

DUCT TEMPERATURE MEASUREMENT / DATA SHEET

SS203-03

Duct Temperature Sensor

Duct-mounted HVAC temperature transmitter with selectable ranges and standard analog outputs.

Overview

- Designed for duct temperature measurement with 4–20 mA, 0–5 V or 0–10 V analog output.
- Selectable temperature ranges support common HVAC operating conditions; other ranges can be customized according to the source description.
- Water-resistant housing, 25 μ m stainless-steel probe filter and EMC-resistant circuit design support humid and dusty field environments.



Temperature Accuracy $\pm 0.5\text{ }^{\circ}\text{C}$	Temperature Range –40 to +80 $^{\circ}\text{C}$	Power Supply 10–30 V DC	Output 4–20 mA / 0–10 V / 0–5 V
Key Advantages • High-accuracy, low-drift temperature measuring element. • DIP-switch selectable ranges: –40 to 80 $^{\circ}\text{C}$, –35 to 35 $^{\circ}\text{C}$, –35 to 50 $^{\circ}\text{C}$ and 0 to 50 $^{\circ}\text{C}$. • Spring-loaded screwless terminal accepts 0.2–1.5 mm² conductors. • 10–30 V DC supply supports 3-wire and 4-wire connection arrangements. • High-brightness color LED display for low-light readability.		Application Scenarios • HVAC and ventilation duct temperature measurement. • Connection to local digital displays. • PLC, variable-frequency drive and industrial control host integration. • Humid or high-dust duct environments. • Field installations requiring sealed flange mounting.	

MEASUREMENT PRINCIPLE

Measurement Principle

ANALOG TEMPERATURE MEASUREMENT

The transmitter uses a high-accuracy temperature measuring element and conditions the measured signal for standard analog output. The source describes low drift and an EMC-resistant circuit designed to withstand strong electromagnetic interference, including interference from variable-frequency-drive equipment. No sensing equation is provided in the source file.

SYSTEM DATA

Technical Specifications

Item	Specification
Power Supply	10–30 V DC
Power Consumption – Current Output	1.3 W maximum

Item	Specification
Power Consumption – Voltage Output	1.3 W maximum
Temperature Accuracy	±0.5 °C (25 °C)
Transmitter Operating Environment	–40 to +60 °C; 0–95%RH (non-condensing)
Probe Measurement Temperature	–40 to +80 °C
Selectable Temperature Ranges	–40 to 80 °C; –35 to 35 °C; –35 to 50 °C; 0 to 50 °C
Other Temperature Ranges	Customizable
Long-term Stability	≤0.1 °C/y
Response Time – Temperature	≤25 s (1 m/s wind speed)
Response Time – Humidity	≤8 s (1 m/s wind speed)
Output – Current	4–20 mA
Output – Voltage	0–5 V / 0–10 V
Voltage-output Load	Output resistance ≤500 Ω
Current-output Load	≤600 Ω
Terminal Conductor Size	0.2–1.5 mm ²
Probe Filter	25 μm high-strength stainless steel
Connection	3-wire or 4-wire
Display	High-brightness color LED display
Flange Seal	High-quality silicone sealing ring

Output and Communication

The source specifies standard analog outputs of 4–20 mA, 0–5 V and 0–10 V. These outputs can be connected to a local digital display, PLC, variable-frequency drive or industrial control host. The 0–10 V output version requires a 24 V DC supply; confirm the ordered output configuration before wiring.

Temperature Range Switch Settings

Temperature Range	S1	S2
0 to 50 °C	ON	ON
–35 to 35 °C	OFF	ON
–35 to 50 °C	ON	OFF
–40 to 80 °C	OFF	OFF

INSTALLATION & OPERATION

Installation Notes

- Drill a $\varnothing 16$ mm hole in the ventilation duct and insert the probe through the opening.
- Adjust the flange position to set the insertion height, then secure the flange with three screws.
- Ensure the silicone sealing ring is seated between the device and duct to reduce air leakage.
- Connect the 10–30 V DC supply and selected analog output using the 3-wire or 4-wire arrangement; use 24 V DC for the 0–10 V version.

MECHANICAL DATA

Mechanical Dimensions & Structure

The supplied drawing specifies a $\varnothing 16$ mm duct hole, a $\varnothing 57$ mm flange and the following flange features: $\varnothing 45$ mm and $\varnothing 14$ mm circular features, three $\varnothing 4$ mm mounting holes, and $\varnothing 4$ mm / $\varnothing 8$ mm hole details. All drawing dimensions are in millimetres.

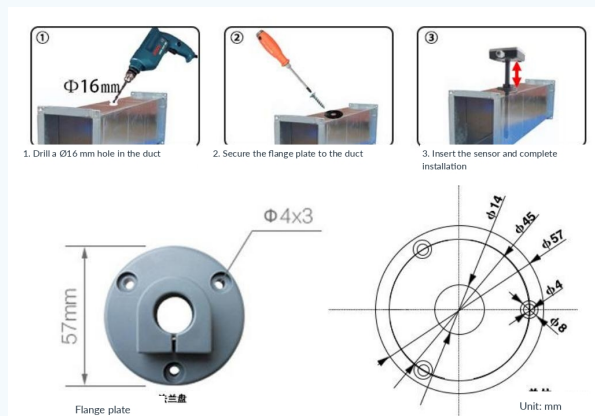
Product view



Duct-mounted temperature transmitter with flat flange housing.

Source product appearance retained; no supplier logo or third-party mark is used.

Installation and flange drawing



Source drawing retained with English installation captions; key dimensions are listed below.

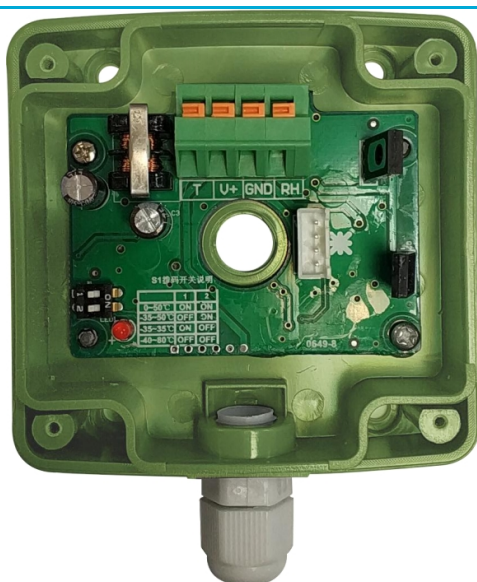
The source drawing specifies a $\varnothing 16$ mm duct hole and flange dimensions in millimetres.

ELECTRICAL CONNECTION

Wiring Instructions

The source specifies a wide-voltage 10–30 V DC input and supports both 3-wire and 4-wire connection arrangements. The 0–10 V output version may only be powered by 24 V DC. Connect the selected output according to the terminal identification below.

No.	Terminal	Description
1	T	Temperature signal positive
2	V+	Power positive
3	GND	Power negative; temperature signal negative
4	RH	Reserved



Internal terminal board and range-switch detail retained from the supplied source image.

ORDERING INFORMATION

Product Selection

Code	Description
SS203-03	Model
WD-	Duct temperature transmitter / sensor
I20	4–20 mA current output
V05	0–5 V voltage output
V10	0–10 V voltage output
9TH	Flat duct housing

SELECTION NOTE

Select one output code (I20, V05 or V10) together with the WD- and 9TH configuration elements shown in the source selection table. The V10 version requires 24 V DC supply.

CONTACT / SUPPORT

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