SONBEST SC7261B RS485 Interface Led Display Voltage Controller Video User Manual

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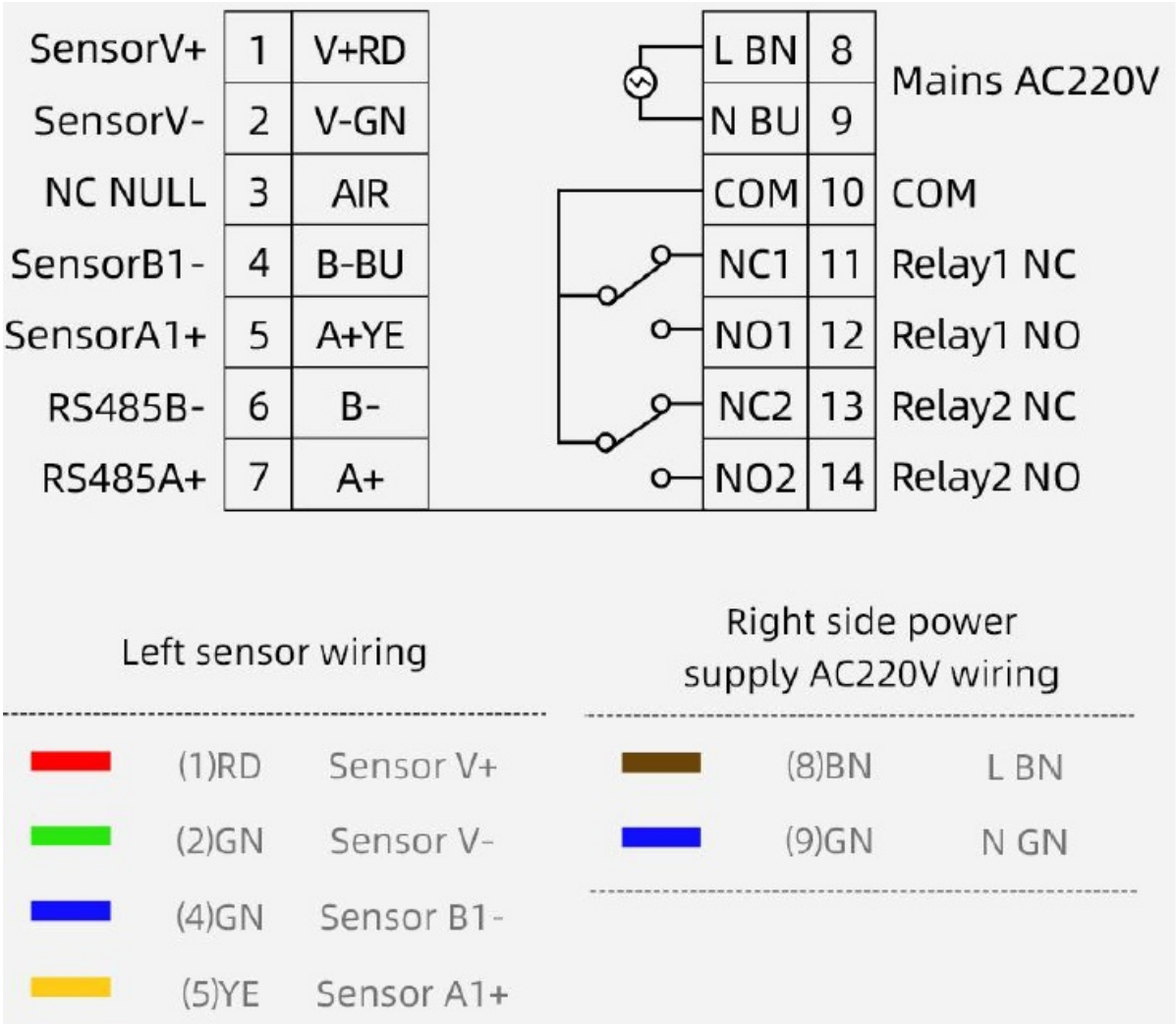
SC7261B uses the standard RS485 bus MODBUS RTU protocol, easy access to PLC DCS, and other instruments or systems for monitoring DC5Vvoltage state quantities. The internal use of high precision sensing core and related devices to ensure high reliability and excellent long-term stability can be customized RS232, RS485, CAN,4 20mA, DC0~5V 10V, ZIG BEE, Lora, WIFI, GPRS, and other output methods.

