

## C7080A

### Temperature/Humidity Duct Sensor

#### SPECIFICATION DATA



#### GENERAL

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.

#### FEATURES

- 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.

#### SPECIFICATIONS

- Temperature sensor range 0 to 50°C.
- 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	ΔT = ±(0.3 + 0.005 x ltl) [t in °C] acc. to EN 60 751 Class B
- Sensitivity
 

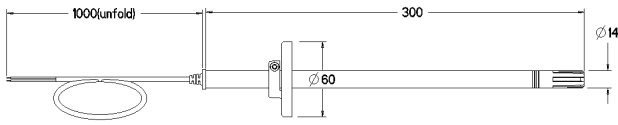
Pt1000	≈3.85Ω/K (between 0 and 100°C)
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- Response time
 

t < 45s (63%, air velocity 5m/s)
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**Dimensions (mm):**

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



**Wiring:**

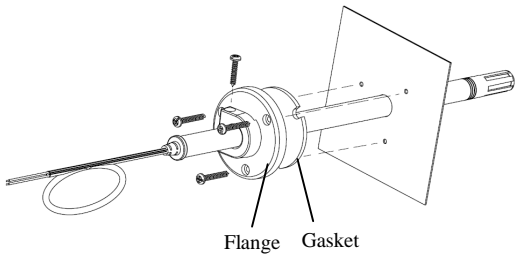
Offset for temperature sensor due to wire resistance per 10m distance from sensor to controller:

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

Connect two terminals of the sensor to controller resistor input.

Note: Do not connect to power supply.

**Installation:**



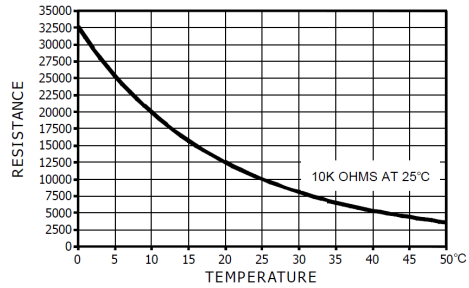
- Drilling a mounting hole on the duct near measuring point.
- Use enclosed screws to install the flange and gasket on the duct. Insert the probe pipe into flange and duct.
- Fix the probe pipe on the flange by enclosed screw.

Note:

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

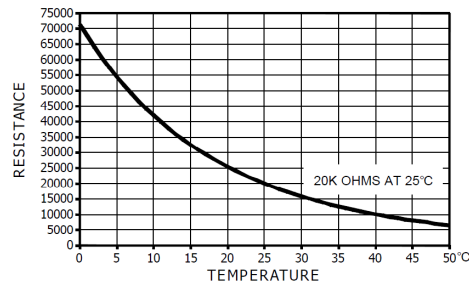
**Temperature Sensor Accuracy:**

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



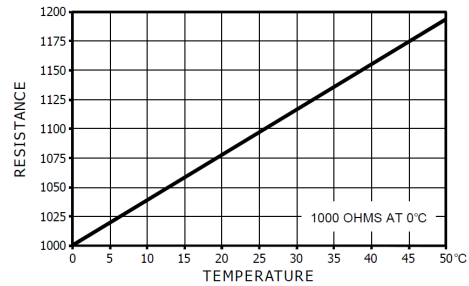
**Fig. 1 NTC10K Temperature vs. resistance**

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.



**Automation and Control Solutions**

Honeywell International Inc.  
 1985 Douglas Drive North  
 Golden Valley, MN 55422

Honeywell Environmental & Combustion  
 Controls (Tianjin) Co., Ltd.  
 158 NanHai Road, TEDA  
 Tianjin, 300457, P.R.C.