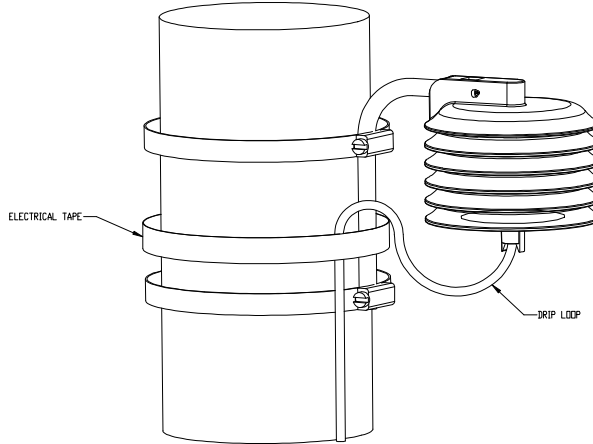


SPECIFICATIONS

#110S Temperature Sensor

FEATURES

- Internal reference and linearization provides high accuracy.
- Universal mounting assembly mounts quickly to pipe or tower.
- Six-plate radiation shield allows accurate measurement of ambient air temperature.



The NRG #110S Temperature Sensor is a low-cost, durable integrated circuit temperature sensor that provides a high level voltage output signal. The #110S includes an internal reference, amplifiers, and linearization, and a six-plate UV-stabilized radiation shield.

The sensor is ideal for collecting temperature data for energy density calculations and monitoring air temperature at remote sites.

SPECIFICATIONS

| | | |
|--------------------------|--------------------------|--|
| Description | Sensor type | integrated circuit temperature sensor with six plate radiation shield |
| | Applications | <ul style="list-style-type: none"> • wind resource assessment • meteorological studies • environmental monitoring |
| | Sensor range | -40 °C to 52.5 °C (-40 °F to 126.5 °F) |
| | Instrument compatibility | all NRG loggers |
| Output signal | Signal type | linear analog voltage |
| | Transfer function | Temp = (Voltage x 55.55) - 86.38 °C [Temp = (Voltage x 100) - 123.5 °F] |
| | Accuracy | <ul style="list-style-type: none"> • within +/- 1.11 °C (2 °F) • nonlinearity is +/- 0.33 °C (+/- 0.6 °F) maximum |
| | Electrical time constant | 250 μs |
| | Output signal range | 0 V to 2.5 V DC |
| Power requirements | Supply voltage | 4 V to 35 V DC |
| | Supply current | 300 μA max. (no load on output) |
| Response characteristics | Thermal time constant | 5 minutes |
| Installation | Mounting | attaches to tower with hose clamps |



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SPECIFICATIONS

| | | |
|---------------|-----------------------------|---|
| | Tools required | <ul style="list-style-type: none"> • sheet metal shears or similar for trimming hose clamps • 5/16 inch hex driver or flat blade (-) screwdriver |
| Environmental | Operating temperature range | -40 °C to 52.5 °C (-40 °F to 126.5 °F) |
| | Operating humidity range | 0 to 100% RH |
| | Lifespan | 10 years + |
| Physical | Connections | wire leads: <ul style="list-style-type: none"> • signal (clear wire) • ground (black wire) • excitation (red wire) • shield wire for earth ground |
| | Cable length | 5 m (16 feet) |
| | Weight | 0.47 kg (1.04 pounds) |
| | Dimensions | <ul style="list-style-type: none"> • Sensor only: 30.5 mm (1.2 inches) height x 12.7 mm (0.5 inch) diameter • Sensor with Radiation Shield: 127 mm (5 inches) diameter x 127 mm (5 inches) height |
| Materials | Cable | 3 conductor 20 AWG , chrome PVC jacket with overall foil shield and drain wire |
| | Probe | aluminum, epoxy filled |
| | Shield | UV-stabilized thermoplastic solar radiation shield |



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