GREYSTONE ENERGY SYSTEMS INC

RELATIVE HUMIDITY TRANSMITTER
RH Series

Precision humidity control/sensing

FEATURES:

- Highly stable RH sensor element
- Humidity range: 0-100%
- Accuracy available 2%, 3%, & 5%
- Choice of precision temperature sensors
- LCD display available
- Field selectable outputs
- AC/DC operation
- Custom logo available

Peace of mind through reliable humidity monitoring

GREYSTONE HAS AN **ISO 9001** REGISTERED QUALITY SYSTEM

DESCRIPTION:

The RH series of humidity transmitters are designed for use in environmental monitoring and control systems where high performance and stability are demanded. It's state-of-the-art design combines digital linearization and temperature compensation with a world class capacitive sensor for reliability and accuracy in even the most critical applications. Various models cover many aspects of RH measurement and several optional features are available to meet virtually all HVAC applications.

SPECIFICATION:

Sensor Type	Thermoset Polymer based capacitive
Accuracy	±2, 3, or 5% RH, (5% to 95% RH)
Measurement Range	0 to 100% RH
Temperature Dependence	±0.05% RH/ ˚C
Hysteresis	±1.5% RH maximum
Repeatability	±0.5% RH typical
Linearity	±0.5% RH typical
Sensor Response Time	15 seconds typical
Stability	±1% RH typical at 50% RH in 5 yrs.
Operating Temperature	0˚ to 70˚C (32˚ to 158˚F) for RH100 -40˚ to 85˚C (-40˚ to 185˚F) for RH200/RH300
Operating Humidity	0 to 95% RH non-condensing
Power Supply	18 to 30 Vdc, 15 to 26 Vac
Consumption	22 mA maximum
Input Voltage Effect	Negligible over specified operating range
Protection Circuitry	Reverse voltage protected and out limited
Output Signal	4-20 mA current loop, 0-5 or 0-10 Vdc (jumper-selectable)
Output Drive at 24 Vdc	550 ohms max for current output 10K ohms min for voltage output
Internal Adjustments	Clearly marked ZERO and SPAN pots
Wiring Connections	Screw terminal block (14 to 22 AWG)
Optional LCD Display	RH200A Only 3 digit for 00.0 to 99.9% RH, 24 x 11mm (0.95"w x 0.45"h)
Optional Temperature Sensor	Various RTDs and thermistors available as two-wire resistance output (See Ordering Chart)
Enclosures	RH100B (Designer), IP20 (Nema 1), 70x114x30mm, (2.75"w x 4.5"h x 1.2"d) RH200A (ABS), IP61 (Nema 2),114x84x53mm (4.5"w x 3.3"h x 2.1"d) RH200E (Round), IP65 (Nema 4X), 91mm (3.6") diameter x 53mm (2.1") deep RH200M (Metal), IP50 (Nema 1), 102x63x58mm (4"w x 3.3"h x 2.1"d) RH200W (Metal WP) IP64 (Nema 3X),115x72x56mm (4.5"w x 2.8"h x 2.5"d) RH300A (ABS WP) IP65 (Nema 4X),122x112x63mm (4.8"w x 4.8"h x 2.5"d)
RH200 Probe	230 mm (9") probe length x 12.7 mm (1/2") diameter stainless steel with porous filter

PRODUCT ORDERING INFORMATION

MODEL	Product Description
RH100	Room
RH200	Duct
RH300	Outside Air

CODE	Style
A	ABS enclosure (RH200) and ABS hinged enclosure (RH300)
B	Designer room enclosure (RH100)
E	Round ABS enclosure c/w gasketed cover (RH200)
M	Metal box (RH200)
W	Aluminum weatherproof (RH200)

CODE	Accuracy
02	2%
03	3%
05	5%

CODE	Optional Temperature Sensor
L	100 Ω Platinum, IEC 751, 385 Alpha, thin film
C	1000 Ω Platinum, IEC 751, 385 Alpha, thin film
F	1801Ω, NTC Thermistor, ±0.2˚C
E	3,000Ω, NTC Thermistor, ±0.2˚C
D	10,000Ω, Type 3, NTC Thermistor, ±0.2˚C
J	10,000Ω, Type 2, NTC Thermistor, ±0.2˚C
K	20,000Ω, NTC Thermistor, ±0.2˚C
M	1000 Ω Nickel, Class B, DIN 43760
B	10,000Ω Type 3, NTC Thermistor, ±0.2 C c/w 11K shunt Resistor
G	2.252KΩ Thermistor, ±0.2 C

