SpaceLogic Sensors
SLA Series 1.8 kΩ Temperature Sensors – Analog

Product Description

The SpaceLogic SLA Series of 1.8 kΩ temperature sensors for living space is a flexible multisensor platform for use with Schneider Electric controllers designed to accept 4 to 20mA, 0 to 5Vdc or 0 to 10Vdc outputs.

Features

- Medium matte white housing
- Field calibratable non-dispersive infrared CO_2 sensor
- Replaceable RH element available in 1% & 2% with NIST certificate
- 1.8 kΩ thermistor temperature output on all models
- Selectable 4 to 20mA, 0 to 5V and 0 to 10V analog outputs for CO_2 and humidity
- 18-24 AWG screw terminals

Available Products

Model	Description	Housing Type	Housing Color
SLASXXX-100	Sensor, Temp, 1.8k, Analog	Blank	Medium white matte
SLASLXX-100	Sensor, Temp, 1.8k, Analog, LCD	LCD	Medium white matte
SLASXX2-100*	Sensor, Temp, 1.8k, RH, Analog	Blank	Medium white matte
SLASXC2-100*	Sensor, Temp, 1.8k, RH,CO2, Analog	Blank	Medium white matte
SLASTCX-100	Sensor, Temp, 1.8k, CO2, Analog, Touch	Touchscreen	Medium white matte

*Replaceable RH module available to be ordered separately per table below.

Replaceable RH Elements

Model	Description	Temp. Calibration	RH Calibration
SLXRHS2N	Replaceable RH sensor, 2% with NIST certificate	N/A	2-point calibration
SLXRHS2X	Replaceable RH sensor, 2%	N/A	2-point calibration
SLXRHS1N	Replaceable RH sensor, 1% with NIST certificate	N/A	2-point calibration

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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, CO_2 & humidity	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
Mounting location	For indoor use only. Not suitable for wet locations.
Surface mount	The device can be surface mounted on Single Gang J-Box, British Standard and CE60 wall boxes

CO₂ 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

RH Sensor

Sensor type	Solid state 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	Thermistor (see table below)

Wiring Terminals

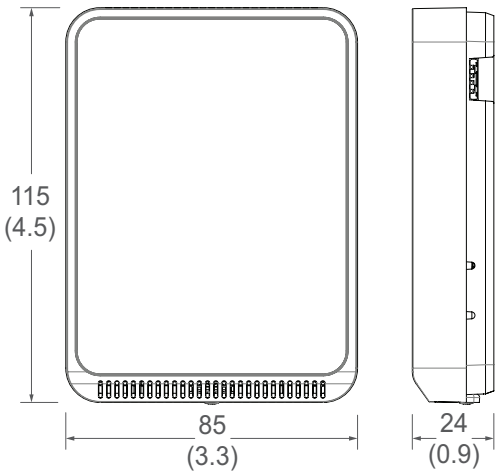|	
Terminal blocks	Screw terminals, 18-24 AWG
Screw terminal torque	0.2 N-m (2.0 in-lbF) max.

Regulatory Information

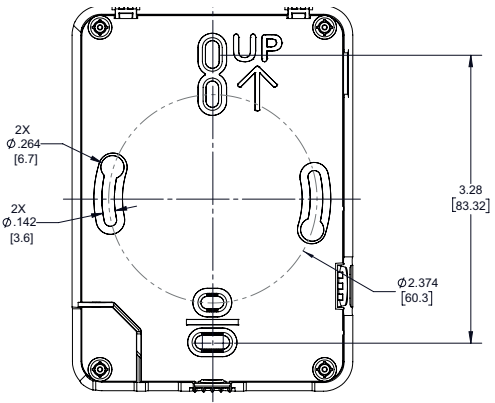|	
Agency approvals	UL 916 European Conformance CE: 　EN 60730-1, EN 60730-2-9, EN 60730-2-13, 　EN 61000-6-2, EN 61000-6-3, EN 61000 Series 　- Industrial Immunity, EN 61326-1 FCC Part 15 Class B, REACH, RoHS, Green Premium, RCM (Australia), ICES-003 (Canada), UKCA (UK)

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

Dimensions mm (in.)
Face Cover

Base Hole Measurement

Thermistor Table

°C	°F	TAC Vista 1.8K
0	32	5,096
5	41	4,077
10	50	3,287
15	59	2,671
20	68	2,185
25	77	1,800
30	86	1,492
35	95	1,245
40	104	1,044
45	113	881
50	122	747

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Safety Information
Important Information

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service or maintain it. The following special message may appear throughout this bulletin or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

NOTICE

NOTICE is used to address practices not related to physical injury.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided **could result in** death or serious injury.

