



VINFAST TRADDING AND PRODUCTION JOINT STOCK COMPANY

Document name: Smart Module Unit (SMM) Quick User Manual

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Revision record

Version	Page	Change Description	Applied date
V0.1	All	Release new version	16.Mar.2024

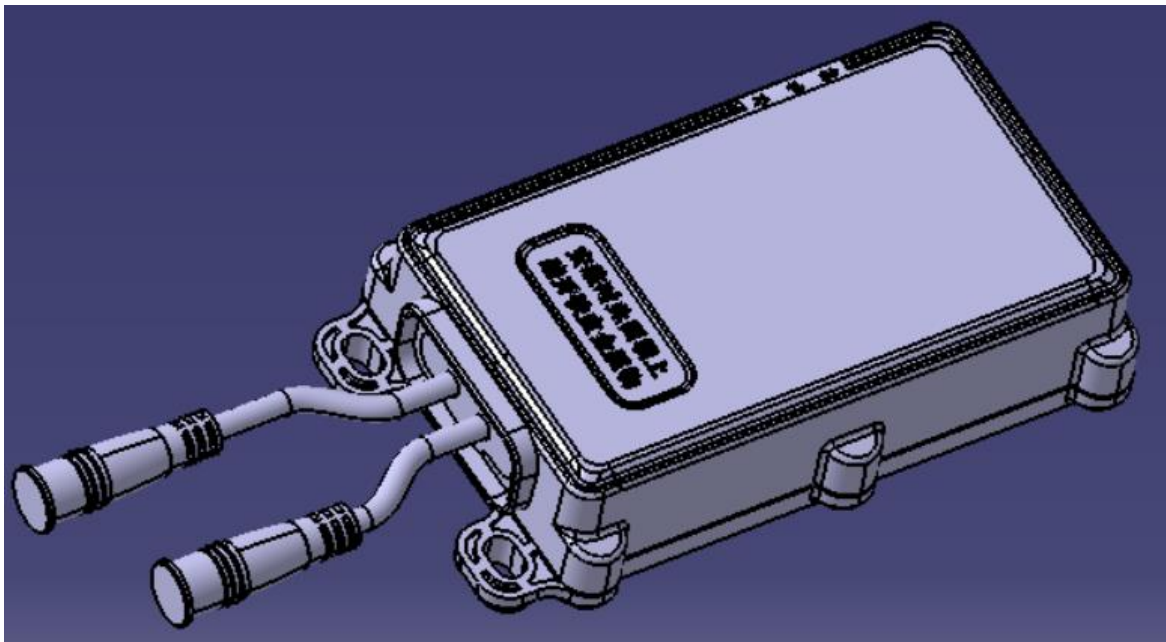
CONTENT



Smart Moule Unit (SMM): Quick User Manual

1. Summary.....	3
2. Wiring for SMM.....	4
3. User case.....	4
3.1. Bluetooth / 4G internet connection	4
4. FCC regulatory compliance statement.....	6

