ROOTCLOUD

T-AMS M

Vehicle-mounted IoT Terminal

Highlights

- 🔲 **Built-in Relay**
- 🚨 **Anti-tamper Alarm**
- 🗂 **Card Reader Support**

- 🔋 **Long Standby**
- 🔧 **Multiple Installation**
- 📡 **Built-in Antenna Support**

Introduction

T-AMS M, developed by IROOTECH, is a vehicle-mounted IoT terminal specifically designed for construction machinery , new energy electric vehicles, and other devices. With an integrated 4G communication technology and Beidou and GPS satellite positioning technology, it can implement the functions of vehicle information collection, storage, and data reporting.

Application Field

The product is mainly used in construction machinery .

Certifications

CE, NBTC

Features

Time and Date	**Automatic Time Calibration**	Capable of automatic time calibration, keeping the time error within ±5 seconds in 24 hours.	◉
	Time Synchronization	Supports obtaining time from the cloud platform and performing time synchronization.	◉
		Performs time synchronization on the ECU through the CAN network (requires support from the vehicle manufacturer protocol).	◉
Positioning Service	**GNSS**	Supports GPS/BDS positioning.	◉
		(TTFF) Time To First Fix ≤32S	◉
	Antenna Detection	Supports GPS antenna break detection and antenna protection.	◉
	Positioning Accuracy	Horizontal positioning accuracy is < 2.5 m under CEP50	◉
Communication	**Network Communication**	Frequency band information (International Version): LTE-FDD:B1/2/3/4/5/7/8/12/13/17/18/19/20/25/26/28/66 LTE-TDD:B34/38/39/40/41 GSM:B2/3/5/8 Maximum data transmission rate (International Version): LTE-FDD:10 Mbps (downlink) / 5 Mbps (uplink) LTE-TDD:8.96 Mbps (downlink) / 3.1 Mbps (uplink) GSM:85.6 kbps (downlink) / 85.6 kbps (uplink).	◉

Communication	SIM Card	M2M SIM Card	◉
Data Acquisition	CAN	Collects data through 1-channel high-speed CAN.	◉
	RS485	Collects data through 1-channel high-speed RS485 (compatible/optional).	○
	Digital Acquisition	3-channel digital input, using ACC to control the sleep and wake-up of the device.	◉
	Relay Switch	1-channel relay switch with a contact switching capacity of up to 2A/30V.	◉
		Can be configured as DO, outputting power or ground.	○
	Voltage Acquisition	Supports collection and reporting of the vehicle battery voltage.	◉
	Analog Acquisition	1-channel 0-10V voltage input (shared with IG).	◉
Data Processing	Real-Time Data Storage	1Gbit.	◉
	Data Publishing	Supports remote data/instruction publishing control.	◉
	Data Retransmission	Supports resumable transmission.	◉
	Data Interaction	CAN Interaction: Supports interaction with the vehicle body via CAN bus.	◉
Power Management	Input Voltage	DC 9~36V.	◉
	Rated Power	Normal operation: ＜100mA@24V	◉

Power Management	Rated Power	Standby: <10mA@24V (supports ACC, CAN, RTC wake-up)	○
		Sleep: <20uA@24V (only supports ACC and RTC wake-up)	◉
	Working Mode	Minimum 2 working modes: working mode and standby mode.	◉
		Sleep mode is optional based on needs.	○
	Independent Operation	With the built-in 3000mAh lithium battery, the device can operate independently for 7 hours after the external power supply is disconnected.	◉
Terminal Management	OTA	Firmware can be remotely upgraded via OTA.	◉
	Remote Machine Lock	Supports remote unlocking/locking of vehicles via mobile networks (using relays or via protocols).	◉
	Anti-dismantling	The device can send a handshake protocol through the CAN network to prevent unauthorized dismantling (manufacturer's protocol needed).	◉
		The device has light-sensitive anti-dismantling.	◉
	Self-check	The device automatically checks the status of GPS, NET, etc. during its startup and operation, and displays status information through an indicator light.	◉

Note："◉" represents standard configuration, "○" represents optional configuration.

Specifications

Dimensions (Length * Width * Height)	117.8mm * 89.8mm * 24.65mm
Communication	4G CAT1
Protection Level	IP65
Material	ABS (Plastic)
Flame Retardant Rating	V0
Temperature	Working Temperature: -40°C ~ 85°C, -20°C~ 80°C (with battery) Storage Temperature: -40°C ~ +85°C
Humidity	Working Humidity: 5%~95%RH Storage Humidity: 0%~95%RH
Voltage	Working Voltage Range: 9 ~ 36V Nominal DC Power Supply: 12V/24V With low voltage cut-off and reverse polarity protection function
Battery	3000mAh