

CERTIFICATE OF CALIBRATION

Manufacturer: Fluke
Serial #: 6683003

Model #: PVA-1500HE2-5000
Description: PV Performance Analyzer I-V Unit

As Received condition:			
As Shipped condition:	Pass		
Issue date:	2024-10-16		
Calibration date:	2024-10-15	Due date:	2026-10-15

CALIBRATION

Procedure: FPC4504.0004

This calibration is traceable to the International System of Units (SI) through recognized national metrology institutes (NIST, PTB, NPL, NIM, NRC, etc.), radiometric techniques, or natural physical constants. The Quality Management System is certified and is in conformance with ISO 9001. This certificate applies to only the item identified and shall not be reproduced except in full, without the specific written approval by Fluke Corporation. If measurement uncertainties are provided on the certificate of calibration, they are calculated in accordance with the method described in the ISO Guide to the Expression of Uncertainty in Measurement (GUM). The reported expanded uncertainty of measurement is stated as the combined standard uncertainty of measurement multiplied by the coverage factor k such that the coverage probability corresponds to approximately 95% and $k=2$.

VERIFICATION

Verification Equipment Used

- 20940 Fluke 8588A 8.5 Digit DMM S/N: 630383082 Cal: 2023-11-24 Due: 2024-11-24
- 20939 Fluke 8588A 8.5 Digit DMM S/N: 627382889 Cal: 2023-12-02 Due: 2024-12-02
- 20937 Fluke A40B-20A Precision Shunt S/N: 590880695 Cal: 2024-02-20 Due: 2025-02-20
- 20891 Compliance West HT-10000P High Pot Tester S/N: 434481 Cal: 2024-02-20 Due: 2025-02-20

Verification Results

	Nominal Value	Reference Value	Measurement Result	2 Year Specification	Max. Permissible Error	Status
Open Circuit Voltage	1000 V	999.83 V	999.42 V	$\pm 0.5\%$ ± 0.25 V	$\pm 0.38\%$ ± 0.19 V	Pass
Short Circuit Current	18.5 A	18.44 A	18.41%	$\pm 0.5\%$ ± 0.04 A	$\pm 0.38\%$ ± 0.03 A	Pass
Performance Factor (%)	100%	N/A	99.64%	$\pm 2\%$	$\pm \%$	Pass



CERTIFICATE OF CALIBRATION

Manufacturer: Fluke
Serial #: 6679008

Model #: SOLSENSOR 300V3
Description: Wireless PV Reference Sensor

As Received condition:			
As Shipped condition:	Pass		
Issue date:	2024-10-16		
Calibration date:	2024-10-15	Due date:	2026-10-15

CALIBRATION

Procedure: FPC4504.0004

This calibration is traceable to the International System of Units (SI) through recognized national metrology institutes (NIST, PTB, NPL, NIM, NRC, etc.), radiometric techniques, or natural physical constants. The Quality Management System is certified and is in conformance with ISO 9001. This certificate applies to only the item identified and shall not be reproduced except in full, without the specific written approval by Fluke Corporation. If measurement uncertainties are provided on the certificate of calibration, they are calculated in accordance with the method described in the ISO Guide to the Expression of Uncertainty in Measurement (GUM). The reported expanded uncertainty of measurement is stated as the combined standard uncertainty of measurement multiplied by the coverage factor k such that the coverage probability corresponds to approximately 95% and $k=2$.

VERIFICATION

Verification Equipment Used

- 20936 Mitutoyo 950-317 Digital Protractor S/N: 23100282 Cal: 2024-03-26 Due: 2025-03-26
- 21044 Newport 91150V-CELL Reference Solar Cell S/N: RQN177186 Cal: 2024-07-18 Due: 2025-07-18
- 20889 Fluke 724 Temperature Calibrator S/N: 64541387MV Cal: 2024-02-29 Due: 2025-02-28
- 20888 Fluke 724 Temperature Calibrator S/N: 64541386MV Cal: 2024-02-29 Due: 2025-02-28

Verification Results

	Nominal Value	Reference Value	Measurement Result	2 Year Specification	Max. Permissible Error	Status
Tilt	20°	20.1°	20.11°	±2°	±1.5°	Pass
Temperature (T1)	50°C	50°C	49.73°C	±2°C	±2°C	Pass
Temperature (T2)	50°C	50°C	49.80°C	±2°C	±2°C	Pass
Irradiance with 0° AOI	700 W/m²	752.24 W/m²	753.67 W/m²	±2%	±1.5%	Pass

