

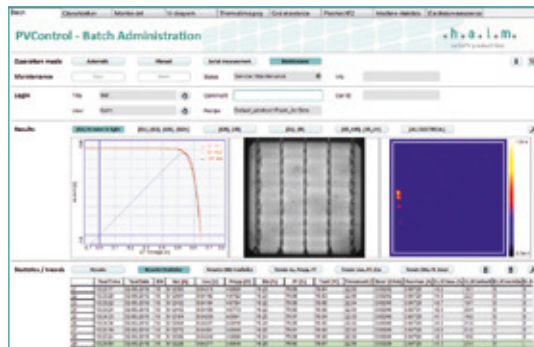


cetisPV- Celltest3

Class A+A+A+ high-precision
lab tester for IV measurement
of solar cells



cetisPV product line



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The **cetisPV-Celltest3** is a complete class A+A+A+ high-precision manual tester for the IV measurement of solar cells, designed for high-end R&D, laboratory and quality control demands. The system includes a solar simulator, an IV measuring system and a dark chamber with a contacting station.

With the programmable pulsed solar simulator, the high-resolution IV curve tracer, an illumination time of up to 160 ms and h.a.l.m.'s advanced hysteresis approach, the **cetisPV-Celltest3** is designed to match the demands of current and up-coming solar cell technologies.

The **cetisPV-Celltest3** is delivered with a contacting station whose flexible contacting frame allows the measurement of up to five busbars as well as busbarless cells. It can be equipped with a temperature-controlled dark chamber. Besides, **cetisPV-Celltest3** can be complemented by various options for more in-depth cell characterization including electroluminescence or infrared imaging, inline spectral response, grid resistance or dark IV measurement.

Technical specifications

Flash duration	up to 160 ms
Flash profiles	single, double, triple level, ramp
Repeatability (standard deviation)	Isc and Voc < ±0.1 % / Pmpp and FF < ±0.15 %
Measurement resolution	< 0.004 % FSR (3 synchronous 16-bit channels for voltage, current and irradiance)
Measurement accuracy	< 0.05 % FSR for current and voltage measurements
Voltage measurements	±1 V / ±2 V / ±4 V / ±10 V / ±20 V
Current measurements	±2 A / ±4 A / ±10 A / ±20 A ±16 mA / ±32 mA / ±80 mA / ±160 mA or ±0.1 A / ±0.2 A / ±0.5 A / ±1 A
Electronic load	active 4-quadrant load
Spectral match*	0.88 – 1.12 (class A 0.75 – 1.25)
Non-uniformity of irradiance*	< 1 % (class A ≤ 2 %)
Short-term instability of irradiance*	< 0.05 % (class A ≤ 0.5 %)
Long-term instability of irradiance*	< 0.8 % (class A ≤ 2 %)
Lamp lifetime (guaranteed/typical)	500,000/3,000,000 flashes
Advanced measurements and evaluations	multiple series and shunt resistance evaluations methods, simple and advanced hysteresis optional: Single-flash hysteresis, 2-diode analysis, SunsVoc
Optional packages	EL imaging, IR imaging, spectral response, grid resistance, temperature-controlled dark chamber

*IEC 60904-9 Ed. 2 Technical data are subject to change without notice.