SOLAR300N

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

SOLAR300N 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, SOLAR300N is provided with a remote unit, synchronised 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). SOLAR300N is connected upstream and downstream of the inverter in order to acquire the electric parameters (continuous power and alternating power). The synchronisation 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 SOLAR300N 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). SOLAR300N 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 customised by adding the company's logo, the customer's data, comments, etc.

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/m2]
- 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 voltage fast transients (spikes) with a resolution of 5µs
- 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

MODEL SPECIFICATIONS

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 Class B
Dimensions:	235x165x75mm
Weight (batteries incl.)	Approx. 1kg

Application video

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

Professional transport suitcase

SOLAR300N

ACCESSORIES

Remote unit to record irradiation and temperature	SOLAR-02
Kit of 5 cables + alligator clips for voltage measurement	
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	HT304N
Probe PT1000 for panel temperature	PT300N
AC/DC power supply	
Rechargeable 3.7V Li-Ion battery	
Touch-screen pen	
TOPVIEW2007 - Widows software + USB cable	
Rigid transport suitcase	
Calibration certificate ISO9000	

Includes:
***TOPVIEW2007** - C2007*
USB Cable and Software

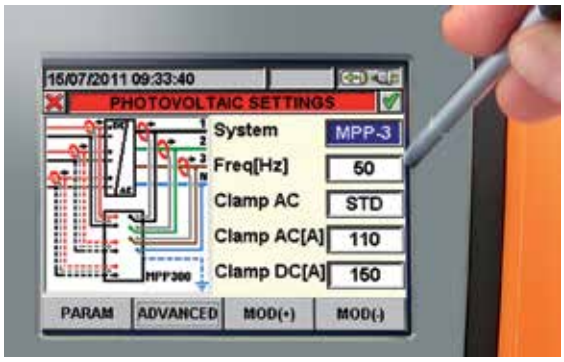
Some standard accessories


HT4004N

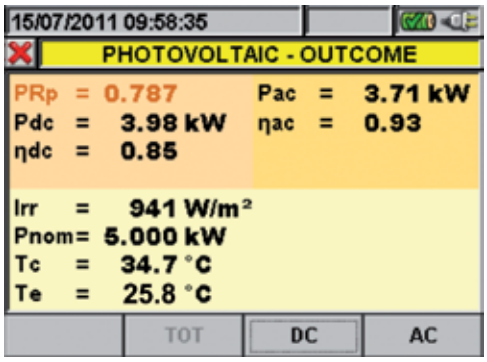

HT4005K (3 pcs)


SOLAR02

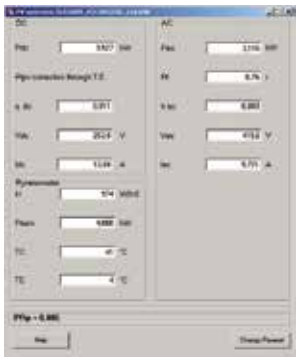

HT304N

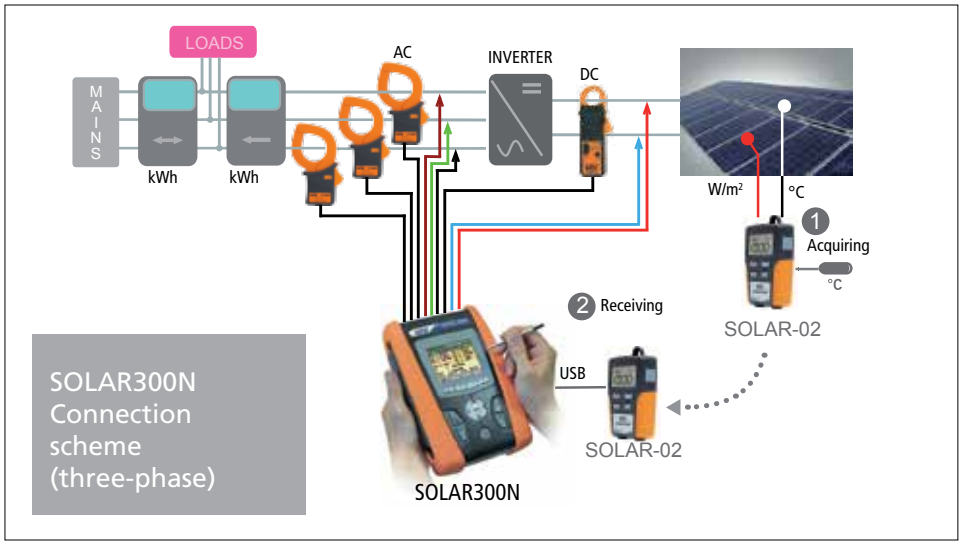


Graphical touch-screen display



Testing result on the display of SOLAR300N


Testing result on TopView software



SOLAR300N Connection scheme (three-phase)