

SHR100/SHR100-T



PART NUMBERS

Part Number	Model Number	Range (% RH)	Temp. Sensor (@ 25 °C (77 °F))	System
006902340	SHR100	0 - 95	None	General
006902350	SHR100-T		NTC 10 kΩ/1.8 kΩ	I/Net/Vista
006902390	SHR100-T5		NTC 10 kΩ/1.8 kΩ	Continuum/Vista
006902420	SHR100-T6		'T' Type 5.02 kΩ	Satchwell

SPECIFICATIONS

Humidity sensor capacitive polymer sensor
 Output . . . 0 to 10 VDC/4-20 mA (jumper selectable)
 Accuracy (at 20 °C) ± 2% RH
 Mounting living space
 Enclosure rating IP 20
 Material (housing) ABS plastic
 Dimensions see diagram
 Temperature dependency see diagram
 Stability ± 1% RH @ 50 % RH in 5 yrs
 EMC EN 50081-1, EN 50082-1

Temperature thermistor

Type see table
 Accuracy see table

0 to 10 VDC mode

Output signal 0 to 10 VDC
 Power input 24 VAC±10 %, 16-32 VDC
 Current consumption at 24 VAC 11 mA
 Load resistance see diagram

4 to 20mA mode

Output signal 4 to 20 mA
 Power input 16 to 32 VDC
 Max. load resistance see diagram

Ranges

Humidity (operating) . . .0-95 % RH, non-condensing
 Humidity (storage) . . .0-90 % RH, non-condensing
 Temperature (operating) -10 °C to 60 °C
 (14 °F to 140 °F)
 Temperature (storage) -40 °C to 60 °C
 (-40 °F to 140 °F)
 Time constant . . 15 s in slowly moving air at 25 °C
 (77 °F)

Living Space Humidity Sensor with Temperature

This range of living space humidity/temperature sensors is designed to provide relative humidity measurement and temperature control in occupied areas.

Each of these devices is an active sensor, which measures the relative humidity (%RH) and converts the measurement into an electric current (4–20 mA) or a voltage level (0–10 V).

Models are available with humidity sensing only or humidity sensing combined with temperature sensing using a 'T' Type thermistor or NTC thermistors.

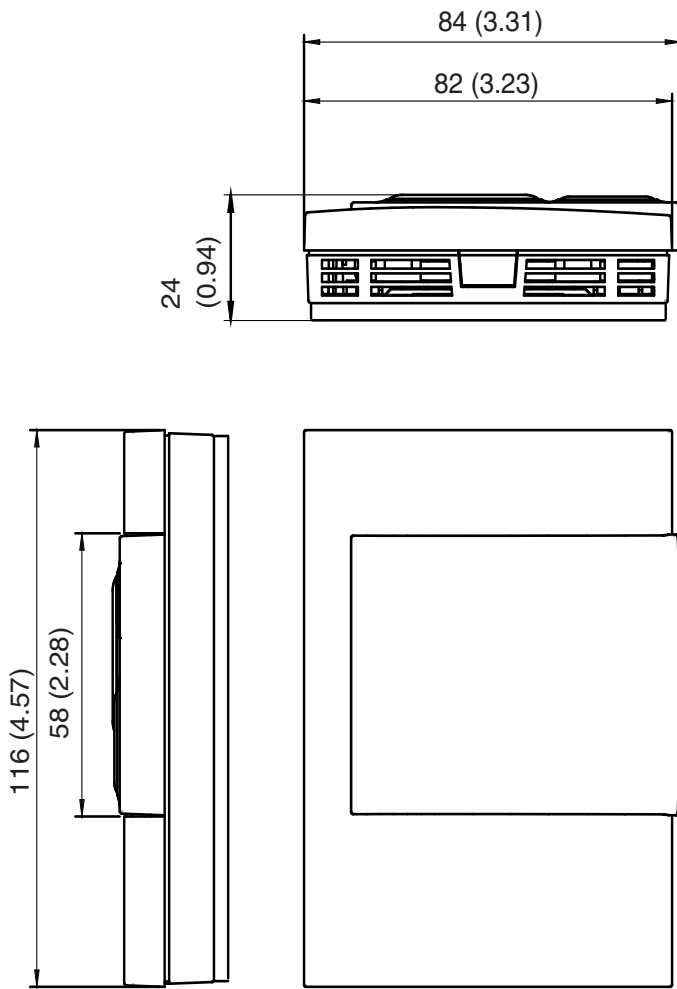
The sensor is delivered as a complete unit, comprising a sensing element and an amplifier mounted within an aesthetically pleasing plastic enclosure, suitable for wall mounting.

The SHR100-T has two user-selectable passive NTC temperature elements: NTC 1.8 kΩ (Vista), and NTC 10 kΩ (I/NET).

The SHR100-T5 has two user-selectable passive NTC temperature elements: NTC 1.8 kΩ (Vista), and NTC 10 kΩ (Continuum).

The SHR100-T6 incorporates the 5.02 kΩ thermistor for use in Satchwell BMS systems.

