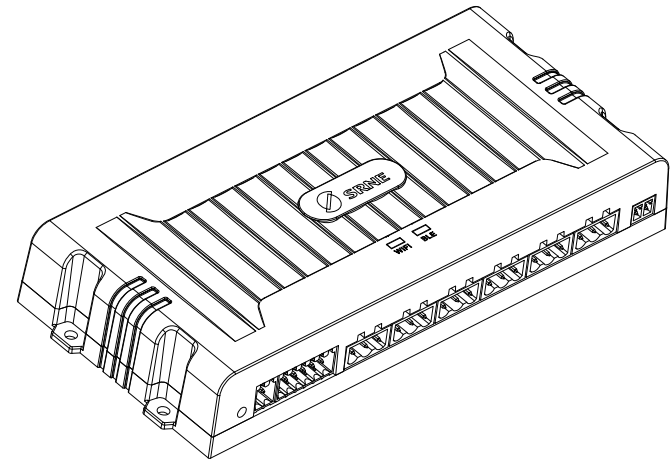













# Data acquisition control unit SR-CU2 User Manual



Dear users:

Thank you for choosing our products!

### Safety Instructions

-  1. There are no parts inside the product that require maintenance or repair, and it cannot be disassembled by yourself.
  -  2. Please install the product indoors to prevent water from entering the interior of the product.
  -  3. It is recommended to install the product in a well-ventilated place.
  -  4. It is recommended to install a suitable fuse or circuit breaker outside the product.
  -  5. Please do not violently plug or unplug the device cable to avoid poor communication.
  -  6. After installation, check whether all line connections are tight to avoid poor communication caused by virtual connections on the interfaces.
  -  7. Please do not place this product in an area with flammable and explosive materials.
  -  8. Power off the relay-related equipment first, and then install and adjust the relay wiring.
-  **Warning:** Indicates that this operation is dangerous. Safety preparations must be made before operation.
-  **Note:** This operation is destructive.
-  **Tip:** Indicates suggestions and tips for the operator.

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# 1. Product introduction

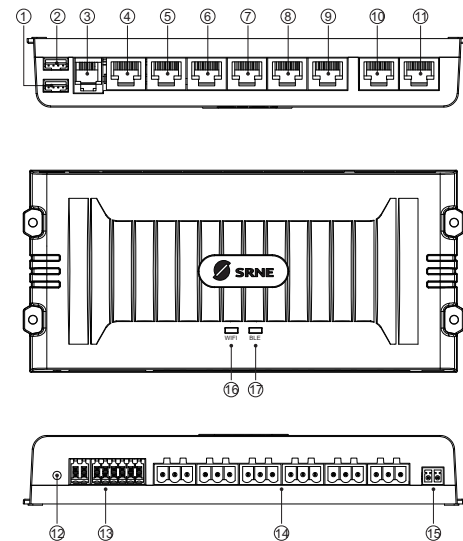
## 1.1 Product Overview

The SR-CU2 Data Acquisition Control Unit supports WIFI or Bluetooth communication and can perform data collection and remote control of inverters, DC chargers, solar controllers, batteries, and coulomb counters. It is the core of the RV system. Ministry of Communications it has the functions of multi-channel temperature acquisition, liquid level acquisition and multi-channel programmable relay control; it has the characteristics of simple structure and convenient installation.

## 1.2 Product features

- ◆ Support DC10~100V power supply.
- ◆ Support TTL, RS232, RS485, CAN communication.
- ◆ Support WIFI or Bluetooth communication.
- ◆ Support multi-channel temperature monitoring.
- ◆ Support multi-channel liquid level monitoring.
- ◆ Support multiple programmable relays.
- ◆ Support remote OTA upgrade.
- ◆ Industrial grade components, operating temperature range: -35°C~65°C.
- ◆ Simple structure and convenient installation.

