

User's Manual


2000 A AC/DC DIGITAL AMMETRIC CLASMP - BARGRAPH
Read all the instructions carefully

SAFETY WARNINGS

- 1) Do not connect the tester to a live voltage point when the switch is set to Resistance / Diodes / Continuity !
- 2) Do not take any measurements if any part of the tester or rods is damaged
- 3) Observe the temperature and humidity limits
- 4) Do not touch the rods or jacks during measurement operations
- 5) Do not take measurements in high power circuits with voltage higher than 750 V AC and 1000 V DC
- 6) Do not power the instrument in an explosive atmosphere

Code	Model
VP128300	VE2608

TECHNICAL SPECIFICATIONS

- LCD display: 3rd digits, maximum reading 4000
- Bargraph: 42 segments, 20 measurements/s
- AC measurements in true effective value (TRMS)
- Polarity: automatic with negative polarity indication
- Automatic zero setting
- Flat battery indication: “ ”
- Measurements by time unit: 2,5 per second (rated)
- Power supply: 1 x 9 V transistor battery
- Autonomy: 100 h approx. (alkaline batteries)
- Operating temperature: 0 °C ÷ + 50 °C (0-70% RH)
- Storage temperature: -20 °C ÷ +60 °C (0-80% RH - without batteries)
- Maximum conductor dimensions: Ø max 57 mm (conductor); 70x18 mm (bar)
- Dimensions: 276,5x90,5x47 mm
- Weight: 500 g (batteries included)
- Protection: IP40 (IEC 529 standard)
- Accessories: 2 rods, internal battery, carrying case and user's manual

LEGEND:

- A) Dimensions
B) Instrument description

INSTRUMENT DESCRIPTION


- ① Display
- ② Range selector
- ③ Negative jack (-)
Insert the black rod
- ④¹ Positive jack (+) - Voltage measurement
Insert the red rod
- ④² Positive jack (+) - All the other measurements
Insert the red rod
- ⑤ Clamp opening device
- ⑥ Current measurement point
- ⑦ HOLD key
- ⑧ PEAK key
- ⑨ MAX/MIN key
- ⑩ “ZERO” key, DC only
- ⑪ Bargraph
- ⑫ RANGE key
- ⑬ Battery compartment

ELECTRIC SPECIFICATIONS (Accuracy calculated to 23 °C ± 5 °C < 75% RH)			
DC VOLTS			
RANGE	RESOLUTION	TOLERANCE	INPUT IMPADANCE
400 mV	100 µV	±(0,5% rdg +1d)	>1000 MΩ
4 V	1 mV	±(0,5% rdg +1d)	11 MΩ
40 V	10 mV	±(0,5% rdg +1d)	10 MΩ
400 V	100 mV	±(0,5% rdg +1d)	10 MΩ
1000 V	1 V	±(0,5% rdg +1d)	10 MΩ
Overload protection = 1000 V DC / 750 V AC			
AC VOLT 50 Hz - 500 Hz (TRMS)			
RANGE	RESOLUTION	TOLERANCE	
(*) 400 mV	100 µV	±(1,5% rdg +4d)	
4 V	1 mV	±(1,5% rdg +4d)	
40 V	10 mV	±(1,5% rdg +4d)	
400 V	100 mV	±(1,5% rdg +4d)	
750 V	1 V	±(1,5% rdg +4d)	
(*) Input signal > 40 mV and frequency 50 Hz - 100 Hz Input impedance same as DCV less than 100pF Crest factor<=3 Overload protection = 1000 V DC / 750 V AC			


ELECTRIC SPECIFICATIONS (Accuracy calculated to 23 °C ± 5 °C < 75% RH)		
DC CURRENT		
RANGE	RESOLUTION	TOLERANCE
400 A	100 mA	±(1,5% rdg +5d)
2000 A	1 A	400-600 A ±(1,5% rdg +5d) 600-800 A ±(2,5% rdg +5d) 800-1200 A ±(3,5% rdg +5d) 1200-2000 A ±(5% rdg +5d)
Overload protection = 2000 A for 60 s		
AC CURRENT 50 Hz - 400 Hz (TRMS)		
RANGE	RESOLUTION	TOLERANCE
400 A	100 mA	50-60 Hz ±(1,5% rdg +5d) 61-400 Hz ±(3,0% rdg +5d)
1500 A	1 A	400-600 A 50-60 Hz ±(1,5% rdg +5d) 61-400 Hz ±(3,0% rdg +5d) 600-1000 A 50-60 Hz ±(2,0% rdg +5d) 61-400 Hz ±(3,5% rdg +5d) 1000-1500 A 50-400 Hz ±(5,0% rdg +5d)
Overload protection = 2000 A for 60 s		
FREQUENCY		
RANGE	RESOLUTION	TOLERANCE
100 Hz	0,01 Hz	±(0,1% rdg +10d)
1 kHz	0,1 Hz	±(0,1% rdg +4d)
10 kHz	1 Hz	±(0,1% rdg +4d)
100 kHz	10 Hz	±(0,1% rdg +8d)
400 kHz	100 Hz	±(0,1% rdg +20d)
Min. frequency measurable 1,00 Hz Overload protection = 500 V DC For frequencies below < 100 Hz and greater than > 100 kHz display may not be stable		
RESISTANCE Ω		
RANGE	RESOLUTION	TOLERANCE
400 Ω	0,1 Ω	±(1,2% rdg +4d)
4 kΩ	1 Ω	±(1,0% rdg +2d)
40 kΩ	10 Ω	±(1,0% rdg +2d)
400 kΩ	100 Ω	±(1,0% rdg +2d)
4000 kΩ	1 kΩ	±(1,5% rdg +4d)
40 MΩ	10 KΩ	±(2,0% rdg +4d)
Overload protection = 500 V		
CAPACITANCE		
RANGE	RESOLUTION	TOLERANCE
4 nF	0,001 nF	±(1,0% rdg +40d) in relative mode
40 nF	0,01 nF	±(1,0% rdg +4d) in relative mode
400 nF	0,1 nF	±(1,0% rdg +4d)
4 µF	0,001 µF	±(1,0% rdg +4d)
40 µF	0,01 µF	±(1,0% rdg +4d) for C> 20 µF ±(5,0% rdg +4d) for C> 20 µF
Overload protection = 500 V		
CONTINUITY		
RANGE	ACUSTIC SIGNAL	RESPONSE TIME
400 Ω	< 40 Ω	circa 100ms
Overload protection = 500 V		
DIODE TEST		
TEST CURRENT	TOLERANCE	OPEN CIRCUIT VOLTS
0,6 mA	±(1,0% rdg +2d)	3,2 V DC
Overload protection = 500 V		

