IV400

MULTIFUNCTION INSTRUMENT FOR VERIFICATION OF I-V CHARACTERISTIC OF PHOTOVOLTAIC STRINGS AND MODULES

I-V 400 is the ideal solution for the ordinary and scheduled maintenance of photovoltaic systems. With I-V 400, searching for possible failures and problems in systems is extremely rapid, efficient and intuitive. I-V 400 carries out the field measurement of the I-V characteristic and of the main characteristic parameters both of a single module and of module strings. The instrument measures, together with the I-V characteristic of the device being tested, also the values of its temperature and incident irradiation. The acquired data is then processed to extrapolate the I-V characteristic at standard test conditions (STC) in order to proceed with the comparison with the nominal data declared by the modules' manufacturer, thus immediately determining whether or not the string or the module being tested respects the characteristics declared by the manufacturer. In some PV installations, such as roof-top installations, it may be difficult to access the module output cables. Access to the cables at the combiner box or at the inverter's inputs may be the only chance. In this case the measurement of I-V characteristics can be achieved by measuring the environmental parameters (irradiation and temperature) through the remote optional unit SOLAR-02. The remote unit is positioned next to the photovoltaic modules and it is connected to the probes for measuring environmental parameters. The synchronisation between the two units guarantees the necessary contemporaneity of measurements making possible the extrapolation of the I-V curve at STC without using long extension cords cable. Output current or voltage from the module or string is measured with the 4-terminal method, which allows extending the measurement cables without requiring any compensation for their resistance, thus always providing accurate and precise measurements. In its internal memory, I-V 400 manages a database of photovoltaic modules, which can be updated at any time both via the management software and directly on the instrument. Together with the measurement of the I-V characteristic and the extrapolation of the characteristic at standard test conditions, I-V 400 compares the obtained values with the values declared by the manufacturer, immediately providing the OK / NO result of the test. The operator does not have to do any calculation, nor any difficult operation. The instrument carries out the comparison rapidly and automatically.

FUNCTIONS

- Measurement of output voltage from module/string up to 1000V DC
- Measurement of output current from module/string up to 10A DC
- Measurement of solar irradiation [W/m2] with reference cell
- Measurement of module temperature, automatic or by means of external probe
- Measurement of output DC and nominal power of module/string
- Synchronisation with remote unit SOLAR-02
- Numerical and graphical display of I-V characteristic
- Quick test mode
- Measurement of the resistance of photovoltaic module series
- Mechanical inclinometer for the detection of the incidence angle of solar irradiation
- 4-terminal measuring method
- Extrapolation to standard test conditions (STC)
- Evaluation of testing result: OK / NO
- Management of up to 30 types of photovoltaic modules in the internal database
- Internal memory for data saving
- Recalling results on the display
- Optical/USB port for PC connection
- Help online on the display

MODEL SPECIFICATIONS

Display:	LCD Custom, 128x128pxl, backlit
Power supply:	6x1.5V alkaline bat. type AA LR06
Auto power off:	After 5 minutes in stand-by
Internal memory:	256kBytes
Curves which can saved:	> 200
PC interface:	Optoisolated optical/USB port
Safety:	IEC/EN61010-1
Meas. accessory safety:	IEC/EN61010-031, IEC/EN10-032
Measures:	IEC/EN 60891, IEC/EN 62446
Insulation:	Double insulation
Pollution degree:	2
Measurement category:	CAT II 1000V, CAT III 300V (to earth) Max 1000V between inputs
Dimensions:	235x165x75mm
Weight (batteries included):	1.2kg

Application video

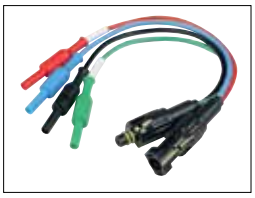
http://www.hellermanntyton.co.za/downloads.html

IV400

ACCESSORIES

Kit of 4 cables with 4mm banana plugs + 4 alligator clips
Kit of 2 adapters with MC3 compatible connectors
Kit of 2 adapters with MC4 compatible connectors
Reference cell for irradiation measurement
Mechanical inclinometer
TOPVIEW2006 - Windows software + optical/USB cable
Rigid transport suitcase
Calibration certificate ISO9000

