1 Product Overview

GT90-V is a wireless data transmission terminal device based on **2G/3G/4G** network. It provides a fully transparent data channel and can realize remote, wireless and networked communication conveniently and quickly. Easily connect your devices to the Internet wirelessly.

GT90-V has many advantages such as wide network coverage, flexible and fast networking, and low operating costs. It can be widely used in power systems, industrial monitoring, traffic management, meteorology, water treatment, environmental monitoring, financial securities, coal mines, petroleum, new energy and other industries.

2 Product appearance

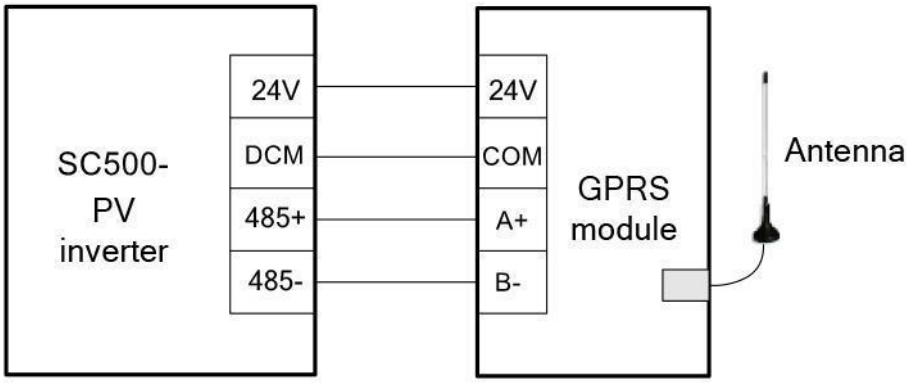
2.1 A complete set of IOT modules, including **IOT card**, **Antenna**, and **Data cable**:

Product Item	Display pictures	Notes
IOT card		
Antenna		Signal reception
Data cable		Connect the inverter and IOT card

2.2 Definition of terminal blocks:

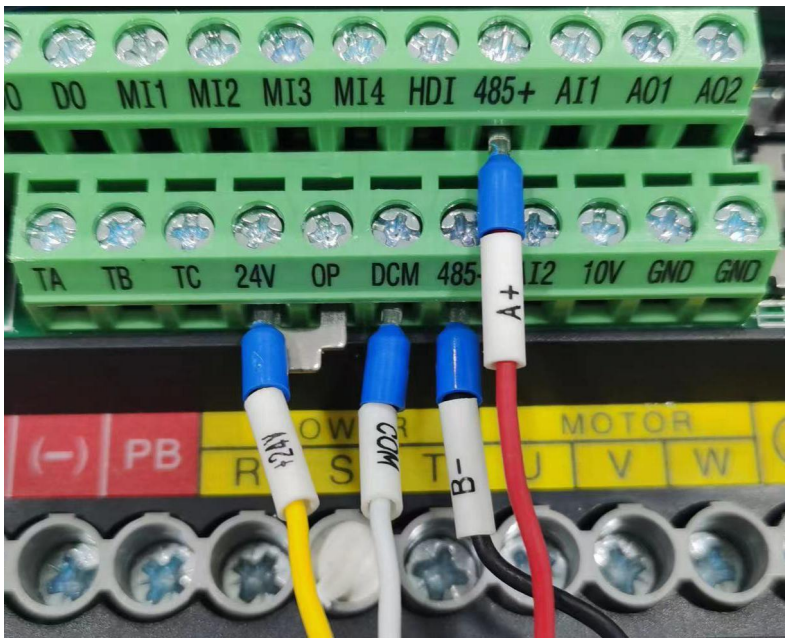
Terminal name	Designation	Notes
24+	Connect the 24V of the Inverter	**24VDC**
COM	Connect the Inverter DCM	**DCM**
A+	Connect the RS485+ of the Inverter	**485+**
B-	Connect the RS485- of the Inverter	**485-**

