

# SpaceLogic Sensors

## Air Quality Sensors – Analog



Note: A subset of models shown.

### Product Description

The SpaceLogic SLA Series of air quality sensors for living space is a flexible multisensor platform for use with BAS controllers designed to accept 4 to 20mA, 0 to 5Vdc or 0 to 10Vdc outputs. Housings are available in Medium matte white and Optimum faces available in black and white. All housing types are available with three user interface options: touchscreen, LCD with three buttons and blank. CO<sub>2</sub> and temperature sensors are included with all SLA Series air quality sensors. Models with VOC sensors and relative humidity sensors are also available.

### Features

- Medium matte white housing or optimum glass panel housing available in white or black
- Field calibratable non-dispersive infrared CO<sub>2</sub> sensor
- Replaceable RH element available in 1% & 2% with NIST certificate
- VOC sensor available
- Temperature output on all models
- 61 mm (2.4") backlit color touchscreen and LCD, three button display options available
  - Digital temperature indication (0.1° display resolution of °F or °C)
  - Digital humidity indication (0.1% RH display resolution)
  - Digital CO<sub>2</sub> indication (1 ppm display resolution)
  - Selectable temp, RH and fan speed setpoint (0-10V)
  - Configurable screen/button lock and display timeout
  - Override
- Selectable 4 to 20mA, 0 to 5V and 0 to 10V analog outputs
- 18-24 AWG screw terminals

### Available Products Matrix

SLA	Housing	User Interface	CO <sub>2</sub> Sensor	RH Sensor**	Example:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SLA <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	S = Medium white matte housing W = Optimum white housing B = Optimum black housing	T = Color touchscreen L = 3-button LCD display X = None	C = NDIR CO <sub>2</sub> CV = NDIR CO <sub>2</sub> / VOC	2 = 2% X = None	

\*\* RH elements are replaceable.

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[www.schneider-electric.com](http://www.schneider-electric.com)

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## Specifications

Operating Environment			
Input power	Class 2; 20 to 30 Vdc, 24 Vac, 50 to 60 Hz		
Analog output	Selectable 4 to 20 mA, 0 to 5 V, 0 to 10 V		
Operating temp. range	0 to 50 °C (32 to 122 °F)		
Operating humidity range	0 to 95% RH non-condensing		
Housing material	High impact ABS plastic		
IP rating	IP 30		
CO <sub>2</sub> Sensor			
Sensor type	Non-dispersive infrared (NDIR), diffusion sampling		
Output range	0 to 2000/5000 ppm (selectable)		
Accuracy	±30 ppm ±3% of measured value		
Repeatability	±20 ppm ±1% of measured value		
Response time	<60 seconds for 90% step change		
VOC Sensor			
Sensor type	Solid state		
Output range	0 to 100% AQI for VOC		
Accuracy	±15% of measured value		
Output scale	0 to 1,000 ppb of total VOC (TVOC)		
AQI table*	<b>Level</b>	<b>Ventilation Recommendation</b>	<b>TVOC (ppb)</b>
	>61%	Greatly increased	>610
	20 to 61%	Significantly increased	200 to 610
	10 to 20%	Slightly increased	100 to 200
	5 to 10%	Average	50 to 100
0 to 5%	Target value	0 to 50	
RH Sensor			
HS sensor	Thin-film capacitive, replaceable		
Accuracy	±2% from 10 to 80% RH @ 25°C (77 °F)		
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			
Sensor type	Solid state, integrated circuit		
Accuracy	±0.2 °C (±0.4 °F) typical		
Resolution	0.1 °C (0.1 °F)		
Range	0 to 50 °C (32 to 122 °F)		

## Display Models

Touchscreen	61 mm (2.4 in), color, backlit, capacitive, 240x300px Setpoint: 0-10Vdc. Temperature, humidity or fan speed selectable Timeout override: Display timeout** Lockout override: Touchscreen/button lockout**
LCD	52mm (2.05 in), segmented with 3 buttons Setpoint: 0-10Vdc. Temperature, humidity or fan speed selectable Timeout override: Display timeout** Lockout override: Touchscreen/button lockout**

## Setpoints\*\*\*

Temperature setpoint	0 to 10V output Scale: 10 to 35 °C (50 to 95 °F) / 0 to 50 °C (32 to 122 °F)
Humidity setpoint	0 to 10V output Scale: 0 to 100% RH
Fan speed setpoint	0 to 10V output Off 0V, Low 3.3V, Med. 6.7V, High 10.0V

## Override

Override button	Display models feature a momentary-to-ground override button
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## Wiring Terminals

Terminal blocks	Screw terminals, 18-24 AWG
Screw terminal torque	0.2 N-m (2.0 in-lbf) max.

