

# Installation Instructions for the SCT Series Humidity and Temperature Wall Mount Transducers

## 1.0 Installation

### Step 1: Choose a proper transducer mounting location.

Ensure that:

- The transducer is installed in a representative area of the room, on a wall about 1,5 m [ 4.9 ft] above the floor.
- The transducer is not mounted in recesses, behind curtains, close to heat and moisture sources, close to air duct outputs, or in direct sunlight.

### Step 2: Mount the transducer on the wall (see Figure 1.)

- Open the housing by pressing the upper and lower pins until the cover can be removed.
- Ensure the arrow on the inside of the base points straight up.
- Mount the base on the wall using screws through the holes.

### Step 3: Wire the transducer.

#### **⚠ WARNING**

#### **PERSONAL INJURY**

- Ensure the wires are de-energized before connecting them to the transducer.
- Check the transducer wiring before switching on power.

**Failure to comply with these instructions could result in death or serious injury.**

#### **CAUTION**

#### **INCORRECT WIRING DAMAGE**

- Ensure correct wiring diagrams are used for the output type ordered (see Figure 2). The supply voltage and terminal assignments, and the mounting bases, are all model-specific.
- Use an isolated transformer (Class II) when using a 24 Vac transformer.
- Ensure all devices are connected with proper polarity when sharing the transformer with the controller, valve, actuator, or any other device.

**Failure to comply with these instructions may result in product damage.**

### Step 4: Set DIP Switches to the desired output (see Figure 4).

### Step 5: Replace the cover (see Figure 1).

## 2.0 Maintenance

#### **⚠ WARNING**

#### **PERSONAL INJURY**

- Ensure component boards are held by the edges and component contacts are not touched.

**Failure to comply with these instructions could result in death or serious injury.**

#### **CAUTION**

#### **ESD DAMAGE**

- Ensure proper ESD safety precautions are followed.

**Failure to comply with these instructions may result in product damage.**

## 3.0 Troubleshooting

See Table 5.

## 4.0 Specifications

**Table 1. Electrical Specifications**

Characteristic	Parameter
Power supply: units with 4 mA to mA output units with 0 V to 10 V output	24 Vdc ±10%, 50 mA max. 18 Vdc to 40 Vdc, 15 mA max. or 24 Vac ±15%, 50/60 Hz, 50 mA max.
Analog output signal load resistance: units with 4 mA to mA output units with 0 V to 10 V output	500 Ohm max. 10 kOhm min.

**Table 2. Mechanical Specifications**

Characteristic	Parameter
Sealing	IP30
Housing material	plastic (PC+ABS) UL 94 V-0 (Standard for Tests for Flammability of Plastic Materials for Parts in Devices and Appliances)
Terminal block	screw terminals, max. wire size is 1,5 mm <sup>2</sup> or AWG16

**Table 3. Environmental Specifications**

Characteristic	Parameter
Operating temperature range: units with LCD display units without LCD display	-20 °C to 70 °C [-4 °F to 158 °F] -25 °C to 85 °C [-13 °F to 185 °F]
Storage temperature range: units with LCD display units without LCD display	-30 °C to 80 °C [-22 °F to 176 °F] -40 °C to 85 °C [-40 °F to 185 °F]
Electromagnetic compliance: immunity emission	EN61326-1 and EN61326-2-3 Industrial Electromagnetic Environment Class B equipment

# SCT Series Temperature and Humidity Wall Mount Transducers

ISSUE A **32300824**

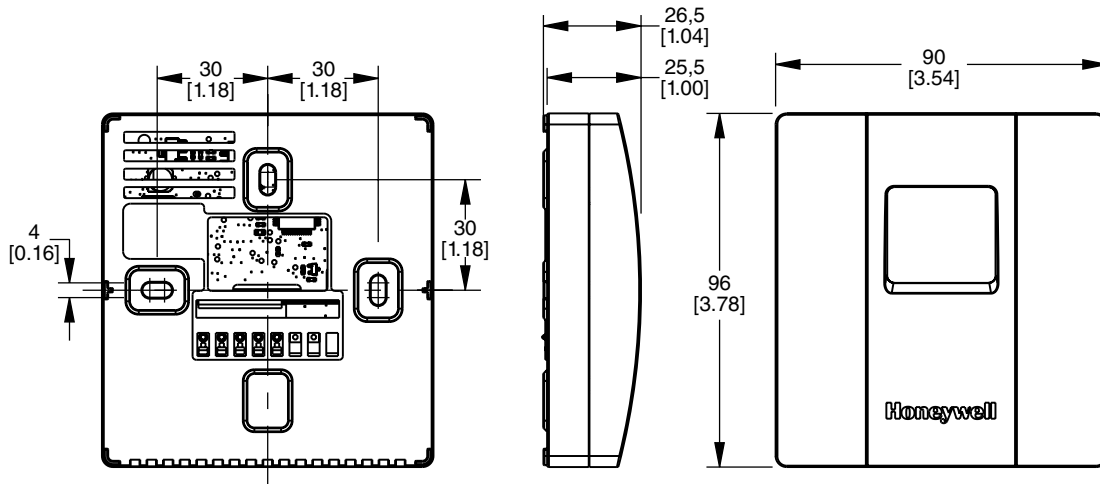
**Table 4. Humidity and Temperature Performance**

