

# NanoVIP® ONE™

*Analizzatore portatile della Qualità dell'Energia per sistemi monofase, trifase bilanciati (bassa e media tensione) e DC.*

*Portable Power Quality analyzer for mono, three phases balanced (low and medium voltage) and DC.*



NanoVIP® ONE™ è un analizzatore dotato di un ampio range di misurazioni per il monitoraggio sia dei consumi elettrici che della power quality.

Particolarmente compatto nelle dimensioni, utilizza **batterie stilo AA commerciali (ricaricabili e non)**, possiede una notevole capacità di **memorizzazione interna (4Gb)** e un **display grafico**.

Un analizzatore economico ma adeguato ad un **uso professionale**.

**EN** NanoVIP® ONE™ is an analyzer equipped with a wide range of measurements for monitoring both **electricity consumption and power quality**.

Particularly **compact and light**, it uses **commercial AA batteries (rechargeable or not)**, has a considerable internal **storage capacity (4Gb)** and a **graphic display**.

An economic analyzer but suitable for **professional use**.

## LEGGERO, COMPATTO E POTENTE

- ✓ **LCD grafico 128x128** che permette un'ampia duttilità nella visualizzazione (menu multilingua, forme d'onda, istogrammi, 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 **±0,5%+err.FS**
- ✓ 1 ingresso di corrente con la possibilità di misurare anche la corrente continua, con la precisione dello **±0,5%+err.FS**
- ✓ Possibilità di utilizzare pinze amperometriche flessibili fino a 6000A o altri captori con fondo scala impostabile dall'utente
- ✓ Utilizzabile con **batterie commerciali AA (ricaricabili e non)** o con alimentatore esterno (opzionale) per campagne prolungate.
- ✓ **10 allarmi** (generici, swells, dips e interruzioni)
- ✓ **Memoria interna 4Gb** per il salvataggio delle misurazioni fatte
- ✓ **Tastiera multifunzione**
- ✓ Uscita USB per **download/upload** misure, setup e controllo remoto
- ✓ **Output sonoro** per segnalazione errori e allarmi
- ✓ **Analisi armonica fino al 25° grado**
- ✓ Funzione **Oscillo** per la cattura continua di un canale (tensione o corrente rms)
- ✓ Funzione **Start/Stop contatori** per l'analisi

## COMPACT, LIGHT AND POWERFULL

- ✓ 128x128 graphic LCD that allows a wide display flexibility (multilingual menu, waveforms, histograms, diagrams, images, etc.)
- ✓ Dedicated **NanoStudio PC** software through which it is possible to perform advanced analyzes of stored data
- ✓ 1 voltage measurement channel (1 phase + neutral) up to **600V CAT III**, with the possibility of measuring also the DC voltage, with an accuracy of **± 0.5% + FS error**
- ✓ 1 current input with the possibility of measuring also the DC current, with the accuracy of **± 0.5% + FS err**
- ✓ Capability to use **flexible clamps up to 6000A** or other sensors with full scale set by the user
- ✓ Can be used with **AA commercial batteries (rechargeable or not)** or with external power supply (optional) for prolonged campaigns.
- ✓ **10 alarms** (generic, swells, dips and interruptions)
- ✓ **4Gb internal memory** for measurements savings
- ✓ Multifunction keyboard
- ✓ USB output for **download/upload** measurements, setup and **remote control**
- ✓ **Buzzer** for errors and alarms
- ✓ **Harmonic analysis up to the 25th degree**
- ✓ **Oscillo** function for **continuous capture** of a channel (rms voltage or current)
- ✓ **Start/Stop counters** function for quick consumption analysis

