SM3710M

4-20mA current type duct type temperature and humidity sensor

User Manual

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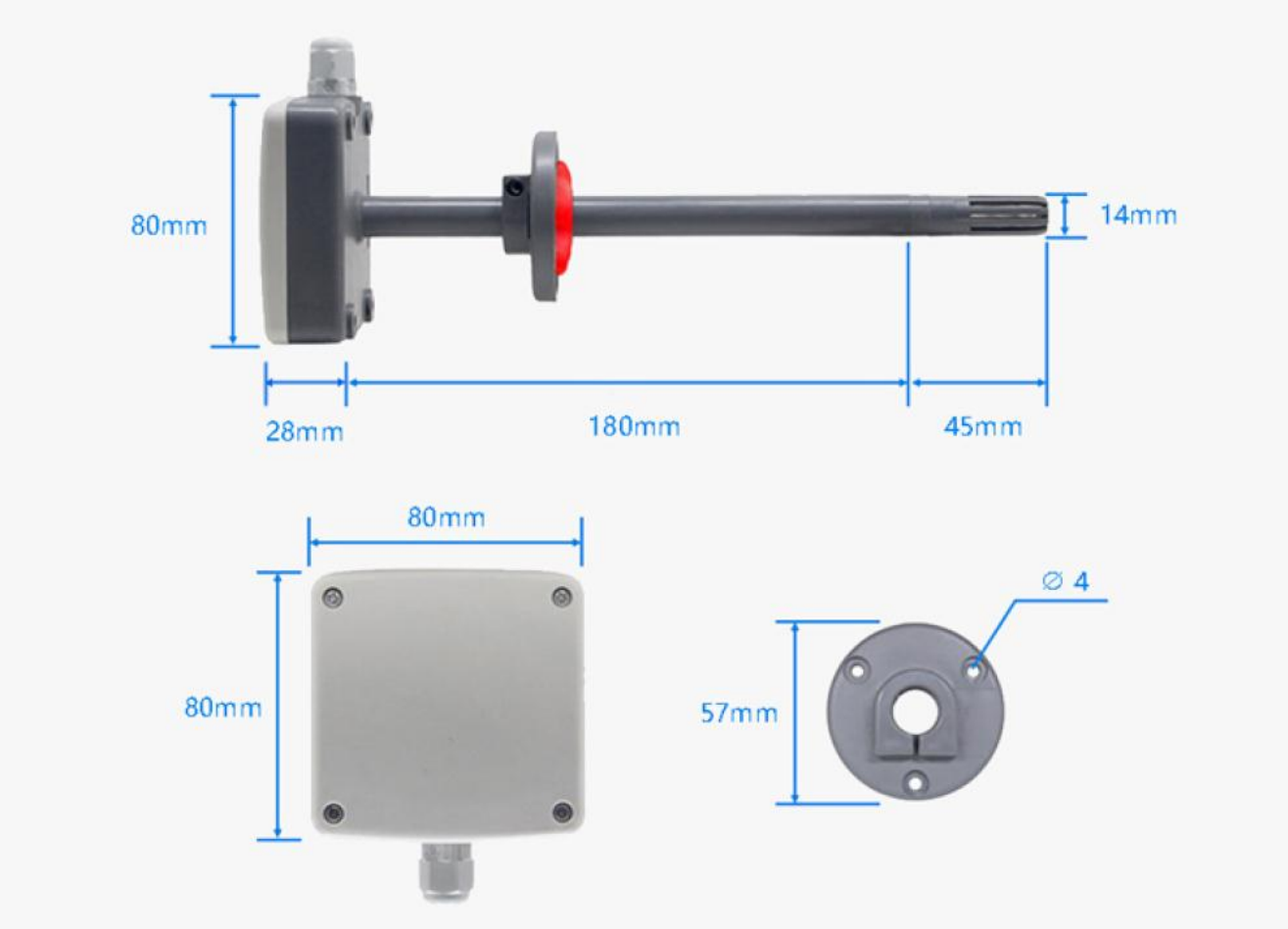
SM3710M using the standard DC4-20mA current output signal,easy access to PLC，DCS and other instruments or systems for monitoring temperature,humidity state quantities.The internal use of high-precision sensing core and related devices to ensure high reliability and excellent long-term stability,can be customized RS232,RS485,CAN,4-20mA,DC0~5V\10V,ZIGBEE,Lora,WIFI,GPRS and other output methods.

