

H7080B TEMPERATURE/ HUMIDITY DUCT SENSOR

- 4~20mA/ 0~10VDC or resistance output for temperature
- 4~20mA/ 0~10VDC output for humidity
- Duct mounted
- Excellent linearity
- Good long term stability
- High reliability
- Wide sensing range
- Easy installation

APPLICATION

H7080B series duct mounting humidity and temperature sensors are designed for environmental monitoring and control applications in industrial, commercial and general building.

These sensors can be used for discharge, or return air control.



Technical Specification

Relative Humidity

Measurement Range:	0~100%RH
Output:	20mA or 0~10VDC
Accuracy:	2%, 3%, 5%RH (25°C , 20~80%RH) 5%, 9%RH (25°C , 0%~20% and 80%~100%)
Long Term Stability	RH per year

Temperature

Temperature Sensor:	NTC10K, NTC20K, Pt1000
Measurement Range:	0~50 (resistance output) -10~40 or 0~70 (transducer)
Output:	4~20mA or 0~10VDC NTC10K, NTC20K, Pt1000
Accuracy:	±0.2K at 25°C for NTC10K sensor ±0.2K at 25°C for NTC20K sensor ±0.3K at 0°C for Pt1000 sensor ±0.5°C (-10~40°C or 0~70°C) for transducer

Temperature

Power Supply:	24 VAC ±15% /24 VDC ±10%
Current Output Load:	500 Ohms Max
Voltage Output Load:	10K Ohms Min
Current Consumption:	DC 70mA Max, AC 190mA Max
Working Temperature:	-30°C ~+70°C
Transport and Storage	
Temperature:	-40°C ~+70°C
Housing Material:	Plastic (PC-ABS) Flame retardant acc. with UL94-V0
Protection Standard:	IP 54
Protection Standard:	EN 61000-6-1 EN 61000-6-3 EN 61000-3-2 EN 61000-3-3

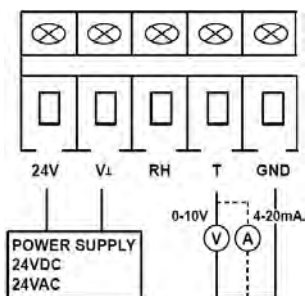
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Models

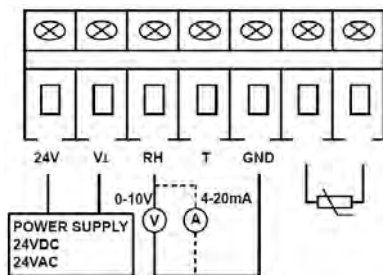
OS Number	Humidity Output	Humidity Accuracy	Temperature Output Type	Temperature Range
C7080A3240	NA	NA	4~20mA/0-10V	-10°C~40°C
C7080A3270	NA	NA	4~20mA/0-10V	0°C~70°C
H7080B3102	4~20mA/0-10V	±2%	Pt1000	0°C~50°C
H7080B3242	4~20mA/0-10V	±2%	4~20mA/0-10V	-10°C~40°C
H7080B3272	4~20mA/0-10V	±2%	4~20mA/0-10V	0°C~70°C
H7080B2103	4~20mA/0-10V	±3%	NTC20K	0°C~50°C
H7080B1103	4~20mA/0-10V	±3%	NTC20K	0°C~50°C
H7080B3103	4~20mA/0-10V	±3%	Pt1000	0°C~50°C
H7080B3243	4~20mA/0-10V	±3%	4~20mA/0-10V	-10°C~40°C
H7080B3273	4~20mA/0-10V	±3%	4~20mA/0-10V	0°C~70°C
H7080B2105	4~20mA/0-10V	±5%	NTC20K	0°C~50°C
H7080B1105	4~20mA/0-10V	±5%	NTC20K	0°C~50°C
H7080B3105	4~20mA/0-10V	±5%	Pt1000	0°C~50°C

Wiring

- For temperature output model:
- For temperature sensor & humidity output:
- For temperature & humidity output model:

