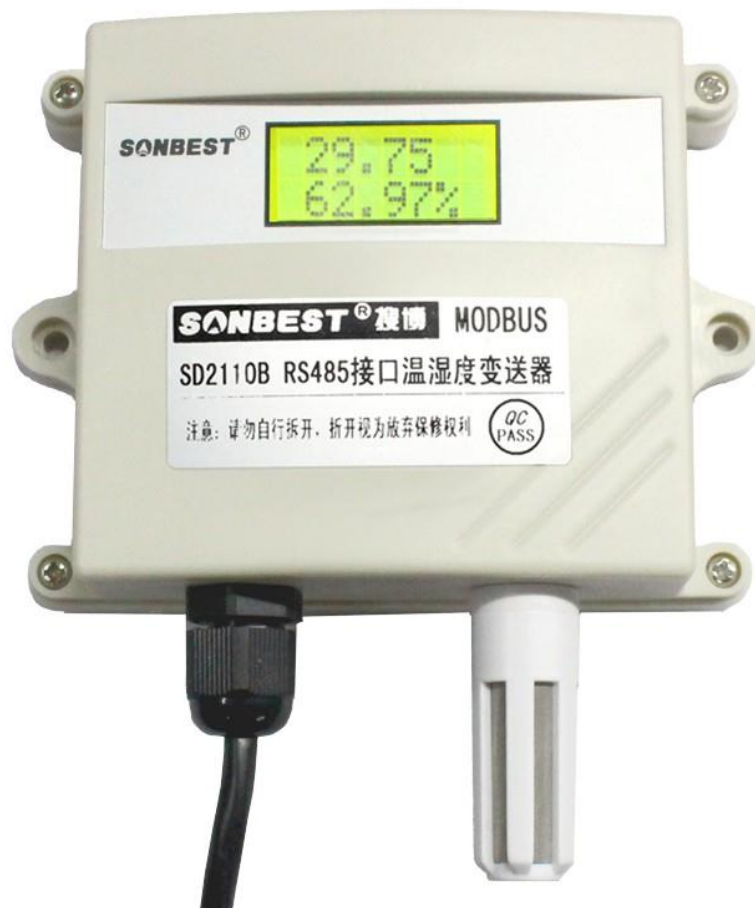


SD2110V

Temperature and humidity sensor voltage output

User Manual

File Version: V23.8.8



SD2110V using the standard DC0 ~ 5V voltage output signal,easy access to PLC , DCS and other instruments or systems for monitoring temperature,humidity 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,DC0~5V10V,ZIGBEE,Lora,WIFI,GPRS and other output methods.

Technical Parameters

Technical parameter	Parameter value
Brand	SONBEST
Temperature measuring range	0~50℃/-20~80℃/-40~60℃
Temperature measuring accuracy	±0.3℃ @25℃
Range change mode	DIP switch
Humidity measuring range	0~100%RH
Humidity accuracy	±3%RH @25℃
Output Interface	DC0~5V
Power	DC12~24V 1A
Running temperature	-30~85℃
Working humidity	5%RH~90%RH

Wiring instructions

In the case of broken wires, wire the wires as shown in the figure. If the product itself has no leads, the core color is for reference.

