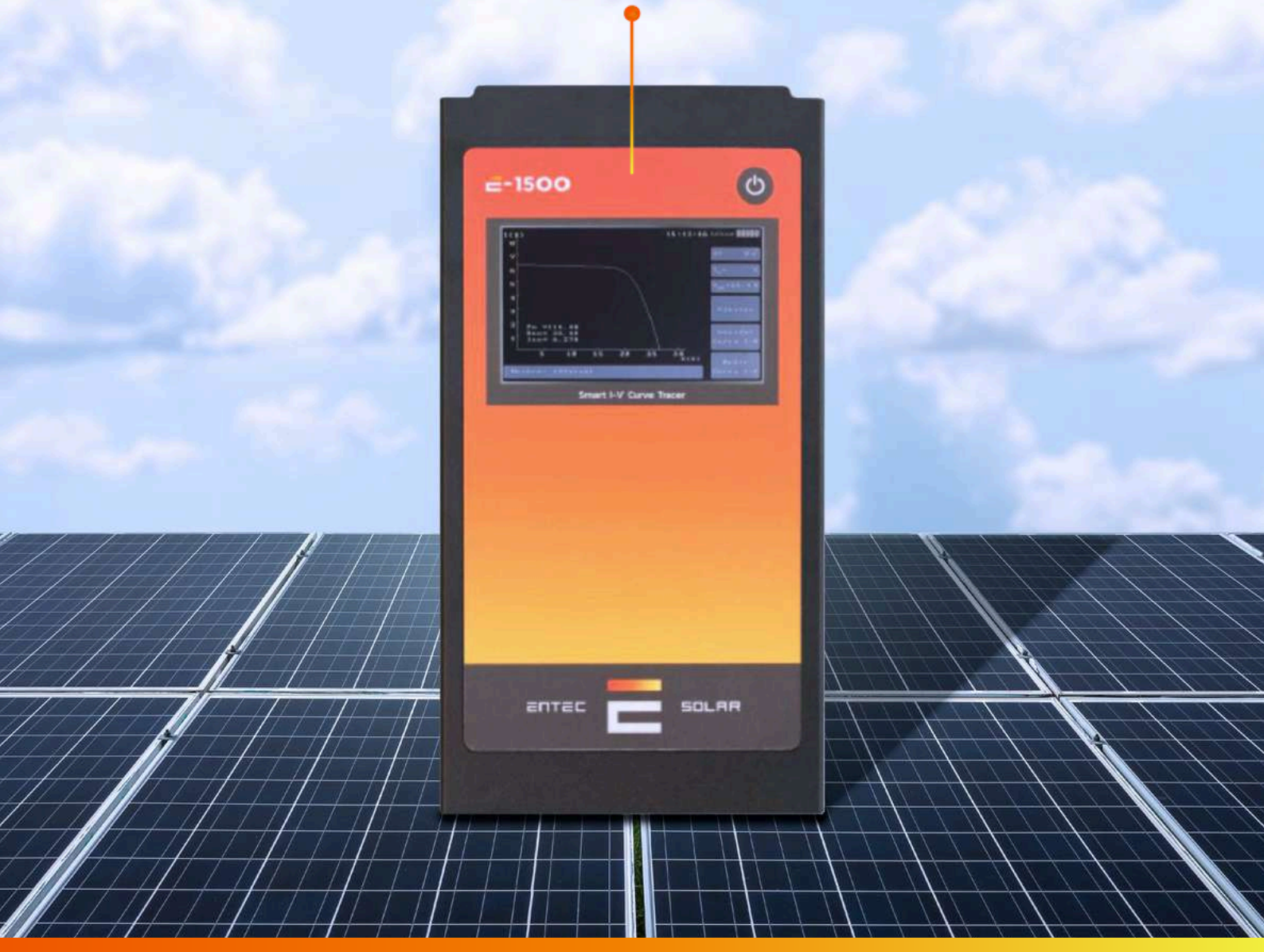
E-1500

Smart I-V curve tracer Entec Solar

The smallest, lightest and fastest I-V curve tracer on the market, now with bifacial module measurement capability and up to 1.500V and 35A.