Please Note

Electrical equipment should be installed, operated, serviced and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has the skills and knowledge related to the construction, installation and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

Safety Precautions

WARNING

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E or CSA Z462.
- This equipment must only be installed and serviced by qualified electrical personnel.
- Turn off all power supplying this equipment before working on or inside equipment.
- Always use a properly rated voltage sensing device to confirm power is off.
- Replace all devices, doors and covers before turning on power to this equipment.
Failure to follow these instructions can result in death, serious injury or equipment damage.

This product is intended for use in HVAC and building environmental control applications.

It is not intended for direct medical monitoring of patients.

Read and understand these instructions before installing this product.

The installer is responsible for all applicable codes.

If this product is used in a manner not specified by the manufacturer, the protection provided by the product may be impaired. No responsibility is assumed by the manufacturer for any consequences arising out of the use of this material.

NOTICE

PRODUCT DAMAGE AND INACCURATE READINGS
- Mount product vertically at a height that is between 3 to 5 feet (0.9 to 1.5 meters) above the floor [or 4 feet (1.2 meters) where the Americans with Disabilities Act needs to be followed]
- Mount product on a wall that is NOT exposed to the outside
- Install product far from windows, heat sources, door frames and at a minimum distance of 6 inches (15 centimeters) from any corner
- Drafts through conduits or other holes in the wall should be eliminated by plugging appropriate material into the cavity.
- Keep product wall mounted and the base cleared of any wire or other external material:
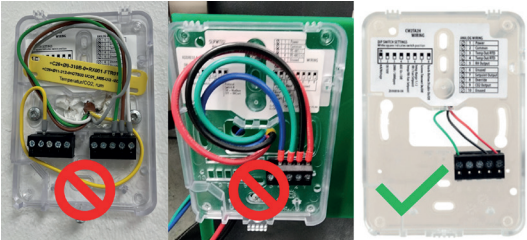
Failure to follow instructions can result in reduced accuracy, equipment damage or sensor fault.

Installation for All Sensors (Except SLASXXX-100)

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.
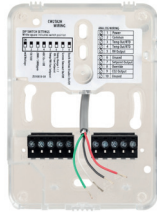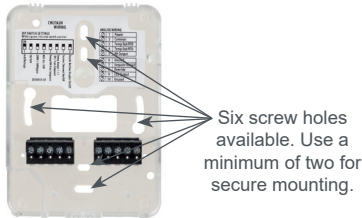
Installation (cont.)
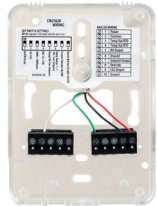
3. Pull 18 or 22 AWG cable(s) through the hole in the back-plate.

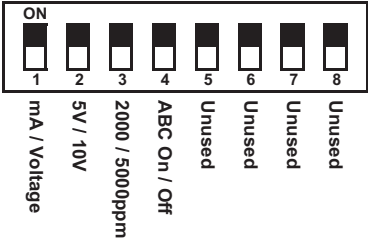4. Mount the backplate onto the wall using the screws provided.

Six screw holes available. Use a minimum of two for secure mounting.

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

Wiring diagram:

CONTROL SYSTEM
- VOC OUT
- CO2 OUT
- RH OUT
- RTD/THERMISTOR OUT
- RTD/THERMISTOR OUT
- COMMON

POWER SUPPLY 20-30 Vdc, 24 Vac
- COMMON
- POWER (+24)

10 9 8 7 6   5 4 3 2 1
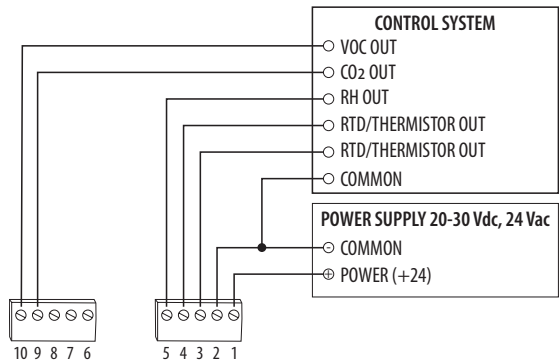
6. Set the DIP switches.

