Model SRH
Relative Humidity Sensor

setra

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%
- ■ Replaceable Sensor Tip
- ■ 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
- ■ Antiquities Preservation

DESCRIPTION

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.
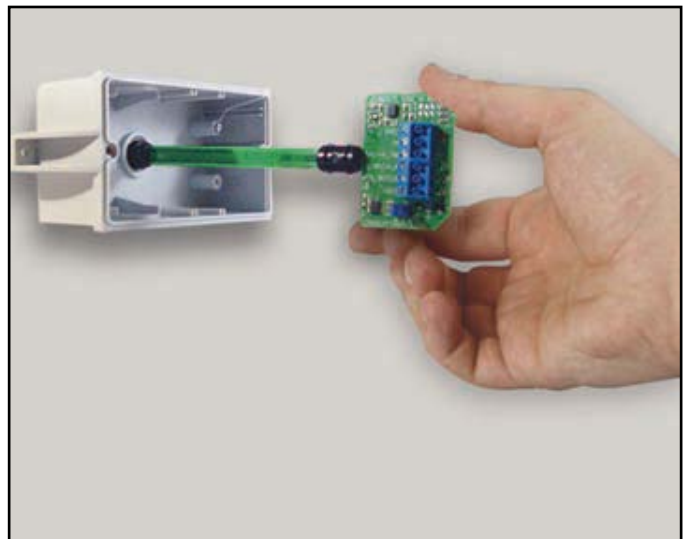
Replacing the removable sensor tip requires no special training and can be easily replaced by the end user. No calibration is needed because each new sensor module is factory calibrated before shipping, reducing downtime during service intervals. As an example,the duct mount probe is easily accessed 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.

SPECIFICATIONS

RH Performance Data		Temperature Sensing Options (Passive)		Physical Description	
Sensing Element	Capacitive Polymer	T1: Thermistor	NTC 10K Ω 77°F/25°C (Direct Connect) Type II	Enclosure Materials	
Humidity Operating Range	0 to 99% RH (non-condensing)	T2: RTD Output	1000 Ω 32°F/0°C (Direct Connect)	Wall Mount	VA 94-V0
Accuracy @ 68°F (20°C)	2%, 3%, 5%[1]	T6: Thermistor	NTC 10K Ω 77°F/25°C Type III	Duct & Outside Air	Polycarbonate 94-V0
Non-Repeatability	0.05% FS	**Temperature Sensing Options (Active)**		Probe (Duct & Outside Air)	Aluminum
Long Term Stability	<1%/Year @ 68°F (20°C), 50% RH	T3: Ranges °F (°C) Accuracy @ 68°F (20°C)	-58 to +140 (-50 to +60) Typ @ 50% ±1.1 (±0.6)[2]	Weather Shield	Porous Polyethylene
Electrical Data		T5: °F (°C) Accuracy @ 68°F (20°C)	+14 to +140 (-10 to +60) Typ @ 50% ±0.7 (±0.4)[2]	Sensor Tip Filter	70 Micron Polypropylene
Signal Outputs		Signal Output Options (includes humidity output)		Dimensions	See Dimensions Drawings
Current (2-Wire)	4 to 20mA	Current	4 to 20mA	**Environmental Data**	
Field-Selectable Voltage (3-Wire)	0 to 5 VDC, 0 to 10 VDC	Field-Selectable Voltage	0 to 5 VDC, 0 to 10 VDC	Operating Temperature °F (°C)	–40 to 140 (-40 to 60)
Excitation	13.5 to 30 VDC (10 VDC Output) 12 to 30 VDC (4 to 20 Ma, 5 VDC Output	[1] 5% units available only with passive temperature option. [2] Excitation 24 VDC ±10% Specifications subject to change without notice.		Storage Temperature °F (°C)	–40 to 158 (-40 to 70)
Maximum Load (Current Only)	=(Supply - 10) - 0.02			Moisture Resistance	IP65, NEMA-4 (Duct & Outside Air)
Electrical Termination	Pluggable Terminal Block (5mm Pitch)			Solar	UV Resistant (Outside Air)
Wiring Protection	Reverse Excitation			Flammability Rating	94-V0
CE Compliance	EMC Directive 2004/108/EC			Compliance	RoHS Compliant, CE Compliant

