CAMPBELL SCIENTIFIC
WHEN MEASUREMENTS MATTER

DustVue 10

Solar-Module Soiling Sensor with Collocated PV Cells

Accurately Measure PV Module Soiling Losses

with collocated PV cells

Resumen

The DustVue™10 takes the most trusted method of comparing two solar panels for soiling loss measurements and puts it in one small, easy-to-install sensor package. The reference sensor requires very little cleaning. Even better, no water is needed to clean the panel.

Ventajas y características

- Highly accurate soiling measurement (±1% uncertainty)
- Bifacial, separate soiling ratios for front and rear
- Maintenance-free design (patent pending)
- Short-circuit current (Isc) option for soiling measurement according to IEC 61724-1
- Easy-to-install design to reduce deployment complexity
- Best spectral match with production modules
- Rugged reliability with industrial-grade surge protection
- Industry-standard Modbus RTU over RS-485

Descripción detallada

Understand your losses due to soiling.

Accurate PV Module Soiling Loss Measurement

Accumulated dust, snow, and contaminants significantly reduce photovoltaic (PV) power output, ranking as the second most critical factor after irradiance in solar plant performance losses. The DustVue 10:

- Provides the most accurate measurement of PV module soiling.
- Requires minimal maintenance.
- Incorporates a revolutionary and convenient design.

Precision and Reliability in Soiling Measurement

The DustVue 10 accurately calculates soiling loss by comparing irradiance between the clean reference sensor and soiled detector. The clean reference sensor is kept clean within a dust-free housing that briefly opens at a cadence you select, and only when conditions are ideal to minimize reference sensor soiling. This reduces the need for reference sensor cleaning to semiannually, and the soiling reference sensor cleaning can coincide with the periodic cleaning of all your plant panels.

The DustVue 10 uses collocated PV cells to measure irradiance, minimizing spectral response differences with actual operational PV panels. Irradiance calculations follow IEC 60904 using short-circuit current and cell temperature.

Advanced Technology for Comprehensive Insights

Integrated sensors measure ground-reflected light, allowing precise calculation of rear-side soiling losses. The DustVue 10 uniquely measures front-side, rear-side, and cumulative soiling losses. This makes it an inexpensive choice for bifacial PV module installations.

Designed for Simplicity and Accuracy

The DustVue 10 is delivered field-ready, requiring no programming:

- Simple installation within minutes on the same racking as operational modules
- Intuitive configuration via web-based user interface accessible through USB-C
- Scheduled daily calculations of soiling-loss indices with built-in data filtering for accuracy and reliability
- Automated infield calibration between the clean and soiled cells

Exceptional Low-Maintenance Operation

- Anticipated semiannual, or less, maintenance schedule significantly reduces operational costs.
- No water or frequent intervention is needed.

Seamless SCADA Integration and Superior Support

The DustVue 10 supports direct SCADA integration with Modbus RTU over RS-485 and offers robust industrial Class 4 surge protection. Campbell Scientific's unmatched global customer support and trusted engineering legacy assure consistent performance and reliability.

Especificaciones

Input Power	12 to 32 V
Typical Power	2 W steady state

Para más detalles visite: www.campbellsci.es/dustvue10

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