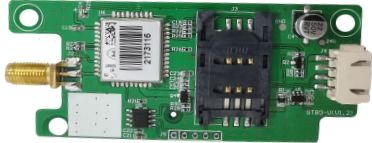# 1 Product Overview

GT89-V is a wireless data transmission terminal device based on GSM/GPRS network, providing a fully transparent data channel, which can conveniently and quickly achieve remote, wireless, and networked communication methods. Make it easy for your device to connect wirelessly to the Internet.

GT89-V has many advantages such as wide network coverage, flexible and fast networking, and low operating costs. It can be widely used in industries such as power systems, industrial monitoring, traffic management, meteorology, water treatment, environmental monitoring, financial securities, coal mines, petroleum, new energy, etc.

2 Product appearance

2.1 A complete set of IOT modules, including **IOT card**, **Antenna**, and **Data cable:**

Product Item	Display pictures	Notes
IOT Card		Installing SIM card
Antenna		Signal reception
Data Cable		Connect the inverter and IOT card

2.2 Definition of terminal blocks:

Terminal name	Designation	Notes
24V	Connect the 24V of the Inverter	24VDC
COM	Connect the Inverter DCM	DCM
A+	Connect the RS485+ of the Inverter	
B-	Connect the RS485- of the Inverter	

◆ The solar water pump inverter supports an optional GPRS module to implement remote monitoring, and the GPRS module connects to the inverters through 485 communication. The running state of the inverter can bemonitored in real time on the APP in the mobile phone or web page.

◆ **Method for connecting the GPRS module to the inverter:**
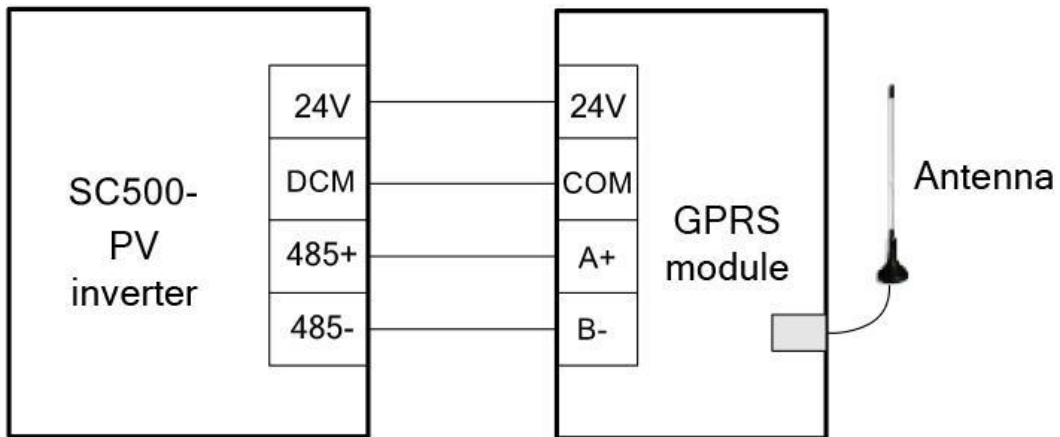
2.3 Inverter Parameter Settings And wiring.

