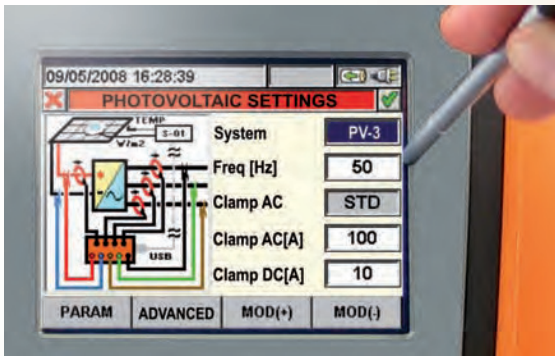


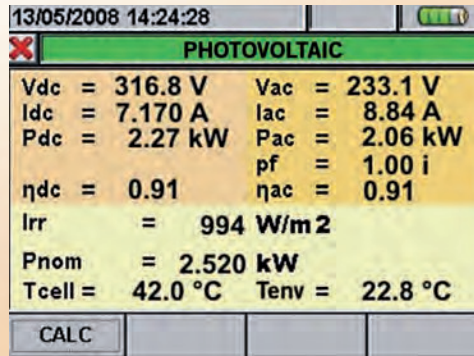
SOLAR 300N

MULTIFUNCTION INSTRUMENT FOR TESTING SINGLE-PHASE AND THREE-PHASE PHOTOVOLTAIC SYSTEMS AND ANALYZING MAINS QUALITY IN COMPLIANCE WITH STANDARD EN50160

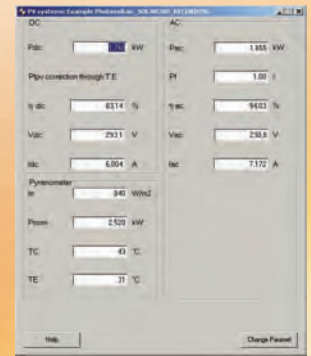
SOLAR 300N allows carrying out all tests required for the verification of the efficiency of single-phase and three-phase photovoltaic systems. Testing photovoltaic systems requires contemporarily measuring environmental parameters (incident irradiation of modules, temperature of environment and modules) and electric parameters (continuous power, alternating power, etc.). Typically, modules and inverter can be positioned even at several tens of meters of distance, thus forcing the operator to carry out measurements in different places far from each other at the same time. To carry out these operations, connections by means of long cables or (wireless) radio connections could be necessary, but both these solutions are not acceptable. Cables could hamper the operator's movements or be a hindrance, while radio waves would be attenuated by floors, reinforced concrete or metal structures, thus making communication impossible. In order to avoid the above-mentioned problems and to carry out measurements with the necessary contemporaneity, SOLAR 300N is provided with a remote unit, synchronized with the main unit. The remote unit is positioned next to the photovoltaic modules and it is connected to the probes for measuring environmental parameters (irradiation and temperature). SOLAR 300N is connected upstream and downstream of the inverter in order to acquire the electric parameters (continuous power and alternating power). The synchronization between the two units guarantees the necessary contemporaneity of measurements, the two separate and independent units make measurements comfortable and safe. The instrument can be interfaced with accessory MPP300, which extends the characteristics of SOLAR 300N by enabling recordings on single-phase and three-phase, single-string and multi-string (up to three strings), single-inverter and multi-inverter photovoltaic systems (therefore also in three-phase systems provided with three single-phase inverters). SOLAR 300N is also a powerful instrument for the complete analysis of mains quality in compliance with standard EN50160 (harmonic analysis, analysis of voltage anomalies, Flicker, unbalance, etc.). The management software TopView also provides the possibility of creating professional reports, which can be customized by adding the company's logo, the customer's data, comments, etc.