## Regulatory Information

	UL 916, European conformance CE: EN61000-6-2 EN61000-6-3
Agency approvals	EN61000 Series - industrial immunity EN 61326-1 FCC Part 15 Class B, REACH, RoHS, Green Premium, RCM (Australia), ICES-003 (Canada), EAC (Russia)

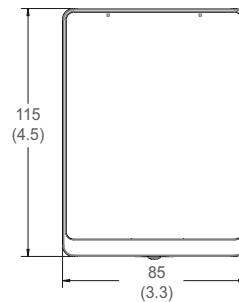
\* Air Quality Index for VOC aligns with TVOC levels for IAQ as specified by the WHO (World Health Organization).

\*\* DIP switch selectable.

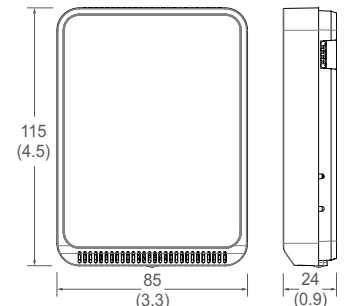
\*\*\* One setpoint type is selectable via DIP switch on display models only.

## Dimensions mm (in.)

### Optimum Housing



### Medium Housing



## Installation

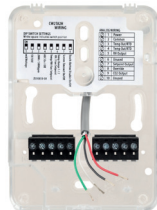
1. Remove the cover from the base at the bottom of the device.



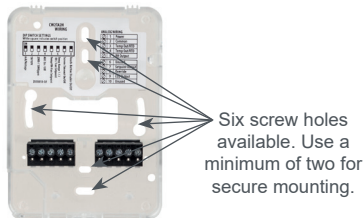
2. Position the sensor base vertically on the wall 1.35 m (4.5 ft.) above the floor with the “UP” arrow facing upward. Locate away from windows, vents and other sources of draft. If possible, do not mount on an external wall, as this may cause inaccurate temperature readings.



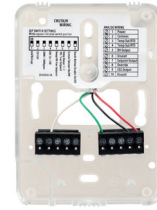
3. Pull 18 or 22 AWG cable(s) through the hole in the backplate.



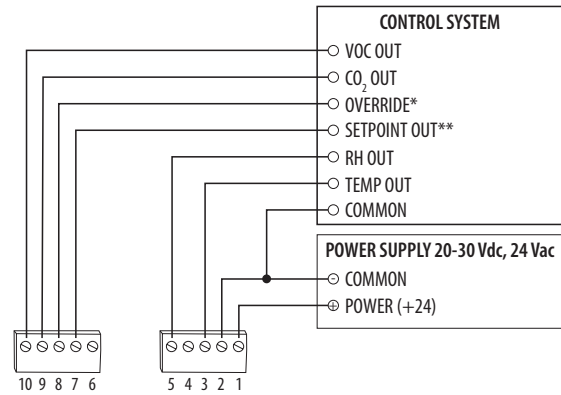
4. Mount the backplate onto the wall using the screws provided.



5. Connect the wires to the screw terminals. Do not over-tighten the screws.



Wiring diagram:

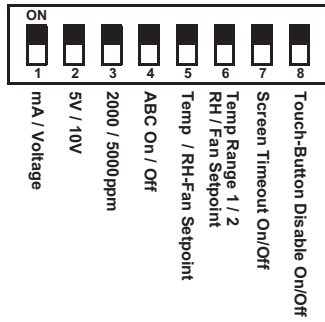


\* Momentary to ground.

\*\* 0-10V DIP switch selectable for temperature, RH (if equipped) or fan speed (off, 0V, Low 3.3V, Medium 6.7V or high 10V).

## Installation (cont.)

6. Set the DIP switches.



Switch	Function	Description
1	Output mode	ON - 4-20mA output mode enabled OFF - Voltage output mode enabled
2	Voltage output range*	ON - 0-5V output range enabled OFF 0-10V output range enabled
3	CO <sub>2</sub> output range	ON - 0-2000 ppm CO <sub>2</sub> output range enabled OFF - 0-5000 ppm CO <sub>2</sub> output range enabled
4	Automatic Baseline Calibration (ABC) for CO <sub>2</sub>	ON - ABC enabled OFF - ABC disabled
5	Setpoint output type	ON - Temperature setpoint enabled (temp range selected on DIP switch 6) OFF - RH or Fan Speed setpoint enabled (specific setpoint output type to be selected on DIP switch 6) Models without RH option select only temp or fan setpoint
6	Setpoint output temperature range or RH/Fan Speed output type	Temperature setpoint (must be enabled on DIP switch 5) ON - Temp range 1, 50 to 95 °F (10 to 35 °C) enabled OFF - Temp range 2, 32 to 122 °F (0 to 50 °C) enabled  RH or Fan Speed setpoint (must be enabled on DIP switch 5) ON - RH setpoint enabled OFF - Fan Speed setpoint enabled Models without RH option, set to OFF
7	Display times out and turns off after 6-10 seconds of touchscreen/button press	ON - Display Timeout enabled OFF - Display Timeout disabled