◆ **Set P27.00=3 (Communication Mode)**
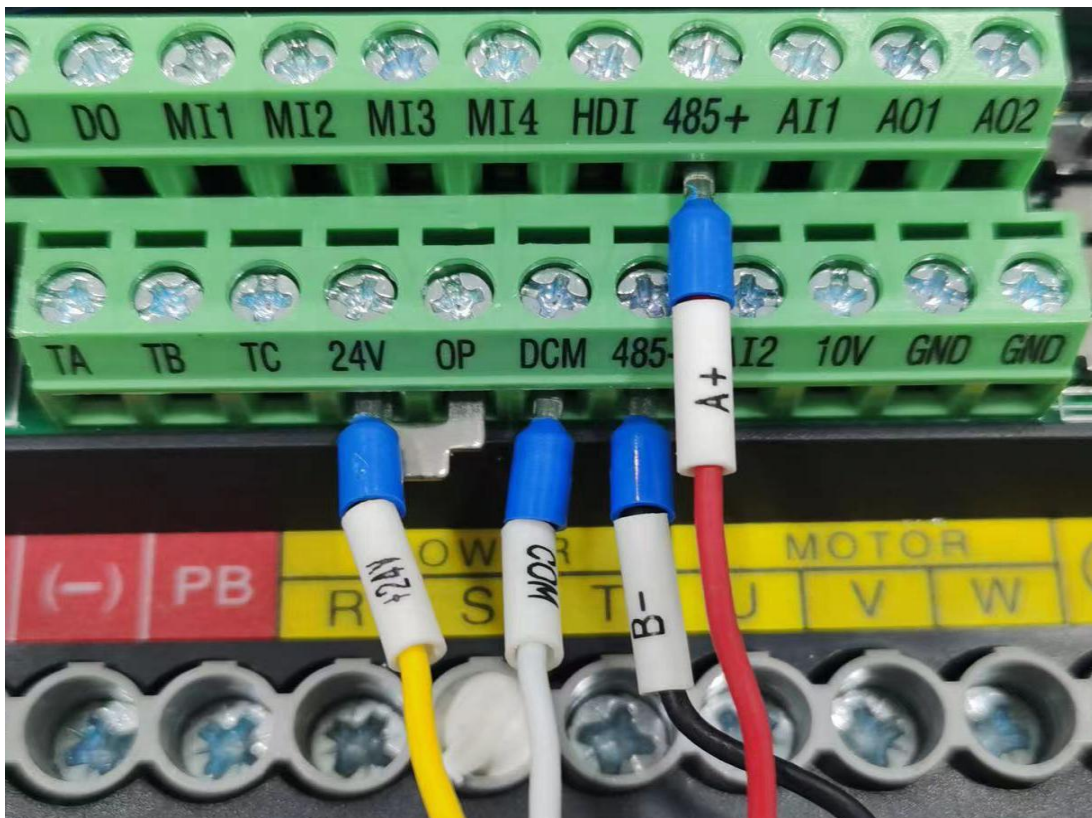
3 Technical parameters

3.1 Table Main Parameters of GT89-V Product

Parameter Item	Parameters	Notes
Network type	GPRS class12	
Encoding method	CS1 – CS4	Complies with SMG31bis technical specifications
Frequency band	GSM850MHz/EGSM900MHz DCS1800MHz/PCS1900MHz	
GPRS network transmission rate	Downlink: 85.6kbps, uplink: 85.6kbps	
Supports network protocols	TCP、UDP、FTP、PPP、DNS	
SIM card voltage	3V、1.8V	
Antenna Interface	50 Ω SMA female head	
Serial port level type	Industrial grade half duplex RS485	
Serial Port Baud Rate	1200~115200bps	
Power Supply	DC：7~36V	Standard 12V/1A power supply
Power Waste	Communication:<150mA	
	Idle:<35mA	
Working Temperature	-40~85℃	
Humidity Range	0~95%	No cooling
Electromagnetic Compatibility	Electromagnetic compatibility performance: electrostatic discharge reactance interference test level 3 Radio frequency electromagnetic field radiation: anti-interference test level: Level 3	

4 Product Features

◆ Product features: Large cache area design (serial port transceiver, built-in 8KB data cache), using dynamic partitioning technology to improve cache area utilization efficiency;

◆ The single packet data length can be set, with a maximum support of 1024B, suitable for continuous transmission of large amounts of data;

◆ 7-36V wide range power supply;

◆ Equipped with device power off function, convenient for user control;

◆ Data transmission is fully transparent, and users do not need to understand complex protocols such as TCP/IP and PPP;

◆ Support data center dynamic domain name, fixed IP, and fixed domain network access;

◆ Support backup data centers;

◆ Support APN virtual private network (VPN private network, requires application from network operator);

◆ Supports four working modes: client TCP/UDP, server TCP/UDP, SMS (short message data transmission), and MODEM;

◆ Supports always online, idle offline, and scheduled online and offline (if enabled, DTU will establish a connection with the server at the specified time every day);

◆ Support automatic reconnection after disconnection;

◆ Support local and remote graphical interface parameter configuration and maintenance;

◆ Support SMS parameter configuration and maintenance;

◆ Support the virtual serial port function of the data center, seamlessly connect with existing upper computer software, and achieve plug and play;

◆ Supports 7-bit, 8-bit, and 9-bit data transmission;

◆ Supports odd, even, Mark, and space validations;

◆ Multiple reliable software and hardware designs, combined with watchdog technology, ensure safe operation of the device.t

5 IOT module software download

◆ Support Android and Apple version of mobile phone, scan QR code and download with the browser of mobile phone.

Notes:

◆ When GPRS and inverter terminals are connected, pay attention to the 24V short connector. If it is loose, it cannot supply power to the IOT module.

◆ After the IOT module is correctly connected, the red LED of the IOT module flashes once every 3 seconds, indicating that the communication has been successful.

◆ If the red light is on for a long time, it means that the communication is not successful, and need to check the phone card.