SIEMENS

Q-Series Outdoor Air Relative Humidity and Relative Humidity & Temperature Sensors

Product Description

The Q-Series Outdoor Air Relative Humidity, and Relative Humidity & Temperature Sensors monitor and transmit changes in humidity and temperature to the building control systems. These units are especially suited for applications where precise, stable humidity sensing is required. Standard models available are 2% and 2% certified, for both humidity only and combination humidity with temperature sensing. Sensors are offered with either 4 to 20 mA or 0 to 10 Volt output signals.

Product Numbers

Part Number	Description
QFA3100	Outdoor air humidity sensor (2%), 0 to 10 Vdc
QFA3101	Outdoor air humidity sensor (2%), 4 to 20 mA
QFA3160	Outdoor air humidity sensor (2%), 0 to 10 Vdc/Temp 0 to 10 Vdc
QFA3171	Outdoor air humidity sensor (2%), 4 to 20 mA/Temp 4 to 20 mA
QFA4171	Outdoor air humidity sensor (2%), 4 to 20 mA/Temp 4 to 20 mA, certified
QFA4160	Outdoor air humidity sensor (2%), 0 t 10 Vdc/Temp 0 to 10 Vdc, certified
Accessories	
AQF3101	Sensor filter cap
AQF4150	Replaceable, certified sensor tip
AQF3100	Sun shield

Warning/Caution Notations

WARNING:	⚠	Personal injury, or loss of loss of life may occur if you do not follow the procedures as specified.
CAUTION:	⚠	Equipment damage, or loss of data may occur if you do not follow the procedures as specified.

Required Tools

- Phillips screwdrivers, sizes 1 and 2
- Medium flat-blade screwdriver
- Wire cutters/strippers
- Tape measure
- Medium-duty electric drill
- Drill bit for wall anchor hole
- Marker or pencil
- Two No. 10 screws and wall anchors

Expected Installation Time

30 minutes

Prerequisites

- Ensure that the appropriate field wiring is installed.

  Appropriate wiring is one or more twisted pair or three conductor cables (plenum or non-plenum as required) within the maximum wiring run length for the humidity/temperature controller. The maximum recommended length is 750 feet (229 m).

- Ensure that all wiring complies with National Electric Code (NEC) and local regulations.

Installation

1. Determine where the sensor is to be located and install the Sun Shield, AQF3100, as shown in Figure 1. The installation surface determines which mounting components are to be used.

   NOTE: The shield must be mounted vertically as shown in Figure 1.

2. Remove sensor cover and install plug in knockout next to sensing probe. See Figure 1 (2).

3. Pull the field wiring through the conduit and into the sensor base. See Figure 2.

4. Connect the field wiring to the sensor terminal block on the base. See Figures 3 and 4 for wiring diagrams.

5. Install the sensor onto the Shield as shown. See Figure 1 (7).
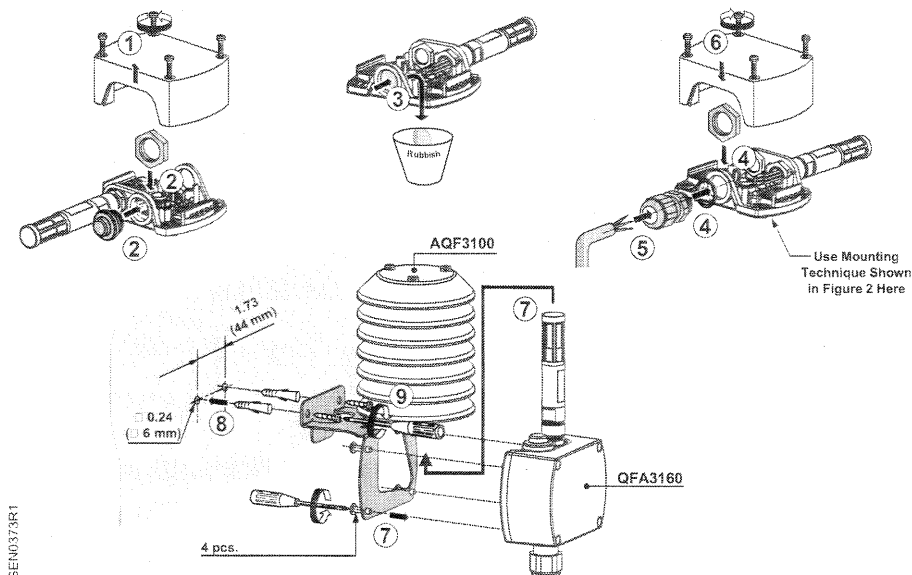
The installation is now complete.

