GREYSTONE ENERGY SYSTEMS INC
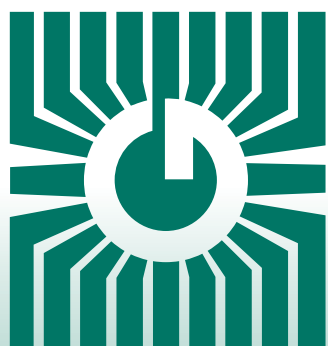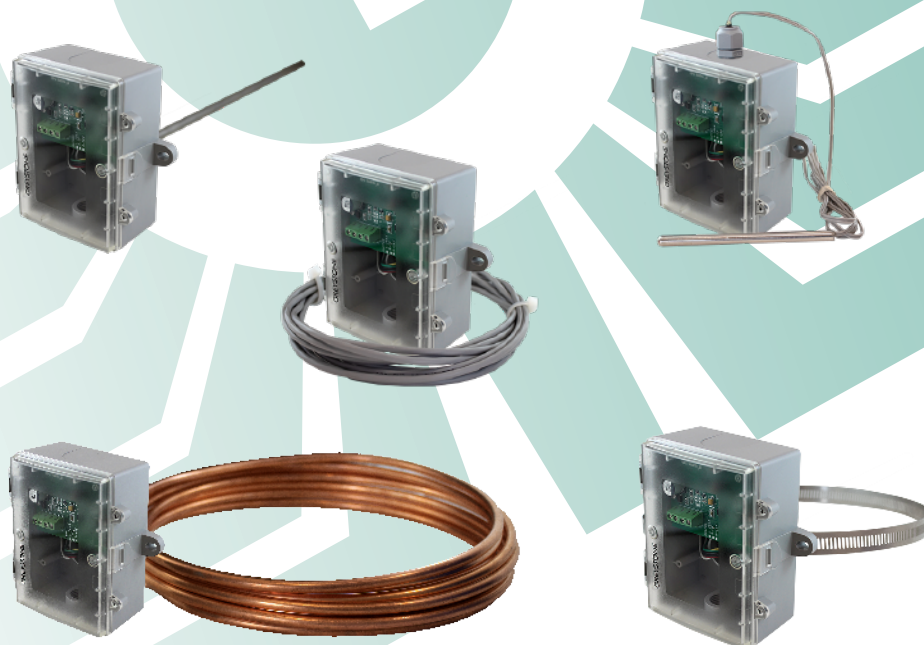
Precision Temperature sensing/control

FEATURES:

- Precision Thermistor
- Various Configurations Available
- Polycarbonate enclosure with hinged and gasketed cover
- Relay Output with Adjustable Setpoint

Peace of mind through reliable temperature monitoring

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

SPECIFICATIONS:

Power Supply ....12 to 28 Vac/dc
Consumption .... 50 mA max
Relay Contacts .... SPDT, Form C contacts (N.O. and N.C.)
    5 Amps @ 30 Vdc / 250 Vac resistive
    1.5 Amps @ 30 Vdc / 250 Vac inductive
Relay Action.. Activates on temperature fall
Setpoint Operation.. Single-turn knob-pot on pcb
Adjustable Setpoint... -4 to 10˚C (25 to 50˚F)
Setpoint Temperature .... Low/Mid/High jumper selectable Differential 1.1/2.8/5.6°C (2/5/10 ˚F)
Temperature Sensor .... 10K ohm curve matched precision thermistor
Sensor Accuracy.. ±0.2˚C, 0 to 70˚C (±0.36˚F, 32 to 158˚F)

Probe Sensing Range... **AP, DR, GL, RP, SO**: -20 to 105˚C (-4 to 221˚F)
    DC, DF, FL: -20 to 60 ˚C (-4 to 140 ˚F)

Probe Material .... **AP, DR, FL, RP**: 304 Series Stainless Steel
    DC: Soft copper
    GL: Aluminum
    SO: Aluminum plate w/ compressible foam backing

Probe Dimensions.. **AP, DR, FL, RP**: 6 mm (0.236") Diameter
    DC: 7.94 mm (0.3125") Diameter
    GL: 31.75mm L x 95.25mm W x 9.525mm H (1.25" x 0.375" x 0.375")
    SO: 38 mm (1.5") square

Wire Material .... **AP, DR, GL, OS, RP, SO**: PVC insulated, parallel bonded
    FL, DC, DF: FT-6 Plenum-rated

Operating Conditions .... -10 to 50˚C (14 to 122˚F), 5 to 95% RH non-condensing
Storage Conditions .... -30 to 70˚C (-22 to 158˚F), 5 to 95% RH, non-condensing
Enclosure.. Grey polycarbonate with hinged and gasketed cover, UL94-V0, IP65 (NEMA 4X)
    F style includes thread adapter (1/2" NPT to M16) and cable gland fitting
Wiring Connections... Screw terminal block (14 to 22 AWG)
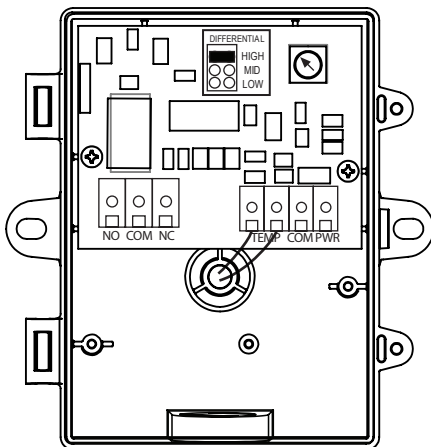
WIRING:

