

SMART-Sensor™

Programmable Sensor

**Reliable**®  
controls

## Digital duct sensor

The Reliable Controls® SMART-Sensor™ Duct (SS-DUCT) is a versatile sensor that communicates digitally, saving hard inputs in your host controller.



ISO  
9001  
14001  
QUALITY  
ENVIRONMENTAL  
ASSURANCE

Member of  
**BACnet**  
International



Better by design

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

## Tech Specs

### Supply Voltages (from controller)

- SS-DUCT - 5 VDC @ 5 mA
- -IO option adds 10 mA

### Temperature Specifications

- 12-bit A/D converter
- User calibrated to  $\pm 0.1\text{ }^{\circ}\text{C}$  (0.18  $^{\circ}\text{F}$ ) accuracy
- Range, Probe:  $-40\text{ }^{\circ}\text{C}$  to  $120\text{ }^{\circ}\text{C}$  ( $-40\text{ }^{\circ}\text{F}$  to  $250\text{ }^{\circ}\text{F}$ )
- Range, Using -IO:  $-40\text{ }^{\circ}\text{C}$  to  $120\text{ }^{\circ}\text{C}$  ( $-40\text{ }^{\circ}\text{F}$  to  $250\text{ }^{\circ}\text{F}$ )
- **SS-DUCT-EH-RH:**
- Range, Probe:  $-40\text{ }^{\circ}\text{C}$  to  $60\text{ }^{\circ}\text{C}$  ( $-40\text{ }^{\circ}\text{F}$  to  $140\text{ }^{\circ}\text{F}$ )

### Humidity Range (for -EH-RH models)

- Range, Probe: 10-90%
- 0.1% resolution

#### SS-DUCT-EH-RH2:

- Accuracy  $\pm 2\%$  10-90%

#### SS-DUCT-EH-RH3:

- Accuracy  $\pm 3\%$  10-90%

### Inputs

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

### Outputs (for -IO models)

- 2 digital solid state relays
- 24VAC/24VDC @ 0.5A

### 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

#### SS-DUCT-#-GD: (not including probe)

- 10.9 cm L x 9.9 cm W x 4.4 cm H
- (2 <sup>3</sup>/<sub>8</sub>" L x 3 <sup>7</sup>/<sub>8</sub>" W x 1 <sup>3</sup>/<sub>4</sub>" H)

#### SS-DUCT-#-PB: (not including probe)

- 12.2 cm L x 9.1 cm W x 6 cm H
- (4 <sup>3</sup>/<sub>4</sub>" L x 3 <sup>5</sup>/<sub>8</sub>" W x 2 <sup>3</sup>/<sub>8</sub>" H)

#### SS-DUCT-EH-RH:

- 10.16 cm L x 10.9 cm W x 25.85 cm H
- (4" L x 4 <sup>1</sup>/<sub>4</sub>" W x 10 <sup>3</sup>/<sub>16</sub>" H)

## Features

### Simplified Mounting

- Standard plastic device box with snap shut lid
- Optional galvanized device box

### 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
- Easy 4 wire connection

### Duct Probe

- Double encapsulated probe installed in plastic enclosure

### Optional Humidity

- Accuracy  $\pm 2\%$  from 10 to 95%
- Resolution 0.1%
- Repeatability 0.5%
- Probe Length 7 <sup>3</sup>/<sub>4</sub>"

### Optional I/O

- Up to 2 thermistor or dry contact inputs, and up to 2 digital solid state relays 0.5A, 24VAC/VDC

### Warranty

- 5 years

### Weight

- SS-DUCT-#-GD: 0.322 kg (0.71 lb.)
- SS-DUCT-#-PB: 0.109 kg (0.24 lb.)
- SS-DUCT-EH-RH: 0.318 kg (0.7 lb.)

### Ambient Limits

#### SS-DUCT:

- Operating:  $-40\text{ }^{\circ}\text{C}$  to  $85\text{ }^{\circ}\text{C}$  ( $-40\text{ }^{\circ}\text{F}$  to  $185\text{ }^{\circ}\text{F}$ )
- Shipping:  $-40\text{ }^{\circ}\text{C}$  to  $85\text{ }^{\circ}\text{C}$  ( $-40\text{ }^{\circ}\text{F}$  to  $185\text{ }^{\circ}\text{F}$ )

#### SS-DUCT-EH-RH:

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

## ORDERING

### SS-DUCT (base model)

- SMART-Sensor Duct with dedicated 10k thermistor onboard
- Must be ordered with one or more of the options below

### Options for SS-DUCT

- IO Adds 2 inputs and 2 solid state relay outputs
- # Designates probe length in inches: 4, 6, 8, 12, or 18
- GD Galvanized Device Box
- PB Plastic Box

### SS-DUCT-EH-RH (humidity model)

- SMART-Sensor Duct with dedicated 10k thermistor and relative humidity onboard, and Euro Housing packaging

### Options for SS-DUCT-EH-RH

- EH-RHx x designates RH percentage; available in 2% or 3%. Probe length is fixed at 7 <sup>3</sup>/<sub>4</sub>"

## ACCESSORIES

### SSX

- SMART-Sensor Expansion

See Submittal Sheet for valid model numbers

## APPLICATION DIAGRAMS

