

## SPD-A3-ACEB02-V12 (02)

### Battery monitor



Please be sure to comply with the following regulations, otherwise personal injury or death and equipment damage may occur!

- Before installing or disassembling the equipment, ensure that all external power supplies are disconnected; live operation is strictly prohibited!
- Installers are required to conduct wiring strictly according to the wiring method in the instruction manual, and the wiring is strictly in accordance with the line sequence. It is required to make good markings!
- Tools such as screwdrivers, adjustable wrenches, and fixed wrenches used during installation must be insulated to prevent short circuits between the positive and negative terminals of the battery.
- After checking and verifying that the connection between the module and the battery is correct, insert the module terminal socket. Focus on checking the positive and negative wiring of the battery. Wrong wiring may cause equipment burnout and personal injury.
- There are many cells connected in series in the battery pack. Taking 120 cells of 2V cells as an example, the voltage between the positive and negative cells is about 270VDC; high voltage is extremely dangerous and must be operated with caution. It is strictly prohibited to operate without any protective measures. Touch the battery posts and device terminals. Operators are required to hold a senior electrician certificate to work!

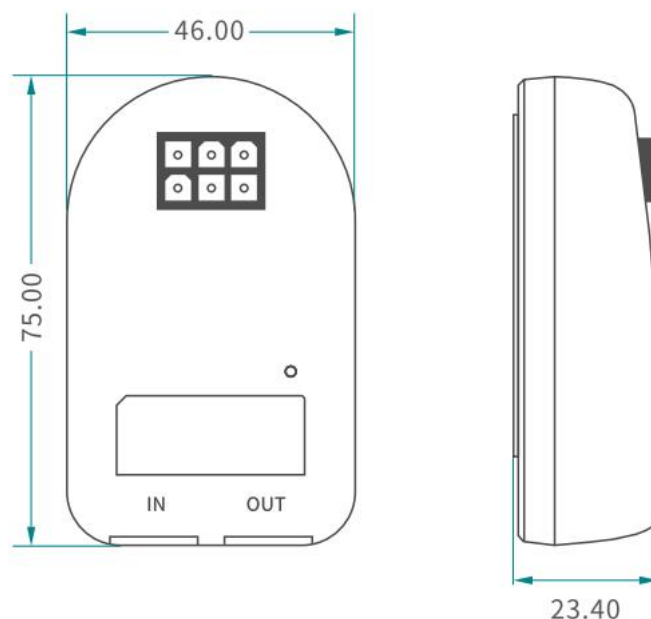
## 1. Safety and installation precautions

Please be sure to comply with the following regulations, otherwise personal safety may be endangered or the equipment may not be usable!

- Please read the product manual carefully before installation to confirm whether the product fully meets the usage requirements. If you have any questions, please contact the product supplier.
- Check whether the product model is consistent with the corresponding model in the manual.
- Before installation and disassembly, ensure that all external power supplies are disconnected. Please do not power on the device until the device is installed.
- Before using 3M adhesive, please wipe the surface of the object clean to avoid dust, moisture, oil stains, etc. that affect the stickiness. The suitable operating temperature of 3M adhesive is 20°C ( $\pm 5^\circ\text{C}$ ). If the temperature is too low, it will not be easy to stick.
- Before powering on the device, make sure that the power supply voltage meets the voltage range required by the device.
- The shielding layer of communication cables and equipment grounding terminals are required to be grounded in a reliable manner.
- Ensure that the ambient temperature in the area where the equipment is installed is within the range of  $-40^\circ\text{C}\sim 85^\circ\text{C}$ , and the relative humidity is maintained at 5%~95%.

## 2. Dimension



Unit (mm)



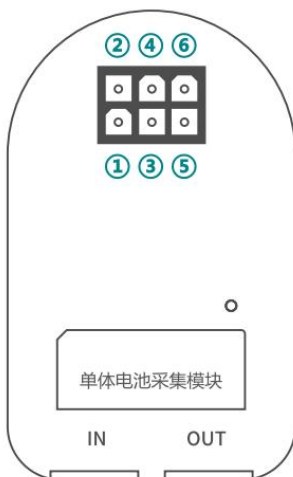
### 3. Indicator light explanation

Item	Explanation
Indicator light is always on	Device is powered.
Indicator light flash slowly	Device communication is normal.
Indicator light flash quickly	Device is collecting battery inner resistance.

