



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 $+60^{\circ}\text{C}$ 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

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|-----------------------------|---|
| Supply Voltage | 7 to 30 Vdc (typically powered by the datalogger's 12 V supply) |
| Average 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

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|-----------------------------|---|
| Sensor | 1000 Ω Platinum Resistance Thermometer (PRT) |
| Operating Temperature Range | -40° to $+60^{\circ}\text{C}$ |
| Storage Temperature Range | -40° to $+80^{\circ}\text{C}$ |
| Output Signal Range | 0 to 1 Vdc |
| Accuracy | $\pm 0.2^{\circ}\text{C}$ (at $+23^{\circ}\text{C}$) |

Relative Humidity

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|---------------------|-------------------------------|
| Sensor | Capacitance |
| Measurement Range | 0 to 100% RH (non-condensing) |
| Output Signal Range | 0 to 1 Vdc |

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|---------------------------|--|
| Temperature Dependence | Typically 0.03% RH/°C |
| -NOTE- | <i>Accuracy specifications include hysteresis, non-linearity, and repeatability.</i> |
| Accuracy at -15° to +40°C | ± 2.3% RH (90 to 100% RH) |

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|---------------------------|--|
| | ±(1.3 + 0.003 • RH reading) % RH (0 to 90% 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 |

For comprehensive details, visit: www.campbellsci.com.au/ee181-l 



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