SMART IOT WD-209

WD-209 is a smart IOT for the sharing e-bike&scooter. The device is equipped with LTE-CATM and GPRS network remote control, GPS real-time positioning, Bluetooth communication, vibration detection, anti-theft alarm and other functions.Through Internet and Bluetooth, the IOT interacts with the background and mobile APP respectively to complete the e-bike&scooter control and upload the real-time status of the e-bike&scooter to the server.

Functions:

-- Rent/return the e-bike by 4G Internet/Bluetooth
-- Smart voice broadcast
-- Upload the data in real time
-- Support ACC detection
-- Support OTA
-- Low power consumption
-- Polygon Geo-fence alarm

SPECIFICATIONS:

	Parameter
Dimension	(109.78±0.15)mm × (81±0.15)mm × (31.97±0.15)mm
Input voltage range	Supports wide voltage input:12V-72V
Backup battery	3.7V，2000mAh
Level about waterproof and dust-proof	IP65
The shell material	ABS+PC,V0 level fireproof

Working temperature	-20℃～+70℃
Working humidity	20～95%
SIMCARD	SIZE： Micro-SIM
Network performance	
Frequency band	CAT M1/CAT NB1;EGPRS 850/900/1800/1900MHz
Maximum transmit power	23dBm
Sensitivity	-107dBm@Cat M1; -113dBm@Cat NB1
Current	Standby: 15mA; Sleep: 1.2mA; Network connection: 223mA (average)
GPS performance	
Positioning	Support GPS,GLONASS, and Beidou
Tracking sensitivity	<-157dBm
TTFF	Cold start31S， Hot start 2.7S
Positioning accuracy	2.5m
Speed accuracy	0.3m/s
AGPS	support
Positioning condition	The number of stars ≧4, and the signal-to-noise ratio is more than 30 dB
Bluetooth Performance	
Bluetooth Version	BLE4.0
receiving sensitivity	-90dBm
Maximum receiving distance	30 m, open area
Loading receiving distance	10-20m, depending on installation environment

Functional Description:

Function list	**Features**
Positioning	Real-time positioning
Lock	In lock mode, if the device detects a vibration signal, it generates a vibration alarm, and when the rotation signal is detected, a rotation alarm is generated.
Unlock	In unlock mode, device won't detect the vibration, but the wheel signal and the ACC signal are detected. No alarm will be generated.
Serial communication	Communicate with the controller through the serial port, with the IOT as the master and the controller as the slave
Uploading data in real-time	The device and the platform are connected through the network to transmit data in real time.
Vibration detection	If there is a vibration, device would send out a vibration alarm, and buzzer speak-out.

ACC output	Provide power to the controller. Supports up to 2 A output.
ACC detection	The device supports detection of ACC signals. Real-time detection of the e-bike&scooter's power-on state.
Lock motor	The device send a command to the controller to lock the motor.
Bluetooth	Supports Bluetooth 4.1, scans the QR code on the e-bike through APP, and connects to the Bluetooth of the user's mobile phone to borrow a e-bike.
External power detection	Battery voltage detection with an accuracy of 0.5V.Provided to the backstage as the standard for the cruising range of e-bike&scooters.
External battery cut-off alarm	Once detect the external battery is removed, it will send alarm to platform.