Technical Parameters

Technical parameter	Parameter value
Brand	SONBEST
Input Signal	DC0~5V voltage
Communication Interface	RS485
Default baud rate	9600 8 n 1
Power	AC185~265V 1A
Running temperature	-40~80°C
Working humidity	5%RH~90%RH

WIRING METHOD IS bSIMPLE AND CLEAR

The wiring is simple and easy to understand, no complicated operation is required



HIGH SENSITIVITY INDUSTRIAL DESIGN

Every detail has undergone many manual tests and repeated revisions, just to bring you a better experience, and carefully create high-quality products

DETAILED BUTTON EXPLANATION

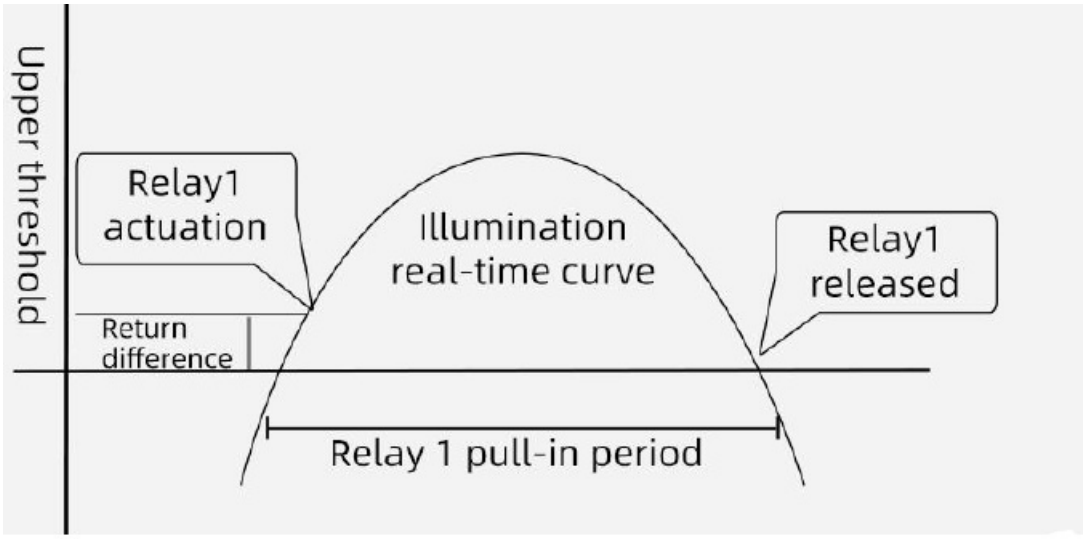
In Standard MODBUS-RTU protocol, the default baud rate is 9600, parity bit, 8 data bits, the software can change parameters such as threshold, and real-time query of illuminance data through RS485

- Click “Set” once to enter the upper threshold setting Press “) ” to select the position and press “A” and “V” to adjust the value. In modes 1 and 3, when the value is greater
  than the upper threshold, relay 1 will act. Upper threshold: default 50000, maximum 100000
- Click “Set” twice to enter the lower limit Threshold setting Press “) ” to select the position and press “A” and “V”

to adjust the value. In modes 2 and 3, when the value is lower than the lower limit threshold, relay 2 will act.
Lower limit threshold: default 0, maximum 100000

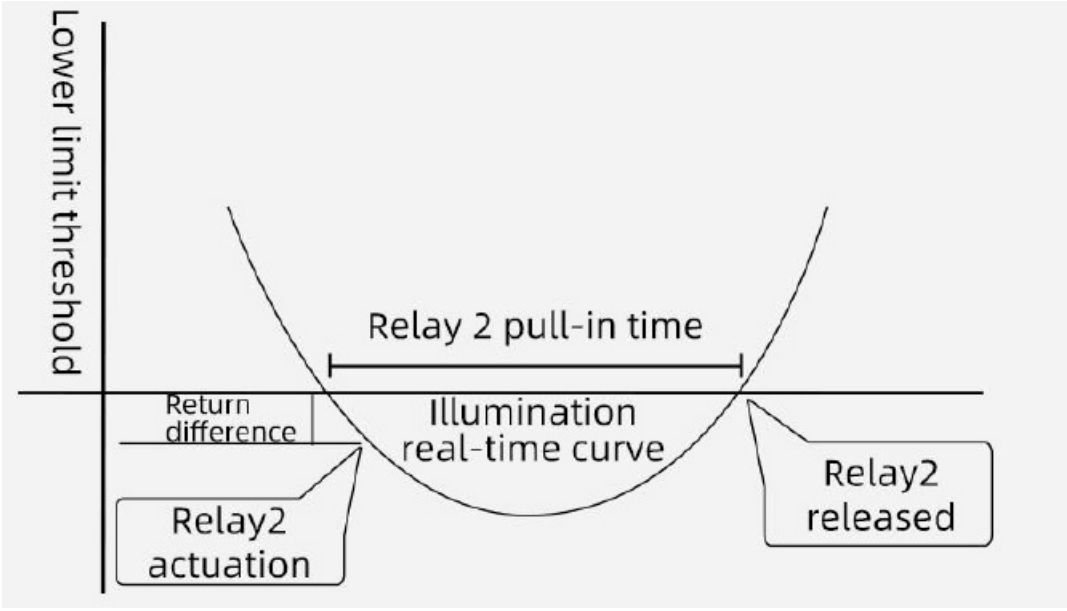
- Click “SET” three times to enter the control hysteresis setting Press “) ” to select the position and press “A” and “V” to adjust the value. The default value is 1000 and the maximum is 100000.
- Click “SET” four times to enter the control mode setting Press “)” to select the position and press “A” and “V” to adjust the value.
  Mode 1: Action above the upper threshold
  Mode 2: Action following the lower threshold
  Mode 3: Action above the upper limit / Action below the lower limit.