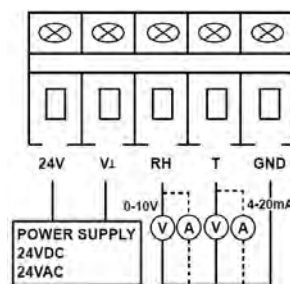


C7080A3240
C7080A3270



H7080B3102
H7080B1103
H7080B2105
H7080B3105

H7080B 2103
H7080B 3103
H7080B 1105



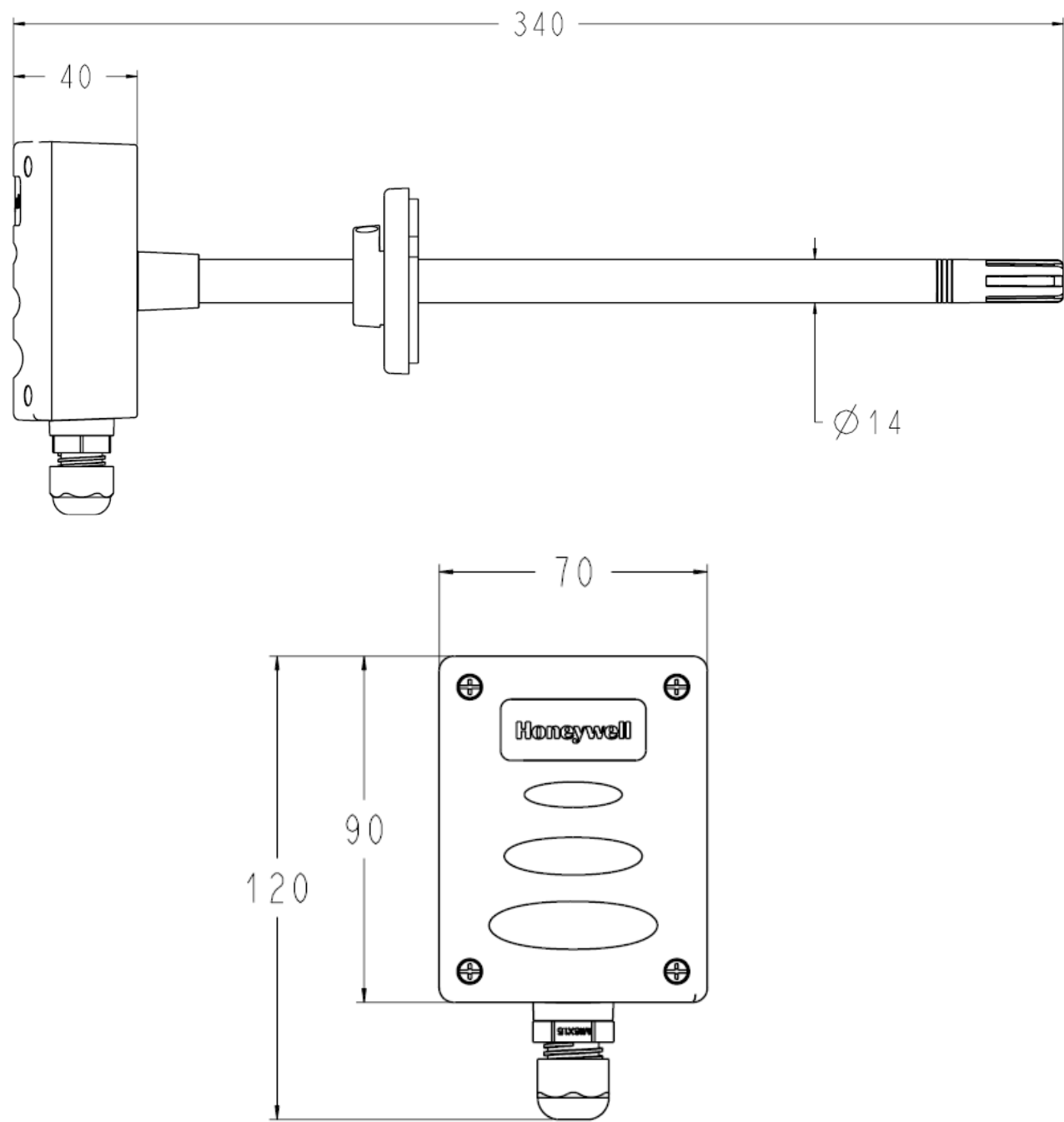
H7080B3242
H7080B3272
H7080B3243
H7080B3273

- Note 1. Output is voltage mode (0-10V) when load resistance is over 10k Ω
2. Output is current mode (4-20mA) when load resistance is less than 500 Ω . 500 Ω is recommended.
3. Power on again after load resistor switch.
4. Field wiring AWG 18 to 24 connects to a terminal block on the PCB.
5. Maximum length 200m (current output recommended).
6. 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	
0.34 ² (Awg22)	0.28K	