## 1.3 Appearance and interface



序号	名称	名称
①	TTL2	TTL communication port
②	TTL1	TTL communication port
③	RS232	RS232 communication port
④	RS485/CAN-1	RS485/CAN communication port, non-isolated communication
⑤	RS485/CAN-2	RS485/CAN communication port, non-isolated communication
⑥	RS485/CAN-3	RS485/CAN communication port, non-isolated communication
⑦	RS485/CAN-4	RS485/CAN communication port, non-isolated communication
⑧	RS485/CAN-5	RS485/CAN communication port, non-isolated communication
⑨	RS485/CAN-6	RS485/CAN communication port, non-isolated communication
⑩	RS485-7	RS485 communication port, non-isolated communication
⑪	BMS.RS485/CAN-8	BMS RS485/CAN communication port, non-isolated communication
⑫	WIFI	WIFI communication indicator light
⑬	BLE	Bluetooth communication indicator light
⑭	Reset	Reset/factory setting buttons
⑮	Temp.or Tank	8 sets of temperature/liquid level detection ports
⑯	Relay	6 sets of relay dry contact outputs
⑰	DC10~100V	Power input interface

## 2. Product application

### 2.1 Specification parameter table

Product number	SR-CU2
Input voltage range	DC10~100V
Communication function	BLE/WIFI, TTL, RS232, RS485, CAN(RV-C)
BLE	2.4GHz
WIFI	802.11a/b/g/n 1*1; 2.4GHz/5GHz
Buzzer	Support fault alarm
Static power	< 1.2W
Ambient temperature	- 35°C~65°C
Cooling method	Natural heat dissipation
Size	183.0*84.0*28.5mm
Weight	265g

### 2.2 Definition and description of indicator lights

Indicator light	Indicate color	Instruction method	Status description
BLE and WIFI	Blue and Green	Single flash at the same time	Standby
BLE	Blue	Flashing	Data sending
		Steady	Connected, no data transmission and reception
		On off	Is not connected
WIFI	Green	Flashing	Data sending and receiving
		Always on	Connected to the Internet, no data sent or received
		Go out	Not connected to the internet

### 2.3 Button description

Button	Operate	Illustrate
Button	Press and hold for 2S	Reset
	Press and hold for 5S	Restore factory settings (relay returns to default manual mode, status is off)

### 2.4 TTL communication

- 1) The default baud rate is 9600bps; parity bit: none; data bit: 8bit; stop bit: 1bit
- 2) The interface is defined as follows:

S/N	Definition
①	NC
②	TX data sending
③	RX data receiving end
④	Power ground/signal ground

### 2.5 RS485/CAN-1~6 communication

- 1) RS485 communication :  
Default baud rate 9600bps; Parity bit: None; Data bit: 8bit; Stop bit: 1bit  
Interface type: RJ45
- 2) CAN communication: default baud rate 250kbps; supports RV-C protocol
- 3) RJ45 interface communication line sequence definition:

S/N	Definition
①	CAN_L
②	CAN_H
③	NC
④	NC
⑤	Power ground/signal ground
⑥	D-
⑦	D+
⑧	NC

### 2.6 RS485-7 isolated communication

- 1) RS485 communication :  
Default baud rate 9600bps; Parity bit: None; Data bit: 8bit; Stop bit: 1bit  
Interface type : RJ45
- 2) RJ45 interface communication line sequence definition :

S/N	Definition
①	NC
②	NC
③	NC
④	NC
⑤	Power ground/signal ground
⑥	D-
⑦	D+
⑧	NC

## 2.7 BMS.RS485/CAN-8 isolated communication

1) RS485 communication:

Default baud rate 9600bps; Parity bit: None; Data bit: 8bit; Stop bit: 1bit

Interface type: RJ45

2) CAN communication: default baud rate 250kbps; supports RV-C protocol

3) RJ45 interface communication line sequence definition:

S/N	Definition
①	D-
②	D+
③	Power ground/signal ground
④	CAN_H
⑤	CAN_L
⑥	Power ground/signal ground
⑦	D+
⑧	D-

## 2.8 RS232 communication

1) RS232 communication:

Default baud rate 9600bps; Parity bit: None; Data bit: 8bit; Stop bit: 1bit

Interface type: RJ12

2) RJ12 interface communication line sequence definition:

S/N	Definition
①	RX data receiving end
②	TX data sending end
③	Power ground/signal ground
④	Power ground/signal ground
⑤	NC
⑥	NC

## 2.9 Programmable relay output

(1) Single pole double throw relay.

