



## Model SRH

### Relative Humidity Sensor

The Model SRH Humidity Series include wall mount, duct mount and outside air configurations in 2%, 3%, and 5% RH accuracy. The SRH Series offers optional active temperature with choice of 4 to 20 mA or user-selectable 0 to 5 and 0 to 10 VDC output, and passive temperature with choice of thermistor or RDT output. Humidity transmitters configured with active temperature option feature jumper selectable Tspan ranges of 40°C, 50°C, and 60°C. All models feature a removable sensor tip, NIST traceability, and a durable capacitive sensor capable of full scale 0 to 100% RH measurement. All models can withstand 100% saturation without losing performance.

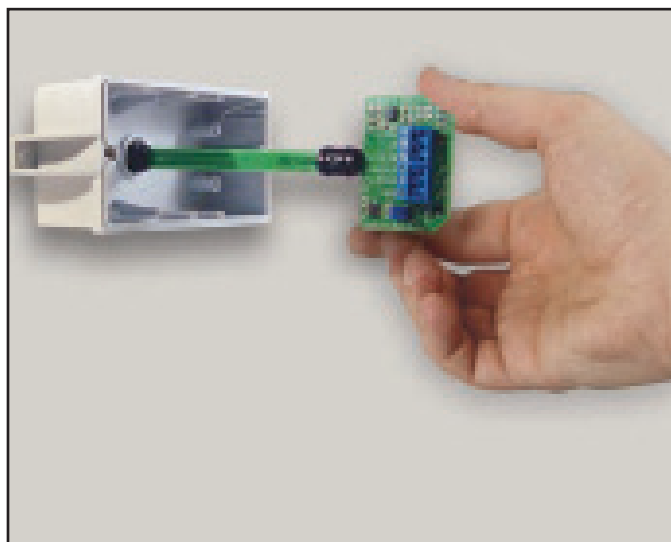
Replacing the removable sensor tip requires no special training and can be easily replaced by the end user. No calibration is needed because each new sensor module is factory calibrated before shipping, reducing downtime during service intervals. As an example, the duct mount probe is easily accessed by taking off the front cover, pulling out the probe and replacing the sensor tip. This same procedure can be performed on the wall mount and outside air models. An additional benefit for duct and outside air applications is the sensor module can be replaced without having to remove the unit and disconnect the wiring conduit.

## Features

- Available in Wall, Duct Mount or Outdoor Air
- Key component of comprehensive HVAC/R system
- Active temperature with jumper selectable
- Tspan ranges of 40°C, 50°C, and 60°C
- Excellent reliability through ASIC technology
- Robust capacitive sensor design
- Low cost of ownership
- Three accuracy options: 2%, 3%, & 5%
- Quick mount, 2 screw install with plug-in terminal wiring
- 5 year warranty on electronics
- 2 year warranty on sensor module
- CE and RoHS compliant

## Applications

- HVAC/R control
- Indoor air quality (IAQ)
- Laboratories
- Antique preservation



## Specifications

### RH performance data

<b>Sensing element</b>	Capacitive polymer
<b>Humidity operating range</b>	0 to 99% RH (non-condensing)
<b>Accuracy @ 68°F (20°C)</b>	±2%, ±3%, ±5% FS <sup>1</sup>
<b>Non-repeatability</b>	0.05% FS
<b>Long term stability</b>	<1%/Year @ 68°F (20°C), 50% RH

### Electrical data

<b>Signal outputs</b>	
<b>Current (2-wire)</b>	4 to 20mA
<b>Field-selectable voltage (3-wire)</b>	0 to 5 VDC, 0 to 10 VDC
<b>Excitation</b>	13.5 to 30 VDC (10 VDC Output) 12 to 30 VDC (4 to 20 Ma, 5 VDC Output)
<b>Maximum load (current only)</b>	$\Omega = (\text{Supply} - 10) / 0.02$
<b>Electrical termination</b>	Pluggable terminal block (5mm pitch)
<b>Wiring protection</b>	Reverse excitation
<b>CE compliance</b>	EMC Directive 2004/108/EC

### Environmental data

<b>Operating temperature °F (°C)</b>	-40 to 140 (-40 to 60)
<b>Storage temperature °F (°C)</b>	-40 to 158 (-40 to 70)
<b>Moisture resistance</b>	IP65, NEMA-4 (duct & outside air)
<b>Solar</b>	UV resistant (outside air)
<b>Flammability rating</b>	94-V0
<b>Compliance</b>	CE, RoHS

<sup>1</sup> Long term exposure to high humidity may temporarily offset the RH signal (e.g. +3% RH after 60H at >80% RH)

<sup>2</sup> Excitation 24 VDC

Specifications subject to change without notice.

### Temperature sensing options (passive)

<b>T1: Thermistor</b>	NTC 10K ohm 77°F/25°C (direct connect) Type II
<b>T2: RTD output</b>	1000 ohm 32°F/0°C (direct connect)
<b>T6: Thermistor</b>	NTC 10K $\Omega$ 77°F/25°C Type III

### Temperature sensing options (active)

<b>T3: Ranges °F (°C)</b>	-58 to +140 (-50 to +60)
<b>Accuracy @ 68°F (20°C)</b>	Typ @ 50% ±1.1 (±0.6) <sup>2</sup>
<b>T5: °F (°C)</b>	+14 to +140 (-10 to +60)
<b>Accuracy @ 68°F (20°C)</b>	Typ @ 50% ±0.7 (±0.4) <sup>2</sup>

