NanoVIP® TWO™

Analizzatore portatile della Qualità dell'Energia per sistemi monofase, bifase, trifase bilanciati, in bassa e media tensione.
Portable Power Quality analyzer for mono, bi, three phases balanced, medium and low voltages systems.

NanoVIP® TWO™ è un analizzatore dotato di tutte le funzioni per alla misurazione ed il monitoraggio sia dei consumi elettrici che della power quality.
Batterie ad alta capacità (oltre 24h con una carica) e una notevole capacità di memorizzazione (oltre l'anno) fanno di **NanoVIP® TWO™** uno strumento professionale di elevata affidabilità, adatto ai professionisti più esigenti e agli impieghi più gravosi.

EN **NanoVIP® TWO™** is a modern, compact and powerful portable Power Quality analyzer for professional use that be used on single-phase, two-phase, three-phase balanced networks, low and medium voltage.
A **long lasting battery** (over 24h with one charge) and the huge data logging capacity (over 1 year) make it an absolute reliable and professional tool.

PRECISIONE NELLA MISURA, FACILITÀ NELL'USO

- LCD grafico che permette un'ampia duttilità nella visualizzazione (menu multilingua, forme d'onda, istogrammi, personalizzazioni delle pagine, disegni, schemi, immagini, etc.)
- **Software PC NanoStudio** dedicato tramite il quale è possibile effettuare analisi evolute dei dati memorizzati
- 1 canale di misurazione della tensione (1 fase + neutro) fino a 600V CAT III, con la possibilità di misurare anche la tensione continua, con la precisione dello ±0,25%+err.FS
- 1 ingresso di corrente con la possibilità di misurare anche la corrente continua, con la precisione dello ±0,25%+err.FS
- Verifica automatica della correttezza di connessione dell'apparecchio alla rete
- Possibilità di utilizzare pinze amperometriche flessibili fino a 3000A o altri captori con fondo scala impostabile dall'utente
- Batterie ad alta capacità che consentono un'autonomia di campagna superiore alle 24 ore anche in assenza di alimentazione di rete; nessun limite di campagna se collegato alla rete
- Potente motore di calcolo che permette oltre alla misurazione di tutte le grandezze elettriche standard (V I P Q A F PF THD% ecc.) in vero valore efficace (TRMS): armoniche fino alla 50°, dips, swells, microinterruzioni e molte altre
- **20 allarmi** (generici, swells, dips e interruzioni)
- Misurazione dell'energia in 4 fascie orarie (tariffe) impostabili

MEASUREMENT PRECISION, EASINESS OF USE

- LCD graphic display that allows wide flexibility in the (multilingual menu, waveforms, histograms, personalized pages, drawings, diagrams, pictures, etc.)
- PC Software NonoStudio dedicated through which you can make advanced analysis of the data stored on uSD
- 1 voltage measuring channel (1 phase + neutral) up to 600V CAT III, with the possibility to also measure the DC voltage, with the precision of the ▪0,25% + err.FS
- 1 current input with the possibility to also measure the DC current, with the precision of the ▪0,25% + err.FS
- Automatic verification of the correctness of the device connected to the network
- Possibility to use flexible current probe up to 3000A or other captors with full scale set by the user
- High capacity batteries that allow a range of campaign more than 24 hours even in the absence of mains power; no country limit when connected to the network
- Calculation engine Powerful allowing besides the measuring of all standard electrical parameters (V I P Q A F PF THD% etc.) True RMS (TRMS): harmonics up to the 50th, dips, swells, micro interruptions and many other
- 20 alarms (generic, swells, dips and interruptions)
- Energy Measurement in 4 time zones (rates) set

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CASE:	
Dimensions	203x116x53mm
Material	ABS with self-extinguishing V0 grade
Protection class	IP30
Weight	580 g
DISPLAY:	
Dimensions	68x68mm
Type	128x128 FSTN Negative dot matrix graphic LCD
Backlight	White LED
Languages	English - Spanish - Italian - German - French
KEYPAD:	
Type	Membrane keypad with 10 double-function keys
POWER SUPPLY:	
External power supply	wall-plug switching; input 100-240VAC ±10% 47-63Hz with interchangeable plug; output 7.5VDC - 12W
Battery pack	4 x AA NiMh 2100mAh
Duration of the battery charge	>24h (wireless off)
CONNACTABLE SYSTEMS:	
Systems frequencies	50Hz – 60Hz – 400Hz
Single phase	✓
Two phase	✓
Three-phase, 3-wires, balanced	✓
Three-phase, 3-wires, unbalanced	-
4-phase, 4-wires, balanced	✓
4-phase, 4-wires, unbalanced	-
CONNECTIONS:	
Voltages	Flexible cables L = 1.5m; 2.5mm^2 - 36A; 1000V CAT III - 600V CAT IV with a 4mm, 90° protected blade plug connector, crocodile clips with a 45mm opening (for sections up to 32mm) and magnetic captors
Currents	Elcontrol Energy Net interchangeable amperometric sensors
Solar radiation	-
PT100	-
Anemometer	-
Transducers	-
FUNCTIONS:	
Traditional electrical analisys	V, I, P, Q, S, F, PF, THD(V)%, THD(I)%, cosφ, φ, peaks, minimums, maximums, averages, max. demands, etc.
Neutral current	Measured
Three phase counters	kWh, kVArh, kVAh, both absorbed that generated
Counters for each single phase	kWh, kVArh, kVAh, both absorbed that generated
Cogeneration	✓
Waveforms	V & I
Harmonics	Values and histograms up to the 50th order; up to 7th at 400Hz
Sags	Dips, swells & interruptions
Transients	Overvoltages & overcurrents
Unbalance	-
Test EN 50160	✓
Inrush current	✓
DC measures	✓
K factor	Up to the 25th order
Alarms	Displayed
Alarms log	5 at display

