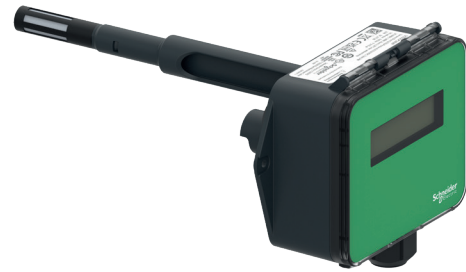


SpaceLogic Sensors

SCD2 Series Air Quality Sensors



Product Description

SpaceLogic SCD2 Series Air Quality Sensors are duct mount all-in-one sensors for monitoring air quality. The device combines CO₂, temperature, humidity, VOC and particulate matter (PM) sensing into a single unit to ensure a building's optimum air quality and energy efficiency.

Each device is an active sensor that converts a measurement into one of the following output options:

- Analog output: 4-20 mA, 0 to 5 Vdc or 0 to 10 Vdc
- Protocol output: BACnet MS/TP, Modbus RTU

As an integral part of Schneider Electric EcoStructure™ Building Operation (EBO) software, the SCD2 protocol models' Ready-Connect feature enables a plug & play experience for easy integration and configuration.

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

SCD2 is available with an LCD display option on select models (see Available Products, page 2).

Features

- Field calibratable, non-dispersive infrared CO₂ sensor
 - NDIR-based, dual-channel device compensates for drift and deterioration for high-accuracy output
- Thin-film capacitive humidity sensor element recovers from 100% saturation
- Solid state temperature sensor provides high accuracy measurements
- Laser-scatter type PM sensor featuring innovative contamination resistance technology for highly accurate measurement of particulate matter
- Automatic Background Calibration for improved accuracy and field performance
- Easy to install:
 - Latch-on sensor cover
 - Screwless terminal block wiring with spring actuator
 - Rotating probe for best alignment with airflow
- Quick to commission with DIP switch selectable outputs:
 - Analog: 4-20 mA, 0 to 5 Vdc or 0 to 10 Vdc
 - Protocol: BACnet, Modbus via RS-485
 - PM: PM1.0, PM2.5, PM4.0, PM10 (analog models only)
 - CO₂: 0 to 2000/5000 ppm (analog models only)
- 1% or 2% with NIST certificate, 2% RH module – replaceable in the field
- 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.

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Available Products

Model Number	LCD	2% RH Sensor	Temp. Transmitter	1000 PT RTD	10K T3	NDIR CO2	VOC	PM
Analog Models								
SCD2XA2ACX		X	X			X		
SCD2XA2CCX		X		X		X		
SCD2XA2HCX		X			X	X		
SCD2XAXACX			X			X		
SCD2XAXCCX				X		X		
SCD2XAXHCX					X	X		
SCD2XAXXVX						X	X	
Protocol Models								
SCD2LP2AVP	X	X	X			X	X	X
SCD2LP2AVX	X	X	X			X	X	
SCD2LPXAVP	X		X			X	X	X
SCD2LPXAVX	X		X			X	X	
SCD2LPXXVX	X					X	X	
SCD2XP2AVP		X	X			X	X	X
SCD2XP2AVX		X	X			X	X	
SCD2XPXAVP			X			X	X	X
SCD2XPXAVX			X			X	X	

*Note: Replaceable RH and temperature modules available to be ordered separately per table below.

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.

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Specifications

Operating and Storage Environment		
Operating temperature	0 to 50 °C (32 to 122 °F)	
Operating humidity	0 to 95% RH (non-condensing)	
Storage temperature	-25 to 70 °C (-13 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	
Output	Analog: selectable 4 to 20 mA, 0 to 5 Vdc, 0 to 10 Vdc Protocol: BACnet MS/TP, Modbus RTU	
Power consumption	See Maximum Power Consumption table, page 4	
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	
CO ₂ Sensor		
Sensor type	Non-dispersive infrared (NDIR), diffusion sampling	
Output range	Analog models: 0 to 2000/5000 ppm (selectable) Protocol models: 0 to 5000 ppm	
Accuracy	±30 ppm ±3% of measured value	
Repeatability	±20 ppm ±1% of measured value	
Response time	<60 seconds for 90% step change	
Calibration	Field calibration support	
VOC Sensor Option		
Sensor type	Solid state	
Output range	0 to 100% AQI for VOC	
Accuracy	±15% sensor-to-sensor variation	
AQI table	Level	Ventilation Recommendation
	>61%	Greatly increased
	20 to 61%	Significantly increased
	10 to 20%	Slightly increased
	5 to 10%	Average
0 to 5%	Target value	
RH Sensor Option		
Sensor type	Thin-film capacitive, replaceable	
Accuracy*	±2% from 10 to 80% RH @ 25 °C (77 °F) ±1%, ±2% replaceable models	
Hysteresis	1.5% typical	
Linearity	Included in accuracy specification	
Stability	±1% @ 20°C (68 °F) annually for 2 years	
Output range	0 to 100% RH	

