Remote Temperature Sensor RTS-D47K

- Thank you for choosing the remote temperature sensor RTS-D47K, please read this manual carefully before using the product.
- Do not install the remote temperature sensor in the humid, high salt spray, corrosive, greasy, flammable, explosive, dust accumulative or other harsh environments.

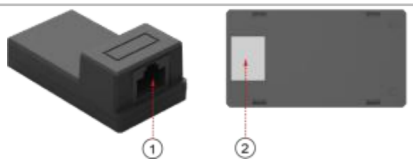
1. Overview

The RTS-D47K is a newly designed digital remote temperature sensor, which can be used for battery temperature detection without BMS and other equipment. By attaching the RTS-D47K close to the battery or other equipment to be tested, the temperature of the equipment can be detected in real time. And through RS485 communication, the temperature data is transmitted to the controller or inverter/charger to improve the system safety.

The naming rule is as follows:

RTS	Remote temperature sensor
D	Digital communication
47K	The resistance is 47KΩ at 25℃.

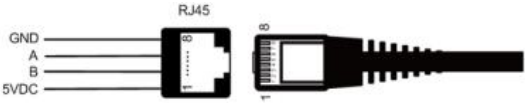
2. Appearance



① RJ45 communication port

② Aluminum block (with thermistor inside, it needs to be tightly attached to the surface of the battery or other equipment to be tested)

The pins definition of RJ45 communication port is as follows:



Pin	Definition	Pin	Definition
1	+5VDC	5	RS485-A
2	+5VDC	6	RS485-A
3	RS485-B	7	GND
4	RS485-B	8	GND

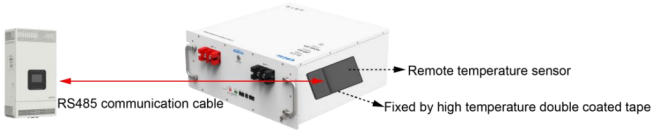
3. System Wiring

Step 1: Tear off the high temperature double coated tape on the back of the remote temperature sensor RTS-D47K and attach it tightly to the surface of the battery or other equipment that needs to collect temperature data.

Note: The aluminum block of the RTS-D47K should be attached tightly to the surface of the equipment to be tested, which must be clean and tidy.

Step 2: Connect the RTS-D47K to the controller or inverter/charger through RS485 communication cable. The temperature data collected by RTS-D47K is transmitted to the controller or inverter/charger through RS485 communication.

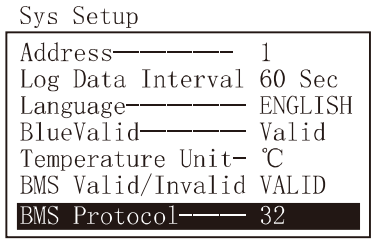
Note: Please purchase the communication cable for connecting the RTS-D47K with the controller or inverter/charger according to the actual communication port.



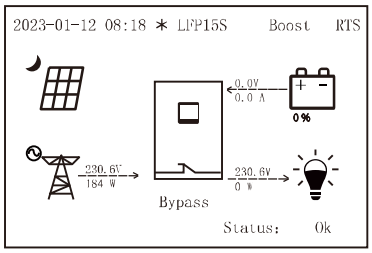
4. Parameter Settings

(1) Inverter/charger

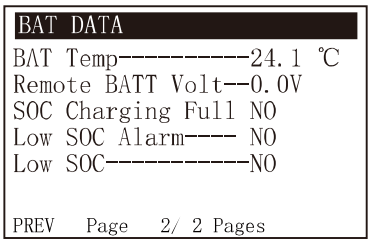
Enter the "Sys Setup" interface on the LCD,set the "BMS Valid/Invalid" as "Valid", and set the "BMS Protocol" as "32".



After successful settings, return to the home page. "Status: Ok" indicates the connection is successful, as shown below:

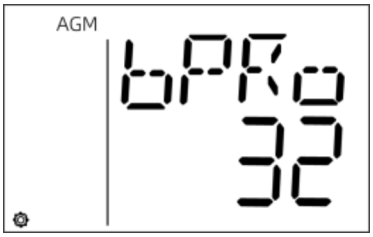


To view the real-time battery temperature, click on the battery icon to enter the “BAT DATA” interface as follows:

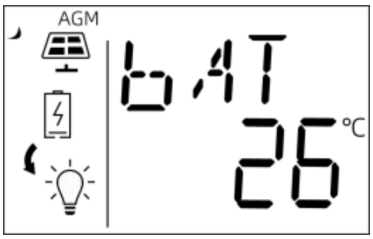


(2) Controller

Press the up/down buttons to navigate to the interface below and set the protocol number as "32".



After successful setting, return to the home page and you can see the real-time temperature, indicating that the connection is successful.



5. Technical Specifications

Product Model	RTS-D47K
Operating Voltage	5V±0.5V (Powered directly by RS485 communication port)
Operating Current	＜20mA
Enclosure	IP30
Communication Method	RS485
Operating Temperature	-40℃ to 85℃
Net Weight	15.5g

6. Disclaimers

The warranty does not apply to the following conditions:

- Damage caused by improper use or inappropriate environments (Do not install the remote temperature sensor in the humid, high salt spray, corrosive, greasy, flammable, explosive, dust accumulative or other harsh environments).
- The actual current/voltage exceeds the limit value of the remote temperature sensor.
- Damage caused by operating temperature exceeding the rated temperature range.
- Unauthorized disassembly and maintenance of the remote temperature sensor.
- Damage caused by force majeure such as lightning strikes, rainstorms, mountain torrents and utility failures.
- Damage occurred during transportation or loading/unloading the remote temperature sensor.

Any changes without prior notice!

Version number: V1.0