- 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 GT90-V Product

Parameter Item	Parameters	Notes
Frequency band	LTE FDD:B1/B3/B5/B8 LTE TDD:B38/B39/B40/B41 TD-SCDMA:B34/B39 WCDMA:B1/B8 CDMA:BC0 GSM:900/1800MHz	
4G network transmission rate	LET FDD: Maximum 150Mbps (DL), Maximum 50Mbps (UL) LTE TDD: Maximum 130Mbps (DL), Maximum 35Mbps (UL) DC-HSPA+: Maximum 42Mbps(DL) HSUPA: Maximum 5.76Mbps(UL) WCDMA: Max 384kbps(DL), Max 384kbps(UL) TD-SCDMA: Maximum 4.2Mbps (DL), Maximum 2.2Mbps (UL) EVDO: Max 3.1Mbps(DL), Max 1.8Mbps(UL) 1X Advaced: Max 307.2kbps(DL/UL) EDGE: Maximum 296Kbps (DL), Maximum 236.8Kbps (UL) GPRS: Maximum 107Kbps (DL), Maximum 85.6Kbps (UL)	
Support network protocol	TCP、UDP、FTP、PPP、DNS	
SIM card voltage	3v、1.8v	
Antenna interface	50Ω SMA female	

Serial port level type	RS485	
Serial parameters	Baud rate: 1200~115200bps, Data bits: 8, Parity: Odd, Even stop bits: 1	
Power	DC: 12~24V	Typical value 24V/0.6A
Power Consumption	Communication: <60mA@24V Idle: <35mA@24V	
Working temperature	-40~85℃	
Humidity range	0~95%	
Electromagnetic Compatibility	Electromagnetic Compatibility: Electrostatic Discharge Immunity Test Level 3 Radio Frequency Electromagnetic Field Radiation: Immunity Test Level: Level 3	

4 Product Features

- Hardware watchdog design to ensure the system is stable and reliable;
- Comes with a disconnection reconnection mechanism to ensure that the device is permanently online;
- RS485 built-in 15kV ESD protection;
- Embedded standard TCP/IP protocol stack, supporting transparent data transmission;

- Support data center dynamic domain name, fixed IP, fixed domain name network access;
- Support virtual private network (VPN private network, need to apply to the network operator);
- Support the automatic collection function of Modbus registers, which can collect up to 128 registers at a time;
- Support local and remote graphical interface parameter configuration and maintenance;
- Support up to 8 custom time period start-stop settings, users can use this function to set the start-stop time period of the corresponding equipment;

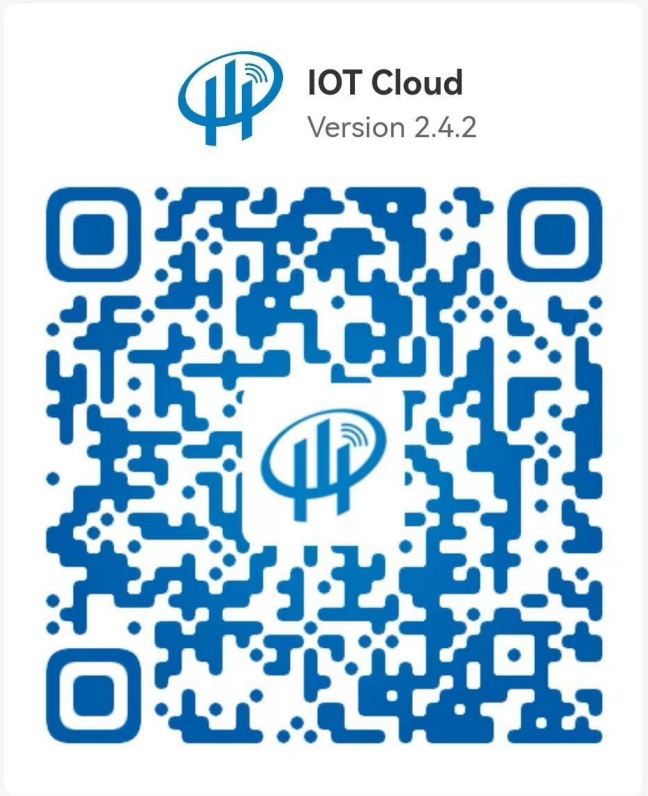
5 SIM card usage instructions

When using a SIM card, please first pay attention to the **OPEN** and **LOCK** words and directions on the SIM card holder. As shown in the picture, gently press and hold the card cover and slide it down to open the SIM card holder; press and hold the card cover and gently slide it up to close it. Tighten the SIM card holder.

Note: The card holder is a wearing part, please handle it with caution.

6 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.
- Confirm whether the SIM has turned off functions such as PIN code or PUK code.