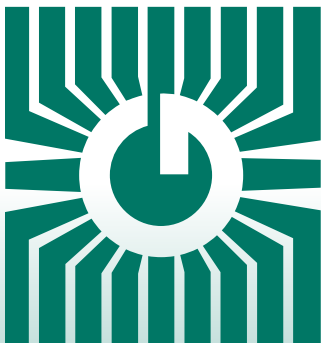


# GREYSTONE

## ENERGY SYSTEMS INC



### ROOM HUMIDITY TRANSMITTER HRC 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
- Optional override, setpoint & fan speed control
- Field selectable outputs
- Custom logo available

*Peace of mind  
through reliable  
humidity/temperature  
monitoring*

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

## DESCRIPTION:

The HRC Series room humidity transmitter uses a highly accurate and field-proven RH sensor in an attractive, low profile enclosure to monitor room relative humidity levels. Additional options include an occupancy override button, a communication jack, a fan speed switch, a slide-pot setpoint control, a resistive temperature sensor and a status LED or a LCD display. The RH output can be field selected as a linear 4-20 mA, 0-5 or 0-10 Vdc signal.

## SPECIFICATIONS:

|                            |   |
|----------------------------|---|
| Sensor .....               | Thermoset polymer based capacitive  |
| Accuracy.....              | ±2, 3 or 5% RH from 5 to 95% RH   |
| Range.....                 | 0 to 100% RH non-condensing   |
| Hysteresis .....           | ± 3% RH   |
| Response Time.....         | 15 seconds typical  |
| Stability .....            | ±1.2% RH typical @ 50% RH in 5 years                                      |
| Power Supply .....         | 24 Vac/dc ±10% (non-isolated half-wave rectified)                         |
| Consumption @ 24 Vdc ..... | 20 mA   |
| Input Voltage Effect ..... | Negligible over specified operating range                                 |
| Output Signal.....         | 4-20 mA current loop, 0-5 Vdc or 0-10 Vdc - Jumper selectable             |
| Output Drive @24 Vdc ..... | 550 ohm max. for current, 10K ohms min. for voltage                       |
| Output Resolution .....    | 10 bit PWM  |
| Internal Adjustments ..... | ZERO and SPAN pots  |
| Protection Circuitry.....  | Reverse voltage protected and output limited                              |
| Operating Conditions ..... | 0° to 50°C (32°-122°F), 0-95% RH non-condensing                           |
| Enclosure .....            | White ABS - IP30 (NEMA 1)<br>84mmW x 119mmH x 29mmD (3.3" x 4.7" x 1.15") |
| Wiring Connections.....    | Screw terminal block (14 to 22 AWG)                                       |

## OPTIONS:

### Temperature

Sensor..... Various Thermistors and RTD's available as 2 wire resistive output

### Setpoint Adjustment

Type..... Front panel slidepot, 2 wire resistance output  
Range..... 0K to 10K Ω standard  
Custom spans available .....

1K, 2K, 5K, 10K or 20K Ω

### Manual Override

Type..... Front panel, momentary pushbutton  
Ratings..... 50 mA @12 Vdc, N.O., SPST

### LCD DISPLAY

Display Range..... 00.0 to 99.9 %RH, 3 digit  
Display Resolution .....

0.1° C/F

Display Size..... 38.1 mm W x 16.5 mm H (1.5" x 0.65")

Digit Height..... 11.43 mm (0.45")

Symbols..... % RH

### Status LED Input (N/A when LCD selected)

Signal Type..... 5 V current limited, 2-wire standard  
LED Colors..... Yellow (Y), Red (R) or Green (G),  
Power Supply..... 5 Vdc standard, 10 or 24 Vdc optional

### Communication Jacks

Molex..... 4 Pin header to 4 pin terminal block. Requires HHTA - Hand Held Adapter

### Fan Speed Switch

Type..... Side mounted, 5 position slide switch  
Designators .....