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_2 output range	ON - 0-2000 ppm CO_2 output range enabled OFF - 0-5000 ppm CO_2 output range enabled
4	Automatic Baseline Calibration (ABC) for CO_2	ON - ABC enabled OFF - ABC disabled
5	Unused	Unused
6	Unused	Unused
7	Unused	Unused
8	Unused	Unused

* 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.

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Installation for SLASXXX-100

1. Position the sensor vertically on the wall 4.5 ft. (1.35 m) 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.
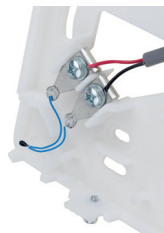
2. Pull 18 or 22 AWG two-conductor cable(s) through the hole in the backplate.

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

Six screw holes available. Use a minimum of two for secure mounting.
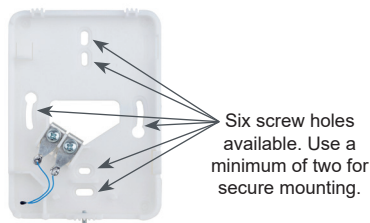
4. Connect the wires to the thermistor terminals. Do not over-tighten the screws.

Note: For a more secure connection of the wires to the thermistor terminals, spade terminals (not supplied) can be used.

5. 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.

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

CO₂ Sensor Calibration

There are two methods for CO_2 calibration available: 400 ppm baseline calibration and automatic baseline calibration (ABC).

400 ppm Baseline Calibration

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.
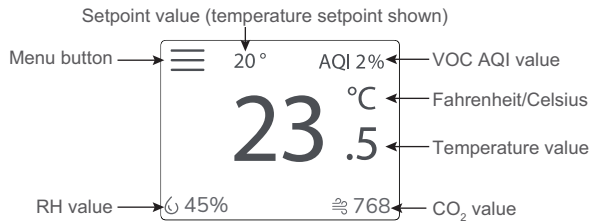
Calibration button access hole

LED
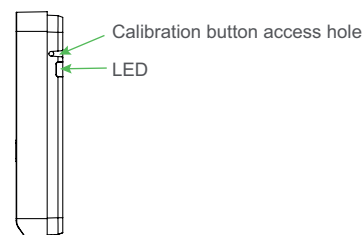
Automatic Baseline Calibration (ABC)

The ABC mode addresses the 400 ppm calibration. It allows turning on or off a background correction/recovery mode that will minimize any calibration error that has been caused by shock during handling and transportation or is caused by a long term shift in measurement. The ABC algorithm constantly keeps track of the sensor's lowest reading over a preconfigured time interval and slowly corrects for any long-term drift detected as compared to the expected fresh air value of 400 ppm. After initial startup, it is expected that the sensor reaches specified accuracy after 7 to 21 days.

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Touchscreen Operation

Main Screen

The touchscreen user interface displays applicable sensor output values (temperature, RH, CO_2 and VOC), setpoint value, menu button and CO_2 stoplight status (if enabled).

Setpoint value (temperature setpoint shown)

Menu button → 20°   AQI 2% ← VOC AQI value

°C ← Fahrenheit/Celsius

23.5 ← Temperature value

RH value → 45%   768 ← CO_2 value

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_2 stoplight buttons are displayed on the menu screen.

Temperature setpoint
DIP switch selected
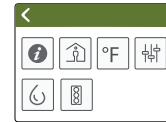
RH setpoint
DIP switch selected
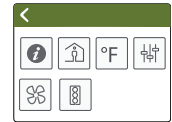
Fan Speed setpoint
DIP switch selected

Menu Button Functions

Integrator's Submenu
Press this icon to access the Integrator's menu.

Submenu Only

Model	SLASTC2
Serial #	4E54F3B5
Date code	2020
Rev code	01A

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

Single Press Only

Signals occupied/override call to controller.

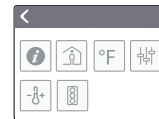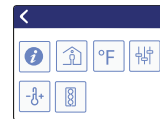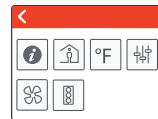**Fahrenheit/Celsius Switch**
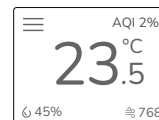Press this icon to display either °C or °F.

