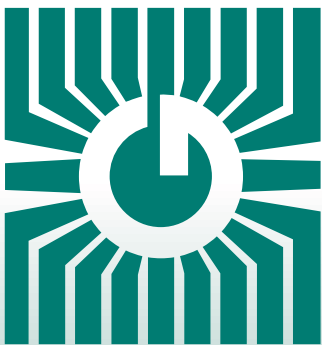


GREYSTONE ENERGY SYSTEMS INC



HUMIDITY/TEMPERATURE TRANSMITTER c/w SETPOINT ADJUSTMENTS SPC Series



Precision humidity/temperature control/sensing

FEATURES:

- Dual humidity and temperature outputs
- Humidity and/or temperature setpoint adjustment outputs
- Current and voltage models
- LCD indication
- Highly stable RH sensor element
- Attractive, low profile enclosure
- Installer friendly wiring access

*Peace of mind
through reliable
humidity/temperature
monitoring*

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

DESCRIPTION:

The SPC Temperature/humidity transmitter incorporates two sensors in one attractive wall mount enclosure for the most efficient environmental monitoring and control system. It uses a field-proven RH sensor to monitor relative humidity and a curve-matched thermistor to measure temperature.

Two setpoint controls are also available for temperature and humidity adjustment. The device may also include an occupancy override button and an external communication jack. Both measurements and setpoint signals are available on separate outputs as linear 4-20 mA, 0-5 or 0-10 Vdc signals.

Several configurations of the device are available with one to four outputs as required. An LCD is included for configuration and local indication of all parameters. Several operating parameters can be programmed using a keypad for specific applications including four temperature ranges and C/F display.

SPECIFICATIONS:

General

| | |
|------------------------------|--|
| Power Supply | 24Vac/dc $\pm 10\%$ (non-isolated half-wave rectified) |
| Consumption | 20 mA + (20ma x number of outputs) max @ 24 Vdc |
| Input Voltage Effect | Negligible over specified operating range |
| Protection Circuitry..... | Reverse voltage and MOV protected and output limited |
| Output Signals..... | 4-20 mA active (sourcing) or 0-5 Vdc or 0-10 Vdc (specify when ordering) |
| Output Resolution | 10 bit for all signals |
| Output Drive Capability..... | 550 ohm max for current 10Kohm min for voltage |
| Programming and Selection | Via push buttons and on-screen menu |
| Operating Conditions | 0°-50°C (32°-122°F) 0-95% RH non-condensing |
| Wiring Connections..... | Screw terminal block (14 to 22 AWG) |
| Enclosure | White ABS - IP30 (NEMA 1) 84mmW x 117mmH x 29mmD (3.3" x 4.6" x 1.15") |

LCD Display

| | |
|--------------------|-------------------------------|
| Display Size..... | 38.1 x 16.5 mm (1.5" x 0.65") |
| Digit Height | 11.43 mm (0.45") |
| Symbols | °C, °F, %RH, OCC |
| Backlight..... | Enable or disable via menu |

Temperature

| | |
|--------------------------|--|
| Accuracy..... | $\pm 0.2^{\circ}\text{C}$ ($\pm 0.4^{\circ}\text{F}$) |
| Range..... | 0° to 35°C (32° to 95°F) or 0° to 50°C (32° to 122°F) programmable |
| Offset | $\pm 9^{\circ}\text{F}$ programmable |
| Display Units | °C or °F programmable |
| Display Resolution | 0.5° <100°, 1° >100° |

Temperature Setpoint

| | |
|------------------|--|
| Midpoint..... | 18° to 27°C or 65° to 80°F programmable |
| Range..... | ± 2 to $\pm 10^{\circ}\text{C}$ or ± 5 to $\pm 20^{\circ}\text{F}$ of the midpoint, programmable |
| Resolution | 0.5 or 1.0°C and 1.0 or 2°F programmable |

Humidity

| | |
|---------------------------|--|
| Sensor..... | Thermoset polymer based capacitive |
| Accuracy..... | $\pm 2, 3$ or 5% RH |
| Range..... | 0 to 100% RH |
| Temperature Compensation. | 0° to 50°C (32° to 122°F) |
| Hysteresis..... | $\pm 3\%$ RH |
| Response Time..... | 15 seconds typical |
| Stability..... | $\pm 1.2\%$ RH typical @ 50% RH in 5 years |
| Offset..... | $\pm 20\%$ RH programmable |

Humidity Setpoint

| | |
|------------------|--|
| Midpoint..... | 20 to 70% RH programmable |
| Range..... | $\pm 5, \pm 10$ or $\pm 20\%$ RH of the midpoint, programmable |
| Resolution | 1% RH |

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 |
| Buttons | "OCC" segment to light on LCD |

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 K Ω Custom ranges available, contact Greystone |

Communications

| | |
|-----------------------|--|
| 3.5mm phono jack..... | Ring/Mid/Tip connections to a 3-pin terminal block |
|-----------------------|--|

