Honeywell

H7508B

COMBINED OUTDOOR HUMIDITY TRANSMITTER / TEMPERATURE SENSOR

PRODUCT DATA

GENERAL

The H7508B Combined Outdoor Humidity Transmitter / Temperature Sensor incorporates a capacitive-type 3% relative humidity sensor with a 0..10 Vdc temperature output or NTC 20kΩ temperature sensor in a single housing.

The H7508B can be used for control, indication and alarm monitoring in commercial or industrial installations.

Models

OS no.	temperature sensor type
H7508B1060	0..10 Vdc
H7508B1080	20kΩ NTC

FEATURES

- **0..10 Vdc or NTC 20kΩ temperature sensing element**
- **Wide sensing range**
- **Capacitance type sensing element for relative humidity**
- **Special housing for outside application**

SPECIFICATION

General:

Power supply	24 Vac, +20...-30%; 50/60 Hz, 24 Vdc, +20...-30%
Current consumption	20 mA at 24 Vac / 50Hz
Power consumption	typ. 0.25 VA at 24Vac / 50Hz typ. 0.1 W at 30 Vdc
Amb. operating limits	-30...50 °C (-22...122 °F), 5...95% r.h., non-condensing (below 0 °C, the humidity measurement is inaccurate)
Ambient storage limits	-30...+70 °C (-13...+158 °F), 5...95% r.h., non-condensing
Dimensions	see Fig. 3
Weight	130 g
Case	plastic (ABS) flame retardant as per UL94-HB
Mounting	Wall, surface, or wall outlet box
Protection Standard	IP 34 as per EN 60529,
Safety Class	Class III as per EN 60730-1

Temperature

Temp. sensing range:	-30...50 °C (-22...158 °F)

Nominal value

NTC 20kΩ	20 kΩ at 25 °C

Output signal

0..10Vdc	0..10 V proportional to -30 .. 50 °C resolution ≤ 0.05 K max. 2 mA sink/source current short-circuit protected

Accuracy

0..10 Vdc	max. ±1.2 K in range 5 .. 50 °C
NTC 20kΩ	±0.3 K at 25 °C

Response time

0..10Vdc	$\tau_{1/e}$ < 1 min
NTC 20kΩ	$\tau_{0.5}$ < 11 min

Relative Humidity

Hum. sensing range	5...95% r.h.
Output signal	0...10 V proportional to 0...100% r.h. resolution ≤ 0.05% r.h. max. 2 mA sink/source current short-circuit protected
Accuracy class	3%
Temp. compensation	in range 5 .. 50 °C

Accuracy (at 25 °C ambient)

5...10% r.h.	±10%
10...30% r.h.	± 5%
30...70% r.h.	± 3%
70...90% r.h.	± 5%
90...95% r.h.	±10%

Response time

Response time	$\tau_{0.9}$ < 20 s

INSTALLATION

Wiring

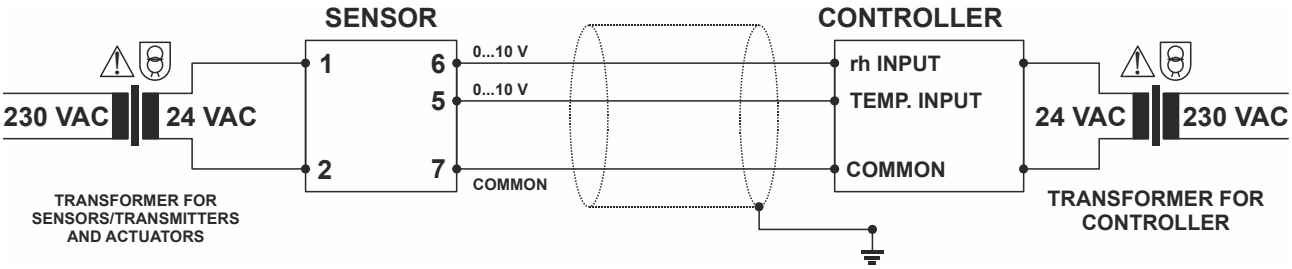

Fig. 1. Wiring example, H7508B1060

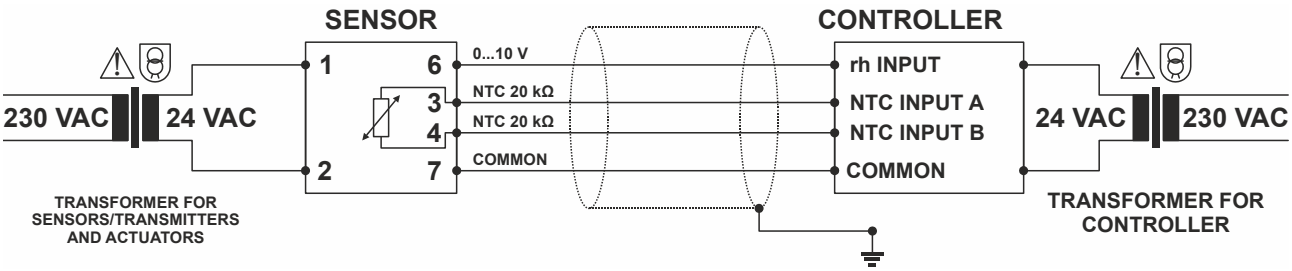

Fig. 2. Wiring example, H7508B1080

Table 1. Terminal assignment

Terminal #	H7508B1060	H7508B1080
1	24 V ~ (AC or positive DC power supply)	24 V ~ (AC or positive DC power supply)
2	24 V ⊥ (AC common or negative DC power supply)	24 V ⊥ (AC common or negative DC power supply)
3	Not connected	NTC 20 kΩ
4		
5	Temperature output 0..10 V	Not connected
6	Humidity output 0..10 V	Humidity output 0..10V
7	COM = 24 V ⊥	COM = 24 V ⊥
8	Not connected	Not connected
9		
10		

