

Logger in GPRS version

# Specification

Photovoltaic Data Logger Datasheet

Installation Instructions



## Monitoring and debugging instructions

### (key words):

1、 Account information:

Monitoring platform:www.smart-pv.net

Country: Global

Account number: MrPeruer

Password:123456

2、 Inverter communication parameters:

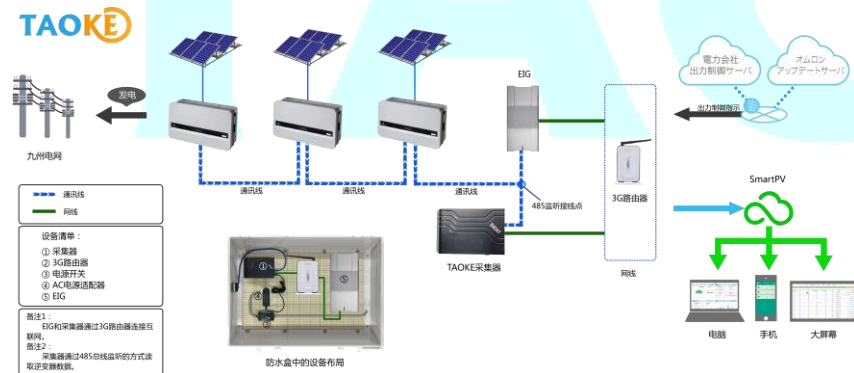
Address code: 1

Baud rate: 2400

Wiring mode: RS485

3、 Collector Networking: connecting 3G routers to the Internet

Note: Setting up the collector IP address must be in the same network segment as the 3G router IP (refer to the collector setup instructions in detail).



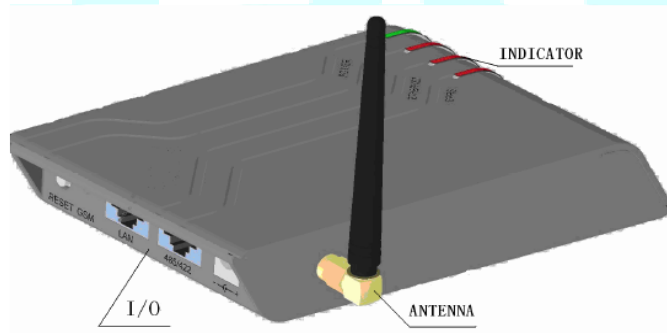
# GSM GPRS Photovoltaic Data Logger

## TK-G10-XX series

### 1. General

TAOKE GPRS data logger for Photovoltaic plants collects the operation data of inverter, weather station, meter data etc. by RS485/422, and sends these data to website via mobile network or Ethernet.

User can check the plants status by logging on to the Platform Website. ([www.smart-pv.net](http://www.smart-pv.net))



### 2. Parts List

- 1). TK-G01 Data logger Series
- 2). Power Adapter (100-220VAC input, 12VDC/1A output)
- 3). Operation manual

### 3. Parameter

Power supply	100~240V(AC) / 12V 1A(DC)
Static power consumption	<2W
Active power consumption	<8W
Indication for status	4 front + 1 back
Internet connection	GPRS + Ethernet
Support frequency band	GSM900/1800/850/1900
Ethernet connection	10BASE-T/100BASE-TX
Ethernet interface	RJ45-CAT5
Device connection	RS485/422
RS485/422 baud rate	1200~38.4K bps
RS485/422 cable length	≤1000m
RS485/422 interface	RJ45
Data collection interval	5~30min
Operation Temp.	-10~55°C(14~131°F)
Protection type	IP21(Indoor)
Installation	Wall-mounted or place flatwise
LXWXH	135x85x25mm

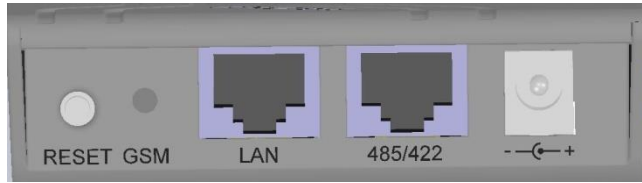
### 4. Naming Method

#### TK-G10-XX

Max number device

Sending Data via GPRS or Ethernet

## 5. I/O illustration



RESET: Key for reset to "IP address allocated via DHCP automatically"