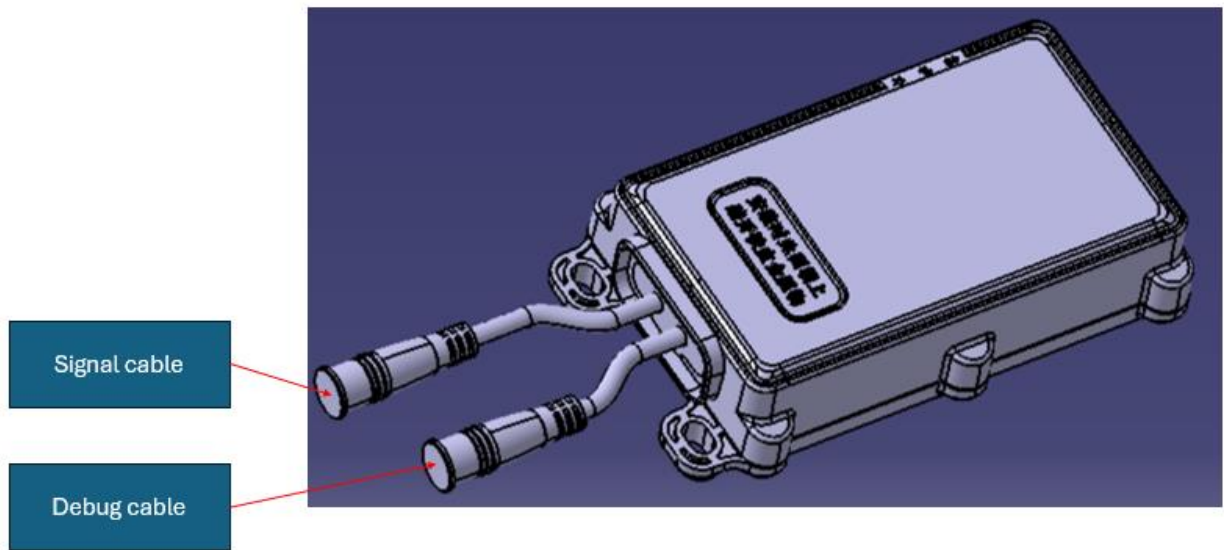
1. Summary



SMART MODULE UNIT

Items	Detail
Product	Smart Module Unit
Model	VF-EB23U
Input voltage range	30-60 VDC
Dimension	111.3 × 66.8 × 25.9 mm (±0.15mm)
Operation environmental temperature	-20°C ~ +65°C
Network	LTE-FDD/LTE-TDD/WCDMA/GSM LTE-FDD/LTE-TDD : 23dBm; WCDMA:24dBm; WCDMA Band II, WCDMA Band IV, WCDMA Band V LTE FDD: B2/B4/B5/B12/B13/B14/B66/B71
Location	GNSS, GPS, Beidou.
Bluetooth	V4.1 Sensitivity: -90dBm Maximum receiving distance: ≤ 30m, Open area. Loading Receiving Distance: 10-20m, depending on installation environment.

2. Wiring for SMM



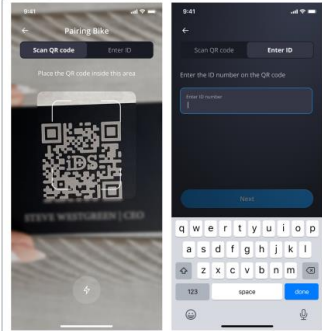
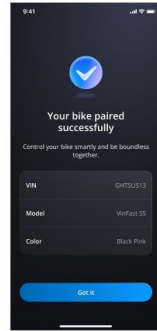

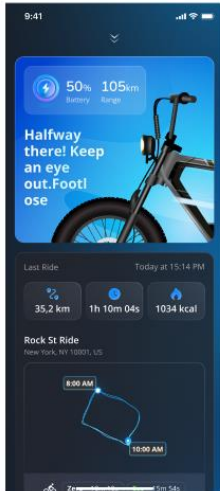
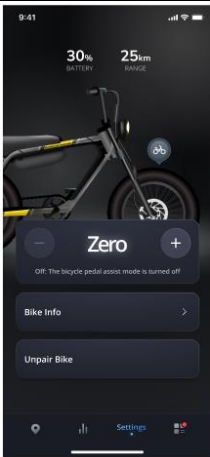
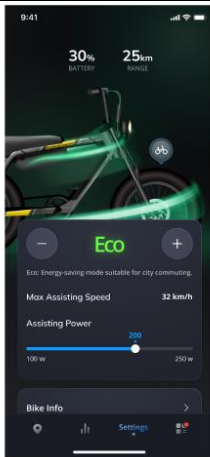
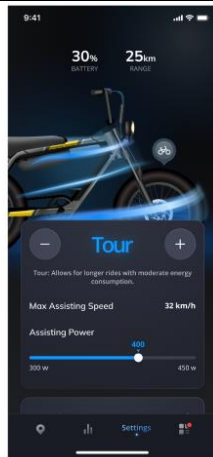
3. User case