Characteristic	Condition	Parameter
Humidity measurement range	-	0 % RH to 100 %RH non-condensation
Humidity accuracy	25 °C [77 °F], 10 %RH to 90 %RH 5 °C to 50 °C [41 °F to 122 °F], 10 %RH to 90 %RH	±4 %RH ±5 %RH
Temperature measurement range <sup>1</sup>	-	-5 °C to 55 °C [13 °F to 131 °F] or 0 °C to 70 °C [32 °F to 158 °F] or -25 °C to 60 °C [-13 °F to 140 °F]
Long term drift	-	±0.05 %RH typ. and ±1.2 %RH max. at 50 %RH for 5 years stability
Temperature accuracy: units with transducer	25 °C [77 °F] 10 °C to 30 °C [50 °F to 86 °F] -25 °C to 10 °C [-13 °F to 50 °F]; 30 °C to 70 °C [86 °F to 158 °F]	±0.3 °C ±0.5 °C ±1 °C
units with NTC 10 kOhm sensor	25 °C	±0.2 °C, Beta 3892
units with NTC 20 kOhm sensor	25 °C	±0.2 °C, Beta 3892
units with Pt 1000 Class A sensor	25 °C	±0.3 °C, DIN IEC751 Class A, 385 Alpha

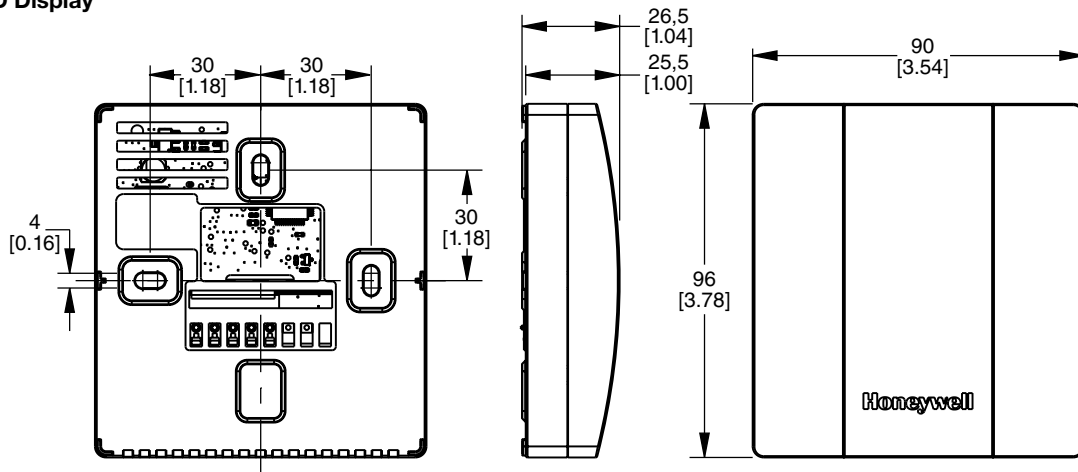
<sup>1</sup>Refer to Figure 4 to set temperature measurement range.

**Figure 1. Mounting Dimensions and Installation Drawings (For reference only: mm/in)**

**With LCD Display**



**Without LCD Display**



# SCT Series Temperature and Humidity Wall Mount Transducers

ISSUE A 32300824

Figure 2. Mounting Dimensions and Installation Drawings (Continued)