Single Press Only

°F Changes units to Fahrenheit when pressed.

°C Changes units to Celsius when pressed.

AQI 2%   74.3 °F   45%   768

AQI 2%   23.5 °C   45%   768

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

Submenu Only

AQI 2%   23.5 °C   45%   768

AQI 2%   23.5 °C   45%   768

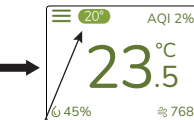AQI 2%   23.5 °C   45%   768

AQI 2%   23.5 °C   45%   768
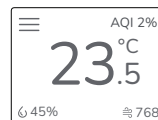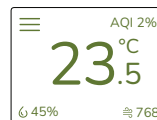
Temp Setpoint Adjustment
Click this icon to access the setpoint change menu.
Toggle the Temp Setpoint Display button to display or hide the setpoint value on the home screen.
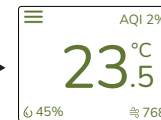
Submenu Only

23.5 °C   − +

20°   AQI 2%   23.5 °C   45%   768

23.5 °C   − +

AQI 2%   23.5 °C   45%   768

Temp Setpoint Display Button On   Setpoint

Temp Setpoint Display Button Off

Menu Button Functions (cont.)

Humidity Setpoint Adjustment
Click this icon to access the setpoint change menu. Mutually exclusive with humidity and fan speed. Set by DIP switch.
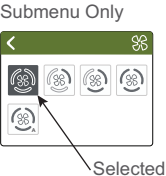
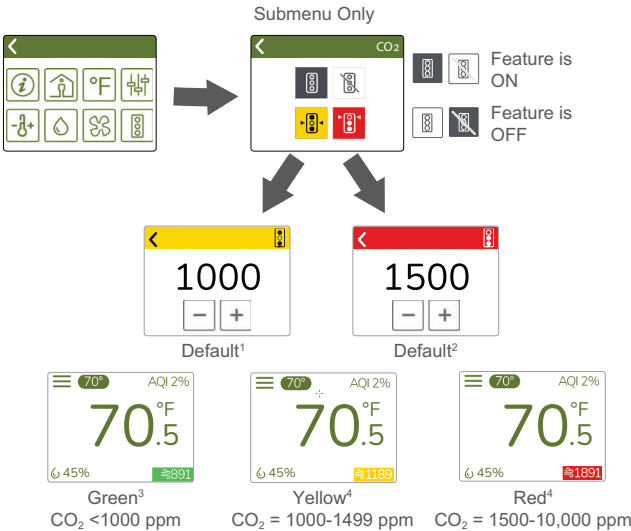Note: Only available on models with RH sensor.

Submenu Only

65 %
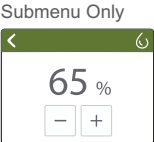
Fan Speed
Click this icon to access the fan speed menu.

Submenu Only

Selected

CO_2 Stoplight Menu
Click this icon to toggle the CO_2 Stoplight feature on and off. With CO_2 Stoplight turned on, the background color of the main screen changes with CO_2 level. This provides a visual indicator of CO_2 levels to the room occupants.

Using the +/- buttons, the thresholds at which the colors change on the main screen are user configurable, as described in the diagram.

Note: Only available on models with CO_2 sensor.

Submenu Only

Feature is ON

Feature is OFF

1000   1500
Default[1]   Default[2]

Green[3]   Yellow[4]   Red[4]
CO_2 <1000 ppm CO_2 = 1000-1499 ppm CO_2 = 1500-10,000 ppm

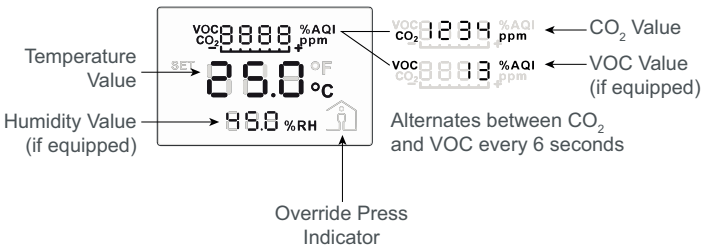1. Values <400 ppm will be rounded up to the minimum limit of 400 ppm.
2. Values >10,000 ppm will be rounded down to the maximum limit of 10,000 ppm.
3. Possible to adjust CO_2 thresholds by changing the yellow and red limits.
4. User configurable in increments of 10 ppm using the +/- buttons. With a long press of these buttons, the number will change more quickly.
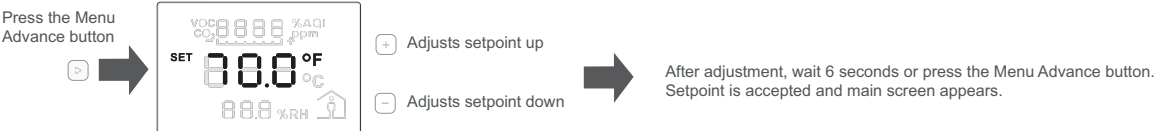
LCD Display Operation
Button Functions