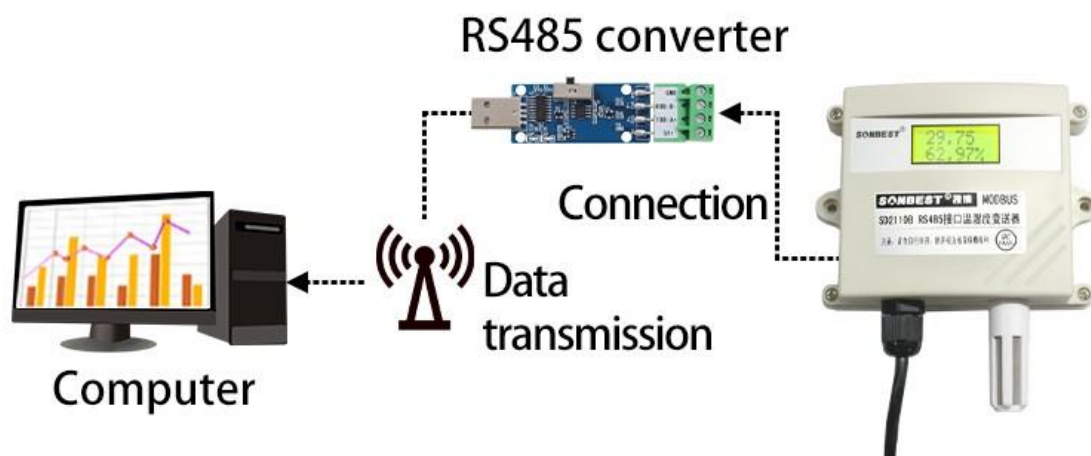
How to use?

Temperature and humidity data display instrument can be widely used in animal breeding, file management, food storage, greenhouses, drug storage, tobacco industry, industrial control industry and other indoor and outdoor temperature and humidity measurement fields



Application solution

■ RS485 wiring method



Product List



Temperature and humidity
sensor voltage type output



Reminder card



Certificate

1. temperature and DC0-5Vvoltage computing relationship

The product comes standard with 0~50℃/-20~80℃/-40~60℃ multi-range. The default range is 0~50℃. Users can modify the range by dialing the switch. For example, the range is 0~50℃, the analog output is 0~5V DC0-5Vvoltage signal, temperature and DC0-5Vvoltage The calculation relationship is as shown in the formula: $C = (A2-A1) * (X-B1) / (B2-B1) + A1$, where A2 is temperature range upper limit, A1 is the lower limit of the range, B2 is DC0-5Vvoltage output range upper limit, B1 is the lower limit, X is the currently read temperature value, and C is the calculated DC0-5Vvoltage value. The list of commonly used values is as follows:

DC0-5Vvoltage(V)	temperatureValue (℃)	Calculation Process
0	0.0	$(50-0)*(0-0) \div (5-0) + 0$
1	10.0	$(50-0)*(1-0) \div (5-0) + 0$
2	20.0	$(50-0)*(2-0) \div (5-0) + 0$
3	30.0	$(50-0)*(3-0) \div (5-0) + 0$
4	40.0	$(50-0)*(4-0) \div (5-0) + 0$
5	50.0	$(50-0)*(5-0) \div (5-0) + 0$

As shown in the above formula, when measuring 2.5V, current DC0-5Vvoltage is 25℃。

2. humidity and DC0-5Vvoltage computing relationship

For example, the range is 0~100%RH, the analog output is 0~5V DC0-5Vvoltage signal, humidity and DC0-5Vvoltage The calculation relationship is as shown in the formula: $C = (A2-A1) * (X-B1) / (B2-B1) + A1$, where A2 is humidity range upper limit, A1 is the lower limit of the range, B2 is DC0-5Vvoltage output range upper limit, B1 is the lower limit, X is the currently read humidity value, and C is the calculated DC0-5Vvoltage value. The list of commonly used values is as follows:

DC0-5Vvoltage(V)	humidityValue (%RH)	Calculation Process
0	0.0	$(100-0)*(0-0) \div (5-0) + 0$
1	20.0	$(100-0)*(1-0) \div (5-0) + 0$
2	40.0	$(100-0)*(2-0) \div (5-0) + 0$
3	60.0	$(100-0)*(3-0) \div (5-0) + 0$
4	80.0	$(100-0)*(4-0) \div (5-0) + 0$
5	100.0	$(100-0)*(5-0) \div (5-0) + 0$

As shown in the above formula, when measuring 2.5V, current DC0-5Vvoltage is 50%RH。

Disclaimer

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