Honeywell

H7508A COMBINED OUTSIDE AIR HUMIDITY/ TEMPERATURE SENSOR

PRODUCT DATA

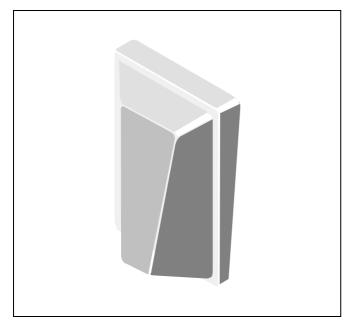


Fig. 1 Outside Air Humidity / Temperature Sensor

GENERAL

The H7508A Combined Outside Air Humidity / Temperature Sensor incorporates a capacitance type relative humidity sensor with a Pt 1000, BALCO 500 or NTC temperature sensor in one housing.

The H7508A can be used for control, indication and alarm monitoring in commercial or industrial installations.

Models

OS-No.	Temperature Sensor Type
H7508A1026	Pt 1000
H7508A1034	BALCO 500
H7508A1042	20kΩ NTC

FEATURES

- Pt 1000, BALCO 500 or NTC temperature sensing element
- Wide sensing range
- Capacitance type sensing element for relative humidity
- Special housing for outside application

SPECIFICATION

General: Power supply 24Vac, +20...-30%; 50/60Hz, 34Vdc, +20...-30% 20mA @ 24V Current consumption Ambient -30...50°C (-22...122°F), 5...95%rh operating limits non condensing (below 0°C the humidity measurement is inaccurate) Ambient storage limits -25...+70°C (-13...+158°F), 5...95%rh non condensing Dimensions see Fig. 2 Weight 130g Case plastic (ABS) flame retardend acc. to UL94-HB Mounting Wall, surface or wall outlet box **Protection Standard** IP 34 acc. to EN60529 Class III acc. to EN60730-1 Safety

This product meets the requirements of **CE**

Temperature:

Relative Humidity:

Temperature sensing range	-3070°C (-22158°F)	Humidity sensing range	595%rh	
Nominal value Pt 1000 BALCO 500 NTC	1000Ω @ 0°C 500Ω @ 23.3°C 20kΩ @ 25°C	Output signal Output impedance 1V range 10V range	01V / 010V ≙ 0100%rh 183Ω 274Ω	
Accuracy Pt 1000 BALCO 500 NTC	±0.3K acc. to DIN IEC 751 Class B ±0.4K @ 23.3°C ±0.2K at 25°C	Outputs short circuit p Sensitivity Accuracy	uit protected 10mV / %rh or 100mV / %rh	
Sensitivity Pt 1000 BALCO 500 Characteristic	≈3.85Ω/K 2Ω/K see EN0C-0603	510%rh 1030%rh 3070%rh 7090%rh 9095%rh	$\pm 10\%$ $\pm 5\%$ $\pm 3\%$ $\pm 5\%$ $\pm 10\%$	
$\begin{array}{l} \text{Response time} \\ \tau_{0.5 \ \text{Pt} \ 1000} \\ \tau_{0.5 \ \text{Balco} \ 500} \\ \tau_{0.5 \ \text{NTC}} \end{array}$	<≈9min <≈9min <≈11min	Response time	$\tau_{0.5} = 80s$	

Overview

Following sensors can be applied for the following control systems:

Control systems		Temperature	Humidity		
	Pt 1000	20kΩ NTC	BALCO 500	01Vdc	010Vdc
Excel Classic	Х		Х	Х	Х
Excel Plus	Х		х	Х	Х
High Performance Excel Plus	Х		х	Х	Х
Excel EMC	Х		х	Х	Х
Excel 500/600 (XF521)	х	х			х
Excel 500/600 (XF526)	Х	Х	х		Х
Excel 20 & 50		х			х
Excel 80B & 100B	Х	Х			Х
Excel IRC Multicontroller R7451A1030		x		х	
MicroniK 100			х	Х	
MicroniK 100 "NEW" R7420B1036/R7420F1045	x		х	х	
MicroniK 200	Х	Х	Х		Х