### 4. RJ45 PIN explanation

IN	Line sequence	PIN	OUT	Line sequence	PIN
	S1(orange white)	TXD		S1(orange white)	TXD
	S2(orange)	RXD		S2(orange)	RXD
	S3(green white)	DIN		S3(green white)	DOUT
	S4(blue)	GND		S4(blue)	GND
	S5(blue white)	12V+		S5(blue white)	12V+
	S6(green)	GND		S6(green)	GND
	S7(brown white)	12V+		S7(brown white)	12V+
	S8(brown)	GND		S8(brown)	GND

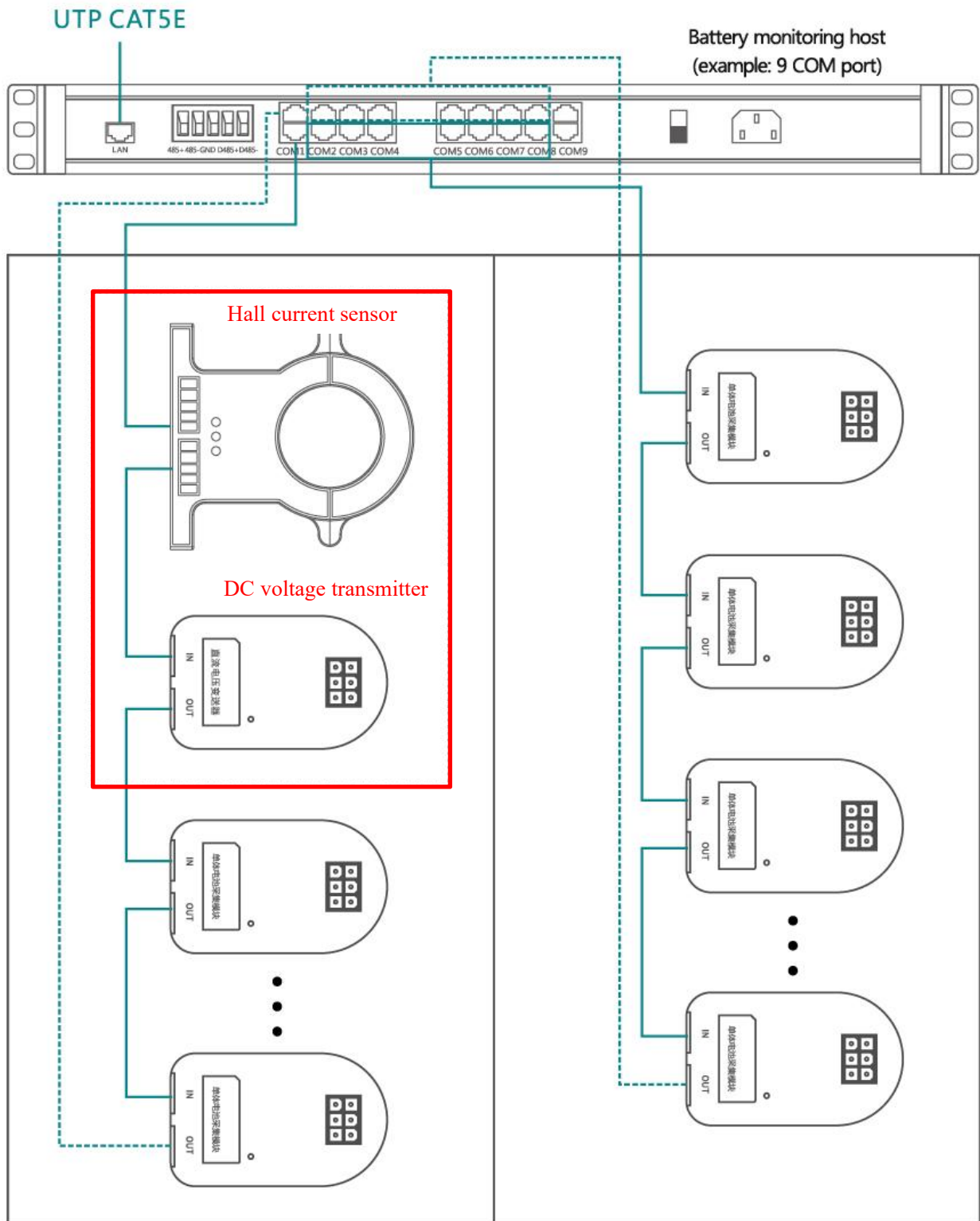
### 5. Terminal definition



Item No.	Terminal definition
1	Negative voltage sampling
