



40  
1983 | 2023

# SUN

## SolarUnbelievableNews



For daily application in photovoltaic systems



# Energy needs to be controlled.

## By HT.

**Solar energy production plants** represent a crucial step towards a **virtuous** and **sustainable** future.

A future that is constantly evolving and needs to be cared for, controlled, managed, and guaranteed in an accurate and professional manner.

For these purposes, **HT Italia** provides you with optimal and **efficient instruments** for overseeing and **maintaining photovoltaic plants**. This includes **monitoring efficiency** and conducting quality **analyses**, all accessible via **Wi-Fi** directly on your devices.

Energy needs to be monitored, and HT knows how to do it.



**FUNCTION**

**GFL**

Identification and localization of the fault

**INSULATION**

**1500 VDC**

For photovoltaic systems

Tests in

**DUAL**

Mode  
Localization of the faulty pole

ORDER CODE **HVOPVISO**

## PV-ISOTEST

MULTIFUNCTION INSTRUMENT FOR  
COMMISSIONING, TESTING THE ELECTRIC  
SAFETY AND SEARCHING FOR FAULTS

- › Insulation measurement up to 1500VDC
- › Localization of the faulty module through the new GFL function
- › Insulation measuring modes DUAL and TIMER for checking the state of deterioration of the insulation
- › Continuity of protective conductors with 200mA



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WATCH  
THE VIDEO  
TUTORIAL

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## AUTO TEST

INSULATION MAX  
**1000 V**

ORDER CODE HVOOPVCS

## PVCHECKs

MULTIFUNCTION INSTRUMENT FOR  
COMMISSIONING TESTS AND  
PERFORMANCE VERIFICATION

- › Insulation measurement up to 1000VDC
- › Open-circuit voltage measurement up to 1000V DC
- › Short-circuit current measurement up to 15A at 1000VDC
- › Continuity of protective conductors with 200mA
- › Polarity
- › AUTO SEQUENCE
- › Performance logging of PV strings



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## GFL FUNCTION

**1500V  
40A**

DUAL  
MODE  
Test

MONO-FACIAL  
BI-FACIAL

ORDER CODE HVOOPVPR

## PVCHECKs-PRO

COMMISSIONING TESTER  
OF PV INSTALLATIONS  
UP TO 1500V / 40A

- › A single GO-key stroke to perform all commissioning tests
- › Seamless mode to test in sequence all strings of a combiner box by a single GO-key stroke
- › Testing of single and bi-facial modules (even high efficiency) up to 1500V / 40A
- › All commissioning tests (continuity, polarity, Voc, Isc, insulation) on live installations
- › GFL - Ground Fault Locator to detect the precise position of the lack of insulation



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ORDER CODE **HVOIV600**

## **IV-600**

I-V CURVE TRACER FOR MAINTENANCE AND TROUBLESHOOTING OF PHOTOVOLTAIC SYSTEMS UP TO 1500V AND 40A

- › I-V curve tracing of modules and strings **up to 1500V and 40A**
- › Measurement of front-side and rear-side solar radiation for mono- and **bi-facial** module testing, even high efficiency
- › Measurement of **open-circuit voltage** and **short-circuit current**  $V_{oc}/I_{sc}$
- › Database of **PV module performance**
- › **BMS (Battery Management System)** to self-recharge the batteries while testing
- › **Automatic acquisition** of the **cell calibration** value (by using suitable cells)



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ORDER CODE **HVO00IVE**

## **SOLAR I-Ve**

I-V CURVE TRACING OF PHOTOVOLTAIC MODULES AND STRINGS + EFFICIENCY OF THE PHOTOVOLTAIC SYSTEM

- › Measurement of inverter efficiency in single-string single-phase systems
- › I-V curve up to 1500V and 10A or up to 1000V and 15A
- › Power measurement of a module or a string
- › Open-circuit voltage ( $V_{oc}$ ) up to 1500V
- › Short-circuit current ( $I_{sc}$ ) up to 15A
- › Environmental and Cell temperature
- › No distance limit for environmental measurements through remote unit SOLAR-02
- › AUTOSTART to run the test automatically
- › WiFi connection to smartphones and tablets



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WIFI  
CONNECTION

I-V CURVE

**15A**

MAX  
**1000 V**

ORDER CODE **HV00400W**

## **I-V400w**

I-V CURVE TRACING  
ON PHOTOVOLTAIC MODULES  
AND STRINGS

- › I-V curve up to 1000V and 15A
- › Power measurement of a module or a string
- › Open-circuit voltage (Voc) up to 1000V
- › Short-circuit current (Isc) up to 15A
- › Solar radiation measurement
- › Environmental and Cell temperature
- › No distance limit for environmental measurements through remote unit SOLAR-02
- › AUTOSTART to run the test automatically
- › WiFi connection to smartphones and tablets



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WIFI  
CONNECTION

I-V CURVE  
MAX

**15A**

MAX  
**1500 V**

ORDER CODE **HV00500W**

## **I-V500w**

I-V CURVE TRACING OF MODULES  
AND STRINGS

- › I-V curve up to 1500V and 10A or up to 1000V and 15A
- › Power measurement of a module or a string
- › Open-circuit voltage (Voc) up to 1500V
- › Short-circuit current (Isc) up to 15A
- › Radiation measurement
- › Environmental and Cell temperature measurement
- › No distance limit for environmental measurements through remote unit SOLAR-02
- › AUTOSTART to run the tests automatically
- › WiFi connection to smartphones and tablets



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ORDER CODE **HNTHT400**

## THT400

HIGH RESOLUTION  
TOUCH SCREEN  
INFRARED CAMERA

**640x480**  
PIXEL

TEMPERATURE RANGE  
**-20°÷550°C**

FIELD OF VIEW  
**31.9°×25.7°**



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ORDER CODE **HN000300**

## THT300

TOUCH SCREEN  
INFRARED CAMERA

**384x288**  
PIXEL

TEMPERATURE RANGE  
**-20°÷650°C**

FIELD OF VIEW  
**41.5°×31.1°**



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ORDER CODE **HN000120**

## THT120

TOUCH SCREEN  
INFRARED CAMERA

**120x120  
PIXEL**

TEMPERATURE RANGE  
**-20° : 650°C**

FIELD OF VIEW  
**15.6° X 15.6°**

**OK**  
CALIBRATION  
REPORT



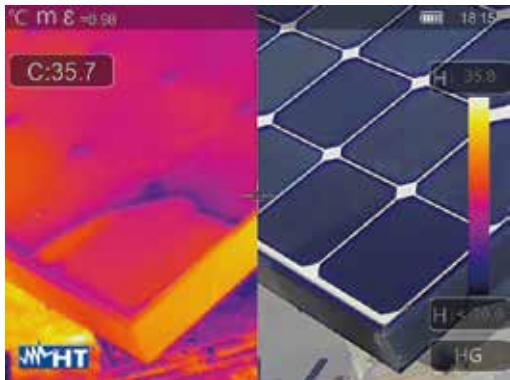
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### Photovoltaic system inspection

Thanks to the thermographic inspection of photovoltaic systems, hot spots and loose connections can be easily detected.

Picture: hot spots shot with THT300.



### PV panels encapsulation

During long-term outdoor exposure, once moisture penetrates a module, it can condense and increase corrosion rates, significantly reducing the performance of the module. High resolution infrared cameras easily spot encapsulant failures.

Picture: encapsulant failure shot with THT600.

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