DIMENSIONS

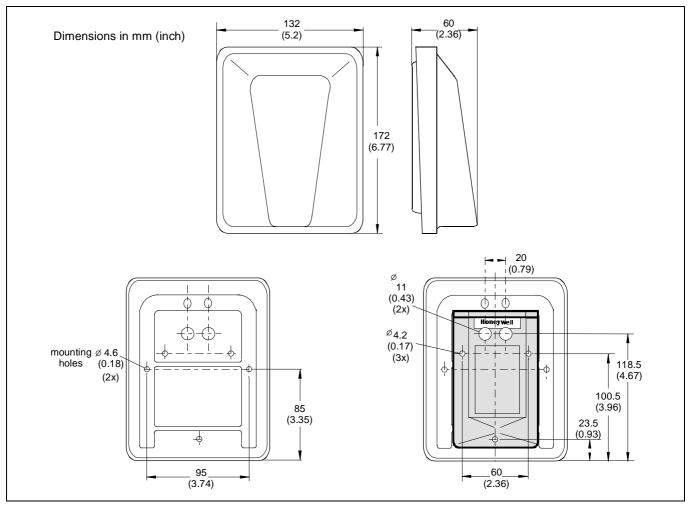


Fig. 2 Dimensions of special housing

INSTALLATION

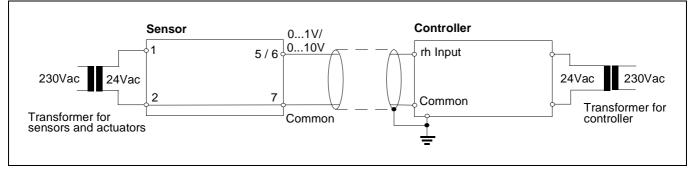


Fig. 3 Installation Example

Mounting and Installation Advice: NOTE • Mount the sensor 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 sun's rays. Use shielded wiring in areas with high · Mount the sensor preferably on that outside wall of the buildings EMI. having windows of the main occupancy rooms to be controlled. Keep 15cm (5.9") minimum distance • Provide sufficient air circulation for accurate measurement. between sensor lines and 230Vac · Seal the cable conduit to avoid false measurement due to draught power lines. of warm air from the conduit. Use two transformers: one for sensors • Ensure that the cable inlet holes on the sensor housing are sealed and actuators and one for the properly and that the cable runs from the bottom to the top into the controller (see Fig. 3). cable entry as shown in Fig. 4 below to prevent that rain water enters the sensor housing.

• Do not mount the sensor over windows, doors, air extractors or other heat sources or underneath the eaves of the roofs or a balcony.

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

Type of wire	Temperature offset			Wiring run	Maximum length
	Pt 1000	BALCO 500	NTC	U	
0.5mm ² (AWG20)	0.18°C (0.324°F)	0.3°C (0.54°F)		Sensor to controller	200m (660ft)
1.0mm ² (AWG17)	0.09°C (0.162°F)	0.15°C (0.27°F)	negligible		
1.5mm ² (AWG15)	0.06°C (0.108°F)	0.1°C (0.1°F)			

Wiring connection

	-				
1	24V~	POWER SUPPLY			
2	24V _	I OWER SOFFET			
3	Pt 1000 / NTC BALCO 500	TEMPERATURE SENSOR			
4	BALCO 500	TEMPERATURE SENSOR			
5	01V				
6	010V	REL. HUMIDITY SENSOR			
7	COM = 24V_				
8					
9					
10					

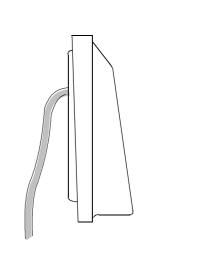


Fig. 4 Installation

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Honeywell Regelsysteme GmbH Honeywellstr. 2-6 **D-63477 Maintal** Tel. (0 61 81) 401-1 Fax (0 61 81) 4 54 56

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