

# SpaceLogic Sensors

## SHD2 Series Humidity Sensors – Analog



### Product Description

SpaceLogic SHD2 Series Humidity Transmitters provide an ideal solution for measuring relative humidity in a wide range of conditions. All models are equipped with a solid state capacitive humidity sensor that is easy to replace in the field and a solid state temperature sensor for high accuracy measurements.

SHD2 is an all-in-one device combining humidity and temperature sensing. Intended for duct mount applications, the device ensures a building’s optimum temperature and humidity levels, resulting in greater energy efficiency.

Each device is an active sensor that converts a humidity or temperature measurement into 4-20 mA, 0 to 5 Vdc or 0 to 10 Vdc analog output.

Different models are available based on application requirements for lower-cost installations.

### Features

- Easy to install:
  - Latch-on sensor cover
  - Screwless terminal block wiring with spring actuator
  - Mounting accessory adjusts probe length in duct
- Quick to commission with DIP switch selectable Voltage/Current mode
- 1% or 2% with NIST certificate, 2% RH module – field replaceable
- All passive temperature thermistor sensors include a 1-point measurement for offset correction
- Solid state temperature sensor providing high accuracy measurements
- Multiple temperature thermistors and transmitter options, compatible with a wide range of controllers
- 2-point calibration certificate available for humidity and temperature or temperature-only replaceable module
- Key component for the LEED green building program and WELL Building Standard\*

\*Leadership in Energy and Environmental Design (LEED) is a registered trademark of the US Green Building Council. The WELL Building Standard is a trademark of the International WELL Building Institute in the United States and other countries.

### Available Products

SHD2	User Interface <input type="checkbox"/> X X = None	Output <input type="checkbox"/> A A = Analog output	RH Accuracy <input type="checkbox"/> 2 2 = 2%	Temperature <input type="checkbox"/> A A = Transmitter only C = 1000 PT RTD H = 10K T3 thermistor
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Example:

SHD2  X  A  2  A

Note: Replaceable RH and temperature modules available to be ordered separately per table on page 2.

USA: +1 888-444-1311  
 Europe: +46 10 478 2000  
 Asia: +65 6484 7877  
[www.schneider-electric.com](http://www.schneider-electric.com)

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## Replaceable RH Elements & Temperature and Humidity Calibration Modules

Part Number	Description
SLXRHS1N	Replaceable RH sensor, 1% with NIST certificate
SLXRHS2N	Replaceable RH sensor, 2% with NIST certificate
SLXRHS2X	Replaceable RH sensor, 2%
SLXXT2*	Replaceable temperature module with 2-point calibration certificate
SLXRHT2*	Replaceable temperature and humidity module with 2-point calibration certificate

\*For temperature transmitter models only.

## Specifications

Operating and Storage Environment	
Operating temperature	-35 to 60 °C (-31 to 140 °F)
Operating humidity*	0 to 95% RH (non-condensing)
Storage temperature	-35 to 70 °C (-31 to 158 °F)
Storage humidity	0 to 95% RH (non-condensing)
Power supply	3-wire volt mode: 20 to 30 Vdc, 24 Vac, 50 to 60 Hz; loop powered 20 to 30 Vdc
Output	Selectable 4 to 20 mA, 0 to 5 Vdc, 0 to 10 Vdc
Power consumption	See Maximum Power Consumption table
Output load	Voltage mode $\geq$ 5K Ohms Current mode $\leq$ 250 Ohms
Tube length	200 mm
Medium	Neutral gas, air
Housing material	Polycarbonate; Flammability rating UL 94 V0
Mounting location	For indoor use only. Not suitable for wet locations.
IP rating	IP 65
Protection class	Class III
Humidity Sensor	
Sensor type	Solid state capacitive, replaceable
Accuracy**	$\pm$ 2% from 10 to 80% RH @ 25 °C (77 °F) $\pm$ 1%, $\pm$ 2% NIST and 2% replaceable option
Hysteresis	1.5% typical
Linearity	Included in accuracy specification
Stability	$\pm$ 1% @ 20°C (68 °F) annually for 2 years
Output range	0 to 100% RH
Temperature coefficient	$\pm$ 0.1% RH/°C above or below 25 °C (77 °F) typical
Temperature Sensor	
Sensor type	Solid state, integrated circuit
Temp. sensing element	10K T3 thermistor, 1000 PT RTD
Time constant	Air velocity 1.5 m/s. approx. 72 s; Air velocity 3.0 m/s. approx. 52 s

Accuracy***	$\pm$ 0.2 °C ( $\pm$ 0.4 °F) typical at 25 °C
Resolution	0.1 °C (0.1 °F)
Range	-35 to 60 °C (-31 to 140 °F)

## Wiring Terminals

Wiring	Screwless terminal block with spring actuator, 16-24 AWG
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## Warranty

Limited warranty	2 years
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## Regulatory Information

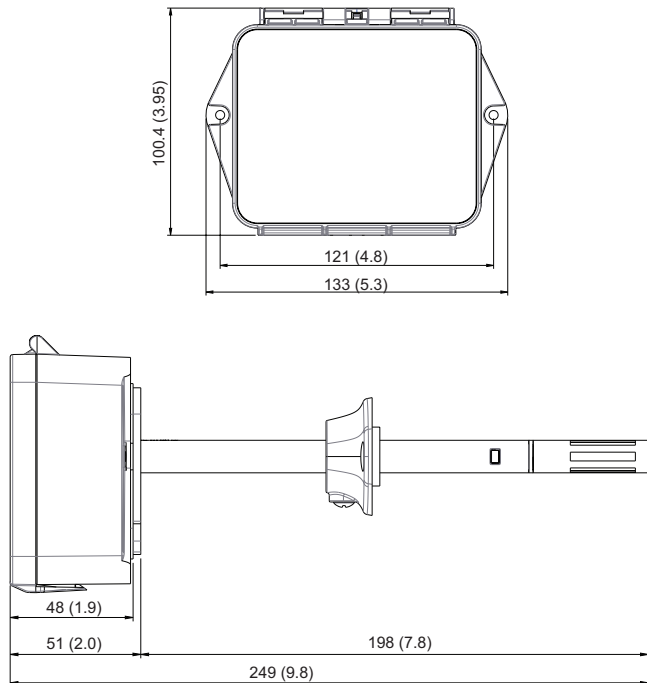
Agency approvals	UL 916
	European conformance CE: EN61000-6-2, EN61000-6-3, EN61000 Series immunity, EN 61326-1
	FCC Part 15 Class A
	Green Premium (REACH, RoHS), RoHS 2 (China), RCM (Australia), ICES-001 (Canada), UKCA (UK)

\*Duct mount model with temperature and humidity only.

\*\*Humidity sensor measurement uncertainty should include: accuracy, hysteresis, temperature coefficient and stability. Humidity sensor accuracy to -20°C.

\*\*\* $\pm$ 0.5 °C accuracy from 0 to 60°C,  $\pm$ 1°C accuracy from -35 to 0°C.

## Dimensions mm (in.)



## Maximum Power Consumption

Series	LCD	Temp./RH	Max. Power
SHD2 Analog	No	Yes	0.8VA @ 24VAC Voltage Mode 0.96W @ 24VDC Current Mode

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