CODE	Options
AC	LCD display (RH200A only)

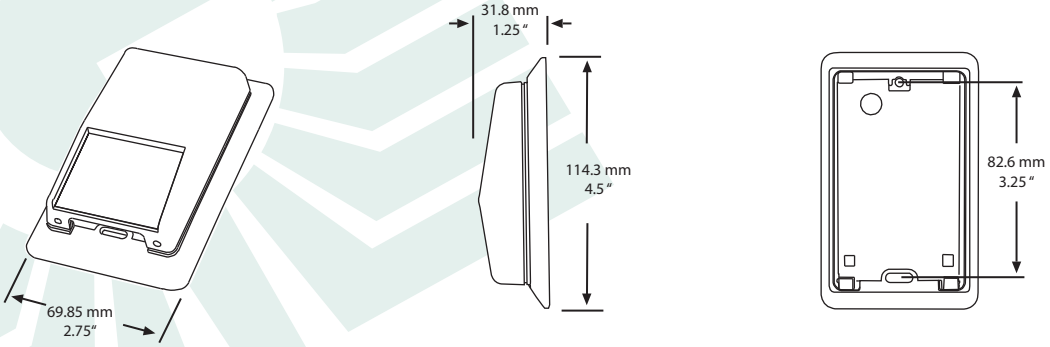
RH200	**A**	**03**	**C**	**-**

Greystone Energy Systems, Inc. reserves the right to make design modifications without prior notice.

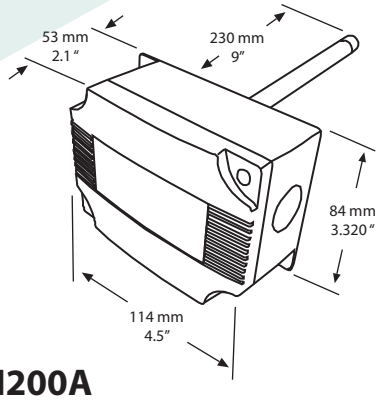
EXAMPLE:

RH200A03C - Duct humidity c/w ABS enclosure, 3% accuracy and 1000 Ω temperature sensor.

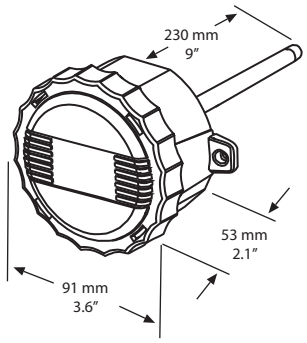
ENCLOSURE DIMENSIONS



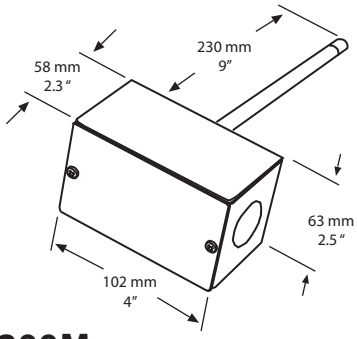
RH100B



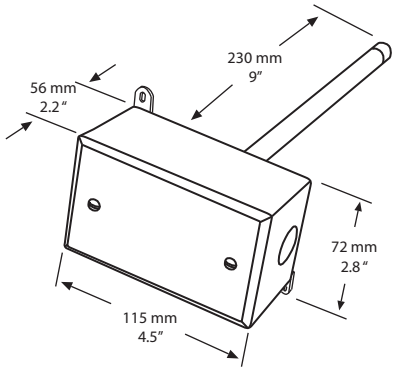
RH200A



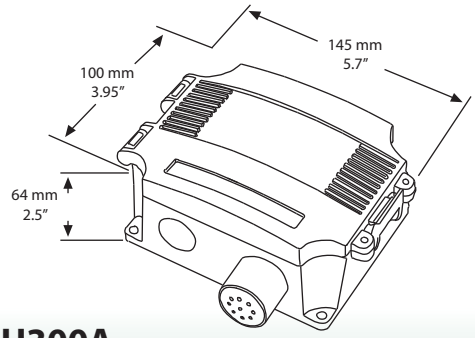
RH200E



RH200M



RH200W



RH300A

RH100S - S/S HUMIDITY TRANSMITTER

The RH100S Stainless Steel Wall Plate Relative Humidity unit uses a field-proven capacitive type humidity sensor and microprocessor temperature compensation for reliable, accurate measurement of indoor humidity.

The wall plate sensor is perfect for locations requiring periodic wipe down as it features a 304 stainless steel plate with a neoprene gasket. The sensor is protected by a 100 micron sintered stainless steel filter.

