateway on a shared electric scooter. Data communication is established over LTE. GNSS receiver is used for getting the vehicle's location and BLE beacon is used for further locating it. The IoT module also communicates with other components in the vehicle. Additionally it can be used as a display unit for an electric light vehicle. The device incorporates a backup battery in case of loss of the main power source. The electronic assembly of the product is encapsulated into polyurethane.

LTE is used all the time, the nominal use case is that the scooters are out on the street and always connected to the backend. Following LTE bands are used: 2, 4, 5, 12, 13, 66.

BLE – beacon enabled when vehicle is not actively rented, sometimes turned on/off on command via the LTE backend connection. 2.4GHz ISM band.

Wifi – never used currently, might be used in similar situations to BLE. 2.4GHz ISM band

GNSS – always active when the device is active. Receive only on L1 and L5 bands.

Legal statements

FCC statement

1. This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

a. This device may not cause harmful interference, and

b. this device must accept any interference received, including interference that may

cause undesired operation.

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to 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 in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, 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 receiver.
- Connect the equipment into 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.
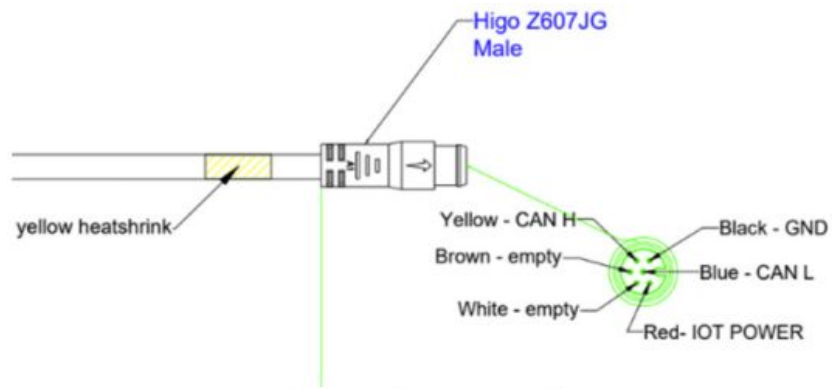
Device photos and labels
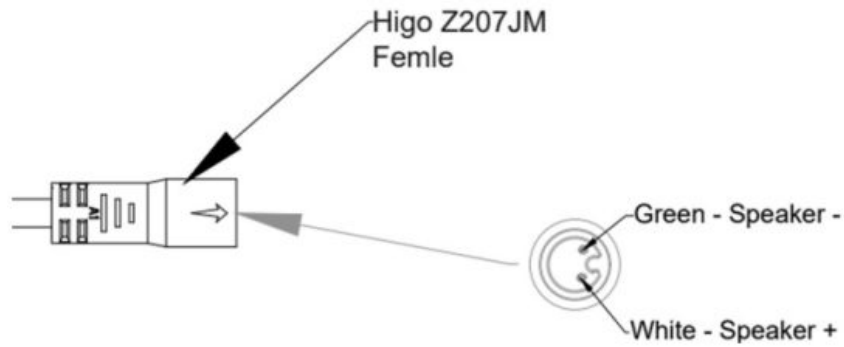