Mode 1: Action above the upper threshold Only relay 1 is in use



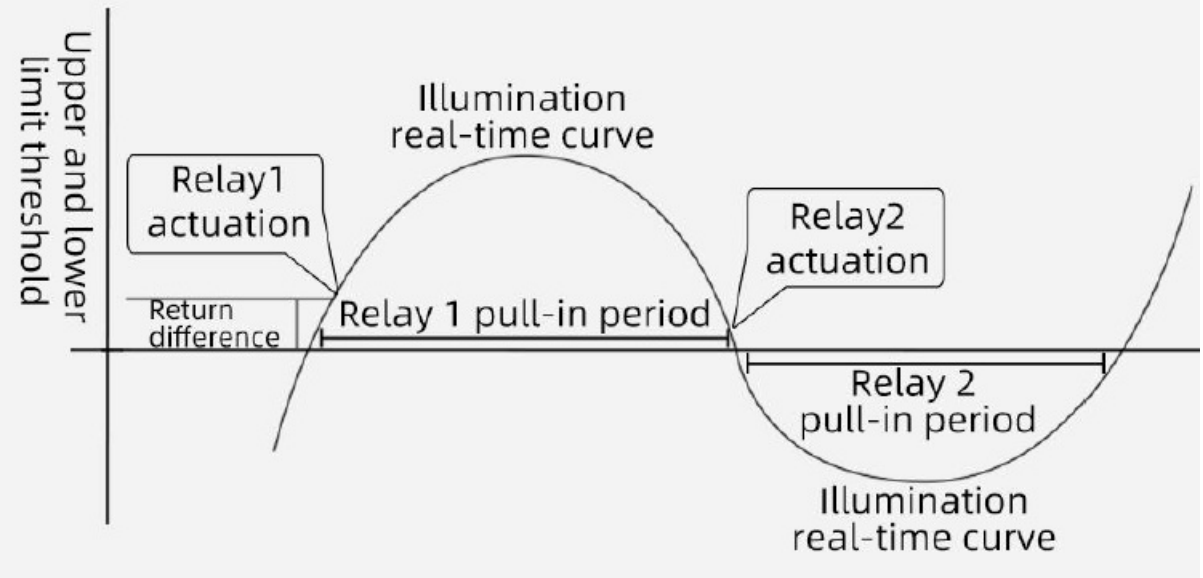
Turning on and off the light control device
Relay 1 pull-in operating conditions:
measured value> upper limit threshold+ return difference Relay 1 release operating conditions: measured value <upper limit threshold-return difference XAs shown in the figure above when the measured value is higher than the upper threshold plus the difference, the controller’s internal relay Device 1 pulls in and opens the awning device; when the light level drops to the upper threshold
minus the difference, Relay 1 then opens and closes the awning.

Mode 2: Action below the lower limit threshold
Only relay 2 is in use



Turning on and off the light control device
Relay 2 pull-in operating conditions: measured value <lower limit threshold return difference
Relay 2 release operating conditions: measured value> lower limit threshold+ return difference XAs showed above, when the measured value is lower than the lower threshold minus the difference, the controller's internal relay Device 2 pulls in and closes the awning device; when the light level rises to the lower threshold plus the difference, Then relay 2 opens and the awning opens.