2	Positive voltage sampling
3	Negative inner resistance sampling
4	Positive inner resistance sampling
5	Temperature-
6	Temperature+

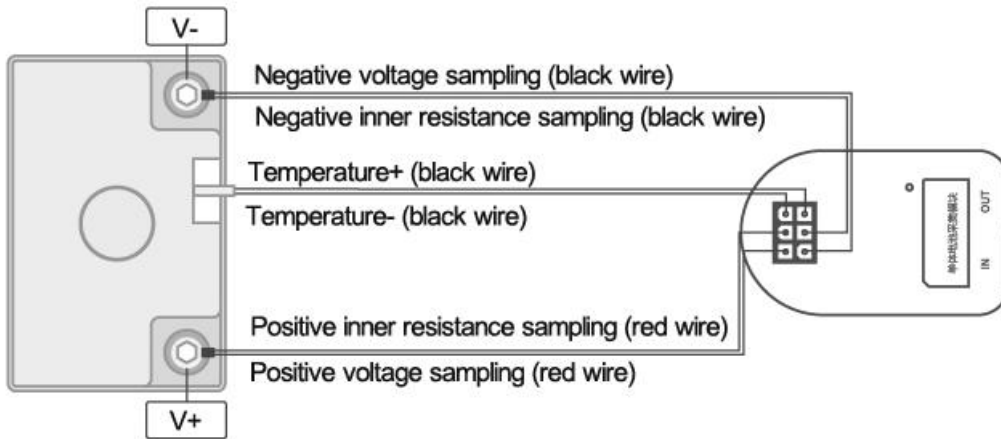
## 6. Connection

### 6.1 Connection of battery monitoring host, battery monitor, Hall current sensor and DC voltage transmitter

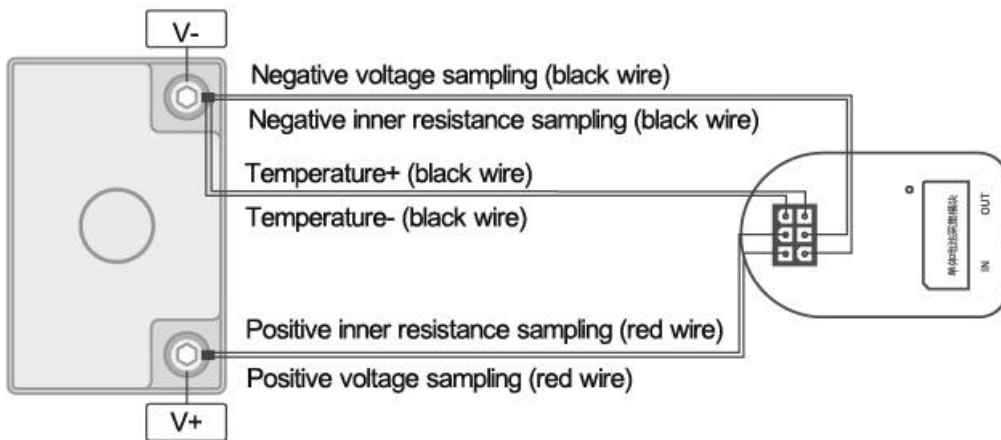


1~8 COM port: each of them max connect 64pcs device; Hall current sensor and DC voltage transmitter can connected in any of group from 1~8