Drastically reduce the time spent on O&M, commissioning, and quality control with Entec Solar's E-1500 I-V curve tracer. And all while maintaining the highest standards of measurement accuracy.



I-V Curve Tracer, E-1500

With Entec Solar's goal of creating hardware tools to make people's work easier, the E-1500 curve tracer has been developed. The E-1500 has been designed in collaboration with QPV (www.qv.es), a company specialized in audits and quality control of large photovoltaic power plants, which has exposed the current needs in the measurement of I-V curves in the field. The combination of Entec's hardware development experience and QPV's I-V curve measurement expertise has produced the fastest and most innovative I-V curve tracer on the market, with unmatched measurement accuracy.



This high precision instrument allows the measurement of up to 200 I-V curves per hour of work, either photovoltaic modules or strings up to 1500V and 35A. It also incorporates several new features such as: an infrared thermometer (E-Temp) for faster and more accurate temperature measurements, a barcode reader for automatic identification of the module under test and its position in the installation, an Android application to control the device remotely and to free the operator's hands during the connection and disconnection of the panels to be measured, a wireless sensor (E-Sens) with a communication range of up to hundreds of meters to measure radiation and temperature conditions, and many more options that will change the way you conduct your I-V curve measurement campaigns.

In addition, through a WiFi connection, the E-1500 synchronizes with an automatic report generation tool at PVET servers (https://app.pvet.es) to reduce processing hours, facilitating the post-processing of measurement campaigns, storing all historical measurements, and allowing intercomparisons and cross-checking of data for fault diagnosis in your plants.





- The smallest, lightest and fastest I-V curve tracer on the market. It can measure up to 200 curves per hour.
- Measures I-V curves of modules or strings up to 1500V and 35A according to the IEC-61829 standard.
- Unmatched accuracy of 0.5% at the maximum power point and less than 3% in the final result under standard measurement conditions (CEM).
- Automatic extrapolation of curves to STC using E-Sens, equipped with wireless communication over 100 meters, according to IEC-60891.
- Up to three irradiance sensors (one for front and two for the rear) for measuring bifacial modules and strings under IEC TS 60904-1-2
- Only tracer in the market with an infrared thermometer (E-Temp) for faster and more accurate temperature measurements.
- Hand's free operation with an ad-hoc transport backpack option and control through a tablet or mobile phone App
- Records in the same file the measurement data and the bar code of the module under test with the bar code reader accessory.
- Automatic report generation tool at PVET servers (https://app.pvet.es) to reduce processing hours and storing all historical measurements.

E-1500 Specifications

Input voltage range	0-1500V
Input current range	0.1-35A
Precision	± 0.3% ± 2 digits (voltage and current) ± 0.5% ± 0,1W (power)
Resolution	22.5mV 0.5mA
Measurement time	30-200ms (typical)
Measurement cycle time	≤4 sg
Quantity of points measured per curve	200
Operation temperature	-10 to +65ºC
Battery duration	10 hours in continuous operation. (More than 2000 curves I-V)
Dimensions	380x220x65mm
Weight	4.2 kg
Protections	Over-voltage, over-current and reverse polarity
Data storage and format	SD Card - 12KB per curve I-V in .csv format
Electrical security	CAT II - 1500V, EN-61010-1
Standards	Curve measurement I-V according to IEC-61829 Extrapolation to CEM according to IEC-60891
Warranty	2 years on products failure

E-Sens Specifications

Inputs	3 x Irradiance measurements 3 x Pt1000 for irradiance cells 3 x Pt1000 for temperature measurements
Accuracy of voltage measurement	±0.3%
Accuracy of temperature measurement	±0.3ºC. Class B
Resolution	0.45mV for the 60V channel 0.015mV for the 2V channel
Measurement interval	1 second for the irradiance channel 2 seconds for all other channels
Wireless range	Over 100 meters
Wireless frequency	433MHz, (915Mhz for USA)
Operation temperature	-10 to + 65ºC
Battery duration	10 hours of operation
Dimentions	195x95x29
Weight	265 grams
Protections	Over-voltage and reverse polarity
Data storage and format	Micro-SD card
Electrical security	EN-61010-1
Warranty	2 years on product failure

“Innovative technological developments for the photovoltaic solar energy industry”

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