WIRING

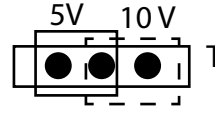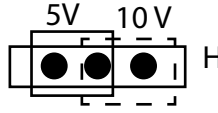### Wiring 0-5 V/0-10 V Output Units (3-wire / T0, T1, T2 & T6)

Shield	6 ←	Earth Ground Connection
TH2	5 →	Thermistor/PRTD
TH1 / +V_TMP	4 →	
RTN_TMP/ +V_RH	3 →	RH (0 to 5V/0 to 10V) Output
RTN_RH / COM	2 ←	Ground
+EXC	1 ←	Vin

Selectable Outputs

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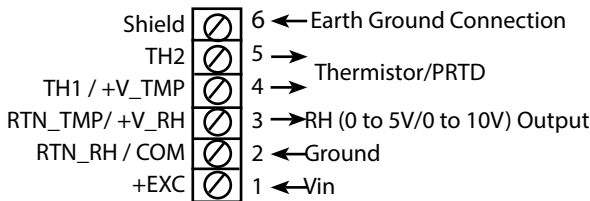
Wiring 0-5 V/0-10 V Output Units (4-wire / T3 & T5)

Shield	6 ←	Earth Ground Connection
TH2	5	NC
TH1 / +V_TMP	4 →	Active Tmp (0-5V/0-10V)Output
RTN_TMP/ +V_RH	3 →	RH (0 to 5V/0 to 10V) Output
RTN_RH / COM	2 ←	Ground
+EXC	1 ←	Vin

Selectable Outputs

5V 10 V   H   5V 10 V   T
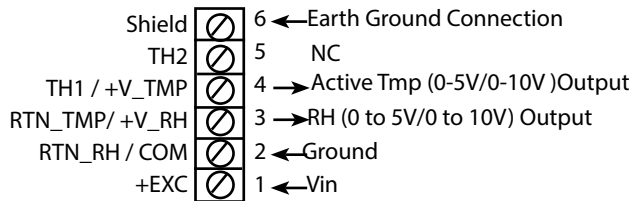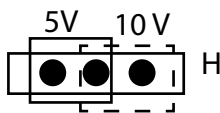
Selectable Tspan
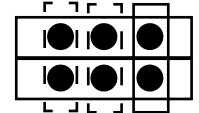
40 50 60 (°C)

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

Shield	6 ←	Earth Ground Connection
TH2	5 →	Thermistor/PRTD
TH1 / +V_TMP	4 →	
RTN_TMP / +V_RH	3	NC
RTN_RH / COM	2 →	RH (4 to 20 mA) Output
+EXC	1 ←	Vin
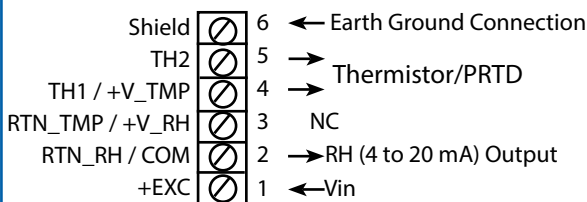
Wiring 4 to 20 mA Output Units (3-wire / T3, T5)

Shield	6 ←	Earth Ground Connection
TH2	5	N/C
TH1 / +V_TMP	4	N/C
RTN_TMP / +V_RH	3 →	Active TMP (4-20 mA) Output
RTN_RH / COM	2 →	RH (4 to 20 mA) Output
+EXC	1 ←	Vin

