sonbus SM1911M 4-20mA current temperature and humidity sensor User Manual

Contents

sonbus SM1911M 4-20mA current temperature and humidity sensor

SM1911M using the standard DC4-20mA current 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,DC0~5V\10V,ZIGBEE,Lora,WIFI,GPRS and other output methods.

Technical Parameters

Technical parameter	Parameter value

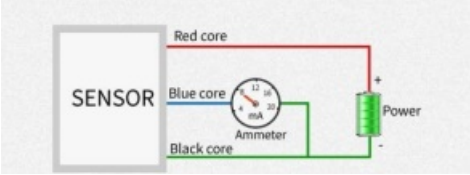
Brand	SONBEST
Temperature measuring range	-30℃~80℃
Temperature measuring accuracy	±0.5℃ @25℃
Humidity measuring range	0~100%RH
Humidity accuracy	±3%RH @25℃
Communication Interface	DC4~20mA
Power	DC12~24V 1A
Running temperature	-40~80℃
Working humidity	5%RH~90%RH

Wiring instructions

Any incorrect wiring can cause irreversible damage to the product. Please carefully wire the cable as follows in the case of power failure, and then connect the cable to confirm the correctness and then use it again.

ID	Core color	Identification	Note
1	Red	V+	Power V+
2	Green	V-	Power V-
3	Yellow	I1+	sensor 1 output
4	Blue	I2+	sensor 2 output

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.



temperature and current computing relationship

For example, the range is -30~80℃, the analog output is 4~20mA current signal, temperature and current 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 current output range upper limit, B1 is the lower limit, X is the currently read temperature value, and C is the calculated current value. The list of commonly used values is as follows:

current(mA)	temperatureValue (℃)	Calculation Process
4	-30	(80-(-30))*(4-4)÷(20-4)+-30
5	-23.125	(80-(-30))*(5-4)÷(20-4)+-30
6	-16.25	(80-(-30))*(6-4)÷(20-4)+-30
7	-9.375	(80-(-30))*(7-4)÷(20-4)+-30
8	-2.5	(80-(-30))*(8-4)÷(20-4)+-30
9	4.375	(80-(-30))*(9-4)÷(20-4)+-30
10	11.25	(80-(-30))*(10-4)÷(20-4)+-30
11	18.125	(80-(-30))*(11-4)÷(20-4)+-30
12	25	(80-(-30))*(12-4)÷(20-4)+-30
13	31.875	(80-(-30))*(13-4)÷(20-4)+-30
14	38.75	(80-(-30))*(14-4)÷(20-4)+-30
15	45.625	(80-(-30))*(15-4)÷(20-4)+-30
16	52.5	(80-(-30))*(16-4)÷(20-4)+-30
17	59.375	(80-(-30))*(17-4)÷(20-4)+-30
18	66.25	(80-(-30))*(18-4)÷(20-4)+-30
19	73.125	(80-(-30))*(19-4)÷(20-4)+-30
20	80	(80-(-30))*(20-4)÷(20-4)+-30

As shown in the above formula, when measuring 8mA, current current is 31.5℃

humidity and current computing relationship

For example, the range is 0~100%RH, the analog output is 4~20mA current signal, humidity and current 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 current output range upper limit, B1 is the lower limit, X is the currently read humidity value, and C is the calculated current value. The list of commonly used values is as follows:

current(mA)	humidityValue (%RH)	Calculation Process
4	0.0	(100-0)*(4-4)÷(20-4)+0
5	6.3	(100-0)*(5-4)÷(20-4)+0
6	12.5	(100-0)*(6-4)÷(20-4)+0
7	18.8	(100-0)*(7-4)÷(20-4)+0
8	25.0	(100-0)*(8-4)÷(20-4)+0
9	31.3	(100-0)*(9-4)÷(20-4)+0
10	37.5	(100-0)*(10-4)÷(20-4)+0
11	43.8	(100-0)*(11-4)÷(20-4)+0
12	50.0	(100-0)*(12-4)÷(20-4)+0
13	56.3	(100-0)*(13-4)÷(20-4)+0
14	62.5	(100-0)*(14-4)÷(20-4)+0
15	68.8	(100-0)*(15-4)÷(20-4)+0
16	75.0	(100-0)*(16-4)÷(20-4)+0
17	81.3	(100-0)*(17-4)÷(20-4)+0
18	87.5	(100-0)*(18-4)÷(20-4)+0
19	93.8	(100-0)*(19-4)÷(20-4)+0
20	100.0	(100-0)*(20-4)÷(20-4)+0

As shown in the above formula, when measuring 8mA, current current is 29%RH

Disclaimer

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Documents / Resources

	sonbus SM1911M 4-20mA current temperature and humidity sensor [pdf] User Manual SM1911M 4-20mA current temperature and humidity sensor4-20mA current temperature and humidity sensor, current temperature and humidity sensor, temperature and humidity sensor, humidity sensor

References

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