



SONBEST SM3710M 4-20mA Current Type Duct Type Temperature and Humidity Sensor User Manual

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SM3710M 4-20mA Current Type Duct Type Temperature and Humidity Sensor User Manual

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SM3710M using the standard DC4-20mA current output signal, easy access to PLCDCS and other instruments or systems for monitoring temperature, and 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.

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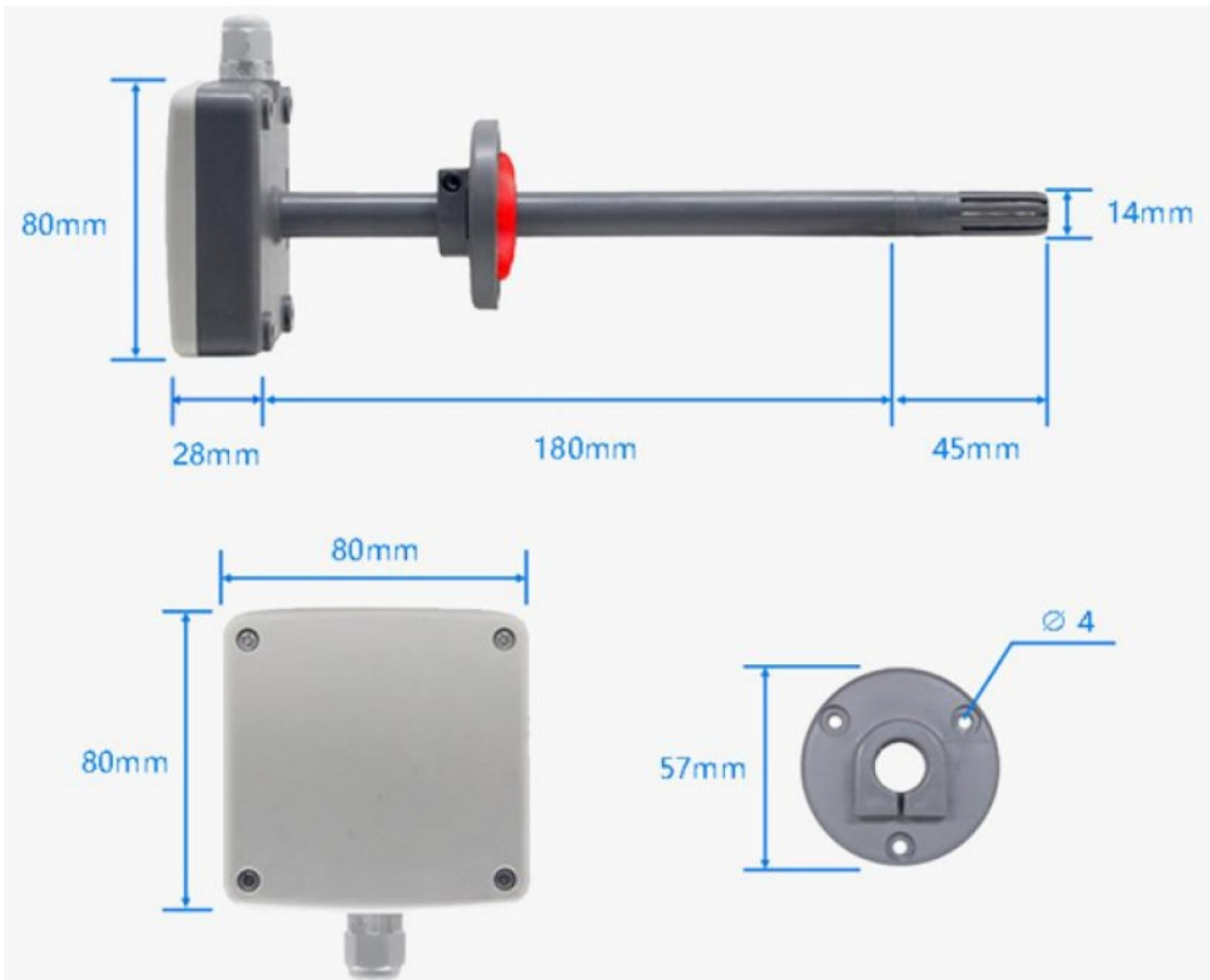
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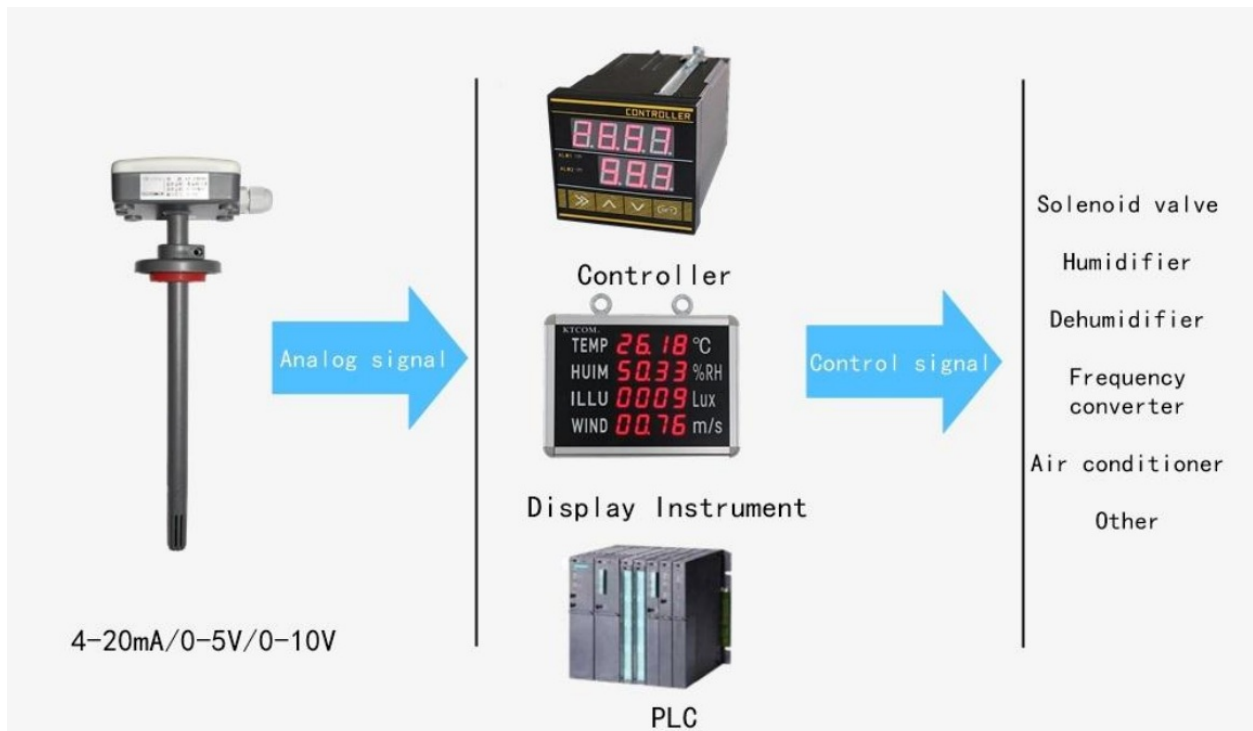
Technical Parameters