DIMENSIONS mm (in)



THERMISTOR ACCURACY

NTC 1.8 kΩ for Vista Products

-25 °C (-13 °F)	±0.7 °C (±1.3 °F)
0 °C (32 °F)	±0.5 °C (±0.9 °F)
25 °C (77 °F)	±0.3 °C (±0.5 °F)
50 °C (122 °F)	±0.6 °C (±1.1 °F)
75 °C (167 °F)	±0.9 °C (±1.6 °F)
100 °C (212 °F)	±1.3 °C (±2.3 °F)

NTC 10 kΩ for I/NET® Products

-25 °C (-13 °F)	±0.5 °C (±0.9 °F)
0 °C (32 °F)	±0.2 °C (±0.4 °F)
25 °C (77 °F)	±0.2 °C (±0.4 °F)
50 °C (122 °F)	±0.2 °C (±0.4 °F)
70 °C (158 °F)	±0.2 °C (±0.4 °F)
100 °C (212 °F)	±0.5 °C (±0.9 °F)

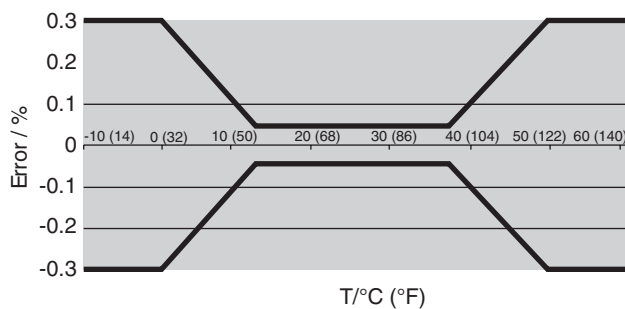
NTC 10 kΩ for Continuum® Products

-25 °C (-13 °F)	±0.5 °C (±0.9 °F)
0 °C (32 °F)	±0.2 °C (±0.4 °F)
25 °C (77 °F)	±0.2 °C (±0.4 °F)
50 °C (122 °F)	±0.2 °C (±0.4 °F)
70 °C (158 °F)	±0.2 °C (±0.4 °F)
100 °C (212 °F)	±0.5 °C (±0.9 °F)

NTC 5.02 kΩ for Satchwell™ Products

-25 °C (-13 °F)	±0.6 °C (±1.0 °F)
0 °C (32 °F)	±0.3 °C (±0.5 °F)
25 °C (77 °F)	±0.2 °C (±0.4 °F)
50 °C (122 °F)	±0.2 °C (±0.4 °F)
75 °C (167 °F)	±0.3 °C (±0.5 °F)
100 °C (212 °F)	±0.3 °C (±0.5 °F)

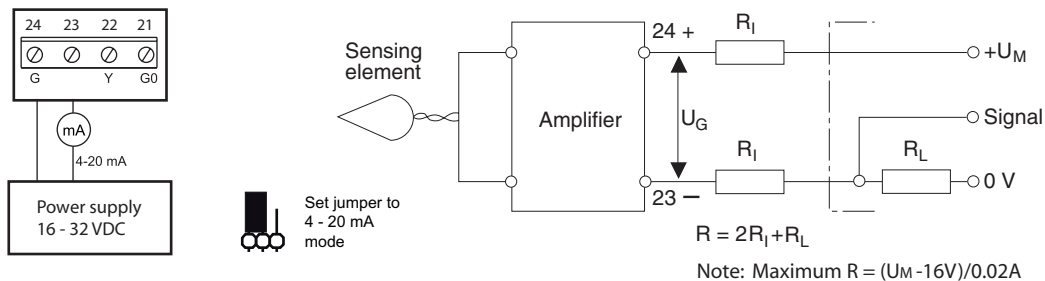
TEMPERATURE DEPENDENCE



WIRING

Note: Ensure correct wiring.

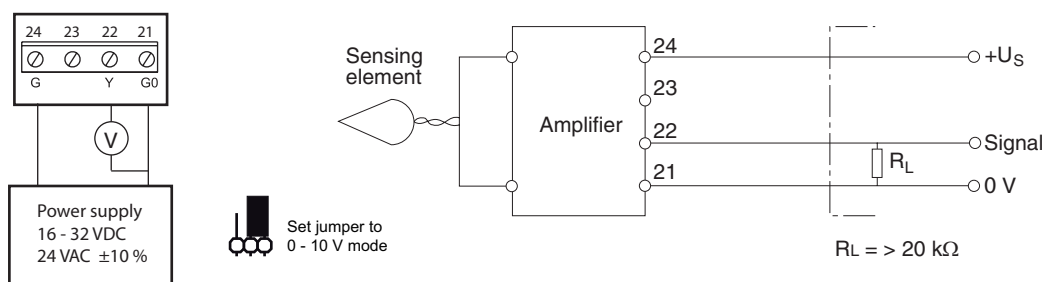
4-20 mA



Current is proportional to the measured humidity and is measured over an external load resistance R_L . The supply voltage U_M is a function of the voltage across the sensor U_G and the voltage drop across the load resistor and the wire resistances R_1 .

U_G Max. = 32 VDC, U_G Min = 16 VDC. At 36 VDC accuracy drops by approximately 1 % RH.

0-10 V



If another load is to be connected close to the sensor, this should be made with a separate G0, so that the measuring signal will not be affected.

Temperature thermistor

