



# GREYSTONE ENERGY SYSTEMS INC

## ROOM TEMPERATURE SENSOR TSRC Series

The TSRC series is an attractive, low profile enclosure that incorporates a precision temperature sensor used to monitor room temperatures. Additional options are available that include setpoint adjustment, manual override, fan speed and LCD.



### SPECIFICATION:

Sensing Element..... Various thermistors and RTD's  
 Sensor Accuracy..... **Thermistors:**  $\pm 0.2^{\circ}\text{C}$  ( $\pm 0.36^{\circ}\text{F}$ ) @  $25^{\circ}\text{C}$  ( $77^{\circ}\text{F}$ )  
**Platinum RTD's:**  $\pm 0.3^{\circ}\text{C}$  ( $\pm 0.54^{\circ}\text{F}$ ) @  $0^{\circ}\text{C}$  ( $32^{\circ}\text{F}$ )  
**Nickel RTD's:**  $\pm 0.4^{\circ}\text{C}$  ( $\pm 0.72^{\circ}\text{F}$ ) @  $0^{\circ}\text{C}$  ( $32^{\circ}\text{F}$ )  
 Operating Conditions ..... 0 to  $50^{\circ}\text{C}$  (32 to  $122^{\circ}\text{F}$ )  
 0 to 95 %RH non-condensing  
 Wiring Connections..... Screw terminal block (14 to 22 AWG)  
 Enclosure..... White ABS, IP30 (NEMA 1)  
 84mm W x 119H x 29mm D (3.3" x 4.7" x 1.15")  
 Country of Origin..... Canada

#### FAN SPEED SWITCH

Range..... 5 Position-Off, Auto, Low, Medium, High  
 Signal..... Resistive - 0, 2, 4, 6, 8 K $\Omega$

#### SETPPOINT SLIDE POT

Range..... Front panel pot as resistive output, 0-10K $\Omega$  standard  
 Custom Spans Available .. 1K, 2K, 5K, 10K, 20K  $\Omega$

#### OCCUPIED INPUT

Signal Type..... Digital input, 0/5 Vdc standard, active low  
 Action ..... Causes "OCC" segment to light on LCD

#### LED INPUT

Signal Type..... Active high, low or 2 wire, 5 V current limit standard  
 LED Colors..... Red, Green or Yellow  
 Power Supply..... 5 Vdc standard, 10 Vdc or 24 Vdc optional

#### LCD DISPLAY

Power Supply..... 12-24 Vdc / 24 Vac  $\pm 10\%$   
 Consumption @ 24 Vdc .... No Backlight: 13 mA max  
 With Backlight: 23 mA max  
 Range.....  $0.0 - 35.0^{\circ}\text{C}$  or  $32.0 - 95.0^{\circ}\text{F}$   
 selectable via jumper  
 Resolution .....  $0.1^{\circ}\text{C}/^{\circ}\text{F}$   
 Size..... 38.1mm W x 16.5mm H (1.5" x 0.65")  
 Digit Height ..... 11.43mm (0.45")  
 Symbols .....  $^{\circ}\text{C}$ ,  $^{\circ}\text{F}$ , OCC  
 Backlight..... Enable or disable via jumper

#### OVERRIDE SWITCH

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

### PART NUMBER SELECTED

### PRODUCT SELECTION INFORMATION:

MODEL	Product Description
TSRC	Room Temperature Sensor

CODE	Sensor
2	100 $\Omega$ Platinum, IEC 751, 385 Alpha, thin film, 3 wire
5	1801 $\Omega$ NTC Thermistor, $\pm 0.2^{\circ}\text{C}$
6	3000 $\Omega$ , NTC Thermistor, $\pm 0.2^{\circ}\text{C}$
7	10,000 $\Omega$ , Type 3, NTC Thermistor, $\pm 0.2^{\circ}\text{C}$
8	2.252K $\Omega$ , NTC Thermistor, $\pm 0.2^{\circ}\text{C}$
12	1000 $\Omega$ Platinum, IEC 751, 385 Alpha, thin film
13	1000 $\Omega$ Nickel, Class B, DIN 43760
14	10,000 $\Omega$ , Type 3, NTC Thermistor, $\pm 0.2^{\circ}\text{C}$ c/w 11K shunt resistor
20	20,000 $\Omega$ , NTC Thermistor, $\pm 0.2^{\circ}\text{C}$
24	10,000 $\Omega$ , Type 2, NTC Thermistor, $\pm 0.2^{\circ}\text{C}$
59	10,000 $\Omega$ @ $25^{\circ}\text{C}$ , $\pm 1\%$ , B = 3435 $\pm 1\%$ (25/85)

CODE	Options (Multiple selections can be made)
P	0-10K $\Omega$ linear slide pot for set point control
S	Exposed push button momentary switch - N.O.
C	3 digit LCD temperature indicator $^{\circ}\text{C}$ / $^{\circ}\text{F}$ selectable
F	Fan speed switch (Auto, Off, Low, Mid, High)
Y	Yellow LED (n/a if C option selected)
R	Red LED (n/a if C option selected)
G	Green LED (n/a if C option selected)
E	External jack for remote system access (4 pin header)

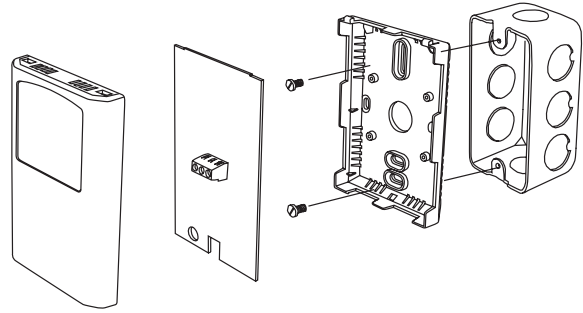
Greystone Energy Systems, Inc. reserves the right to make design modifications without prior notice.

## TYPICAL INSTALLATION:

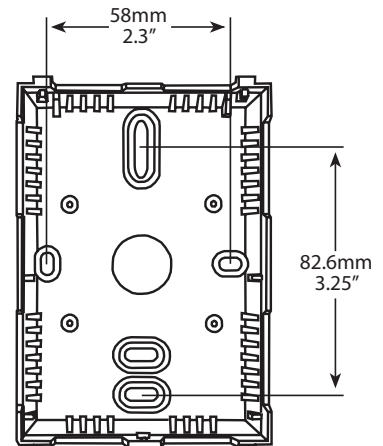
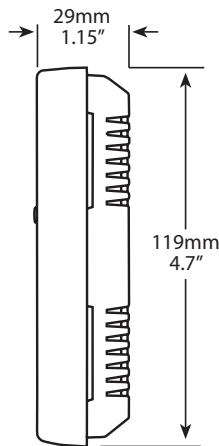
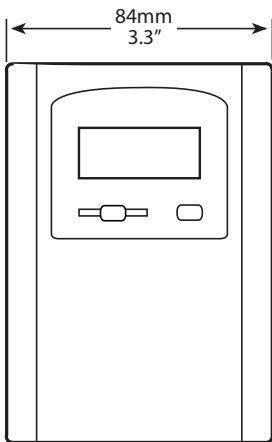
For complete installation and wiring details, please refer to the product installation instructions.

The TSRC series can be mounted directly to a single gang electrical box or directly to a wall. Insulating foam is adhered to the back of the enclosure to provide a thermal barrier from internal wall temperatures.

A terminal block connection is provided for connection to the Building Automation System. There are several wiring configurations depending on the options selected.



## DIMENSIONS:



# GREYSTONE

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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