With LCD Display

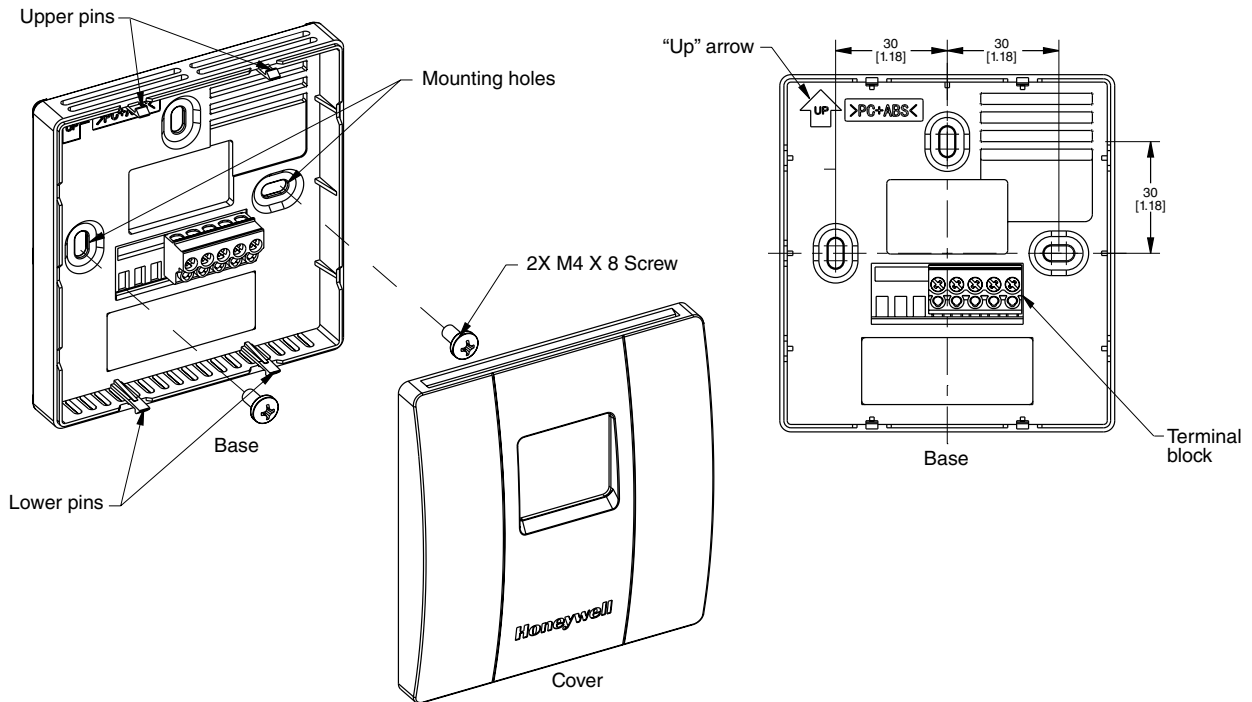


Figure 3. Wiring

<p><b>Output Type A</b> Humidity: 4 mA to 20 mA Temperature: 4 mA to 20 mA</p> <p>R = 500 Ohm max.</p> <p>Power supply 24 Vdc ±10%</p>	<p><b>Output Type B</b> Humidity: 0 V to 10 V Temperature: 0 V to 10 V</p> <p>R = 10 kOhm min.</p> <p>Power supply 18 Vdc to 40 Vdc or 24 Vac ±15%</p>	<p><b>Output Type C</b> Humidity: 4 mA to 20 mA Temperature: passive</p> <p>R = 500 Ohm max.</p> <p>Power supply 24 Vdc ±10%</p>
<p><b>Output Type D</b> Humidity: 0 V to 10 V Temperature: passive</p> <p>R = 10 kOhm min.</p> <p>Power supply 18 Vdc to 40 Vdc or 24 Vac ±15%</p>	<p><b>Output Type E</b> Temperature: 4 mA to 20 mA</p> <p>R = 500 Ohm max.</p> <p>Power supply 24 Vdc ±10%</p>	<p><b>Output Type F</b> Temperature: 0 V to 10 V</p> <p>R = 10 kOhm min.</p> <p>Power supply 18 Vdc to 40 Vdc or 24 Vac ±15%</p>

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ISSUE A **32300824**

Figure 4. DIP Switch Settings<sup>1,2</sup>

	<b>DIP Switch State</b>			<b>Display</b>
	<b>SW-1:</b> on off			<b>temperature unit:</b> °F °C (initial setting)
	<b>SW-2:</b> on off			<b>humidity setting:</b> dew point (°F or °C depending on SW-1 setting) %RH (initial setting)
	<b>SW-3:</b>			reserved
<b>SW-4: SW-5: SW-6:</b> on off off off on off off off on			<b>temperature measuring range:</b> -5 °C to 55 °C (initial setting) 0 °C to 70 °C -25 °C to 60 °C	

**Notes:**

1. There is no SW-1 switch assembled if both LCD display and temperature transducer are not configured.
2. New setting with SW switch will be active once the unit is powered up.

Table 5. Troubleshooting

Error Type	Analog Output		LCD Output (Blink rate = 1 Hz)	Probable Cause(s)
	0 V to 10 V	4 mA to 20 mA		
I <sup>2</sup> C	11 V	3.6 mA	Temperature and humidity data '1.8.8.8' with engineering units.	The interface (I <sup>2</sup> C) to the sensor is faulty.
Sensor	11 V	3.6 mA	Temperature and humidity data with engineering units.	The temperature sensor or humidity sensor is faulty.
Temperature range	11 V	3.6 mA	Temperature data, limited to minimum or maximum temperature data, with engineering units.	The temperature measured value is 5% outside the scaled range set on SW-1.
Temperature range selection	11 V	3.6 mA	Temperature data (the data is according the ambient temperature), with engineering units.	The setting of temperature measuring range on SW-1 is incorrect (invalid temperature range).

**⚠ WARNING**  
**PERSONAL INJURY**

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

**Failure to comply with these instructions could result in death or serious injury.**

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