

C7080A

TEMPERATURE/ HUMIDITY DUCT SENSOR

- Primary and/or secondary sensor for use with electronic control systems.
- Temp Sensor NTC10K, NTC20K, Pt1000.
- Operating range of 0 to 50°C.
- Mounts on a flat duct or plenum surface or, for a plenum-rated application, in a standard utility conduit box.
- Probe length of 300mm and a temperature sensor in the end.
- Rugged 14mm diameter stainless steel insertion probe.



SYSTEM OVERVIEW

The C7080A Air Temperature Sensor is a direct wired temperature sensor that is used to sense discharge or return air in a duct. The C7080A Sensor contains a temperature sensitive thermistor.

Models

OS Number	Temperature Sensor Type	Describe
C7080A1100	NTC10K	Temperature Only
C7080A2100	NTC20K	Temperature Only
C7080A3100	Pt1000	Temperature Only

Note: For humidity model, please refer to H7080 series.

Technical Specification

Temperature sensor range	0 to 50°C.
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Nominal value

NTC10K	10,000Ω@25°C
NTC20K	20,000Ω@25°C
Pt1000	1,000Ω@0°C

Accuracy

NTC10K	±0.2K at 25°C
NTC20K	±0.2K at 25°C
Pt1000	T = ±(0.3 + 0.005 x t) [t in °C] acc. to EN 60 751 Class B

Sensitivity

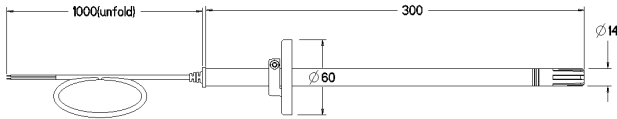
Pt1000	3.85Ω/K (between 0 and 100°C)
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Response time

t < 45s (63%, air velocity 5m/s)

Dimensions (mm):

Probe Length	300 mm.
Probe Diameter	14 mm.
Flange Diameter	60 mm.



Wiring:

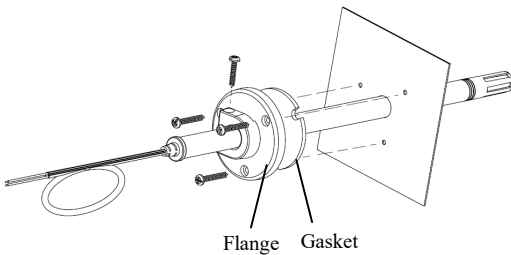
Offset for temperature sensor due to wire resistance per 10m distance from sensor to controller:

Wiring of Type	Pt1000	NTC
1.0mm ² (Awg18)	0.11K	negligible
0.5mm ² (Awg20)	0.18K	negligible
0.34mm ² (Awg22)	0.28K	negligible

Connect two terminals of the sensor to controller resistor input.

Note: Do not connect to power supply.

Installation:



- Drilling a mounting hole on the duct near measuring point.
- Use enclosed screws to install the flange and gasket on the duct. Insert the probe pipe into flange and duct.
- Fix the probe pipe on the flange by enclosed screw.

Note:

Mounts on flat duct or plenum surface or, for a plenum-rated applications, in a standard utility conduit box.

For more information,

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Temperature Sensor Accuracy:

The C7080A1100 is furnished with a 10K ohm nonlinear NTC temperature sensor that follows a specific temperature- resistance curve. See Fig. 1.

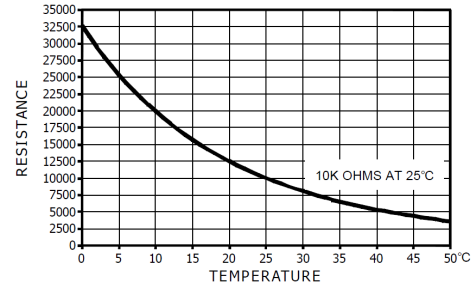


Fig. 1 NTC10K Temperature VS Resistance

The C7080A2100 is furnished with a 20K ohm nonlinear NTC temperature sensor that follows a specific temperature- resistance curve. See Fig. 2.

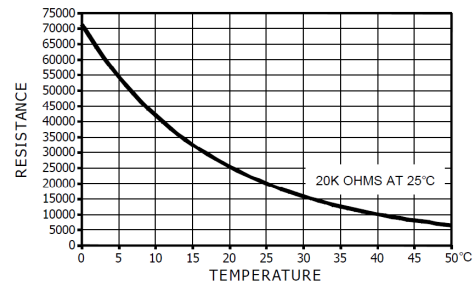


Fig. 2 NTC20K Temperature vs. resistance

The C7080A3100 is furnished with a 1000 ohm linear Platinum temperature sensor that follows a specific temperature- resistance curve. See Fig. 3.

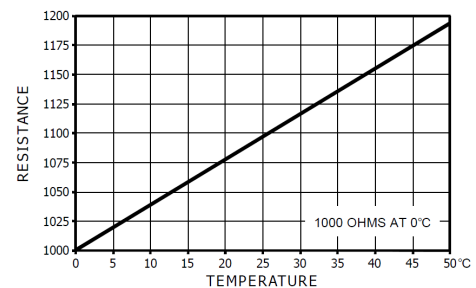


Fig. 3 PT1000 Temperature vs. resistance

Input Rating: 0.5 mA pulsed constant current.

Approvals:

CE.

IP54.

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DUCT SENSOR

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