Off, Auto, Low, Medium, High

Signal..... 2 wire, resistance output - 0, 2, 4, 6, 8 KΩ

Custom ranges available, contact Greystone

# PRODUCT ORDERING INFORMATION:

| MODEL | Product Description       |
|-------|---------------------------|
| HRC   | Room Humidity Transmitter |

| CODE | RH Accuracy |
|------|-------------|
| 2    | 2 %         |
| 3    | 3 %         |
| 5    | 5 %         |

| CODE | Outputs |
|------|---------|
| N    | No LCD  |
| L    | LCD     |

| CODE | Sensor  |
|------|---|
| T2   | 100 Ω Platinum, IEC 751, 385 Alpha, thin film                   |
| T5   | 1801 Ω, NTC Thermistor, ±0.2 C                                  |
| T6   | 3000 Ω, NTC Thermistor, ±0.2 C                                  |
| T7   | 10,000 Ω, type 3, NTC Thermistor, ±0.2 C                        |
| T8   | 2.252K Ω, NTC Thermistor, ±0.2 C                                |
| T12  | 1000 Ω Platinum, IEC 751, 385 Alpha, thin film                  |
| T13  | 1000 Ω Nickel, Class B, DIN 43760                               |
| T14  | 10,000 Ω, type 3, NTC Thermistor, ±0.2 C c/w 11K shunt resistor |
| T20  | 20,000 Ω, NTC Thermistor, ±0.2 C                                |
| T24  | 10,000 Ω, type 2, NTC Thermistor, ±0.2 C                        |

| CODE | Options (Multiple selections can be made)  |
|------|--|
| P    | 0-10K linear slide pot for set point control (Other ranges available, contact Greystone) |
| S    | Front panel push button momentary switch (NO)  |
| Y    | Yellow LED (n/a when LCD is selected)  |
| R    | Red LED (n/a when LCD is selected)   |
| G    | Green LED (n/a when LCD is selected)   |
| E    | External jack for remote system access (4-pin header)                                    |
| F    | Fan Speed Switch, 5 position, (Off, Auto, Low, Mid, High)                                |

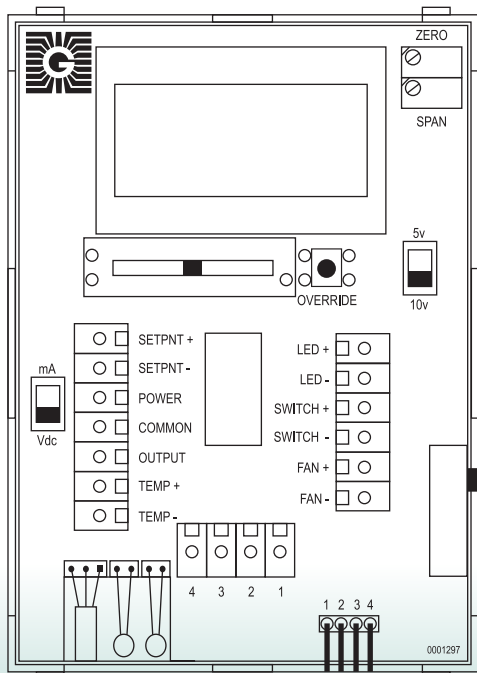
  

|     |   |   |    |   |   |                        |
|-----|---|---|----|---|---|------------------------|
| HRC | 3 | L | T7 | P | S | ← Typical Model Number |
|-----|---|---|----|---|---|------------------------|

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

**NOTE:** Due to the many possible configurations, special part numbers may be required, please contact Greystone for more information.