3.1. Bluetooth / 4G internet connection

- SMM uses Bluetooth / 4G internet to connect to VinFast E-bike APP. User can see/setting information of E-bike through the Bluetooth / 4G connection.
- See picture below:



Smart Moule Unit (SMM): Quick User Manual

Items	Picture
Bluetooth pair/unpair	<div><div><p>STEP 1</p><p>Choose Ready to start to start connecting to your new bike</p></div><div><p>STEP 2</p><p>Make sure your device's Bluetooth is turned on, give permission to Camera access on your device and scan the QR code or input ID number of your bike to continue</p></div><div><p>STEP 3</p><p>Once your bike is paired, you can check its basic information including VIN, model and color</p></div></div>
Widget information	<div></div>
E-bike mode setting	<div><div><p>ZERO MODE</p><p>In Zero mode, the pedal assist is turned off</p></div><div><p>ECO MODE</p><p>Energy-saving mode suitable for city commuting. Power limit: 100~250</p></div><div><p>TOUR MODE</p><p>Allows for longer rides with moderate energy consumption. Power limit: 300~450</p></div></div>

	 <p>SPORT</p> <p>Sport mode for faster acceleration and higher speeds. Power limit: 500~650</p>	 <p>BOOST</p> <p>Powerful mode for difficult terrain or steep hills. Power limit: 700~1000</p>
E-bike settings	<p>BIKE SETTINGS LAYOUT</p> <p>Setting screen includes the following features:</p> <ol style="list-style-type: none"> Battery Current battery level Range Estimated range base on battery level Bike List Manage your bike(s) Mode 5 modes: Zero, Eco, Tour, Sport, Boost Bike info General info, Battery info, Firmware version Unlimited Mode Speed limit up to 45 km/h Unpair Bike 	

4.FCC regulatory compliance statement

§15.19 Statement

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.

§15.21 Information to user

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

- List of applicable FCC rules:



Smart Moule Unit (SMM): Quick User Manual

47 CFR Part 15, Subpart C 15.247

- Summarize the specific operational use conditions.

This module can be used in IOT devices, the input voltage to the module is nominally 30-60VDC.

- Limited module procedures

This module is a single module.

- Trace antenna designs.

The antenna is not a trace antenna.

- RF exposure considerations

This Module 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 and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

- Antennas

If you desire to increase antenna gain and either change antenna type or use same antenna type certified, a Class II permissive change application is required to be filed by us, or you (host manufacturer) can take responsibility through the change in FCC ID (new application) procedure followed by a Class II permissive change application.

- Label and compliance information

Please notice that if the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module.

§ 15.19 Labelling requirements shall be complied on end user device.

Labelling rules for special device, please refer to §2.925, § 15.19 (a)(5) and relevant KDB publications. For E-label, please refer to §2.935.

- Information on test modes and additional testing requirements

The OEM integrator is responsible for ensuring that the end-user has no manual instruction to remove or install module.

The module is limited to installation in mobile application, a separate approval is required for all other operating configurations, including portable configurations with respect to §2.1093 and difference antenna configurations.

- FCC other Parts, Part 15B Compliance Requirements for Host product manufacturer

This modular transmitter is only FCC authorized for the specific rule parts listed on our grant, host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification.

Host manufacturer in any case shall ensure host product which is installed and operating with the module is in compliant with Part 15B requirements.

Please note that For a Class B or Class A digital device or peripheral, the instructions furnished the user manual of the end-user product shall include statement set out in *§15.105 Information to the user* or such similar statement and place it in a prominent location in the text of host product manual. Original texts as following:

For Class B



Smart Moule Unit (SMM): Quick User Manual

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.*

For Class A

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

● SAR information:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End user must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The portable device is designed to meet the requirements for exposure to radio waves established by the Federal Communications Commission (USA). These requirements set a SAR limit of 1.346 W/kg averaged over one gram of tissue when positioned a minimum 10 mm from the body. The highest SAR value reported under this standard during product certification for use when properly worn on the body.