(2) Relay contact specifications 250VAC/6A, 30VDC/6A.

(3) From left to right, they are NO (normally open contact), COM (common point), and NC (normally closed contact).

(4) Relay triggering conditions:

1) Manual mode: When the relay switch on the APP is turned off, the relay coil does not work and is in a normally closed state (COM and NC are connected); when the relay switch on the APP is turned on, the relay coil works, in the normally open state (COM and NO are connected)

Trigger mode: Automatically runs according to the trigger conditions set by the APP.

S/N	Definition
①	NO(normally open contact)
②	COM(common point)
③	NC(normally closed contact)

## 2.10 Temperature and liquid level detection channel

Figure 2.10-1 has a total of 8 channels. By default, CH1~CH2 are temperature detection channels, and CH3~CH8 are liquid level detection channels.

CH1~CH8 channels support APP for switching configuration of temperature or liquid level.

The temperature detection channel needs to use the NTC standard temperature sensor model 10KF3950.

The liquid level detection channel supports 0~190y and 240~33y standard liquid level sensors.

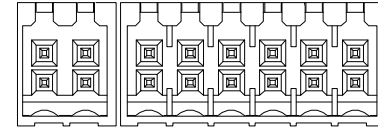


Figure 2.10-1

The temperature/liquid level detection channel uses the wire as shown in Figure 2.10-2. It is recommended to use a wire stripper to strip 8~10mm of the wire.

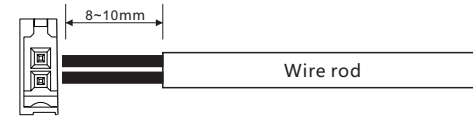


Figure 2.10-2

## 2.11 BLE/WIFI communication and APP download QR code

SR-CU2 integrates BLE and WIFI dual modules, and can connect to BLE or WIFI through the APP to monitor and set data.

APP download QR code:



### 3. APP setting operation

#### 3.1 About WiFi distribution network

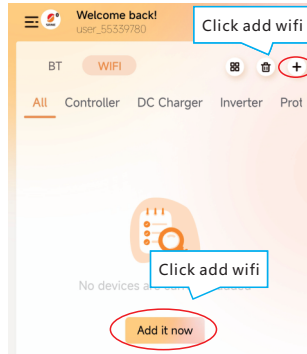


Figure 3.1-1

Open the App to enter, Figure 3.1-1 click Add Now or click the (+) sign on the upper right to enter Figure 3.1-2.

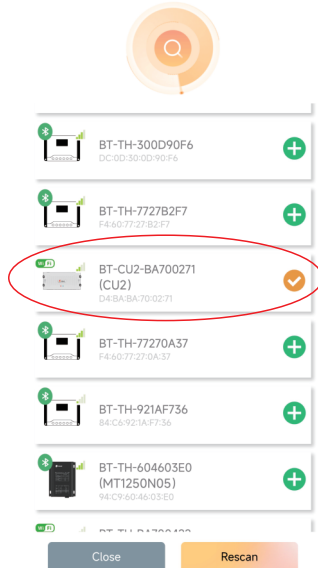


Figure 3.1-2

Search and select ALL or WIFI search to find the name BT-CU2-BA\*\*\*\*\*, click (+) to configure the network.

As shown in Figure 3.1-3:

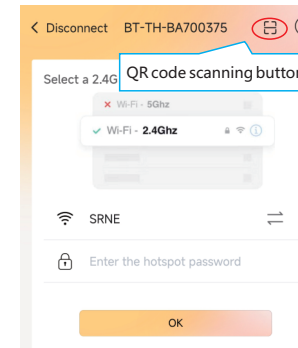


Figure 3.1-3

Enter Figure 3.1-3, select the WIFI you want to use and enter the password, click "Confirm" to enter Figure 3.1-4 (the QR code scan button in the upper right corner can also directly scan the shared WIFI QR code to connect).

