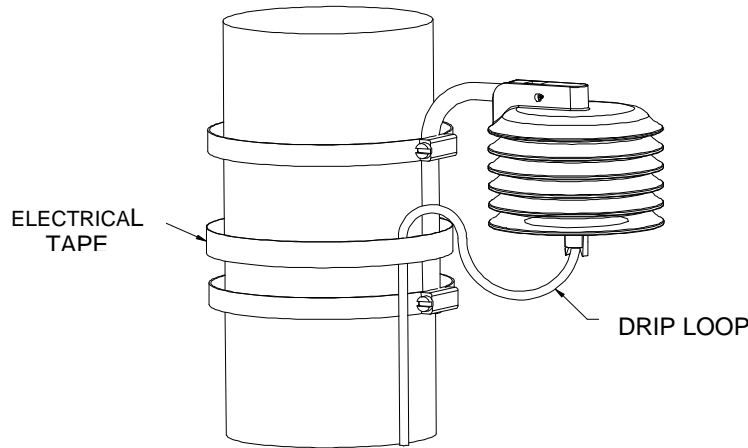


SPECIFICATIONS

#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



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SPECIFICATIONS

Installation	Mounting	attaches to tower with included hose clamps
	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 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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