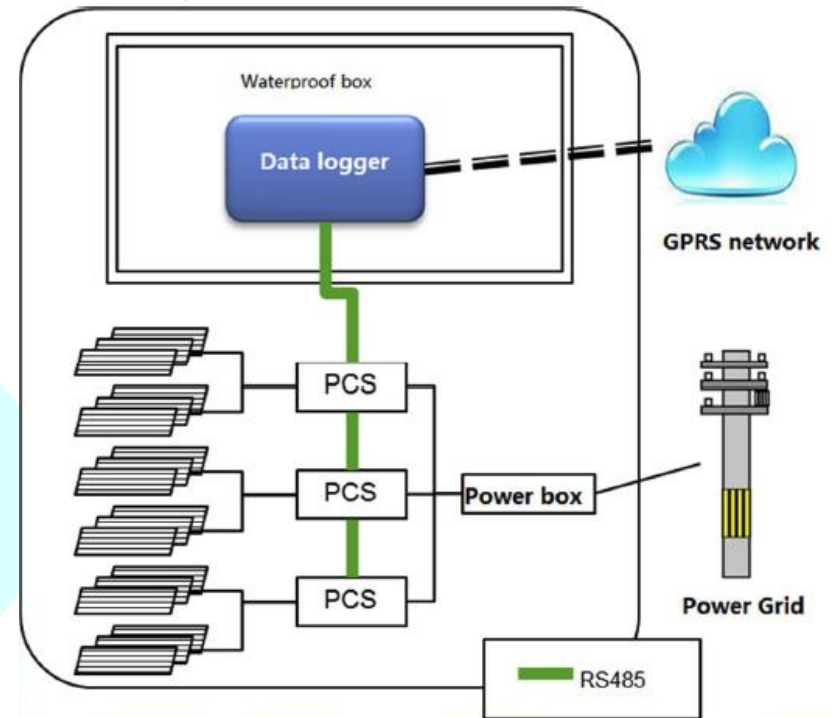
GSM: GSM indicator

LAN: Ethernet socket

485/422: RS485/422 socket

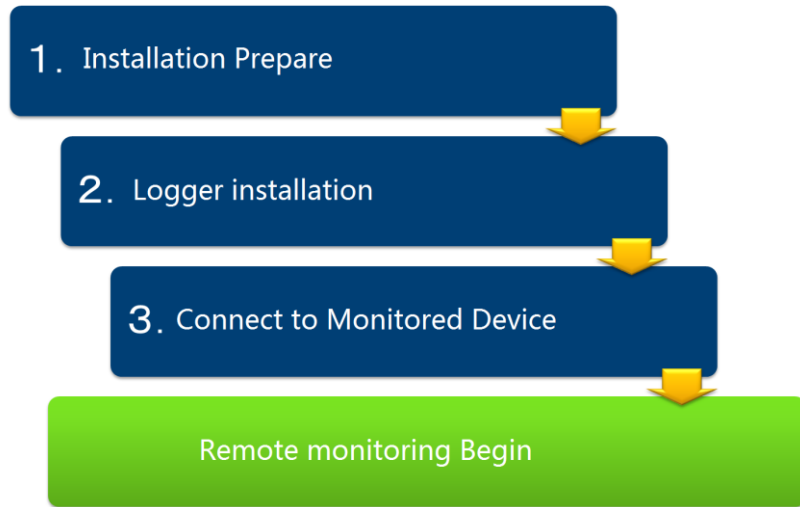
--⏻+: DC power socket

## 6. Monitoring layout



Collect the photovoltaic plants data and alarm by RS485/422 line connecting to plants devices. The data is sent to platform Database by GPRS mobile network.

## 7. Installation procedure



### 7-1.Preparation

#### 1). Monitored device confirm

Please confirm the monitored devices and loggers work in good condition before monitoring system do the connecting.

#### 2). Internet confirm

Please confirm that there are internet resource in device area to make the GPRS logger send the data to platform Database.  
(GPRS signal should be confirmed.)

#### 3). Power supply confirm

Please confirm there are enough power supply in installation zone for logger or modern (when logger need be connected to modern or router).

#### 4). Material and Tools

Please prepare these material and tools before installation.