Connecting device

Confirm that the device is near the router



Figure 3.1-4:

Enter Figure 3.1-4 and wait.

## 4. Frequently asked questions and solutions

Phenomenon	Describe	Approach
The indicator light is off	BLE is not connected or WIFI is offline	1).Research and connect to BLE 2).Re-configure the WIFI network 3).Check whether the power supply of the device is normal
The relay does not work	The relay does not work	Re-fix the wiring of the relay dry contact
Device offline	Poor contact of the communication terminal	Re-fix the communication terminal

## 5. Product installation

### 5.1 Product installation

- ◆ Should be installed indoors to avoid direct sunlight and rainwater infiltration.
- ◆ It is forbidden to connect the input power supply reversely during installation, otherwise it will cause irreversible damage!

### 5.2 Installation steps

#### Step 1: Choose an installation location

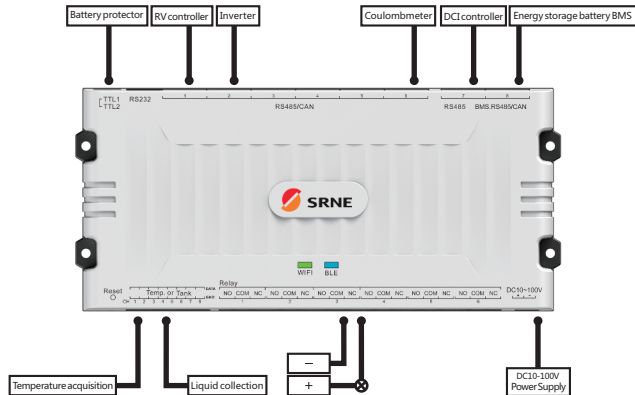
Avoid installation in places exposed to direct sunlight, high temperatures and water, and ensure that the surrounding area is well ventilated.

#### Step 2: Fix the product

Mark the installation position according to the installation dimensions of the product, drill 4 mounting holes of appropriate size at the 4 marks, then align the product fixing holes with the 4 pre-drilled mounting holes, and then tighten the 4 screws to secure them. (It is recommended to fix the screws diagonally first).

#### Step 3: schematic diagram of communication application

According to the interface form of the communication port of the monitored equipment in the system, connect it to the communication interface of the main control through the communication line. COM7 of RS485 communication is for isolated communication, and COM8 is connected to the energy storage battery communication.



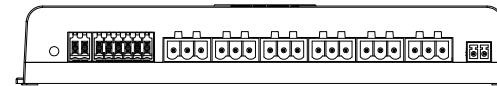
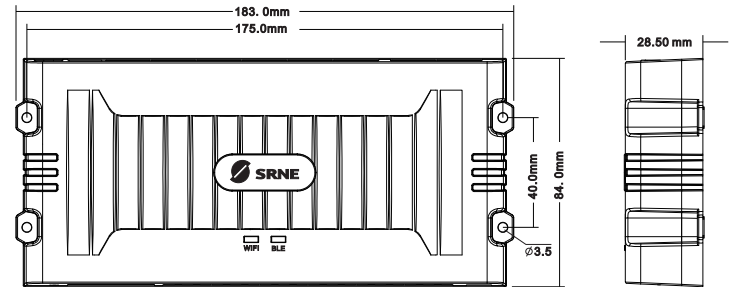
## 6. System maintenance

In order for the product to maintain optimal working performance for a long time, it is recommended that the following items be checked regularly.

- ◆ Check the wiring terminals for corrosion, insulation damage, high temperature or signs of burning / discoloration, chassis deformation, etc. If any are found, please repair or replace them in time.
- ◆ If the inspection finds that the wires are exposed, damaged, or have poor insulation performance, they should be repaired or replaced in time.
- ◆ Check if there is dirt, nesting insects and corrosion and clean it in time.

Warning: Electric shock hazard! When performing the above operations, be sure to ensure that all power supplies are disconnected before performing corresponding inspections or operations! Non-professionals, please do not operate without authorization.

## 7. Product size



Product size : 183.0\*84.0\*28.5mm  
Mounting hole spacing : 175.0\*40.0mm  
Fixing hole position : 3.5mm