### Signal Output Options (includes humidity output)

<b>Current</b>	4 to 20mA
<b>Field-selectable voltage</b>	0 to 5 VDC, 0 to 10 VDC

### Physical description

<b>Enclosure materials</b>	
<b>Wall mount</b>	VA 94-V0
<b>Duct &amp; outside air</b>	Polycarbonate 94-V0
<b>Probe (duct &amp; outside air)</b>	Aluminum
<b>Weather shield</b>	Porous polyethylene
<b>Sensor tip filter</b>	70 micron polypropylene
<b>Dimensions</b>	See dimensions drawings

## Ordering information

Example part number: SRH12PD11T0NC; Model SRH, 2% Accuracy, Duct Mount, 4 to 20 mA Output, RH only, No Display, NIST Certificate of Conformance:

<div><div>S</div><div>R</div><div>H</div><div>1</div><div></div><div></div><div>D</div><div></div><div></div><div></div><div></div><div>N</div><div>C</div></div>															
[1]			[2]		[3]	[4]			[5]		[6]	[7]			
[1]		[2]		[3]		[4]		[5]			[6]		[7]		
Model		Accuracy		Configuration		Outputs		Temperature outputs			Display		Options		
SRH1	Model SRH	2P	2%	W	Wall	11	4 to 20 mA	T0	None (RH only)			N	None	C	NIST certificate of performance
		3P	3%	D	Duct	2C	0 to 5 or 0 to 10 VDC <sup>1</sup> (user selectable)	T1	10K Ω Type II thermistor (passive)						
		5P	5%	O	Outside air			T2	1000 Ω RTD (passive)						
								T3	-58 to 140°F (-50 to 60°C) (active) <sup>2,3</sup>						
								T5	14 to 140°F (-10 to 60°C) (active) <sup>2,3</sup>						
								T6	10K Ω Type III thermistor (passive)						

### Replacement sensor assembly:

S

R

H

3

[1]

[2]

[3]

Model

SRH3 Model SRH

Accuracy

2P\*

2%

3P\*

3%

5P\*

5%

2D\*\*

2%

3D\*\*

3%

5D\*\*

5%

Temperature outputs

T0

None (RH only)

T1

10K  $\Omega$  Type II thermistor (passive)

T2

1000  $\Omega$  RTD (passive)

T3

-58 to 140°F (-50 to 60°C) (active)<sup>3</sup>

T5

14 to 140°F (-10 to 60°C) (active)<sup>3</sup>

T6

10K  $\Omega$  Type III thermistor (passive)

<sup>1</sup> Voltage outputs (2C) are factory configured for 0 to 5 VDC operation. User-selectable jumper for 0 to 10 VDC operation.

<sup>2</sup> Tspan jumper factory configured for 60°C. User-selectable Tspan for 40°C and 50°C option provided.

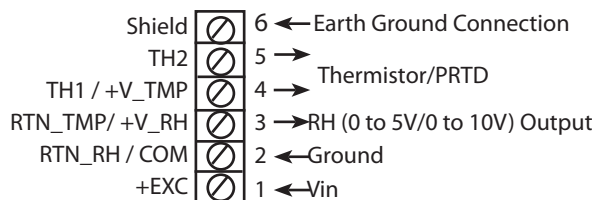
<sup>3</sup> SRH1 units originally ordered with either a T3 or T5 temperature option must be replaced with the same T(x) version.

\* Wall mount configurations.

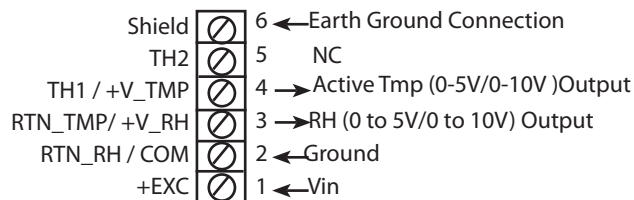
\*\* Duct/outdoor mount configurations.

## Wiring

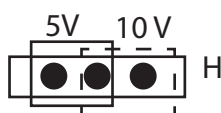
### Wiring 0-5 V/0-10 V Output Units (3-wire / T0, T1, T2 & T6)



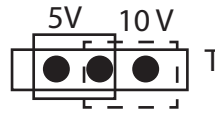
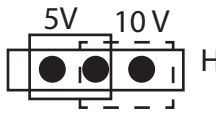
### Wiring 0-5 V/0-10 V Output Units (4-wire / T3 & T5)



Selectable Outputs



Selectable Outputs

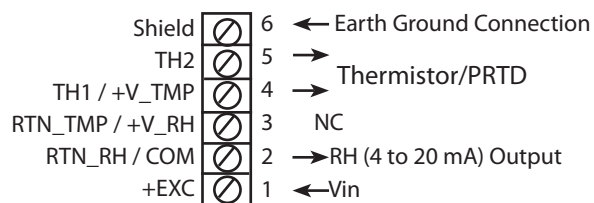


Selectable Tspan

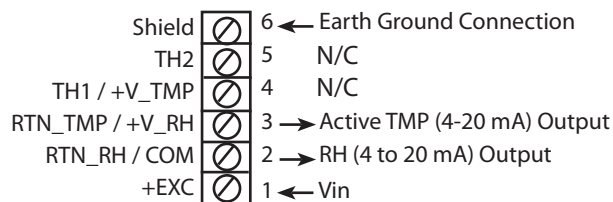


40 50 60 (°C)

### Wiring 4 to 20 mA Output Units (2-wire / T0, T1 & T2)



### Wiring 4 to 20 mA Output Units (3-wire / T3, T5)



Selectable Tspan



40 50 60  
(°C)

Dimensions