Change Values

Menu Advance

Change Values
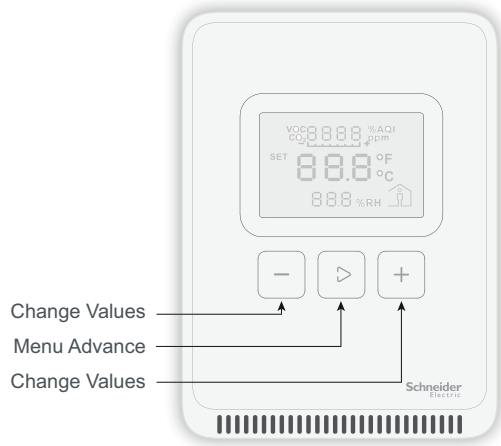
Display Icons

The main screen displays sensor values for CO_2, VOC (if equipped), RH (if equipped), temperature and Celsius/Fahrenheit.

Temperature Value

Humidity Value (if equipped)

CO_2 Value

VOC Value (if equipped)

Alternates between CO_2 and VOC every 6 seconds

Override Press Indicator

Setpoint Function

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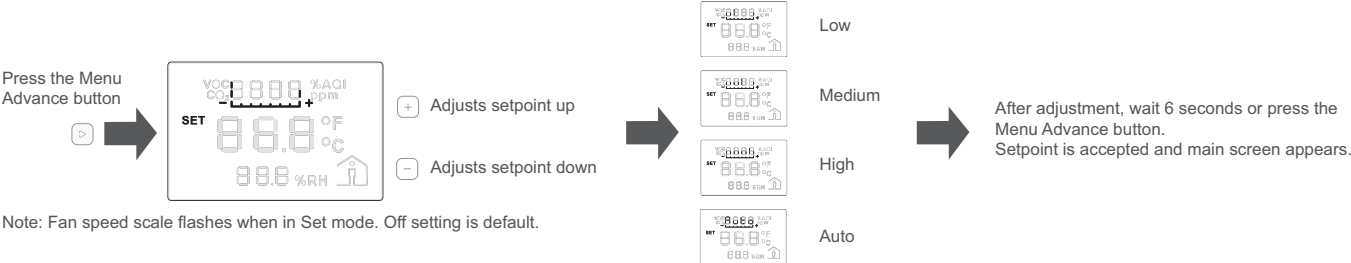
Temperature Setpoint Adjustment

Press the Menu Advance button

+ Adjusts setpoint up

− Adjusts setpoint down

After adjustment, wait 6 seconds or press the Menu Advance button. Setpoint is accepted and main screen appears.

Note: Numeric information will flash while in Set mode.

RH Setpoint Adjustment (only available on models with RH sensor)

Press the Menu Advance button

+ Adjusts setpoint up

− Adjusts setpoint down

After adjustment, wait 6 seconds or press the Menu Advance button. Setpoint is accepted and main screen appears.

Note: Numeric information will flash while in Set mode.

Fan Speed Setpoint Adjustment

Press the Menu Advance button

+ Adjusts setpoint up

− Adjusts setpoint down

 Low

 Medium

 High

 Auto

After adjustment, wait 6 seconds or press the Menu Advance button. Setpoint is accepted and main screen appears.

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

Setpoint Function (cont.)

Changing Celsius and Fahrenheit Scales

Press the Menu Advance button 2 times

| + | Adjusts from °F to °C |
| − | Adjusts from °C to °F |

After adjustment, wait 6 seconds or press the Menu Advance button to return to the main screen.

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

Occupied/Override Button

Press and hold the Menu Advance button for 1 second

Override Press Indicator illuminates for 6 seconds.

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

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