Terminal   ....Function
PWR ....Power Supply
COM...Power Supply Common
TEMP (2) ....Temperature Sensor Input

NO ....Relay Output - Normally Open Contact
COM...Relay Common
NC...Relay Output - Normally Closed Contact

PRODUCT ORDERING INFORMATION:

MODEL	Product Description
TL	Thermostat - Low Limit

CODE	Mounting Style
AP	All Purpose Duct/Immersion
DC	Duct Average, copper probe
DF	Duct Average, flexible cable
DR	Duct Average, rigid stainless steel probe
RP	Remote Probe - strap-on
SO	Strap-On - assembly clamps around pipe with aluminum plate with 254 mm (10") stainless clamp
OS	Outside Air
FL	Flying Lead
GL	Glass

CODE	Enclosure
B	Polycarbonate with hinged & gasketed cover
F	Same as B with thread adapter and cable gland fitting (Not available with OS mounting style)

CODE	Display Units
24	10,000 Ω, Type 2, NTC Thermistor, ±0.2°C

CODE	Probe Length	Lengths are applicable to these mounting styles
X	Not applicable	SO, OS, FL, & GL
A	50 mm (2")	AP & RP
B	100 mm (4")	AP & RP
C	150 mm (6")	AP & RP
D	200 mm (8")	AP & RP
E	300 mm (12")	AP
F	450 mm (18")	AP & DR
G	600 mm (24")	DR
H	900 mm (36")	DR
I	1800 mm (6')	DC & DF
J	3600 mm (12')	DC & DF
K	6100 mm (20')	DC & DF
L	7300 mm (24')	DC & DF

CODE	Adjustable Setpoint Range
01	-4 to 10°C (25 to 50°F)

TL	AP	A	24	E	01

ENCLOSURE DIMENSIONS:

112.5 mm
4.43"

99.7 mm
3.93"

53.7 mm
2.11"

116.5 mm
4.585"

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RoHS
COMPLIANT

MADE IN CANADA

ISO9001
Certified System
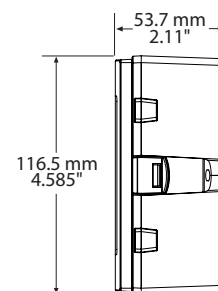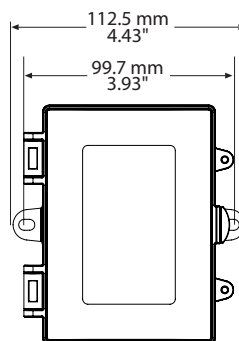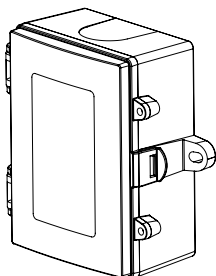
# TL - PROBE TEMPERATURE SENSOR CONFIGURATIONS

FEATURES:

The TL Series Low Limit Temperature Thermostat combines a precision thermistor and a relay output with adjustable setpoint in wide variety of mounting configurations. The TL series can be interfaced with a computerized monitoring or control system.

AP) Duct Sensor – The AP is for single point monitoring. It comes with a stainless steel probe which is available with various probe lengths and enclosures.

AP)

DC, DF & DR) Duct Averaging Sensor – All models incorporate numerous sensors along the assembly and act as a single sensor averaging the temperature across the sensors. They are available in various lengths. The DF probe is constructed of FT-6 rated plenum cable which allows for easy installation. The DC probe is constructed of bendable soft copper and the DR is a constructed of rigid stainless steel.

DC)   **DF)**   **DR)**
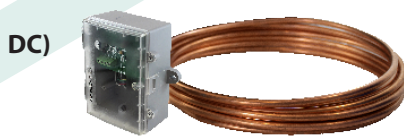
RP) & SO) Strap-on Sensor – The RP comes with stainless steel probe and is available in several lengths and 1.5 m (5') of cable for remote mounting. The SO has an aluminum plate with an expandable 10" clamp assembly to strap directly to a pipe. Various enclosures are available.

RP)   **SO)**

OS (Outside Sensor) – Comes in a weather-proof enclosure which incorporates a sun/windshield to protect the sensor.

OS)
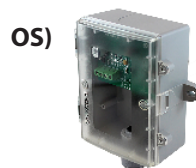
GL) – The sensor is encapsulated in a 1/2" square x 2" aluminum wafer that can be affixed to any surface. It comes with 5' of zip cable.

GL)

FL) Flying Lead – The sensor is encapsulated in a 2" S/S probe with 6' of FT-6 rated cable and can be used in almost any application where temperature monitoring is required.

FL)
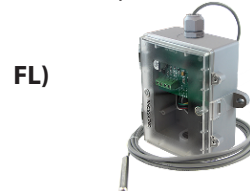
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Greystone Energy Systems Inc. is one of North America's largest ISO registered manufacturers of HVAC/R sensors and transmitters for Building Automation Management Systems. We have conscientiously established a worldwide reputation as an industry leader 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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