SIEMENS

Q-Series Room Relative Humidity and Relative Humidity & Temperature Sensors

Figure 1. Q-Series Room Relative Humidity and Relative Humidity & Temperature Sensor.

Figure 2. Q-Series Room Relative Humidity and Relative Humidity & Temperature Sensor.

Figure 3. Q-Series Relative Humidity Removable Sensing Element.

Description

The Q-Series Room 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.

The new Q-Series sensors use the same housing as their Series 1000 predecessors, but with a totally new internal circuit design and sensing element.

Several models are available: humidity only versions (with ±5% or ±2% accuracy) and humidity and temperature sensing versions (also with ±5% or ±2% accuracy).

The humidity only units have either a 4 to 20 mA or 0 to 10 Vdc output signal.

The combination humidity and temperature units have a current or voltage humidity output, with the temperature output being a matching current or voltage signal.

Sensing models (with display or full-featured) are also available. The full-featured models offer a wide range of features and functionality that can be used with a variety of building control systems:

Liquid Crystal Display (LCD): A two-line alphanumeric LCD allows simultaneous display of room temperature and relative humidity in degrees Fahrenheit or Celsius.

NOTE: Sensing models with display (QFAxxxx.Dxxx) show degrees Fahrenheit only. To show degrees Celsius, order the full-featured model (QFAxxxx.Fxxx).

Digital Temperature Setpoint Adjustment: The sensor's keypad allows error-free digital temperature setpoint adjustments in 0.5°F (0.2°C) increments. Setpoint values momentarily display as adjustments are made. The setpoint uses a matching current or voltage output signal.

Override Button: Allows an occupant to change to an unoccupied control schedule during the unoccupied cycle for a predetermined time period.

All 2% versions allow the sensing element to be removed and replaced if needed. Siemens sensors with replaceable elements are ideal for applications where measurement accuracy is critical and sensor replacement is not an option. Replaceable sensing elements eliminate the need for accuracy adjustment.

Specifications – Humidity Output

Measurement range	0 to 100% rh
Accuracy of 5% rated sensors at room temperature @ 73°F	±5% rh for 0% ≤ rh <30% or 70% ≤ rh <95% ±3% rh for 30% ≤ rh <70%
Accuracy of 2% rated sensors at room temperature @ 73°F	±2% 0% to 100% rh
Temperature effect	Less than 0.1% per degree C
Sensing element	Capacitive polymer sensing element
Output signal	4 to 20 mA or 0 to 10 Vdc, 0 to 100% linear, proportional
Polarity protection	None

Specifications–Temperature Output (for combination RH/T units only)

Temperature output range	32°F to 122°F (0°C to 50°C)
Time constant at 0 to 50°C and 10 to 80% rh	Approximately 20 seconds in moving air
Accuracy	±1.8°F (±1°C)
Temperature output signal	Active: 4 to 20 mA or 0 to 10 Vdc
Calibration adjustments	None
Temperature setpoint output range	63°F to 83°F (17°C to 28°C)
Temperature setpoint output signal:	Active: 4 to 20 mA or 0 to 10 Vdc

General Specifications

Operating conditions
    Relative humidity
    Temperature
	
	0 to 100%
	32°F to 122°F (0°C to 50°C)

Installation	18 AWG cable length shared in conduit with other sensor wiring 750 ft (229 m) maximum
Connections	Screw terminals
Housing Dimensions	3-11/32" H × 2-1/2" W × 1-1/2" D (85 mm × 63 mm × 38 mm)
Power requirements: 0 to 10V outputs	20 to 30 Vdc, max. 25 mA

Power requirements: 4 to 20 mA outputs	20 to 30 Vdc, max. 25 mA + 20 mA * outputs
	    QFAx001.x = max. 45 mA
	    QFAx071.W/B/Dx = max. 65 mA
	    QFAx071.Fx = max. 85 mA

Material Type	Polycarbonate plastic
Color	Desert beige or white
CE and UL–listed	UL 873 standard for temperature indicating and regulating equipment

Ordering Information

Product Number	Room Sensor Description
QFA3000.BU	RH 2%, 0 to 10V Signal, Beige, Siemens Logo
QFA3000.WU	RH 2%, 0 to 10V Signal, White, Siemens Logo
QFA3000.DBU	RH 2%, 0 to 10V Signal, Display, Beige, Siemens Logo
QFA3000.DWU	RH 2%, 0 to 10V Signal, Display, White, Siemens Logo

Ordering Information, Continued

Product Number	Room Sensor Description
QFA3000.WTU	RH 2%, 0 to 10V Signal, White, TALON Logo
QFA3001.BU	RH 2%, 4 to 20 mA Signal, Beige, Siemens Logo
QFA3001.WTU	RH 2%, 4 to 20 mA Signal, White, TALON Logo
QFA3001.WU	RH 2%, 4 to 20 mA Signal, White, Siemens Logo
QFA3001.WU-2WIRE	RH 5%, 4 to 20 mA Signal, White, Siemens Logo, 2-wire
QFA3060.BU	RHT 2%, 0 to 10V Signals, Beige, Siemens Logo
QFA3060.FBU	RHT 2%, 0 to 10V Signals, Display, Temp Setpoint, Override, Beige, Siemens Logo
QFA3060.FWTU	RHT 2%, 0 to 10V RH and Temp Signals, Display, Temp Setpoint, Override, White, TALON Logo
QFA3060.FWU	RHT 2%, 0 to 10V Signals, Display, Temp Setpoint, Override, White, Siemens Logo
QFA3060.WTU	RHT 2%, 0 to 10V RH and Temp Signals, White, TALON Logo
QFA3060.WU	RHT 2%, 0 to 10V Signals, White, Siemens Logo
QFA3071.BU	RHT 2%, 4 to 20 mA Signals, Beige, Siemens Logo
QFA3071.FBU	RHT 2%, 4 to 20 mA Signals, Display, Temp Setpoint, Override, Beige, Siemens Logo
QFA3071.FWU	RHT 2%, 4 to 20 mA Signals, Display, Temp Setpoint, Override, White, Siemens Logo
QFA3071.WU	RHT 2%, 4 to 20 mA Signals, White, Siemens Logo

Accessories	Description
544-480A	Occupancy Override Button, 25-pack (Beige)
544-480B	Occupancy Override Button, 25-pack (White)
544-481A	Setpoint Door, 25-pack (Beige)
544-481B	Setpoint Door, 25-pack (White)
544-482A	Blank Bezel, 25-pack (Beige)
544-482B	Blank Bezel, 25-pack (White)
544-484A	Blanking Override Button, 25-pack (Beige)
544-484B	Blanking Override Button, 25-pack (White)
544-782A	Single Adapter Base Kit (Beige)
544-782B	Single Adapter Base Kit (White)
544-783A	Double Adapter Base Kit (Beige)
544-783B	Double Adapter Base Kit (White)
544-784	Non-Conduit Rough-In Kit
544-785A	Extender Ring Kit (Beige)
544-785B	Extender Ring Kit (White)
AQF3051	Replaceable Sensing Element (2% versions only)

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