Technical Parameters

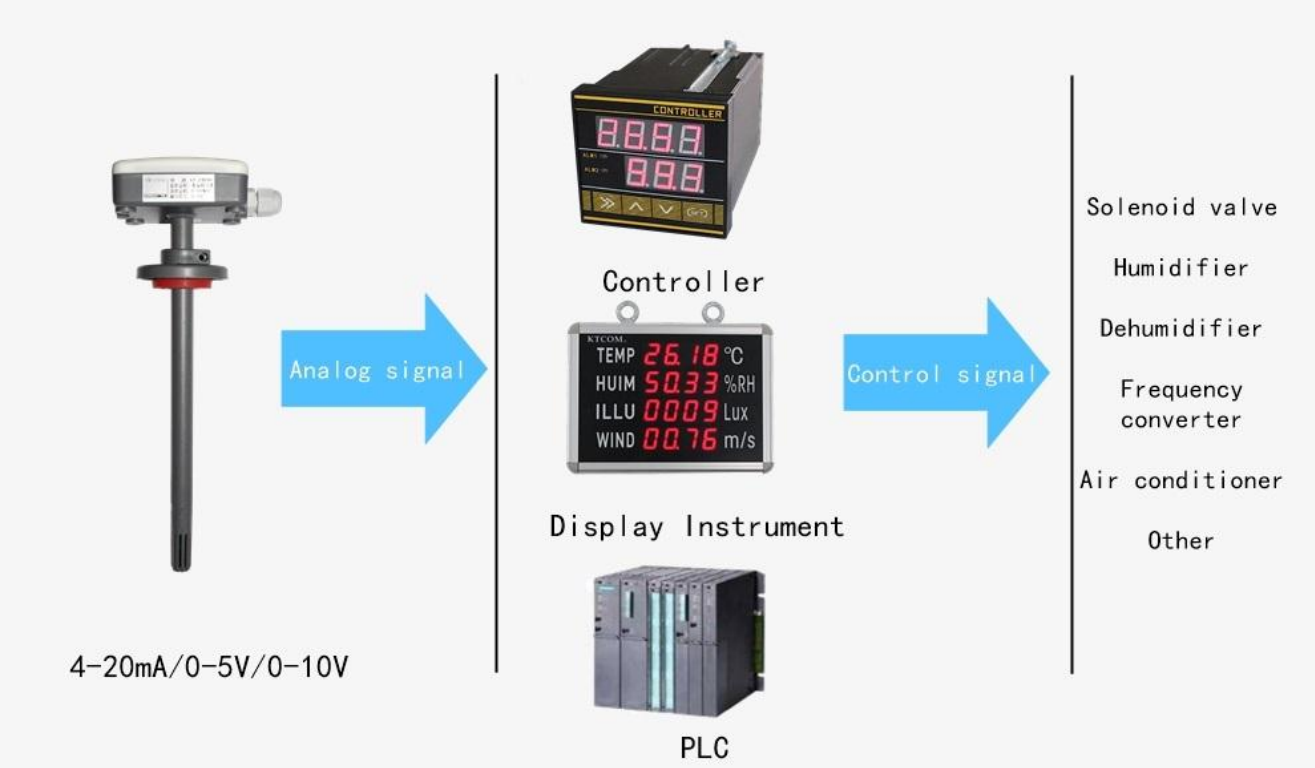
Technical parameter	Parameter value

Brand	SONBEST
Temperature measuring range	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℃
Communication Interface	DC4~20mA
Power	DC12~24V 1A
Running temperature	-40~80°C
Working humidity	5%RH~90%RH

Product Size



How to use?



1. 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℃. Users can modify the range by dialing the switch. For example, the range is 0~50℃, 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	0.0	(50-0)*(4-4)÷(20-4)+0
5	3.1	(50-0)*(5-4)÷(20-4)+0
6	6.3	(50-0)*(6-4)÷(20-4)+0
7	9.4	(50-0)*(7-4)÷(20-4)+0
8	12.5	(50-0)*(8-4)÷(20-4)+0
9	15.6	(50-0)*(9-4)÷(20-4)+0
10	18.8	(50-0)*(10-4)÷(20-4)+0
11	21.9	(50-0)*(11-4)÷(20-4)+0
12	25.0	(50-0)*(12-4)÷(20-4)+0
13	28.1	(50-0)*(13-4)÷(20-4)+0
14	31.3	(50-0)*(14-4)÷(20-4)+0
15	34.4	(50-0)*(15-4)÷(20-4)+0
16	37.5	(50-0)*(16-4)÷(20-4)+0
17	40.6	(50-0)*(17-4)÷(20-4)+0
18	43.8	(50-0)*(18-4)÷(20-4)+0
19	46.9	(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, current current is 16.5℃。

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	0.0	(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。

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