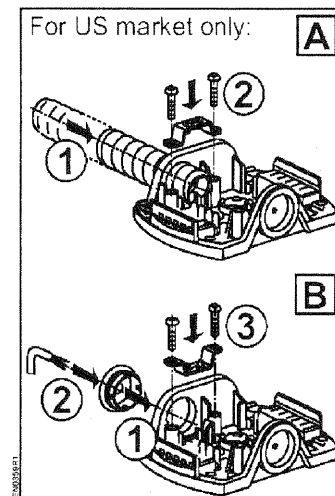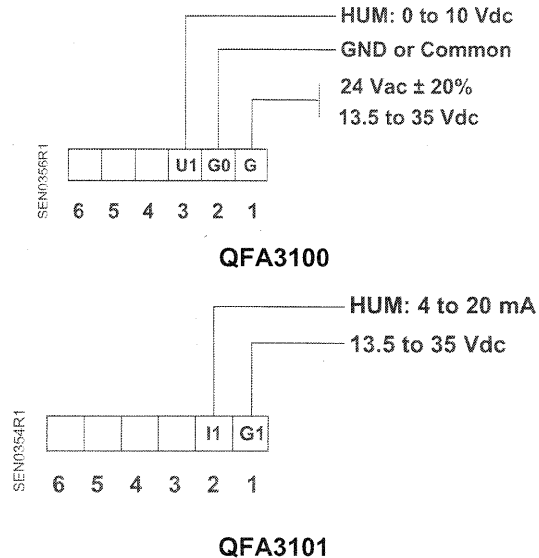Figure 1. Rh/T Outdoor Air Sensor Installation.

Figure 2. Field Wiring.

HUM: 0 to 10 Vdc
GND or Common
24 Vac ± 20%
13.5 to 35 Vdc

U1 G0 G

6 5 4 3 2 1

QFA3100

TEMP: 0 to 10 Vdc
HUM: 0 to 10 Vdc
GND or Common
24 Vac ± 20%
13.5 to 35 Vdc

U2 U1 G0 G

6 5 4 3 2 1

QFA3160/QFA4160

HUM: 4 to 20 mA
13.5 to 35 Vdc

I1 G1

6 5 4 3 2 1

QFA3101

Figure 3. Wiring Diagrams for RH Sensors.

TEMP: 4 to 20 mA
13.5 to 35 Vdc
HUM: 4 to 20 mA
13.5 to 35 Vdc

I2 G2 I1 G1

6 5 4 3 2 1

QFA3171/QFA4171
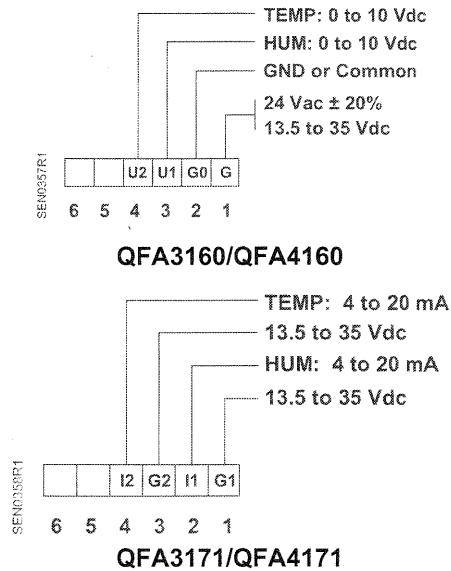
Figure 4. Wiring Diagrams for RH/T Sensors.

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