Includes:
***TOPVIEW2006** - C2006*
USB Cable and Software



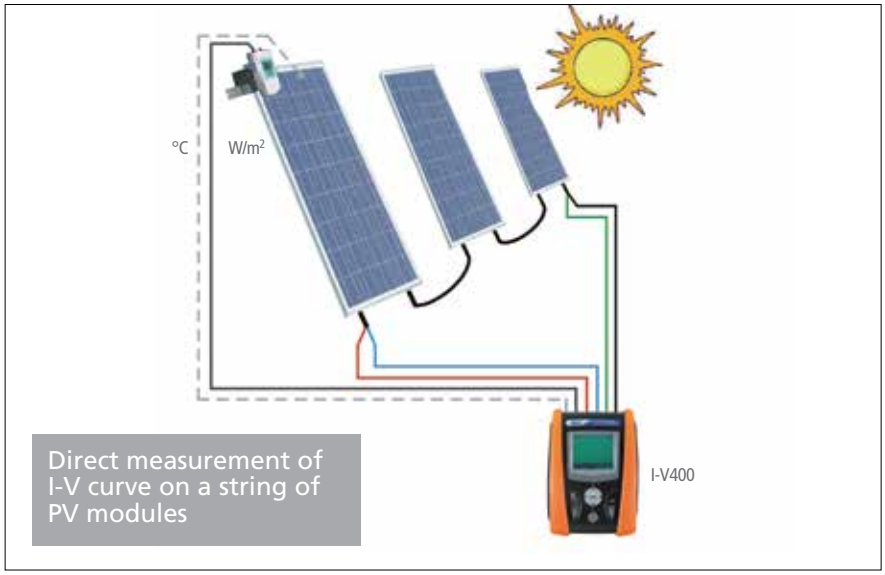
KITPCVMC3(2 PCS)

Some standard accessories

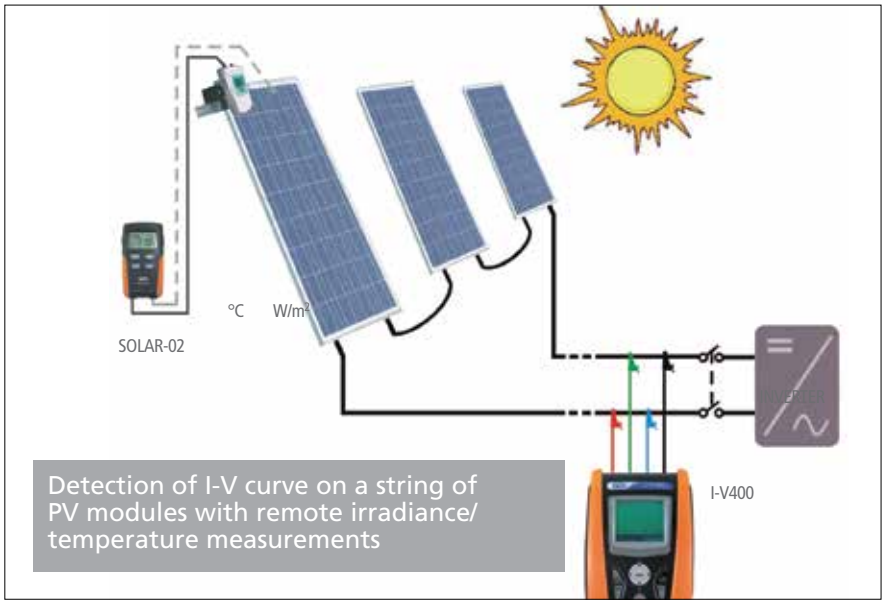
HT304N

M304

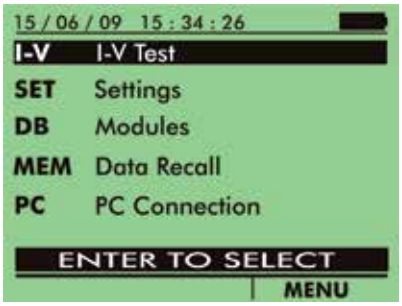
KITGSC4



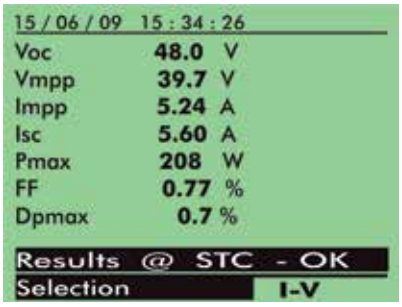
Direct measurement of I-V curve on a string of PV modules



Detection of I-V curve on a string of PV modules with remote irradiance/ temperature measurements

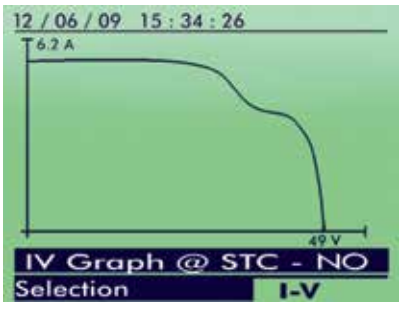


Simple and intuitive user interface

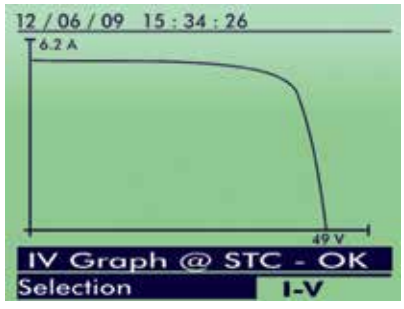


Numerical measurement with OK result

Addition of a PV module to the database



Graph of a NOT-OK curve



Graph of an I-V curve with OK result