Switch	Function	Description
8	Touchscreen touch functions and buttons are disabled	ON - Touchscreen touch/button functions disabled OFF - Touchscreen touch/button functions enabled

\* Only used with voltage output mode enabled. Not applicable to setpoint output. Setpoint is 0-10V fixed.

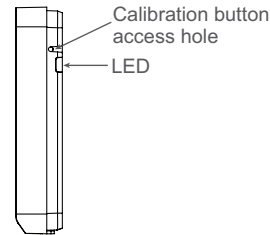
7. With sensor base fully installed, align top of cover to mounting tabs on top of sensor base. Swing cover downward until it latches at the bottom.



8. Install locking screw to secure cover in closed position.

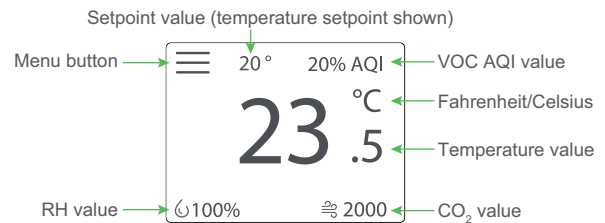


9. 400 ppm baseline calibration allows the sensor to be set at 400 ppm. Push and hold the calibration button for 3 to 5 seconds. The LED will flash green. Once the button is released, calibration is complete and the LED switches off.



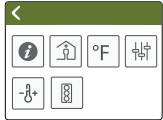
## Touchscreen Operation Main Screen

The touchscreen user interface displays applicable sensor output values (temperature, RH, CO<sub>2</sub> and VOC), setpoint value, menu button and CO<sub>2</sub> stoptight status (if enabled).

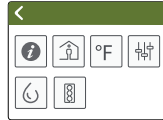


### Menu Screen

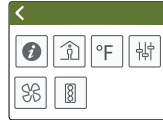
The menu screen opens when pressing the Menu button on the main screen. Integrator’s submenu, occupancy/override, Fahrenheit/Celsius, settings, setpoint submenu (temp, RH or fan, determined by DIP switch settings) and CO<sub>2</sub> stoplight buttons are displayed on the menu screen.



Temperature setpoint  
DIP switch selected



RH setpoint  
DIP switch selected

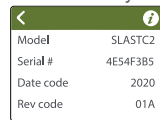


Fan Speed setpoint  
DIP switch selected

### Menu Button Functions

**Integrator’s Submenu**  
Press this icon to access the Integrator’s menu.

Submenu Only



**Occupied Override Button**  
Press this icon to provide momentary ground output to the controller

Single Press Only

Signals occupied/override call to controller.

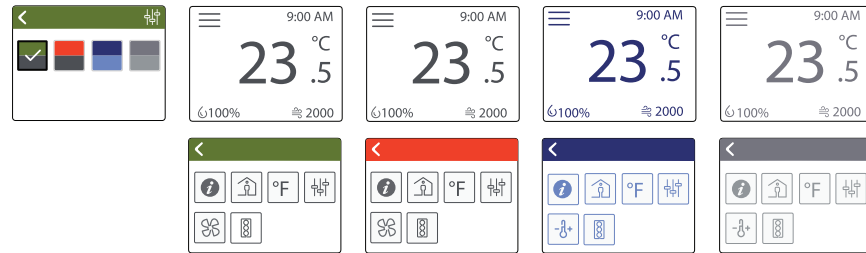
**Fahrenheit/Celsius Switch**  
Press this icon to display either °C or °F.

Single Press Only

Changes units to Fahrenheit when pressed.  
 Changes units to Celsius when pressed.

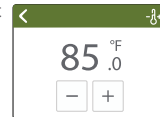
**Settings**  
This icon provides the ability to change the color scheme of the display.

Submenu Only



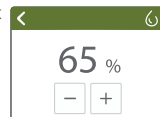
**Temp Setpoint Adjustment**  
Click this icon to access the setpoint change menu. Mutually exclusive with fan speed, set by DIP switch.

Submenu Only



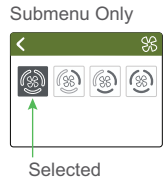
**Humidity Setpoint Adjustment**  
Click this icon to access the setpoint change menu. Mutually exclusive with humidity and fan speed. Set by DIP switch.

