



Product Specifications

Product #: 1906

<http://www.nrgsystems.com/sitecore/content/Products/1906.aspx>

NRG #110S Temperature Sensor with Radiation Shield

Durable integrated circuit temperature sensor provides a high level voltage output signal. Ideal for collecting temperature data for energy density calculations and monitoring air temperature at remote sites.

SPECIFICATIONS

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|------------------------------------|---|
| Sensor type | Description 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 |
| Signal type | Output signal linear analog voltage |
| Transfer function | $\text{Temp} = (\text{Voltage} \times 55.55) - 86.38 \text{ }^{\circ}\text{C}$ $[\text{Temp} = (\text{Voltage} \times 100) - 123.5 \text{ }^{\circ}\text{F}]$ |
| Accuracy | <ul style="list-style-type: none"> • offset is +/- 0.8 °C (1.4 °F) maximum • nonlinearity is +/- 0.33 °C (+/- 0.6 °F) maximum • total error +/- 1.1 °C (2 °F) maximum |
| Electrical time constant | 250 µs |
| Output signal range | 0 V to 2.5 V DC |
| Thermal time constant | Response characteristics 10 minutes |
| Supply voltage | Power requirements 4 V to 35 V DC |
| Supply current | 300 µA max. (no load on output) |
| Mounting | Installation attaches to tower with included hose clamps |
| Tools required | <ul style="list-style-type: none"> • 8mm (5/16 inch) nut driver or flat blade (-) screwdriver (to install hose clamps) • sheet metal shears or similar (for trimming hose clamps) |
| Operating temperature range | Environmental -40 °C to 52.5 °C (-40 °F to 126.5 °F) |
| Operating humidity range | 0 to 100% RH |
| Lifespan | 10 years + |
| Connections | Physical 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 |
| Cable | Materials 3 conductor 22 AWG, with overall foil shield and drain wire, chrome PVC jacket |
| Probe | aluminum, epoxy filled |
| Shield | UV stabilized thermoplastic solar radiation shield |

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