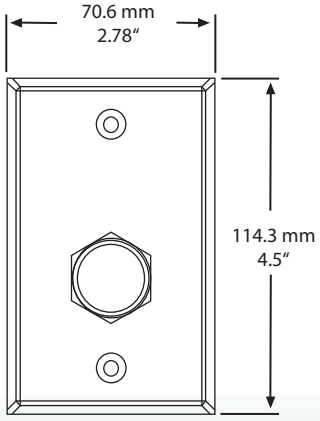
This product is available as a humidity sensor only or with various direct temperature sensors.

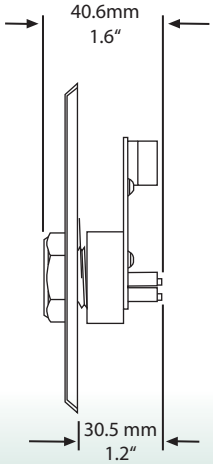
The plate sensor is available with either 4-20 mA or 0-5 Vdc or 0-10 Vdc output signal types and the transmitter is located on the back of the plate for ease of installation.

SPECIFICATION: RH100S

Sensor Type	Thermoset Polymer based capacitive
Accuracy at 25˚C	±3 or 5% RH, (5% to 95% RH)
Measurement Range	0 to 100% RH
Hysteresis	±3% RH maximum
Sensor Response Time	15 seconds typical
Stability	±1.2% RH typical
Operating Temperature	0˚ to 70˚C (32˚ to 158˚F)
Operating Humidity	0 to 95% RH non-condensing
Sensor Protection	100 micron sintered filter
Power Supply	18 to 35 Vdc, 20 to 26 Vac
Consumption	22 mA maximum
Input Voltage Effect	Negligible over specified operating range
Protection Circuitry	Reverse voltage protected and output limited
Output Signal	4-20 mA current loop, 0-5 or 0-10 Vdc
Output Drive at 24 Vdc	550 ohms max for current output 10K ohms min for voltage output
Internal Adjustments	Clearly marked ZERO and SPAN pots
Wiring Connections	Screw terminal block (14 to 22 AWG)
Optional Temperature Sensor	Various RTDs and thermistors available as two-wire resistance output (See Ordering Chart)
Enclosure	Stainless Steel, IP50 (Nema 1), 70.6x114.3x41mm (2.8”w x 4.5”h x 1.6”d)

ENCLOSURE DIMENSIONS





RH100S PRODUCT ORDERING INFORMATION

MODEL	Product Description
RH100S	S/S Surface Humidity Transmitter

CODE	Accuracy
03	3%
05	5%

CODE	Output
I20	4-20mA output
V05	0-5Vdc output
V10	0-10Vdc output

CODE	Optional Temperature Sensor
L	100Ω Platinum, IEC 751, 385 Alpha, thin film
C	1000Ω Platinum, IEC 751, 385 Alpha, thin film
F	1801Ω, NTC Thermistor, ±0.2˚C
E	3,000Ω, NTC Thermistor, ±0.2˚C
D	10,000Ω, type 3, NTC Thermistor, ±0.2˚C
J	10,000Ω, type 2, NTC Thermistor, ±0.2˚C
K	20,000Ω, NTC Thermistor, ±0.2˚C
M	1000 Ω Nickel, Class B, DIN 43760
B	10,000Ω Type 3, NTC Thermistor, ±0.2 C c/w 11K shunt Resistor
G	2.252KΩ Thermistor, ±0.2 C

CODE	Options
TP	Tamperproof Screws

RH100S	03	I20	D	-

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ACCESSORIES:

A35R
A multi-purpose screw driver that includes a standard flat screwdriver and a 1/16" allen key, and can be used on all Greystone wall sensors.

94062A114
A No 6, Spanner screwdriver for use with the tamperproof screw option (TP) on RH100S series surface humidity sensors.

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RoHS COMPLIANT

Greystone Energy Systems Inc. is one of North America's largest ISO registered manufacturers of HVAC/R sensors and transmitters for Building Automation Management Systems. We have conscientiously established a worldwide reputation as an industry leader by maintaining leading-edge design technology, prompt technical support, and a commitment to on-time deliveries. We take pride in our Quality Management System which is ISO 9001 certified, assuring our customers of consistent product reliability.

GREYSTONE HAS AN **ISO 9001** REGISTERED QUALITY SYSTEM

10/13
RH100-200-300-SPE-001

PRINTED IN CANADA