NOTE: Use two separate safety transformers, one for sensors/transmitters and actuators and one for the controller (see Fig. 1).
Accepted wires are solid/stranded 0.34 … 1.3 mm^2 (AWG 22 …16), max. terminal screw tightening torque: 0.5 Nm (4.4 lb-in).
Max. wire length is 200 m (660 ft) between the transmitter and the controller.
Keep 15 cm (5.9") min. distance between sensor lines and 230 Vac power lines.
Installation of the product near high EMI-emitting devices may lead to faulty measurements. Use shielded wiring in areas with high EMI.

Mounting Advice

- Mount the product where it is protected against rain and direct sun radiation, preferably on the north side of the building. If this is not practical, it should be shielded from the sun's rays.
- Mount the product preferably on that outside wall of the buildings having windows of the main occupancy rooms to be controlled.
- Provide sufficient air circulation for accurate measurement.
- To avoid false measurement due to warm air drafts from the conduit, seal the cable conduit.
- To prevent rain water from entering the sensor housing, ensure that the cable inlet holes on the product housing are sealed properly and that the cable runs from the bottom to the top into the cable entry.
- Do not mount the product over windows, doors, air extractors, or other heat sources or underneath the eaves of the roofs or a balcony.

DIMENSIONS

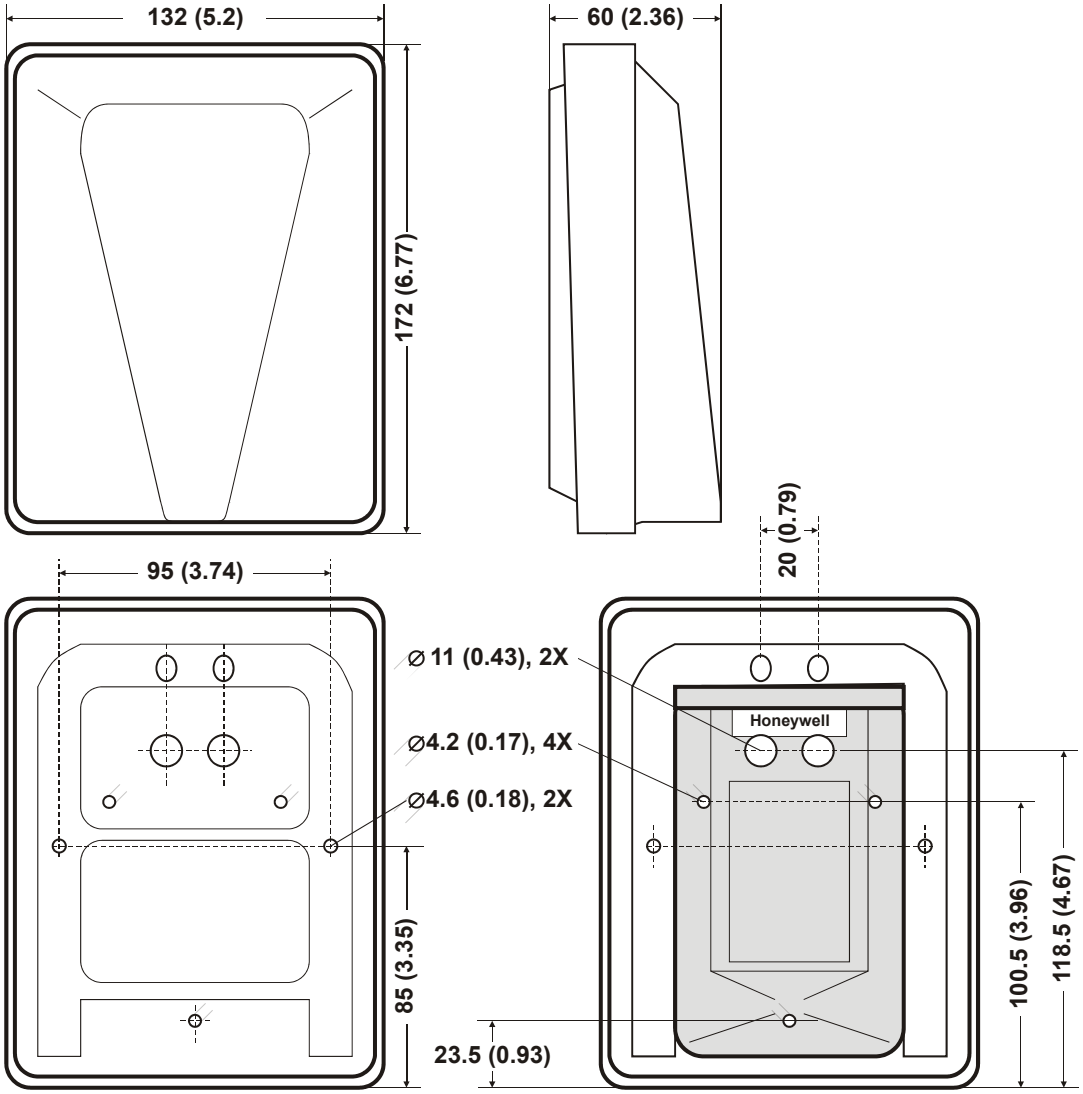

Fig. 3. Dimensions of special housing in mm (inches)

Honeywell

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