

SM8700V

Non-contact infrared temperature sensor

User Manual

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SM8700V using the standard ,easy access to PLC,DCS and other instruments or systems for monitoring temperature 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 measurement range	0~+300°C (optional other range)
Temperature measurement accuracy	±1 or %1 take the maximum value (maximum ±3°C)
Repeat measurement accuracy	±0.5 or %0.5 take the maximum value (maximum ±2°C)
Optical Resolution	20:1
Spectral range	18-14um
Response time	100ms
Emissivity	0.96
Power	DC12~24V 1A
Dimensions	Φ 24mm×80mm

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. Some products have no lead, the core color is for reference only.

ID	Core color	Identification	Note
1	Red	V+	Power V+
2	Blue	I+	sensor output
3	BLACK	V-	Power negative electrode

Product Size



For example, the range is $-30\sim 80^{\circ}\text{C}$, the analog output is 0~10V voltage signal, temperature and voltage. 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 voltage output range upper limit, B1 is the lower limit, X is the currently read temperature value, and C is the calculated voltage value. The list of commonly used values is as follows:

voltage(V)	temperatureValue ($^{\circ}\text{C}$)	Calculation Process
0	-30	$(80-(-30))*(0-0)/(10-0)-30$
1	-19	$(80-(-30))*(1-0)/(10-0)-30$
2	-8	$(80-(-30))*(2-0)/(10-0)-30$
3	3	$(80-(-30))*(3-0)/(10-0)-30$
4	14	$(80-(-30))*(4-0)/(10-0)-30$
5	25	$(80-(-30))*(5-0)/(10-0)-30$
6	36	$(80-(-30))*(6-0)/(10-0)-30$
7	47	$(80-(-30))*(7-0)/(10-0)-30$
8	58	$(80-(-30))*(8-0)/(10-0)-30$
9	69	$(80-(-30))*(9-0)/(10-0)-30$
10	80	$(80-(-30))*(10-0)/(10-0)-30$

As shown in the above formula, when measuring 5V, current voltage is 55°C .

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