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.

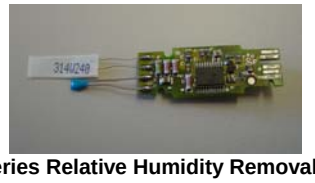

Figure 3: Q-Series Relative Humidity Removable Sensing Element

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 utilize the same housing as their Series 1000 predecessors, but with a totally new internal circuit design and sensing element.

Several models are available for humidity only (in 5% and 2%) or for humidity and temperature sensing (also in 5% and 2% versions). The humidity only units are available in either 4-20 mA or 0-10 Volt signal versions. Combination humidity and temperature units are available in either dual current or voltage versions, transmitting proportional signals back to the controller. Nickel 1000 Ohm, Platinum 1000 Ohm RTD, 10K NTC Type II or 10K NTC Type III temperature outputs on combination versions are also offered.

Sensing with display or full-featured models 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 2-line alpha numeric LCD allows simultaneous display of room temperature and relative humidity in degrees F or C.

Digital Temperature Set Point Adjustment: The sensor's keypad allows error-free digital temperature set point adjustments in 0.5-degree increments Fahrenheit (0.2 deg C). Set point values momentarily display as adjustments are made.

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 Element

Operating range	0 to 100% RH
Measurement range	0-100%RH
Accuracy at room temperature (73F, 20C)	±5% RH for 0% ≤ RH < 30% or 70% ≤ RH < 95% ±3% RH for 30% ≤ RH < 70%
Operating temperature	32 to 122 ° F (0 to +50° C)
Temperature effect	Less than 0.1% per degree C
Sensing element	Capacitive humidity sensing element
Output signal--RH only units	4 - 20 mA or 0-10 Vdc, 0 -100% linear, proportional
Output signal-- RH/T units	4 - 20 mA or 0-10 Vdc, 0 -100% linear, proportional
Polarity protection	Yes

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

Operating temperature	32 to 122 ° F (0 to +50° C)
Time constant at 0 to 50°C and 10-80%RH	Approx. 20 seconds in moving air
Accuracy	+/- 1 K
Output signal	4 - 20 mA or 0-10 Vdc, 0 -100% linear, proportional, (terminal U2) **or** Platinum 1000 Ohm RTD, or LG-Ni 1000 Ohm RTD, or 10K Ohm NTC Type II, or 10K Ohm NTC Type III
Calibration adjustments	None

General Specifications

Installation	18 AWG cable length shared in conduit with other sensor wiring 750 ft. (229 m) max
Connections	Screw terminals
Housing Dimensions	3-11/32" H x 2-1/2" W x 1-1/2" D (85 mm x 63 mm x 38 mm)
Power requirement 0-10 V output types 4-20 mA output types	 13.5 to 35 Vdc or 24 Vac 24 Vac
Material Type	Polycarbonate plastic
Color	Dessert Beige or White
CE and UL listed	UL 873 standard for Temperature Indicating and Regulating Equipment

Ordering Information

			Q	F	A	x	0	x	x	.	x	x	x	U
TYPE	SENSOR	Q												
MEASURING UNIT														
	HUMIDITY	F												
APPLICATION/LOCATION														
	ROOM	A												
SENSOR ACCURACY														
	STANDARD (5/3%)	2												
	HIQH ACCURACY (2%)	3												
HOUSING TYPE														
	SERIES 1000 HOUSING	0												
TEMPERATURE OUTPUT SIGNAL														
	NONE	0												
	PLATINUM 1000 OHM (385 ALPHA)	1												
	NICKEL 1000 OHM (L&S)	2												
	NTC TYPE II (ROOM TYPES ONLY)	3												
	NTC TYPE III (ROOM TYPES ONLY)	5												
	ACTIVE VOLTAGE (0-10 VOLT)	6												
	ACTIVE CURRENT (4-20 MA)	7												
HUMIDITY SIGNAL														
	0 TO 10 VOLT	0												
	4 TO 20 MA	1												
SEPARATOR		.												
FEATURE DESCRIPTION - FOR ROOM														
	SENSING ONLY	-												
	DISPLAY ONLY	D												
	FULL- FEATURED (DISPLAY, SETPT AND OVERRIDE)	F (RH&T only)												
COLOR														
	WHITE	W												
	BEIGE	B												
LOGO														
	SIEMENS LOGO	-												
	NO LOGO	N												
UNIVERSAL														
	UNIVERSAL VERSION	U												

NOTE: For combination RH&T versions, mixed 4-20mA and 0-10 V signals not offered.
NOTE: For combo RH&T versions with resistive temp signals, only 0-10 V signals offered on RH

Part Number	**Description**
Example: QFA2060.WNU	Sensor, RH Room, 5%, 0-10 V Temp, 0-10V RH, Sensing Only, White, No Logo

Accessory Part Numbers	*Description*
544-782A	Single Adapter Base Kit (Beige)
544-783B	Double Adapter Base Kit (White)
544-783A	Double Adapter Base Kit (Beige)
544-785B	Extender Ring Kit (White)
544-785A	Extender Ring Kit (Beige)
544-784	Non-Conduit Rough-In Kit
AQF3050	Replaceable sensing element (2% versions only)

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Siemens Building Technologies, Inc.
HVAC Products
1000 Deerfield Parkway
Buffalo Grove, Illinois 60089
Phone: 847-215-1000
www.staefa.com