### 6.2 Connection of battery and battery monitor

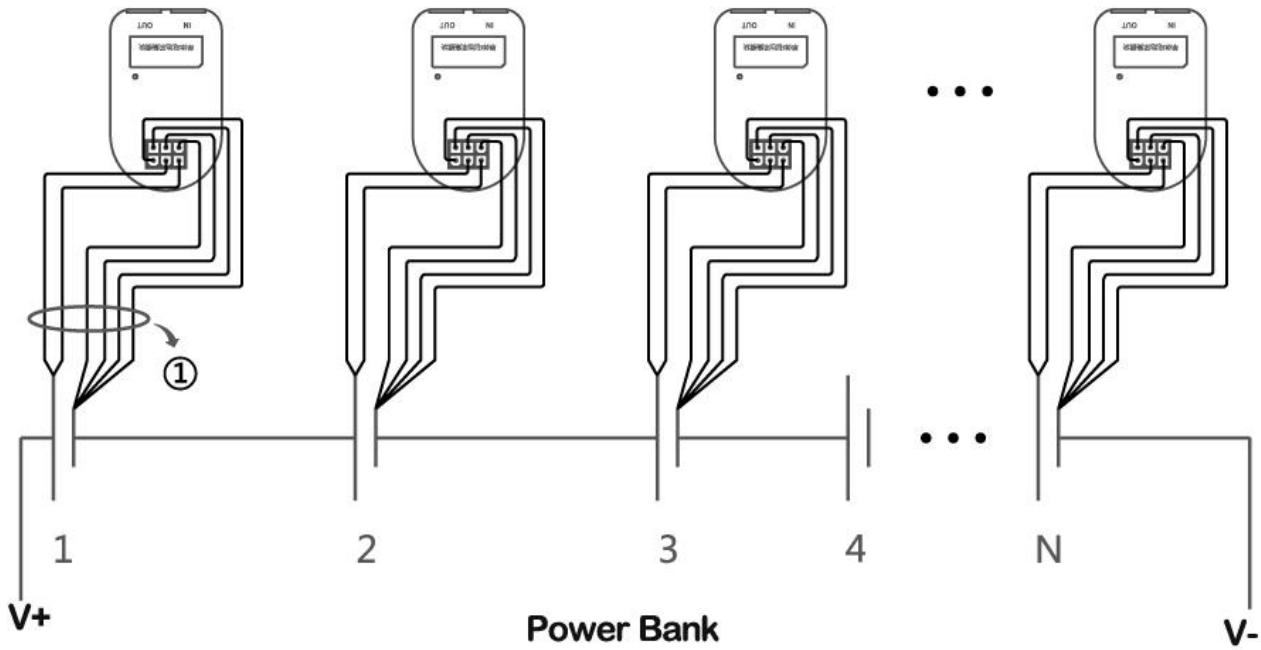


(connection method of measuring battery surface temperature)



(connection method of measuring battery pole temperature)

6.3 Connection of battery monitor



Note

① means from left to right: they are positive inner resistance sampling, positive voltage sampling, negative voltage sampling, negative inner resistance sampling, temperature- sampling, temperture+ sampling.

## 7. Specification

Working voltage	5-18V DC(V12), 1.5-3V DC (V02)
Over voltage protection	Communication power : 18V / 200mA Communicaiton serial port: 18V/200mA
Communication port	1 x RJ45 port upload; 1 x RJ45 port download
Voltage measuring range	5-18V DC(V12), 1.5-3V DC (V02)
Voltage measuring accuracy	±0.1%
Temperature measuring range	-10℃~99.9℃
Temperature measuring accuracy	±1℃
Inner resistance measuring range	100~65535μΩ
Inner resistance measuring accuracy	V12: ±(2%+30μΩ); V02: ±(2%+3μΩ)
Working temperature	-40℃~85℃
Working humidity	5%~95%RH, no condensing

## 8. Troubleshooting and diagnosis

Issue	Reason	Method
Device light is not on	Power fault	Check the device is powered normally or not
Device light is always on	Communication cable fault	Check the device communication cable is connect well or not

## 9. Packing list

No.	Name	QTY
1	Device	1
2	Quality card	1
3	Communication cable	1
4	Sampling cable	1
5	Manual	1