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Tariff bands		4
Energy costs		✓
IEC 61724 network parameters		-
Test EN 82.25		-
OSU™ (One Shot UPS)		-
Measurament campaigns		unlimited, up to fill the memory card
MEASUREMENTS:		
Sampling frequency		128 samples per cycle (adaptive in 40Hz-70Hz range) 16 samples per cycle at 400HZ
Data record rate		1 sec.
Data storage rate		User selectable: 1", 5", 3", 1', 5', 15'
Type of connections available		Three-phase (3 or 4 leads balanced), two-phase (2 leads), and single phase grid
Type of grid which can be connected		Low and medium voltage (LV and MV)
VOLTAGE (TRMS)		
	Channels	2 channels with common neutral
	Input impedance	4 Mohm
	Scales	2
	Direct measurement	Phase-phase: 7-1000VAC 40-70Hz Phase-neutral: 5-600VAC 40-70Hz Aux: 5-1000VAC 40-70Hz, 10-1400VDC
	Measurement with VT	Ratio: 1-60000 Maximum value which can be displayed: 20MV
	Permanent overload	Phase-phase: 1200VAC Phase-neutral: 700VAC Aux: 1200VAC, 1700VDC
	Sensitivity	5VAC Phase-neutral, 7VAC Phase-phase, 10VDC
CURRENT (TRMS)		
	Channels	1 channel
	Input impedance	10KOhm
	Scales	4
	Measurement with current clamps	Ratio: 1-60000 Maximum value which can be displayed: 500KA
	Sensitivity	0,2% of F.S.
POWERS		
	Single phase power	Values < 999 GW, Gvar, GVA
	Total power	Values < 999 GW, Gvar, GVA
POWER COUNTERS		
	Maximum value before reset	99999999 kWh, kvarh, kVAh
ACCURACY		
	RMS voltages:	
	Scale 1	±0.25% + 0.1%FS (2) @ RMS V < 350VAC (1)
	Scale 2	±0.25% + 0.05%FS (2) @ RMS V > 350VAC (1)
	RMS currents:	
	Scale 1	±0.25% + 0.1%FS (2) @ RMS I < 5% IN clamp (1)
	Scale 2	±0.25% + 0.05%FS (2) @ 5% < RMS I < 20% IN clamp (1)
	Scale 3	±0.25% + 0.05%FS (2) @ 20% < RMS I < 50% IN clamp (1)
	Scale 4	±0.25% + 0.05%FS (2) @ > 50% IN clamp (1)
	Power	±0.5% + 0.05%FS (2)
	Power Factor (PF)	±0.5°
	Frequency	±0.01 Hz (40-70Hz)
	Active power count (kW)	Class 0.5

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Reactive power count (kVar)	Class 1
HARMONIC ANALISYS	Up to 50th order Up to 7th at 400Hz
ANALYSIS of EN50160 parameters	
Interruptions	>500mS
Dips	>500mS
Swells	>500mS
Transient ANALYSIS	
Swells and overcurrents	>150uS
Inrush current analysis	RMS continuous sampling every 2 periods – Duration 1, 2, 5, 10 sec.
COMMUNICATION:	
MRH™	-
Server mode	-
Connectable MRH™ clients	-
Client mode	-
Zigbee®	-
Maximum distance outdoor	600m (point to point)
Maximum distance indoor	60m (point to point)
Mesh network	-
Wireless to PC	-
USB	to PC
DATA STORAGE:	
Internal memory	64kB
External memory	Micro SD (2GB included)
OPERATING CONDITIONS:	
Operating temperature	-10 to +55 °C
Storage temperature	-20 to +85 °C
Relative humidity	Max 95%
Maximum altitude a.s.l. (600V CAT III)	2000 m
EC COMPLIANCE:	
Directives	93/68/EEC (Low Voltage Electrical Equipment); 89/336/EEC and 2004/108/EC (EMC - Electromagnetic Compatibility); 2006/95/EC - 72/23/EEC (LVD - Low Voltage Directive); 2002/95/EC (RoHS - Restriction of Hazardous Substances); 2002/96/EC and 2003/108/EC (WEEE - Waste Electrical and Electronic Equipment); IEC 61724
REFERENCE STANDARDS:	
Safety	EN 61010-1
Electromagnetic Compatibility (EMC)	EN 61326 EN 61326/A1 EN 61326/A2 EN 61326/A3
Temperature	IEC 60068-2-1 (Operating temperature) IEC 60068-2-2 (Storing temperature)
Vibrations	IEC 60068-2-6
Humidity	IEC 60068-2-30 (Humidity)
Overload	IEC 60947-1