Selectable Tspan
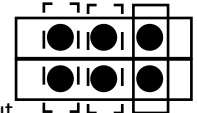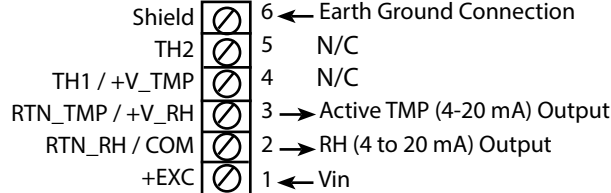
40 50 60 (°C)

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DIMENSIONS

Wall Mount

[71.50] 2.81

[119] 4.69

[24.7] 0.98

Security Lock

Security Latch

Outside Air

[154.9] 6.10

[60.4] 2.38

[114.4] 4.50

[102.6] 4.04

[68] 2.68

[318] 12.52

[102.7] 4.05

UNIVERSAL WALL/PIPE MOUNTING FLANGE

POROUS WEATHER SHIELD

[mm]
in.

Duct Mount

[142.2]/5.60

[129.5]/5.10

[68.1] 2.68

[60.4] 2.38

CONDUIT KNOCK-OUTS BOTH SIDES

[221] 8.7

DUCT PROBE (5/8" DIA.)

[57.15] 2.25
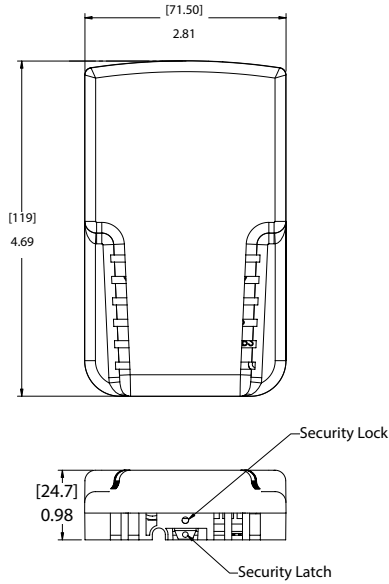
DUCT MOUNT SHOWN WITH OPTIONAL DUCT FLANGE
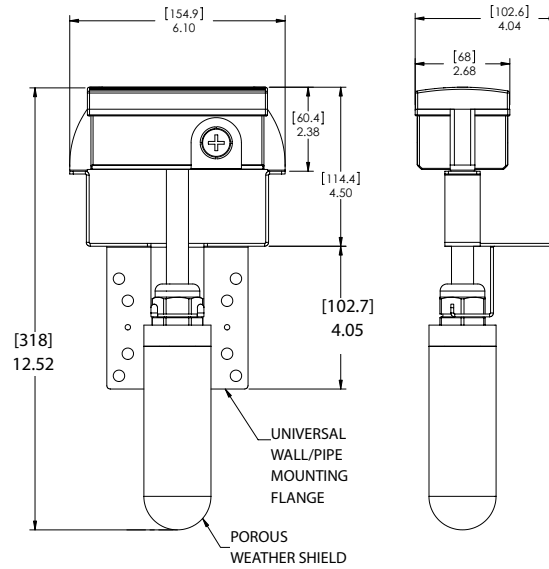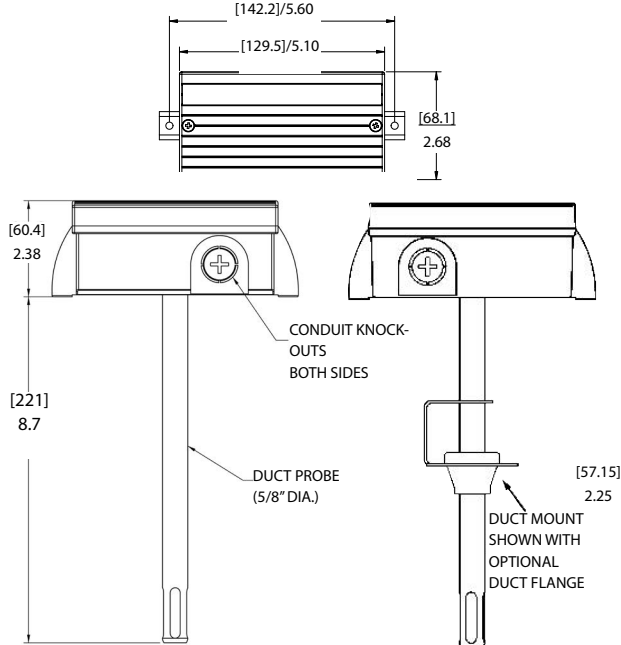
Optional Duct Flange
Mates with Duct Mount Unit

