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WHEN MEASUREMENTS MATTER

EE181-L

Air Temperature and Relative Humidity Probe



Accurate, Rugged

Ideal for long-term, unattended applications

Overview

The EE181 is a rugged, accurate air temperature and relative humidity (RH) probe that is ideal for long-term, unattended applications. It includes a proprietary coating on the RH element that increases the life of the element and protects it from dirt, dust, salt, or other contaminants. A 1000 Ω PRT measures air temperature for the -40° to +60°C range. For optimum results, the EE181 should be recalibrated annually.

Benefits and Features

- Well-suited for long-term, unattended applications
- Accurate, rugged, reliable
- Outstanding long-term stability
- Wide operating temperature range
- User cleanable
- Compact and easily interchangeable
- Low power consumption
- Compatible with most Campbell Scientific dataloggers

Specifications

Supply Voltage	7 to 30 Vdc (typically powered by the datalogger's 12 V supply)
Current Consumption	< 1.2 mA
Filter Description	30 µm pore size, stainless-steel mesh
Startup Time	2 s
Housing Body Material	Plastic
Housing Classification	IP65
Sensor Diameter	2.1 cm (0.83 in.)
Length	16.0 cm (6.3 in.)
Weight	290 g (10.2 oz) with 5 m cable

Air Temperature

Sensor	1000 Ω Platinum Resistance Thermometer (PRT)
Operating Temperature Range	-40° to +60°C
Storage Temperature Range	-40° to +80°C
Output Signal Range	0 to 1 Vdc
Accuracy at +23°C	±0.2°C

Relative Humidity

Sensor	Capacitance
Measurement Range	0 to 100% RH (non-condensing)
Output Signal Range	0 to 1 Vdc
Temperature Dependence	Typically 0.03% RH/°C

-NOTE-	*Accuracy specifications include hysteresis, non-linearity, and repeatability.*
Accuracy at -15° to +40°C	± (1.3 + 0.003 • RH reading) % RH (0 to 90% RH) ± 2.3% RH (90 to 100% RH)
Accuracy at -25° to +60°C	± (1.4 + 0.01 • RH reading) % RH
Accuracy at -40° to +60°C	± (1.5 + 0.015 • RH reading) % RH

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