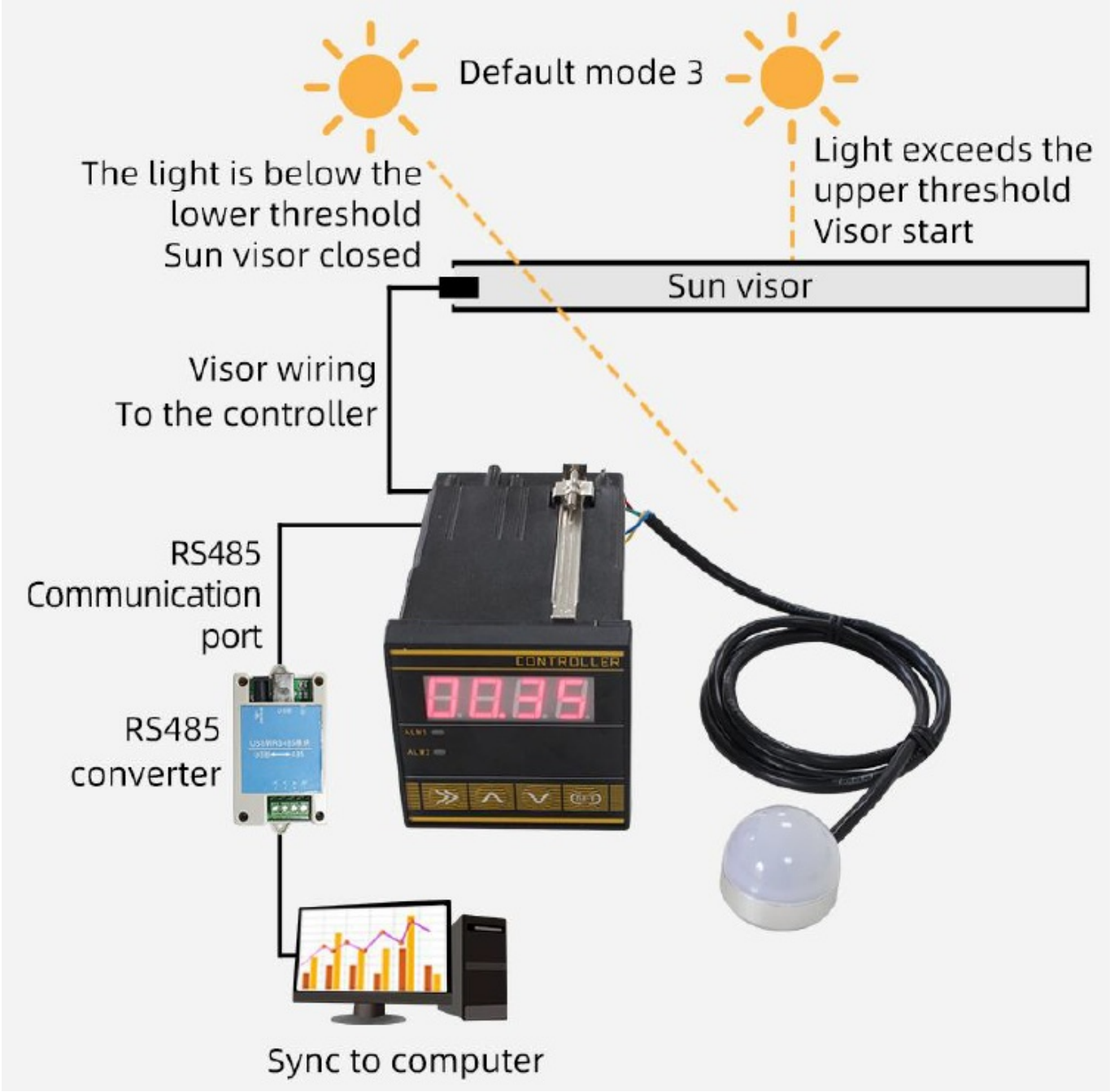
Mode 3: Over-under threshold action
Above the upper threshold, relay 1 operates, and below the lower threshold, relay 2 operates. The motor that is usually used to control the shading device is positive and negative.

