GREYSTONE
ENERGY SYSTEMS INC
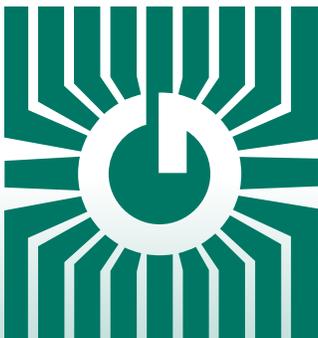
Precision temperature control/sensing

FEATURES:

- Precision Thermistor or RTD sensing elements
- LCD Display
- Setpoint Adjustment
- Optional Override, Fan Speed Switch and Communication Jack
- Custom laser etching available

Peace of mind through reliable temperature monitoring

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

DESCRIPTION:

The TSPC room temperature sensor with resistive setpoint control is available in an attractive wall mount enclosure and can be configured with various options. It is available with various curve-matched thermistors or RTD sensors to measure temperature.

A back-lit LCD displays room temperature, setpoint on demand and occupancy. Several operating parameters can be programmed using a keypad and on-board jumpers configure the °C/F display or disable the backlight.

Available options include a dry-contact override switch, a five position fan speed switch and a jack for a network connection.

SPECIFICATIONS:

Power Supply	24 Vac/dc ±10% (non-isolated half-wave rectified)
Consumption	20 mA max.
Operating Conditions	0 - 50°C (32 - 122°F), 0-95% RH non-condensing
Enclosure	White ABS - IP30 (NEMA 1)
	84 w x 119 h x 29 d mm (3.3" x 4.7" x 1.15")
Wiring Connections	Screw terminal block (14 to 22 AWG)

Temperature Sensor

Sensor	Several thermistors or RTD's available - See ordering information
Sensor Accuracy	Thermistors: ±0.2°C (±0.36°F), 0 to 70°C (32 to 158 °F)
	Platinum RTD's: ±0.3°C (±0.54°F) @ 0°C (32°F)
	Nickel RTD's: ±0.4°C (±0.72°F) @ 0°C (32°F)

Setpoint Adjustment

Type	Up/Down pushbuttons for ± 10 resistive steps
Range	Several resistive ranges available - See ordering information
Midpoint	Programmable, 20-23 °C or 68-73 °F
LCD Increment	Setpoint step size is 0.5 °C or 1.0 °F
Action	Programmable: direct or reverse acting

LCD Display

Display Range	0 – 35° C/32 – 95° F (Jumper selectable)
Display Resolution	0.5° 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	°C, °F, OCC
Backlight	Programmable: On, Off or Auto

Manual Override

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

Occupied Input

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

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

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TSPC - ROOM TEMPERATURE SENSOR:

PRODUCT ORDERING INFORMATION:

MODEL	Product Description
TSPC	Room Temperature Sensor w/ Setpoint Adjustment & LCD

CODE	Sensor
2	100 Ω Platinum, IEC 751, 385 Alpha, thin film
5	1801 Ω, NTC Thermistor, ±0.2 C
6	3000 Ω, NTC Thermistor, ±0.2 C
7	10,000 Ω, type 3, NTC Thermistor, ±0.2 C
8	2.252K Ω, NTC Thermistor, ±0.2 C
12	1000 Ω Platinum, IEC 751, 385 Alpha, thin film
13	1000 Ω Nickel, Class B, DIN 43760
14	10,000 Ω, type 3, NTC Thermistor, ±0.2 C c/w 11K shunt resistor
20	20,000 Ω, NTC Thermistor, ±0.2 C
24	10,000 Ω, type 2, NTC Thermistor, ±0.2 C