## PCB/WIRING INFORMATION



### Terminal

POWER

COMMON

OUTPUT

SETPNT +  
SETPNT -

TEMP +  
TEMP -

LED +  
LED -

SWITCH +  
SWITCH -

FAN +  
FAN -

1

2

3

4

### Function

From +24 Vac/dc of controller or power supply

To GND or COMMON of controller  
(for 24 Vac power or voltage output signal only)

RH output to analog input of controller  
4-20 mA or 0-5/0-10 Vdc

Slide-pot output to analog input of controller  
(resistive output)

Temperature sensor output to analog input of controller  
(resistive output)

Positive input to LED (anode) from digital output  
Negative input to LED (cathode), 5Vdc standard

Override switch + to digital input of controller  
Override switch - to COMMON of controller

Fan speed switch + to analog input of controller  
Fan speed switch - to COMMON of controller

To External Jack PIN 1

To External Jack PIN 2

To External Jack PIN 3

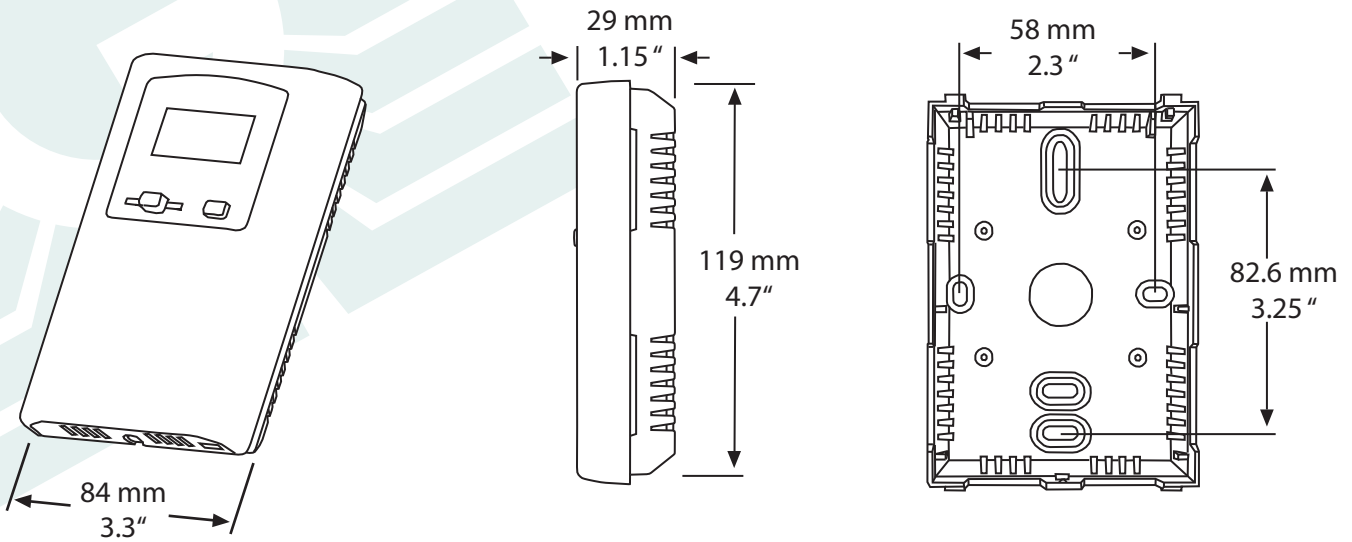
To External Jack PIN 4

\* Some models do not have all these features

\*\*To save on number of connection wires, all GND or COMMON may be connected together.

\*\*\*Illustration shows standard wiring configuration. Custom configurations are available. Please contact Greystone.

## DIMENSIONS:



## ACCESSORIES:



### HHTA-XXX

The HHTA - Handheld Adapter converts the Greystone standard 4 pin connector to the connector of choice such as a RJ12, phone jack. Several styles and configurations are available. Please contact Greystone.



### 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.

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ENERGY SYSTEMS INC

Greystone Energy Systems, Inc.  
 150 English Drive, Moncton,  
 New Brunswick, Canada E1E 4G7  
 (506) 853-3057 Fax: (506) 853-6014  
 North America: 1-800-561-5611  
 e-mail: mail@greystoneenergy.com  
 www.greystoneenergy.com

**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.*

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