



SMART-Sensor™

Programmable Sensor

## Monitor your space

A complement to any room, the Reliable Controls® SMART-Sensor™ (SS) is a very versatile room sensor that communicates digitally, saving hard inputs in the host controller.



Better by design

[www.reliablecontrols.com/SS](http://www.reliablecontrols.com/SS)

## Tech Specs

### Supply Voltages (from controller)

- SS - 5 VDC @ 5 mA
- -IO option adds 10 mA
- -CO2 option adds 2 mA
- -OC option adds 0.2 mA

### Temperature Specifications

- 12-bit A/D converter
- User calibrated to  $\pm 0.1^\circ\text{C}$  ( $0.18^\circ\text{F}$ ) accuracy
- Range, SS:  $-40^\circ\text{C}$  to  $40^\circ\text{C}$  ( $-40^\circ\text{F}$  to  $185^\circ\text{F}$ )
- Range, SS-IO:  $-40^\circ\text{C}$  to  $120^\circ\text{C}$  ( $-40^\circ\text{F}$  to  $250^\circ\text{F}$ )
- Range, SS-P:  $0^\circ\text{C}$  to  $50^\circ\text{C}$  ( $32^\circ\text{F}$  to  $122^\circ\text{F}$ )

### CO2 Sensor (for -CO2 models)

- Non Dispersive Infrared Optical Sensor
- 0–2000 ppm range
- Accuracy  $\pm 50$  ppm
- Automatic calibration built in
- Non Linearity < 1% of full scale
- Power: adds 2 mA to the base SS

### Humidity Range (for -H models)

- 10–90% range
- $\pm 1.8\%$  RH accuracy

### Inputs

- Dedicated temperature sensor
- 2 thermistor or dry contact (on -IO models)

### Outputs (for -IO models)

- 2 on/off TRIAC
- 24 VAC @ 0.5 A

### Occupancy Sensor (for -OC models)

- Passive Infrared Radiation (PIR) sensor
- 64 detection zones
- $100^\circ$  horizontal range /  $82^\circ$  vertical range
- 5 m (16.4 ft.) max. detection distance

### Buttons

- 2 custom silicone rubber buttons for up/down adjust (-UD models)
- UD buttons not available on model with setpoint slider (-S models)
- 1 custom silicone rubber button for override (-O models)
- 1 custom brass button for override (-P-O model)

### Wiring Terminals

- 14 to 26AWG (2.08 mm<sup>2</sup> to 0.13 mm<sup>2</sup>)
- Stranded or solid core
- Copper conductors only

### Dimensions

#### Base model:

- 12 cm L x 7 cm W x 2.4 cm H ( $4\frac{3}{4}"$  L x  $2\frac{3}{4}"$  W x  $1\frac{5}{16}"$  H)

#### CO2 model:

- 12 cm L x 7 cm W x 3.2 cm H ( $4\frac{3}{4}"$  L x  $2\frac{3}{4}"$  W x  $1\frac{1}{4}"$  H)

#### Plate Model:

- 11.4 cm L x 7 cm W x 0.4 cm H ( $4\frac{1}{2}"$  L x  $2\frac{3}{4}"$  W x  $3/16"$  H)

### Weight

- SS: 0.086 kg (0.19 lb.)
- SS-P: 0.073 kg (0.16 lb.)

## Features

### Aesthetic Design

- Smooth contoured lines
- Slim profile

### Easy Programming

- Simply drag and drop points from the host controller onto the SS worksheet to configure

### Connection & Addressing

- Configure network address of SS using 4 pole DIP switch
- Valid addresses are 1–16
- Four wire connection to SS-P
- Four or six wire connection to SS (six wire required for use with X-Port-2™)

### Network Access

- An RJ-11 connector on the bottom provides access to the host network (X-Port-2 required, not available on -S, -P models)

### Optional CO2

- 0–2000 ppm  $\pm 50$  ppm NDIR sensor

### Optional Humidity

- Accurate onboard humidity sensor

### Optional I/O

- Up to 2 thermistor or dry contact inputs, and up to 2 digital TRIAC outputs

### Optional Override Button

- Use to override unoccupied mode

### Optional Occupancy

- Extremely compact sensor, ideal for detecting the motion of a person up to 5 m (16 ft.) away

### Optional Setpoint Slider

- Linear potentiometer with warm/cool decal

### Optional Up/Down Buttons

- Use up/down buttons to adjust setpoint

### Plate Model

- Mounts to a standard single electrical device box

### Warranty

- 5 years
- 1 year for humidity sensor and CO2 sensor

### Certification

- FCC CFR 47 Part 15/B

## Ordering

### SS (base model)

- SMART-Sensor with dedicated 10k thermistor onboard, warm gray colour

### Options for SS

- CO2 adds CO2 sensor
- H adds humidity sensor
- IO adds 2 inputs and 2 TRIAC outputs
- O adds override button
- OC adds occupancy sensor
- S adds setpoint slider
- UD adds setpoint up and down buttons
- /W for white enclosure (eg. SS-H/W)

### SS-P (plate model)

- SMART-Sensor with dedicated 10k thermistor onboard, tamper-proof stainless steel design

### Options for SS-P

- O adds override button

## ACCESSORIES

### SSX

- SMART-Sensor Expansion

Not all options are available together.

See submittal sheet for valid combinations.

### Ambient Limits

#### SS:

- Operating:  $-40^\circ\text{C}$  to  $40^\circ\text{C}$  ( $-40^\circ\text{F}$  to  $104^\circ\text{F}$ )
- Shipping:  $-40^\circ\text{C}$  to  $60^\circ\text{C}$  ( $-40^\circ\text{F}$  to  $140^\circ\text{F}$ )

#### SS-P:

- Operating:  $0^\circ\text{C}$  to  $50^\circ\text{C}$  ( $32^\circ\text{F}$  to  $122^\circ\text{F}$ )
- Shipping:  $0^\circ\text{C}$  to  $50^\circ\text{C}$  ( $32^\circ\text{F}$  to  $122^\circ\text{F}$ )

## APPLICATION DIAGRAMS