Technical parameter	Parameter value
Brand	SONBEST
Temperature measuring range	0-50 t /-20-80t/-40-60T2
Temperature measuring accuracy	± 0.3"C @25 t
Range change mode	DIP switch
Humidity measuring range	0-100%RH
Humidity accuracy	± 3°/0RH 0251:
Communication Interface	DC4-20mA
Power	DC12-24V 1A
Running temperature	-40-80°C
Working humidity	5%RH-90%RH

Product Size



How to use it?



Temperature and current computing relationship

The product comes standard with 0~50°C/-20~80°C/-40~60°C multi-range. The default range is 0~50°C. Users can modify the range by dialing the switch. For example, the range is 0~50°C, 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 (°C)	Calculation Process
4	0.0	$(50-0)*(4-4)=(20-4)+0$
5	3.	$(50-0)*(5-4)=(20-4)+0$
6	6.	$(50-0)*(6-4)=(20-4)+0$
7	9.	$(50-0)*(7-4)=(20-4)+0$
8	13.	$(50-0)*(8-4)=(20-4)+0$
9	16.	$(50-0)*(9-4)=(20-4)\div 0$
10	19.	$(50-0)*(10-4)=(20-4)\div 0$
11	22.	$(50-0)*(11-4)=(20-4)+0$
12	25.0	$(50-0)*(12-4)=(20-4)+0$
13	28.	$(50-0)*(13-4)=(20-4)+0$
14	31.	$(50-0)*(14-4)=(20-4)+0$
15	34.	$(50-0)*(15-4)=(20-4)+0$
16	38.	$(50-0)*(16-4)=(20-4)\div 0$
17	41.	$(50-0)*(17-4)=(20-4)+0$
18	44.	$(50-0)*(18-4)=(20-4)+0$
19	47.	$(50-0)*(19-4)=(20-4)+0$
20	50.0	$(50-0)*(20-4)=(20-4)+0$

As shown in the above formula, when measuring 8mA, the current is 16.5°C

2. 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	$(100-0)*(4-4) \div (20-4)+0$
5	6.3	$(100-0)*(5-4) \div (20-4)+0$
6	12.5	$(100-0)*(6-4) \div (20-4)+0$
7	18.8	$(100-0)*(7-4) \div (20-4)+0$
8	25	$(100-0)*(8-4) \div (20-4)+0$
9	31.3	$(100-0)*(9-4) \div (20-4)+0$
10	37.5	$(100-0)*(10-4) \div (20-4)+0$
11	43.8	$(100-0)*(11-4) \div (20-4)+0$
12	50	$(100-0)*(12-4) \div (20-4)+0$
13	56.3	$(100-0)*(13-4) \div (20-4)+0$
14	62.5	$(100-0)*(14-4) \div (20-4)+0$
15	68.8	$(100-0)*(15-4) \div (20-4)+0$
16	75	$(100-0)*(16-4) \div (20-4)+0$
17	81.3	$(100-0)*(17-4) \div (20-4)+0$
18	87.5	$(100-0)*(18-4) \div (20-4)+0$
19	93.8	$(100-0)*(19-4) \div (20-4)+0$
20	100	$(100-0)*(20-4) \div (20-4)+0$

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

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References

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