Smart IOT for the sharing e-bikes -- WD-219

WD-219 is a terminal product for the shared two-wheeled electric bike industry, is the latest nineth-generation IOT product launched by TBIT, positioning capabilities and positioning accuracy are fully upgraded, supporting dual-mode single-frequency single-point, dual-mode dual-frequency single-point, dual-mode dual-frequency RTK positioning technology and other positioning modes, the highest precision can reach sub-meter positioning accuracy, to solve many problems caused by positioning drift in the process of user return, operation and maintenance and car finding. At the same time, the power consumption of the whole machine is optimized, and the standby time is doubled compared with the previous generation of products, which greatly extends the standby time of the equipment after the E-bike battery is removed, and further improves the safety of assets. The terminal has 4G-LTE network remote

control, GPS real-time positioning, vibration detection, anti-theft alarm, vertical parking and other functions. The terminal interacts with the background and mobile APP through the 4G network to realize the business functions of the shared E-bike.

Functions of WD-219:

Sub-meter positioning	Bluetooth road spikes	Civilized cycling
Vertical parking	Smart helmet	Voice broadcast
Inertial navigation	Instrument function	Battery lock
RFID	Multi-person ride detection	Headlight control
AI camera	One click to return the e-bike	Dual 485 communication

Specifications:

Parameters			
Dimension	120.20mm × 68.60mm × 39.10mm	Waterproof and dustproof	IP67
Input voltage range	12V-72V	Power consumption	Normal work:<15mA@48V; Sleep standby:<2mA@48V
Network performance			
Support mode	LTE-FDD/LTE-TDD	Frequency	LTE-FDD:B1/B3/B5/B8
			LTE-TDD:B34/B38/B39/B40/B41
Maximum	LTE-FDD/LTE		

transmit power	-T DD：23dBm		
GPS performance (dual-frequency single-point &RTK)			
Frequency range	China Beidou BDS: B1I, B2a; USA GPS / Japan QZSS: L1C / A, L5; Russia GLONASS: L1; EU Galileo: E1, E5a		
Positioning accuracy	Dual-frequency single point: 3 m @CEP95 (open); RTK: 1 m @CEP95 (open)		
Start time	Cold start of the 24S		
GPS performance (single-frequency single-point)			
Frequency range	BDS/GPS/GLNASS		
Start time	Cold start of the 35S		
Positioning accuracy	10m		
Bluetooth performance			
Bluetooth version	BLE5.0		

Product features :

(1) Multiple positioning methods

It supports the flexible combination of single-frequency single-point, dual-frequency single-point, and dual-frequency RTK, and the accuracy can reach up to sub-meter positioning accuracy.

(2) Support the inertial navigation algorithm

It supports inertial navigation algorithms to enhance the localization ability of weak signal areas and reduce GPS drift problems.

(3) Ultra low power consumption

The self-developed ultra-low power consumption algorithm greatly reduces the power consumption, and the standby time is doubled compared with the company's previous generation products.

(4) Double road 485 communication

It supports dual-channel 485 communication, and the peripheral accessories are more expandable, and can support functions such as high-traffic data backhaul such as AI camera pictures without affecting the data interaction of batteries and controllers.

(5) Support industrial-grade patch

Support industrial-grade SMD SIM card, high and low temperature, strong vibration, and stronger anti-interference ability.