[41.25] 1.62

Duct Flange (Side View)

[17.27] 0.68

[38.10] 1.50

4 x (4.57) Ø.180

[44.45] 1.75

[28.58] 1.125

[57.15] 2.25

[76.20] 3.00

Duct Flange (Top View)
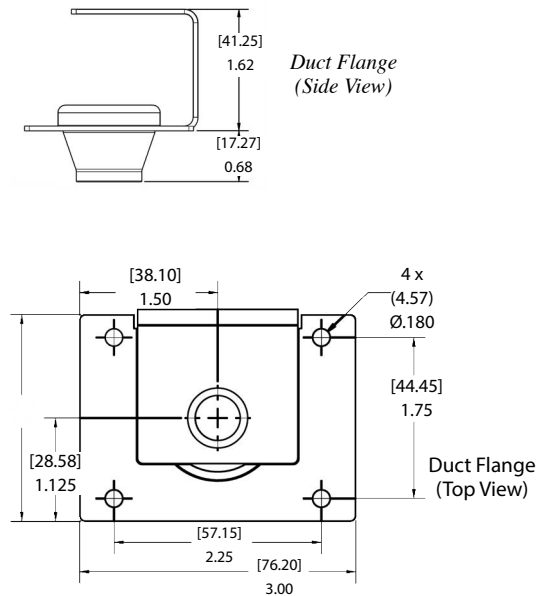
ORDERING INFORMATION

S R H 1 – ☐☐ – ☐ – ☐☐ – ☐☐ – N – ☐

Model	Accuracy		Configuration		Outputs		Temperature Outputs		Display		Options	
SRH1 = SRH	2P	2%	W	Wall	11	4 - 20 mA	T0	None (RH only)	N	None	C	NIST Certificate of Performance
	3P	3%	D	Duct	2C	0 -5 or 0-10 VDC[1] (user-selectable)	T1	10K Ω Tupe IIThermistor (Passive)				
	5P	5%	O	Outside Air			T2	1000 Ω RTD (Passive)				
							T3	-58 to 140°F (-50 to 60°C [Active])[2,3]				
							T5	+14 to 140°F (-10 to 60°C [Active])[2,3]				
							T6	10K Ω Type III Thermistor [Passive]				

Ordering Example: SRH12PW11T0NC = Model SRH, 2% Accuracy, Wall Mount, 4 to20 mA Output, RH only, No Display, NIST Certificate of Conformance

S R H 3 – ☐☐ – ☐☐

Model	Accuracy		Temperature Outputs	
SRH3 = SRH	2P	2%	T0	None (RH only)
	3P	3%	T1	10K Ω Type II Thermistor (Passive)
	5P	5%	T2	1000 Ω RTD (Passive)
			T3	-58 to 140°F (-50 to 60°C [Active])[3]
			T5	+14 to 140°F (-10 to 60°C [Active])[3]
			T6	10K Ω Type III Thermistor [Passive]

Replacement Sensor Assembly: Ordering Example: SRH32PT0 = 2% Accuracy, RH only.

Notes:
1. Voltage outputs (2C) are factory configured for 0 to 5 VDC operation. User-selectable jumper for 0 to 10 VDC operation.
2. Tspan jumper factory configured for 60°C. User-selectable Tspan for 40°C and 50°C option provided.
3. SRH1 units originally ordered with either a T3 or 5T temperature option Must be replaced with the same T(x) version.

Hochwertige Messtechnik und Beratung aus einer Hand

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