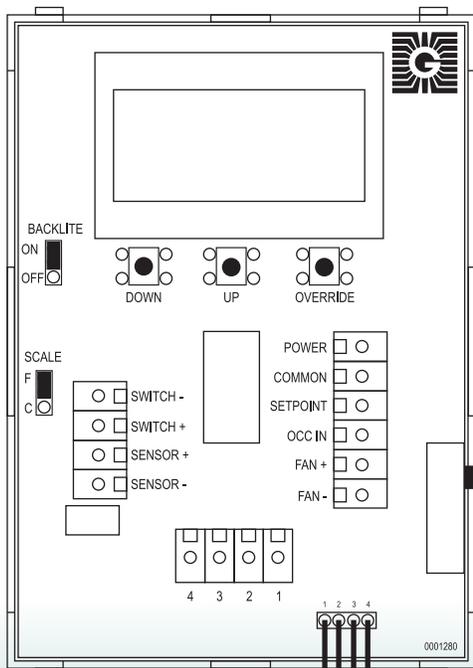| CODE	Resistance Output (Range 16-26˚C in 0.5˚C Increments or 60-80˚F in 1˚F Increments)
P	0 - 10,000 ohms
P1	20,000 - 30,000 ohms
P2	2000 - 3000 ohms
P3	0 - 20,000 ohms
P4	4000 - 2000 ohms
P5	0 - 2000 ohms
P6	8000.7 - 3107.3 ohms

CODE	Options
E	4 Pin molex external jack for communications
S	Exposed override switch with LCD indication option (OCC)
F	5 position fan switch Off/Auto/Low/Med/High

TSPC	7	P	S	F

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.
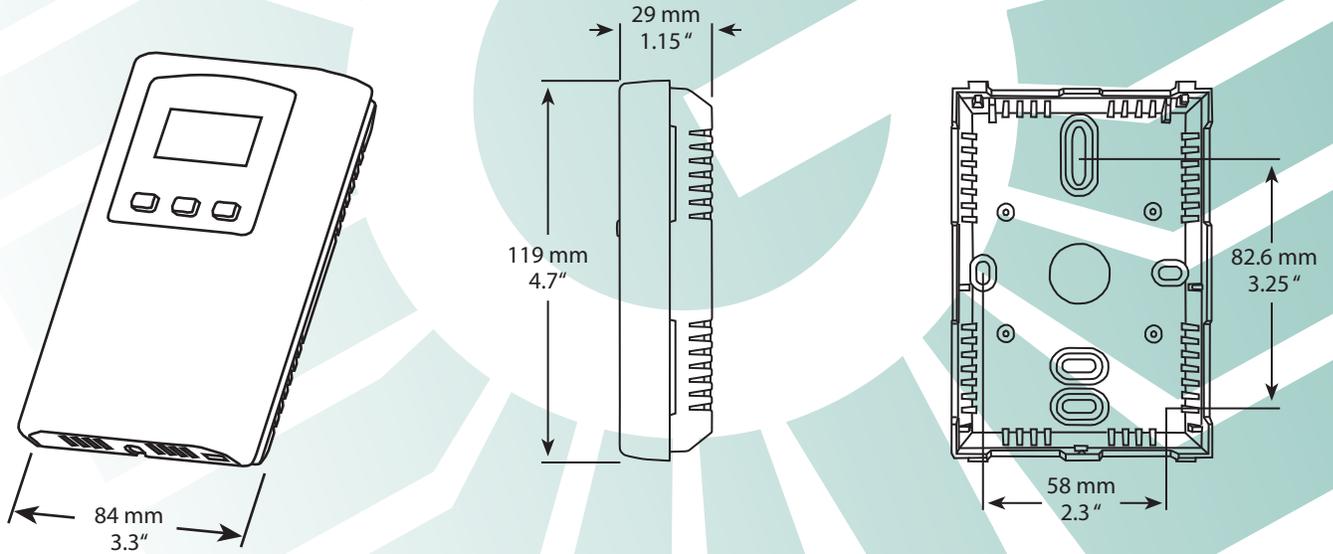
PCB/WIRING INFORMATION

Terminal	Function
SWITCH -	GND or COMMON
SWITCH +	Digital output
SENSOR +	Resistance output
SENSOR -	GND or COMMON
POWER	Power input
COMMON	GND or COMMON
SETPOINT	Resistance Output
OCC IN	Vdc input (5 Vdc)
FAN +	Resistance output
FAN -	GND or COMMON
1	To External Jack PIN 1
2	To External Jack PIN 2
3	To External Jack PIN 3
4	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 connected together.
***Illustration shows standard wiring configuration. Custom configurations are available. Please contact Greystone.

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ISO9001

CE

DIMENSIONS:

29 mm
1.15 "

119 mm
4.7"

82.6 mm
3.25 "

84 mm
3.3"

58 mm
2.3 "

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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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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