



ClimaVUE50

Compact Digital Weather Sensor



Complete Weather Sensor with No Moving Parts

Low power, compact, and simple for easy installation in remote locations

Overview

The ClimaVUE™50 is an affordable all-in-one meteorological sensor that fulfills your common weather monitoring needs with simplicity, when paired with any of Campbell Scientific's highly flexible and scalable data collection platforms. This sensor uses SDI-12 to report air temperature, relative humidity, vapor pressure, barometric pressure, wind (speed, gust, and

direction), solar radiation, precipitation, and lightning strike (count and distance). It does this with no moving parts, while consuming little power. A built-in tilt sensor assures long-term data integrity. This diverse product is great for quick deployment, for remote locations, for large networks, as part of a more complex system, or if you just need something simple.

Benefits and Features

- › All the common meteorological measurements with one simple digital (SDI-12) output
- › Less than 1 mA at 12 Vdc average current, making it ideal for solar-powered sites
- › Integrated tilt sensor helps assure that the sensor stays level over time
- › Low maintenance—no moving parts significantly reduces maintenance cost and time
- › No sensor configuration required
- › Compact design for quick, low-impact installation
- › Compatible with all modern Campbell Scientific data loggers
- › Detachable cable facilitates field replacement

Specifications

| | |
|-------------------|--|
| Measurements Made | Air temperature, barometric pressure, lightning average distance, lightning strike count, precipitation, relative humidity, solar radiation, tilt, wind direction, and wind speed. |
| Output | SDI-12 |

| | |
|-------------------------------|---|
| Operating Temperature Range | -50° to +60°C (Except the barometer and RH: -40° to +60°C.) |
| Minimum Supply Voltage | 3.6 Vdc continuous |
| Maximum Supply Voltage | 15.0 Vdc continuous |
| Minimum Digital Input Voltage | › 2.8 V (logic high) › -0.3 V (logic low) |
| Typical Digital Input Voltage | › 3.0 V (logic high) |

| | |
|---|--|
| | › 0.0 V (logic low) |
| Maximum Digital Input Voltage | › 5.5 V (logic high) › 0.8 V (logic low) |
| Typical Measurement Duration | 110 ms |
| Maximum Measurement Duration | 3,000 ms |
| Maximum Polling Frequency | 10 s |
| Application of Council Directive(s) | › 2011/65/EU: Restrictions of Substances Directive (RoHS2) › 2014/30/EU: Electromagnetic Compatibility Directive (EMC) |
| Standards to Which Conformity Is Declared | › EN 61326-1:2013: Electrical equipment for measurement, control and laboratory use—EMC requirements—for use in industrial locations › EN 50581:2012: Technical documentation for the assessment of electrical and electronic product with respect to the restriction of hazardous substances |
| Diameter | 10 cm (4 in.) including rain gage funnel |
| Height | 34 cm (13.4 in.) including rain gage funnel |

Power Consumption

| | |
|--|--------|
| Quiescent | 0.3 mA |
| Maximum Peak Current | 33 mA |
| Average Using the R7! Command every 10 s | 1.0 mA |
| Average Using the R7! Command every 60 s (or slower) | 0.4 mA |

Air Temperature

| | |
|-------------------|---------------|
| Measurement Range | -50° to +60°C |
| Resolution | 0.1°C |
| Accuracy | ±0.6°C |

Relative Humidity

| | |
|-------------------|-----------|
| Measurement Range | 0 to 100% |
| Resolution | 0.1 |

Accuracy ±3% RH typical (varies with temperature and humidity)

Barometric Pressure

| | |
|---------------------------------------|--|
| Barometer Operating Temperature Range | -40° to +60°C |
| Measurement Range | 500 to 1100 hPa |
| Resolution | 0.1 hPa |
| Accuracy | › ±1 mb (over the range of -10° to +50°C) › ±5 mb (over the range of -40° to +60°C) |

Wind Speed

| | |
|-------------------|---|
| Measurement Range | 0 to 30 m/s (0 to 67 mph) |
| Resolution | 0.01 m/s (0.02 mph) |
| Accuracy | 0.3 m/s or 3% (0.67 mph or 3%) whichever is greater |

Wind Direction

| | |
|-------------------|------------|
| Measurement Range | 0° to 359° |
| Resolution | 1° |
| Accuracy | ±5° |

Solar Radiation

| | |
|-------------------|------------------------------|
| Measurement Range | 0 to 1750 W m ⁻² |
| Resolution | 1 W m ⁻² |
| Accuracy | ±5% of measurement (typical) |
| Spectral Range | 300 to 1150 nm |

Precipitation

| | |
|-------------------|---|
| Measurement Range | 0 to 400 mm/h (15.75 in./h) |
| Resolution | 0.017 mm |
| Accuracy | ±5% of measurement (from 0 to 50 mm/h or 0 to 1.97 in./h) |

Tilt

| | |
|-------------------|--------------|
| Measurement Range | -90° to +90° |
| Resolution | 0.1° |
| Accuracy | ±1° |

Lightning Strike Count

| | |
|-------------------|---|
| Measurement Range | 0 to 65,535 strikes |
| Resolution | 1 strike |
| Accuracy | > 25% detection at < 10 km typical (variable with distance) |

For comprehensive details, visit: www.campbellsci.com/climavue-50 



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