#### ■ Material

1	RJ45 terminal	Based on the quantity of the loggers
2	RS485 lines Shielded twisted pair (STP) or lines attached in devices or RS485 dedicated.	
3	Standard Ethernet lines	
4	Lines, breaker and socket	
5	Waterproof box(IP65 for the special situation )	

#### ■ Tools

1	Cable Strippers
2	Diagonal pliers
3	Various sizes of screwdrivers (Plus / minus)
4	Resistance Components (120Ω と 150Ω)
5	Tester (Multimeter and Insulation pen)

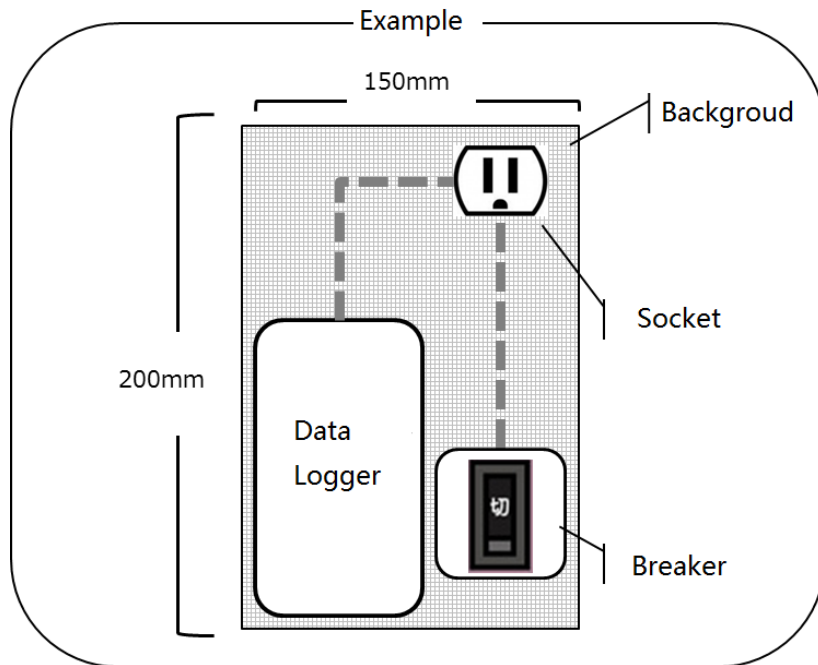
## 7-2. Logger installation

### 1). Installation

Logger should be installed in a dry and ventilative place. It can be mounted on the wall or put on a level place. If on the wall, there are 2 installing holes which can be used to fix.

### 2). Power protection

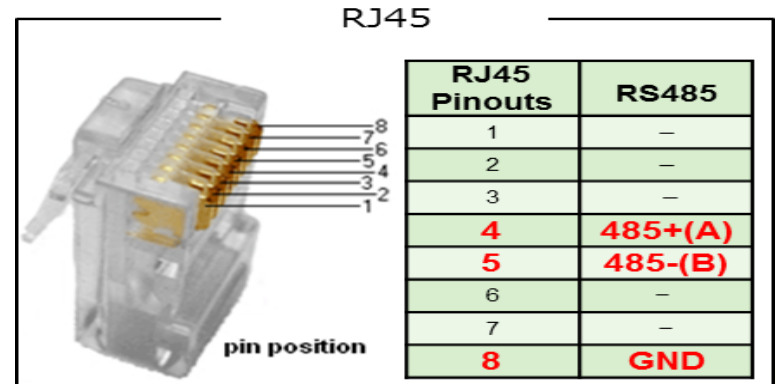
Please set the socket and breaker basing on the local rules.



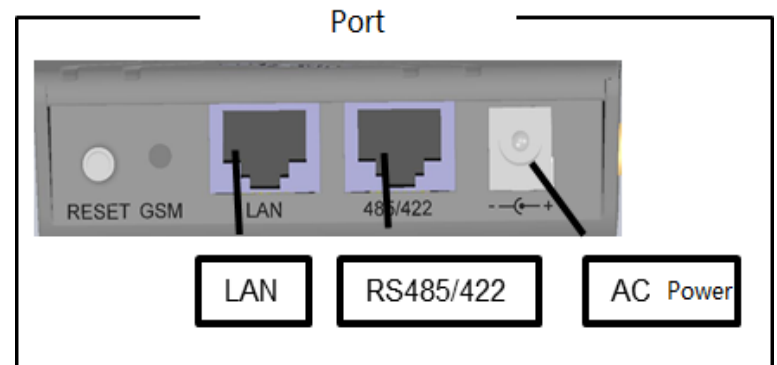
## 7-3. Connect to monitored devices

### 1). RS485 line make method

Please make the RS 485 +(A) and 485 -(B) and GND connect to RJ45 Line 4 and Line 5 and Line 8 point. This 485 line length will be longer than the distance between logger and devices.