# NanoVIP® ONE™

<b>CASE:</b>	
Dimensions	175x80x32mm
Material	ABS with self-extinguishing V0 grade
Protection class	IP30
Weight	220 g (315g including batteries)
<b>DISPLAY:</b>	
Dimensions	42x50mm
Type	128x128 STN Negative dot matrix graphic LCD
Backlight	White LED
Languages	English - Spanish - Italian - German - French
<b>KEYPAD:</b>	
Type	Membrane keypad with 7 double-function keys
<b>POWER SUPPLY:</b>	
External power supply (Optional)	wall-plug switching; input 100-240VAC $\pm 10\%$ 47-63Hz with interchangeable plug; output 7.5VDC - 12W
Battery	4 x AA commercial 1.5V Alkaline or rechargeable NiMH
Duration of the battery charge	Up to 24h (depending from AA battery type)
<b>CONNECTABLE SYSTEMS:</b>	
Systems frequencies	50Hz – 60Hz
Single phase	✓
Two phase	-
Three-phase, 3-wires, balanced	✓
Three-phase, 3-wires, unbalanced	-
Three-phase, 4-wires, balanced	✓
Three-phase, 4-wires, unbalanced	-
<b>CONNECTIONS:</b>	
Voltages	Flexible cables L = 1.5m; 2.5mm <sup>2</sup> - 36A; 1000V CAT III - 600V CAT IV with a 4mm, protected blade plug connector, crocodile clip with a 45mm opening (for sections up to 32mm)
Currents	Elcontrol Energy Net interchangeable amperometric sensors
Solar radiation	-
PT100	-
Anemometer	-
Transducers	-
<b>FUNCTIONS:</b>	
Traditional electrical analysis	V, I, P, Q, S, F, PF, THD(V)%, THD(I)%, $\cos\phi$ , $\phi$ , peaks, minimums, maximums, averages, max. demands, etc.
Three phase counters	kWh, kVAh, kVAh, both absorbed that generated
Cogeneration	✓
Waveforms	V & I
Harmonics	Values and histograms up to the 25 <sup>th</sup> order
Oscillo	✓
Sags	-
Transients	-
Unbalance	-
Test EN 50160	-
Inrush current	-
DC measures	✓
K factor	-
Alarms	Displayed and acoustic output
Alarms log	5 at display
Tariff bands	-

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Energy costs	-
IEC 61724 network parameters	-
Test EN 82.25	-
OSU™ (One Shot UPS)	-
Measurement campaigns	Up to 68800 records
<b>MEASUREMENTS:</b>	
Sampling frequency	128 samples per cycle (adaptive in 40Hz-70Hz range)
Data record rate	1 sec.
Data storage rate	User selectable: 1", 5", 10", 30", 1', 5', 10', 15'
Type of connections available	Three-phase (3 or 4 leads balanced), single phase grid and DC
Type of grid which can be connected	Low and medium voltage (LV and MV)
<b>VOLTAGE (TRMS)</b>	
Channels	1 channel
Input impedance	4 Mohm
Scales	2
Direct measurement	Phase-phase: 7-690VAC 40-70Hz Phase-neutral: 5-400VAC 40-70Hz
Measurement with VT	Ratio: 1-60000 Maximum value which can be displayed: 20MV
Permanent overload	Phase-phase: 900VAC Phase-neutral: 600VAC
Sensitivity	5VAC Phase-neutral, 7VAC Phase-phase, 10VDC
<b>CURRENT (TRMS)</b>	
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.
<b>POWERS</b>	
Single phase power	Values < 999 GW, Gvar, GVA
Total power	Values < 999 GW, Gvar, GVA
<b>POWER COUNTERS</b>	
Maximum value before reset	99999999 kWh, kvarh, kVAh
<b>ACCURACY</b>	
RMS voltages:	
Scale 1	$\pm 0.5\% + 0.2\%FS^{(2)}$ @ RMS V < 350VAC <sup>(1)</sup>
Scale 2	$\pm 0.5\% + 0.1\%FS^{(2)}$ @ RMS V > 350VAC <sup>(1)</sup>
RMS currents:	
Scale 1	$\pm 0.5\% + 0.2\%FS^{(2)}$ @ RMS I < 5% IN clamp <sup>(1)</sup>
Scale 2	$\pm 0.5\% + 0.1\%FS^{(2)}$ @ 5% < RMS I < 20% IN clamp <sup>(1)</sup>
Scale 3	$\pm 0.5\% + 0.1\%FS^{(2)}$ @ 20% < RMS I < 50% IN clamp <sup>(1)</sup>
Scale 4	$\pm 0.5\% + 0.1\%FS^{(2)}$ @ > 50% IN clamp <sup>(1)</sup>
Power	$\pm 1.0\% + 0.2\%FS^{(2)}$
Power Factor (PF)	$\pm 0.5^\circ$
Frequency	$\pm 0.01$ Hz (40-70Hz)
Active power count (kW)	Class 1
Reactive power count (kVar)	Class 2
HARMONIC ANALISYS	Up to 25 <sup>th</sup> order

# NanoVIP® ONE™

## COMMUNICATION:

MRH™	-
Server mode	-
Connectable MRH™ clients	-
Client mode	-
Zigbee®	-
Maximum distance outdoor	-
Maximum distance indoor	-
Mesh network	-
Wireless to PC	-
USB	to PC

## DATA STORAGE:

Internal memory	4Gb
External memory	-

## 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
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## 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