Image 1. FCC ID label
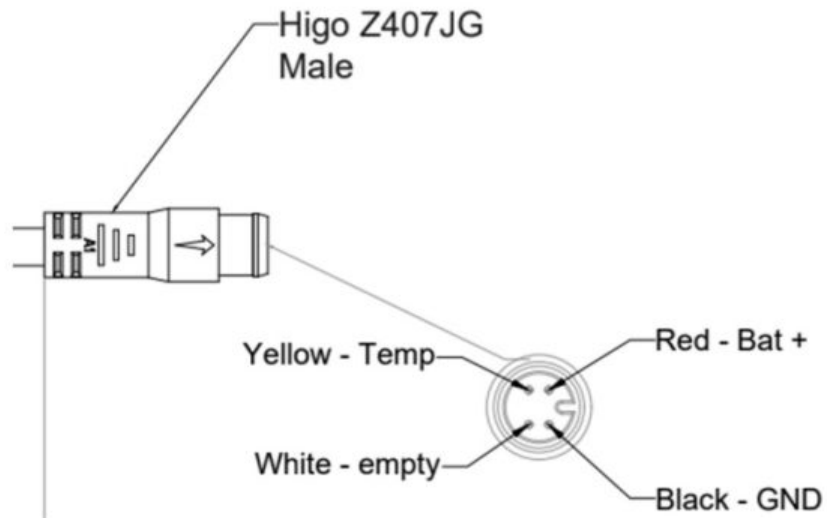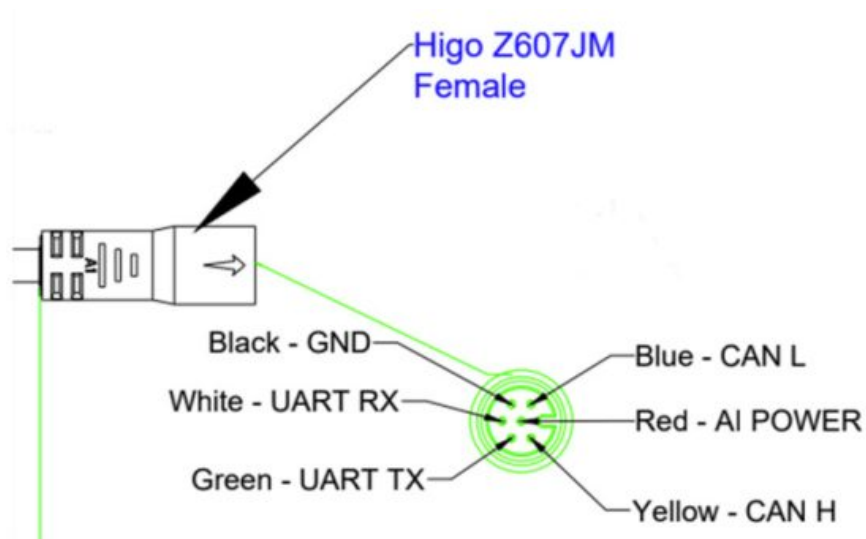
Label dimensions:

- W: 30 mm
- H: 20 mm

The label is located on the bottom side of the device on the surface of polyurethane potting:

Photo 1. Device bottom view with FCC ID label visible

Photo 2. Device top view

Hardware interface ports

Higo Z607JG
Male

yellow heatshrink

Yellow - CAN H
Brown - empty
White - empty

Black - GND
Blue - CAN L
Red- IOT POWER

Drawing 1. Main power and CAN

Higo Z207JM
Femle

Green - Speaker -
White - Speaker +

Backup battery

Higo Z407JG
Male

Yellow - Temp
White - empty

Red - Bat +
Black - GND

Aux device connector

Higo Z607JM Female

Black - GND
White - UART RX
Green - UART TX
Blue - CAN L
Red - AI POWER
Yellow - CAN H

Electrical and environmental characteristics

Parameter	Min	Nominal	Max
Input power voltage	+20V	+24V	+28V
Max input current			2A
Backup battery voltage	+2.8V	+3.7V	+4.2V
UART line voltage level		+3.3V	+3.8V
CAN line voltage level		+3.3V	+12V
Operating temperature	-10°C		+85°C
Storage temperature	-20°C		+85°C
Backup battery operation	0°C		+55°C

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Documents / Resources

	[Bolt IOTD-2 E Scooter IoT Module](#) [[pdf](#)] User Manual BOLT-IOTD-2, 2BHTW-BOLT-IOTD-2, 2BHTWBOLTIOTD2, IOTD-2 E Scooter IoT Module, IOTD-2, E Scooter IoT Module, IoT Module, Module

References

- [User Manual](#)

📁 Bolt

🏷 2BHTW-BOLT-IOTD-2, 2BHTWBOLTIOTD2, Bolt, BOLT-IOTD-2, E Scooter IoT Module, IoT Module, IOTD-2, IOTD-2 E Scooter IoT Module, Module

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