Temperature coefficient	±0.1% RH/°C above or below 25 °C (77 °F) typical
Temperature Sensor Option	
User configuration	°C or °F
Sensor transmitter 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***	±0.2 °C (±0.4 °F) typical @ 25 °C
Resolution	0.1 °C (0.1 °F)
Range	0 to 50 °C (32 to 131 °F)
PM Sensor Option	
Sensor type	Laser-scatter
Particulate size	PM1.0, PM2.5, PM4.0, PM10
Resolution	± 1 µg/m ³
Mass concentration output range	0 to 1000 µg/m ³
Accuracy****	PM 1 and PM 2.5: ±10 µg/m ³ (0 to 100 µg/m ³), ±10% (100 to 1000 µg/m ³) PM 4 and PM 10: ±25 µg/m ³ (0 to 100 µg/m ³), ±25% (100 to 1000 µg/m ³)
Display Models	
LCD type	Positive display with backlight
Measurement values displayed	CO ₂ : ppm Temperature: °C or °F Humidity: % RH VOC: % AQI PM: µg/m ³
Display resolution	CO ₂ : 1 ppm Humidity: 0.1% RH Temperature: 0.1 °C or °F VOC: 1% AQI PM: 1 µg/m ³
Wiring	
Wiring	Screwless terminal block with spring actuator, 16-24 AWG
EBO integration	Download ADT template for Modbus models from the Building Application tool: https://bms-applications.schneider-electric.com/type/MB
Warranty	
Limited warranty	5 years
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-003 (Canada), UKCA (UK)

* Humidity sensor measurement uncertainty should include: accuracy, hysteresis, temperature coefficient and stability.

** Analog models only. See installation guide for accuracy.

*** ±0.5 °C over full operating range.

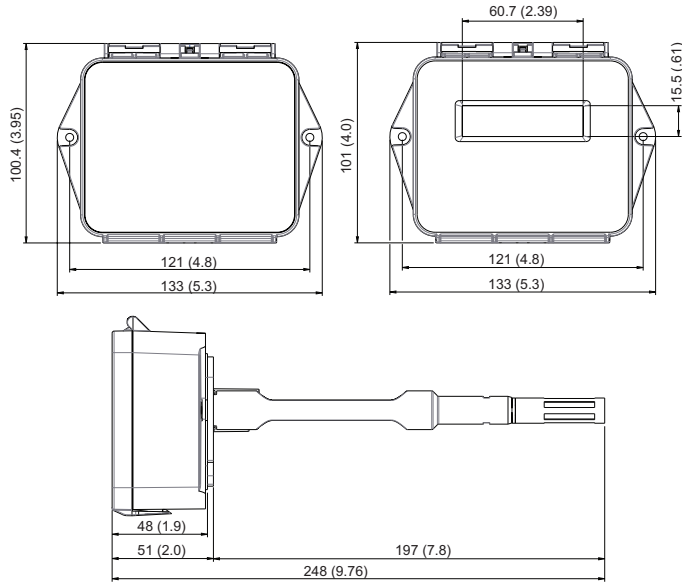
**** Sensor-to-sensor variation.

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Dimensions mm (in.)



Maximum Power Consumption

Series	LCD	CO ₂ /VOC	PM	Temp./RH	Max. Power
SCD2 Analog	No	Yes	Yes	Yes	9VA @ 24VAC
	No	Yes	No	Yes	8VA @ 24VAC
	No	No	Yes	Yes	7VA @ 24VAC
	No	Yes	No	Yes	6VA @ 24VAC
	No	Yes	No	No	4VA @ 24VAC
SCD2 Protocol	Yes	Yes	Yes	Yes	4VA @ 24VAC
	Yes	Yes	No	Yes	3VA @ 24VAC
	No	Yes	Yes	Yes	2VA @ 24VAC
	Yes	Yes	No	Yes	1.5VA @ 24VAC

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