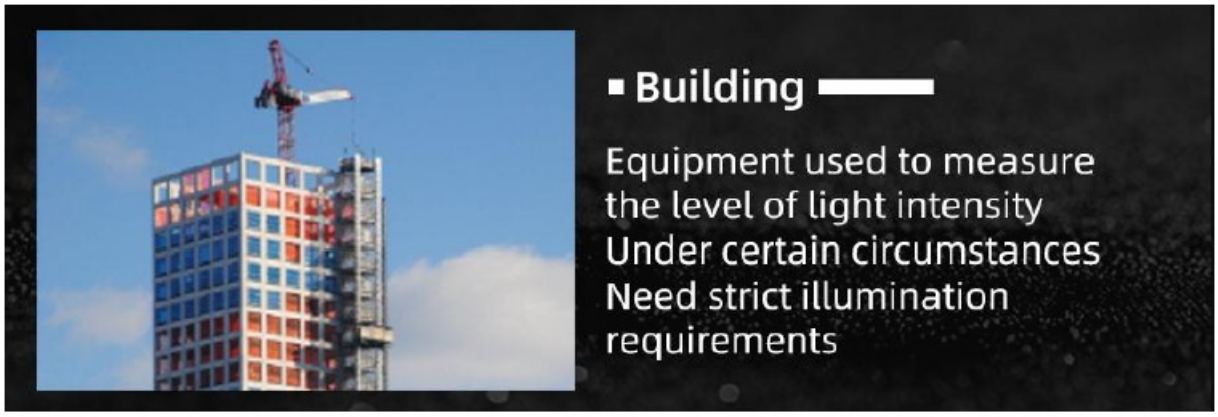


Turning on and off the light control device

- Relay 1 pull-in conditions:
  measured value> upper limit threshold+ return difference
- Relay 2 pull-in conditions:
  measured value <lower limit threshold-return difference XAs the picture shows, When the measured value is above the upper threshold + return difference, Controller internal relay 1 pull-in, Control the awning motor forward to activate the awning; After the start, When the value is less than the lower threshold-return difference, Relay 2 pul-in, Control the awning motor to reverse to close the awning.

How to use it?


Default mode 3
The light is below the lower threshold Sun visor closed
Light exceeds the upper threshold Visor start
Sun visor
Visor wiring To the controller
RS485 Communication port
RS485 converter
CONTROLLER
Sync to computer



Communication Protocol

The product uses RS485 MODBUS-RTU standard protocol format, all operation or reply commands are hexadecimal data. The default device address is 1 when the device is shipped, the default baud rate is 9600, 8, n, 1

1. **Read Data (Function id 0x03)**

   Inquiry frame (hexadecimal), sending example: Query 1# device 1 data, the host computer sends the command:01 03 00 00 00 01 84 0A.

Device ID	Function id	Start Address	Data Length	CRC16
01	03	00 00	00 01	84 0A

Device ID	Function id	Data Length	Data 1	Check Code
01	03	02	00 79	79 A6

Data Description: The data in the command is hexadecimal. Take data 1 as an example. 00 79 is converted to a decimal value of 121. If the data magnification is 100, the actual value is 121/100=1.21. Others and so on.

2. **Data Address Table**

Address	Start Address	Description	Data type	Value range
40001	00 00	DC5Vvoltage	Read Only	0~65535
40101	00 64	model code	read/write	0~65535
40102	00 65	total points	read/write	1~20
40103	00 66	Device ID	read/write	1~249
40104	00 67	baud rate	read/write	0~6
40105	00 68	mode	read/write	1~4
40106	00 69	protocol	read/write	1~10

3. **read and modify device address**
    1. **Read or query device address**

    If you don’t know the current device address and there is only one device on the bus, you can use the command FA 03 00 64 00 02 90 5F Query device address.

Device ID	Function id	Start Address	Data Length	CRC16
FA	03	00 64	00 02	90 5F

    FA is 250 for the general address. When you don’t know the address, you can use 250 to get the real device address, 00 64 is the device model register.

    For the correct query command, the device will respond, for example, the response data is: 01 03 02 07 12 3A 79, the format of which is as shown in the following table:

Device ID	Function id	Start Address	Model Code	CRC16
01	03	02	55 3C 00 01	3A 79

    The response should be in the data, the first byte 01 indicates that the real address of the current device is, 55 3C converted to decimal 20182 indicates that the current device’s main model is 21820, and the last two bytes 00 01 Indicates that the device has a status quantity.

    2. **Change devise address**

    For example, if the current device address is 1, we want to change to 02, the command is:01 06 00 66 00 02 E8 14

After the operation is successful, the device will return information: 01 06 00 6B 00 64 F9 FD, the parameters take effect immediately after successful change.

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Documents / Resources

	**SONBEST SC7261B RS485 Interface Led Display Voltage Controller Video** [pdf] User Manual SC7261B, RS485 Interface Led Display Voltage Controller Video

References

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- **Home-SONBEST -SONBUS.COM| THE SENSOR COMPANY**
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