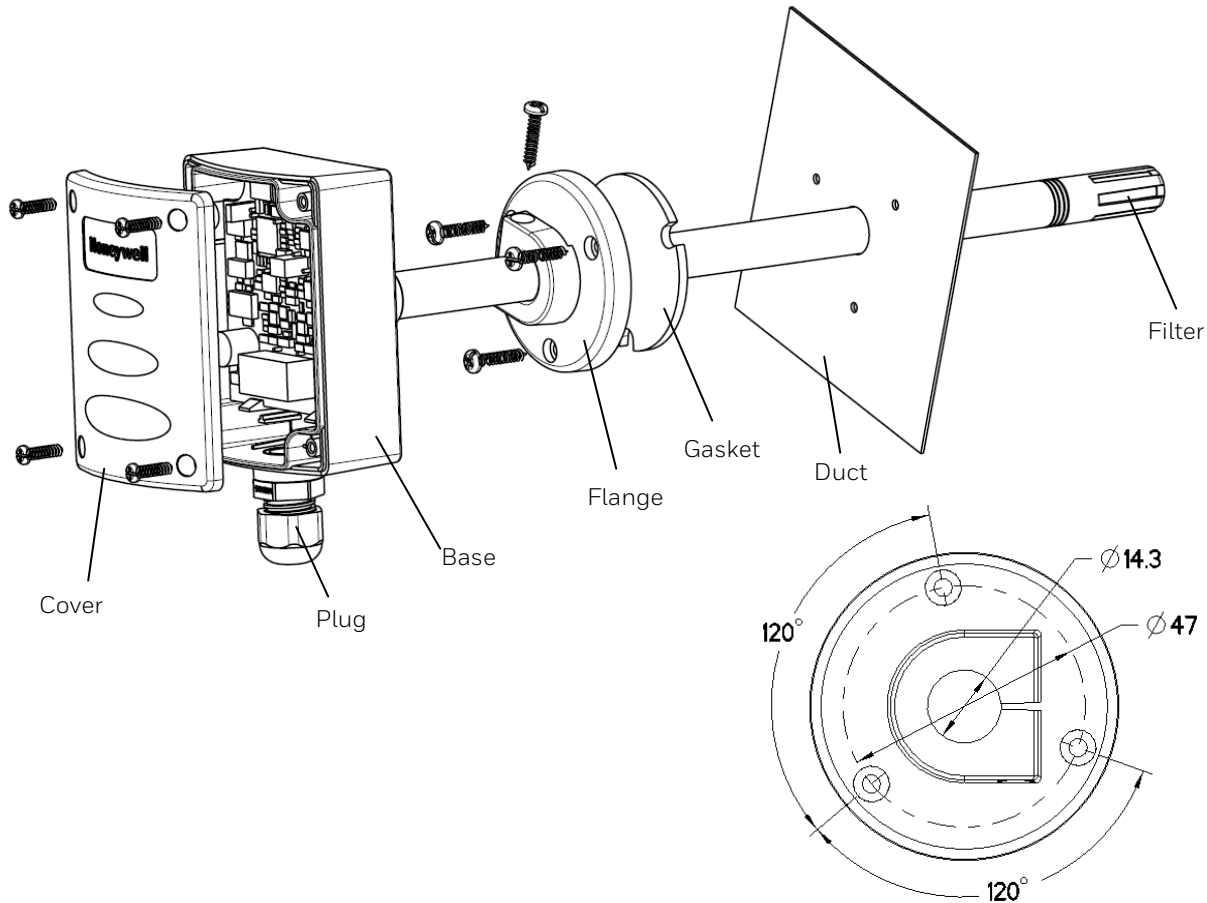
Accessories

Dimension in mm



Installation

Dimension in mm



Installation Guidelines

- Drilling a mounting hole on the duct near measuring point.
- Use enclosed screws to install the flange with gasket on the duct. Insert the probe pipe into flange and duct.
- Fix the probe pipe on the flange by enclosed screw. (Note: Plug face to the bottom direction)
- Lead wire from DDC or PLC panel through plug. Using screw driver to connect each wire to the terminals of the transducer module according to field wiring diagram.
- Tighten the waterproof plug around the wires.
- Put front cover back and tighten front cover by screws.

ATTENTION:

Absolutely avoid extreme mechanical and unspecified strain.

When using a 24 VAC transformer, use an isolated Transformer (Class II). If sharing the transformer with your controller, valve, actuator, or any other device, be sure to connect all of the devices with the proper polarity, since most controllers are earth grounded. Failure to do so may result in damage to the transducer, your controller, or any other devices that are attached due to a ground loop problem.

The product is equipped with stainless steel filter: since the sensor is an ESD-sensitive device, you should avoid touching the sensor cap during operation. For maintenance purposes it is recommended, that you observe the valid ESD-safety precautions!

Please don't use in corrosive environment.

For more information,
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