PRODUCT ORDERING INFORMATION:

| MODEL | Product Description |
|-------|---------------------------------------|
| SPC | Room Humidity/Temperature Transmitter |

| CODE | Product Parameters |
|------|--|
| 01 | Humidity transmitter c/w setpoint control |
| 02 | Temperature transmitter c/w setpoint control |
| 04 | Humidity and temperature transmitter c/w setpoint control for temperature only |
| 05 | Humidity and temperature transmitter c/w setpoint control for humidity only |
| 06 | Humidity and temperature transmitter c/w setpoint control for humidity and temperature |

| CODE | Outputs |
|------|--|
| I | 4-20mA |
| V | 0-5Vdc or 0-10 Vdc (Jumper selectable) |

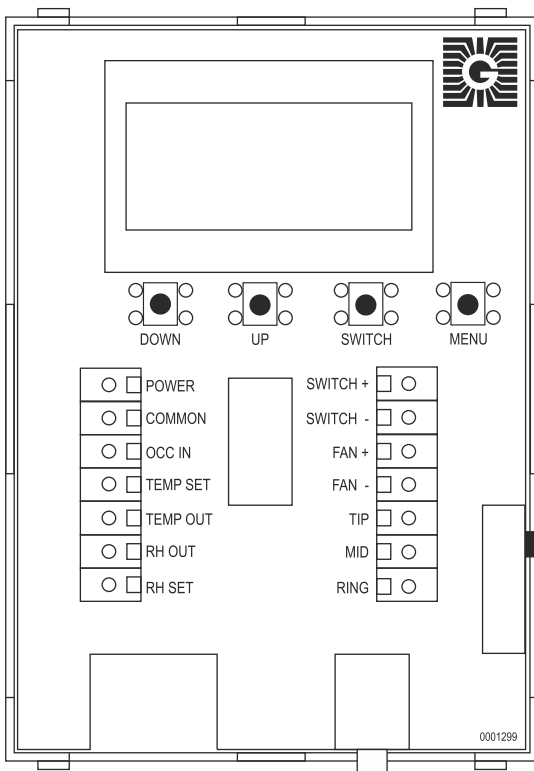
| CODE | RH Accuracy (Not applicable on "02" model, leave blank) |
|------|---|
| 02 | 2 % |
| 03 | 3 % |
| 05 | 5 % |

| CODE | Options (Multiple selections can be made) |
|------|---|
| S | Front panel push button momentary switch (NO) |
| J | External jack for remote system access (3.5 mm phono) |
| F | Fan Speed Switch, 5 position, (Off, Auto, Low, Mid, High) |

| | | | | |
|-----|----|---|----|---|
| SPC | 06 | I | 03 | S |
|-----|----|---|----|---|

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

PCB/WIRING INFORMATION



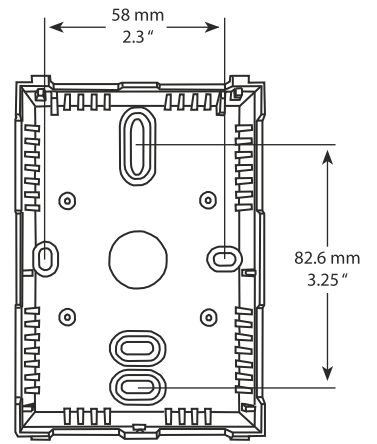
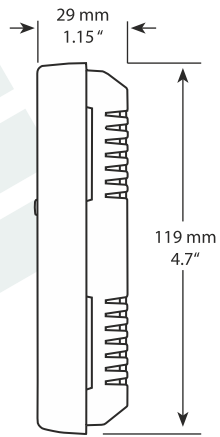
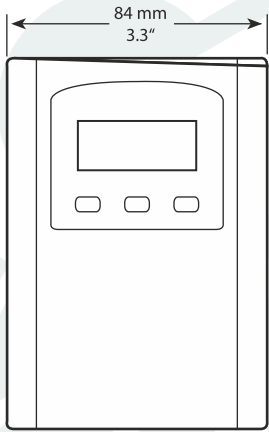
| Terminal | Function |
|---------------|---|
| POWER | From +24 Vac/dc of controller or power supply |
| COMMON | To GND or COMMON of controller |
| OCC IN | To digital output of controller |
| TEMP Setpoint | To analog input of controller 4-20 mA or 0-5 Vdc or 0-10 Vdc |
| TEMP Output | To analog input of controller 4-20 mA or 0-5 Vdc or 0-10 Vdc |
| RH Output | To analog input of controller 4-20 mA or 0-5 Vdc or 0-10 Vdc |
| RH Setpoint | To analog input of controller 4-20 mA or 0-5 Vdc or 0-10 Vdc |
| SWITCH + | To digital input of controller |
| SWITCH - | To GND or COMMON of controller |
| FAN + | To analog input of controller Resistance input |
| FAN - | To GND or COMMON of controller |
| TIP | External Jack TIP (tip of plug) connection |
| MID | External Jack MID (middle of plug) connection |
| RING | External Jack RING (base of plug) connection |

* 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:



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