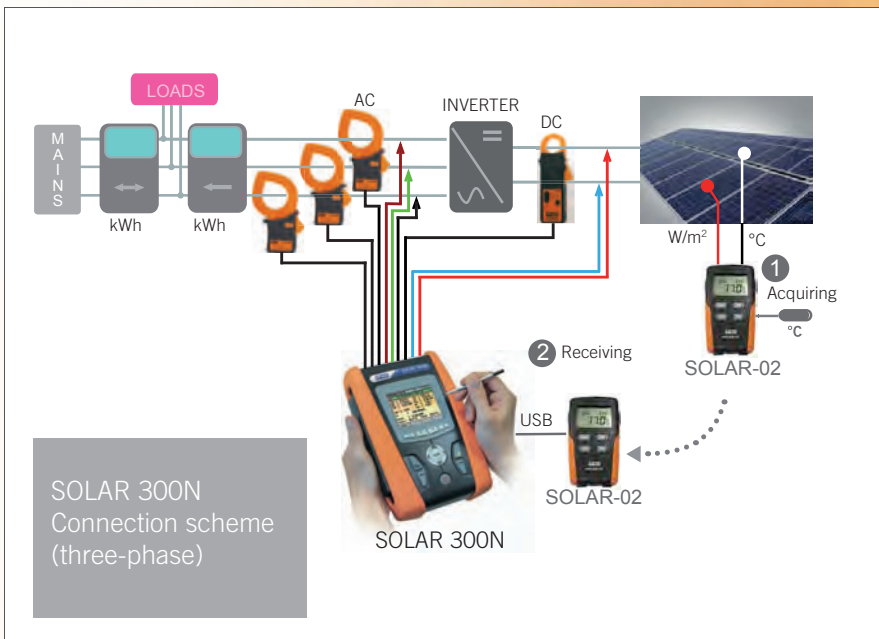
Graphical touch-screen display



Testing result on the display of SOLAR300N



Testing result on TopView software



SOLAR300N
HV00300N

FUNCTIONS

DC/AC TRMS (single/three-phase) voltage measurement
 DC/AC TRMS (single/three-phase) current measurement
 DC/AC (single/three-phase) power measurement
 AC (single/three-phase) energy measurement
 Measurement of power factor (single/three-phase)
 Measurement of solar irradiation [W/m^2]
 Measurement of environmental and module temperature
 Three-phase up to three strings PV systems (with MPP300)
 Recording of voltage and current harmonics up to the 49th
 Recording of voltage anomalies (dips, peaks)
 Flicker analysis in compliance with standard EN50160
 Recording of starting currents with a resolution of 10ms
 Recording of fast voltage (spikes) with a resolution of 5 μ s
 Analysis of mains quality in compliance with EN50160
 Numerical and graphical display of each quantity
 Recalling results on the display
 TFT colour display with touch screen
 Power supply with rechargeable Li-ION battery
 Memory extension by means of CF card
 Data transfer to external USB memory (memory stick)
 USB port for PC connection
 Help on line on the display

GENERAL CHARACTERISTICS

Display: TFT, 65536 colours, (320x240pxl), high contrast, touch screen
 Power supply: 1x3.7V rechargeable Li-ION battery with external power supply, duration > 6h, auto power off after 5 min in stand-by
 Internal memory: 15Mbyte (duration approximately 3 months @ IP = 15min and 251 parameters selected)
 Memory extension: compact flash (CF card)
 PC interface: USB 2.0
 Safety: IEC/EN61010-1
 Insulation: double insulation
 Pollution degree: 2
 Measurement category: CAT IV 600V (to earth) CAT III 1000V (between inputs)
 Unbalance: IEC/EN61000-4-7
 Power quality: IEC/EN50160
 Flicker: IEC/EN61000-4-15
 Electric power quality: IEC/EN61000-4-30 Classe B
 Dimensions: 235x165x75mm
 Weight (with battery): approx. 1kg



Professional transport suitcase



SP-0400 hands-free kit

WITH
**TOUCH
 SCREEN**

ACCESSORIES

Standard

	Code
Remote unit to record irradiation and temperature	SOLAR-02
Kit of 5 cables + alligator clips for voltage measurement	KIT800
Transducer for AC 0÷200A, diameter 40mm, 3 pcs	HT4005K
Transducer for AC/DC currents 0÷10 - 0÷100A, diameter 32mm	HT4004N
Sensor for irradiation measurement	HT304
Probe PT1000 for panel temperature	PT300N
AC/DC power supply	A0055
Rechargeable 3.7V Li-ION battery	
Touch-screen pen	PT400
Widows software + USB cable	TOPVIEW2007
Rigid transport suitcase	VA400
User manual on CD-ROM	
Rapid user guide	
Calibration certificate ISO9000	

Optional

Multi-string three-phase adaptor	MPP300
Unbatteried transducer for AC/DC currents 0÷10A, 0÷100A, max. diameter 32mm*	HT4004P
Transducer for AC currents 0÷5 - 0÷100 A, diameter 20mm	HT4005N
Rigid clamp AC 1-100-1000A/1V, diameter 54mm	HT96U
Rigid clamp AC 10-100-1000A/1V, diameter 54mm	HT97U
Rigid clamp DC 1000A/1V, diameter 50mm	HT98U
Rigid clamp AC 200-2000A/1V, diameter 70mm	HP30C2
Rigid clamp AC3000A/1V, diameter 70mm	HP30C3
Flexible clamp AC 3000A, diameter 174mm (**)	HTFLEX33D
Flexible clamp AC 3000A, diameter 274mm (**)	HTFLEX35
Interface 3x1-5A/1V for connection of external CTs	HT903
Kit of belts for slinging the instrument over one's shoulder	SP-0400
Connector with magnetic tip	606-IECN

(*) to be used with MPP300 only (**) only for using the instrument as mains analyzer