Submenu Only

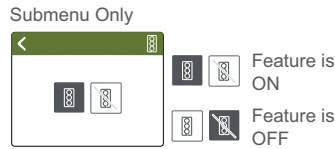


### Menu Button Functions (cont.)

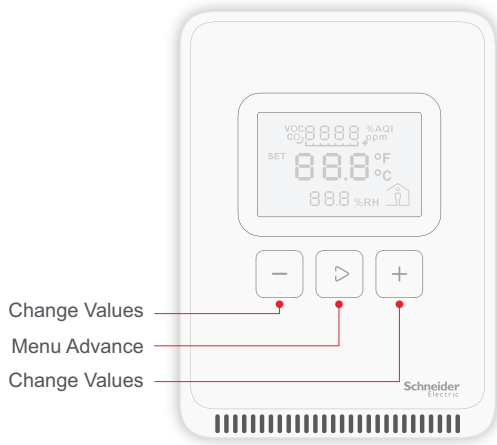
**Fan Speed**  
Click this icon to access the fan speed menu. Mutually exclusive with humidity and fan speed. Set by DIP switch.



**CO<sub>2</sub> Stoplight Menu**  
Click this icon to toggle the CO<sub>2</sub> Stoplight feature on and off. With CO<sub>2</sub> Stoplight turned on, the background color of the main screen changes with CO<sub>2</sub> level. This provides a visual indicator of CO<sub>2</sub> levels to the room occupants.

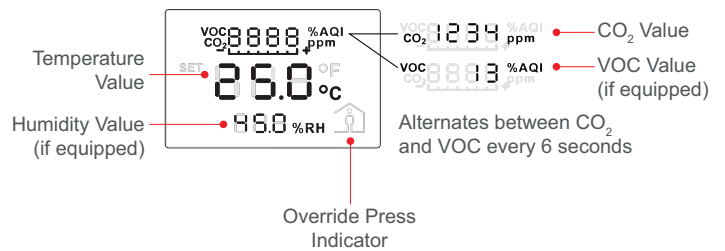


### LCD Display Operation Button Functions



### Display Icons

The main screen displays sensor values for CO<sub>2</sub>, VOC (if equipped), RH (if equipped), temperature and Celsius/Fahrenheit.



## Setpoint Function

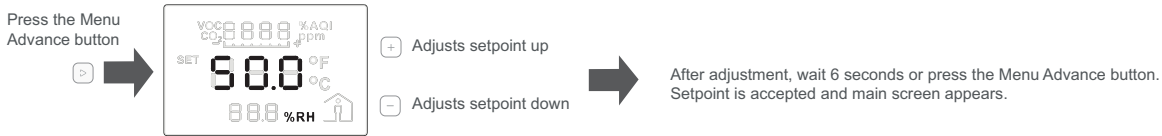
A single 0-10V setpoint (temperature, RH (if equipped) or fan speed) can be selected via DIP switch.

### Temperature Setpoint Adjustment



Note: Numeric information will flash while in Set mode.

### RH Setpoint Adjustment



Note: Numeric information will flash while in Set mode.

### Fan Speed Setpoint Adjustment



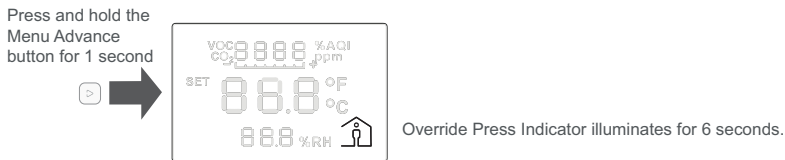
Note: Fan speed scale flashes when in Set mode. Off setting is default.

### Changing Celsius and Fahrenheit Scales



Note: °F or °C text will flash while in Set mode.

### Occupied/Override Button



### China RoHS Compliance Information Environment-Friendly Use Period (EFUP) Table

部件名称	有害物质 - Hazardous Substances					
Part Name	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
电子件 Electronic	X	O	O	O	O	O

本表格依据SJ/T11364的规定编制。

O: 表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572规定的限量要求以下。

X: 表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572规定的限量要求。  
(企业可在此处, 根据实际情况对上表中打 \* 的技术原因进行进一步说明。)

This table is made according to SJ/T 11364.

O: indicates that the concentration of hazardous substance in all of the homogeneous materials for this part is below the limit as stipulated in GB/T 26572.

X: indicates that concentration of hazardous substance in at least one of the homogeneous materials used for this part is above the limit as stipulated in GB/T 26572

Z000057-0B