2). Connect the RS485 port to monitored devices with RS485 line .About line and port, please consult the installation manual.



### 3). Logger start up

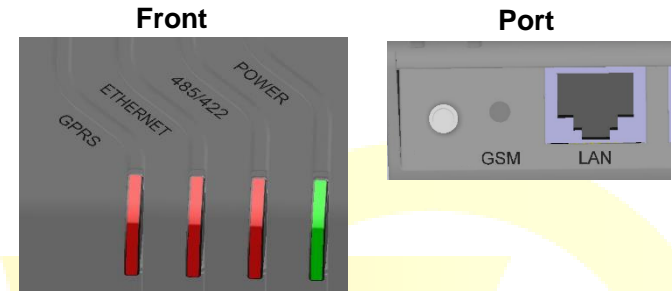
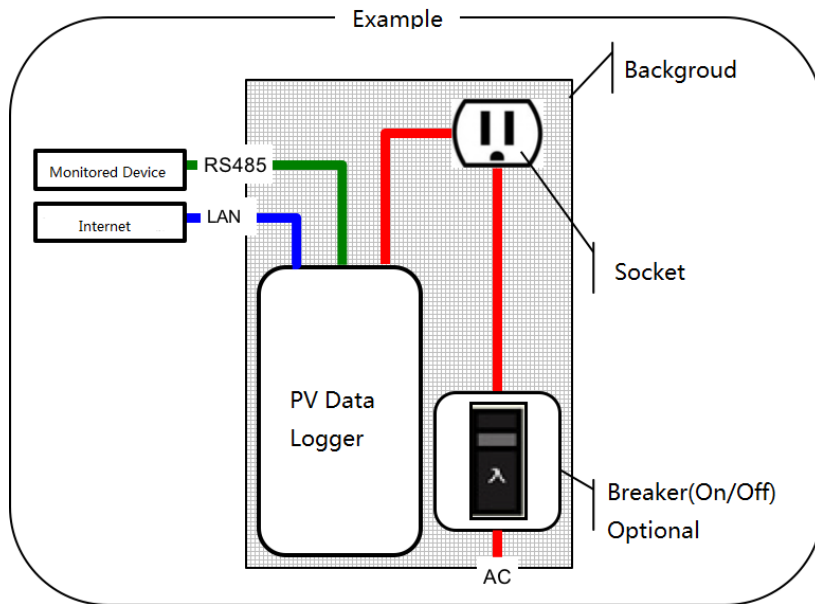
Connect the logger power to socket. Switch the power. Please confirm the Logger LED light and finish the installation.

POWER : On

485/422 : Blink in few minutes

GSM : On-link

## 8. LED instructions



LED Label	LED State	Indicator Meaning
POWER 485/422	Always	: On
	Off	: No devices on line
	Fast blink	: Now collecting
ETHERNET	Always	: All is ok
	Slow blink	: few device can't be connected
	Off	: No internet
GPRS	Always	: internet is ok
	Fast blink	: seek the IP address
	Slow blink	: Abnormal for seeking
GSM	Off	: No GPRS net
	Always	: GPRS is ok
	Fast blink	: seek the GPRS net
LAN	3 Fast blink	: SIM is not ready
	Off	: No GPRS net
	Always	: Seek the GPRS signal
LAN	Slow blink	: GPRS is ok
	Fast blink	: Exchange
	Blink	: Ethernet is ok

## Data Logger Troubleshooting

LED	Reason	Troubleshooting
Power Off	DC power don't connect or get loose	Check the line and reconnect.
	Adaptor bad	Change the power adaptor.
RS485/422 Off /Blink	It's not connected or get loose	Check the cable among the logger and PV device.
	Device fault	Confirm which one is bad ,logger or monitored device
	Set error	Check the logger setting and confirm if the information is right.
ETHERNET Off	It's not connected or get loose	Reconnect the cable. Check the LED light on Logger and router to confirm if 2 lights are on.
ETHERNET Blink	IP address error	If the light is keeping blinking, It mean that Automatically obtaining IP address failed. Please try to reset the logger. Other way , you can modify the IP address set