USER'S GUIDE (see panel B)

DIODE CONTROL

- 1) Cut off power to the circuit to be tested
- 2) Insert the measurement rods in the tester jacks [black on ③, red on ④²]
- 3) To select the diode test, set selector ② to position “ ”
- 4) Apply the rods on the diode (red rod with the anode and black with the cathode): if the diode is operating, a value in the region of 0.6 V should appear on the display
- 5) Inverting the rods: if the diode is operating, “OL” will appear on the display
- 6) If the diode is in short circuit, “0” will appear in both tests

CAPACITY

- 1) Cut off power to the circuit
- 2) Insert the measurement rods in the tester jacks [black on ③, red on ④²]
- 3) To select the capacity test, set selector ② to position “ ”
- 4) Connect the two points at which the capacity is to be measured
- 5) Read the value shown on the diplay

- 6) These measurements are taken with the automatic selection of the range.
To select the scale, use the "RANGE" function key ⑫

CONTINUITY

- 1) Cut off power to the circuit
- 2) Insert the measurement rods in the tester jacks [black on ③, red on ④²]
- 3) To select the continuity test, set selector ② to position "••)"
- 4) Connect the two points at which the continuity is to be checked.
The buzzer will sound if the resistance is lower than 30 Ω

SPECIAL FUNCTIONS

See the procedures described below

BATTERY REPLACEMENT

When the tester battery has to be replaced, the symbol "⊖" appears on the display

Proceed as follows:

- 1) Overturn the instrument
- 2) Undo the 2 screws that hold the rear cover of the instrument in place
- 3) Change the new battery with a new 9 V unit, making sure the polarity is correct
- 4) Replace the rear cover and tighten the 2 screws

IMPORTANT

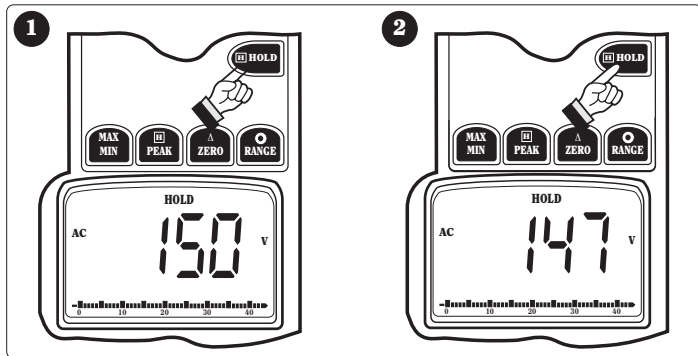
Do not resume operations with the tester before correctly replacing the rear cover !

REFERENCE STANDARDS

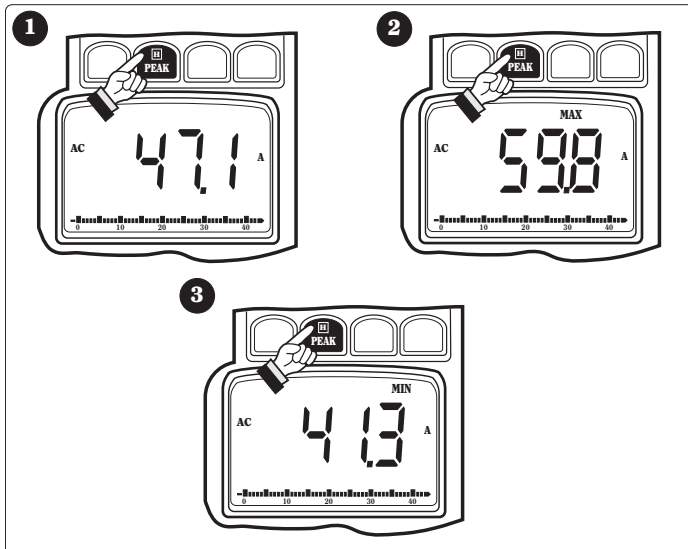
- **Safety:**
EN 61010-1; CAT III
EN 61010-2
- **Electromagnetic compatibility:**
EN 50081-1
EN 50082-2

ACTIVATION OF SPECIAL FUNCTIONS

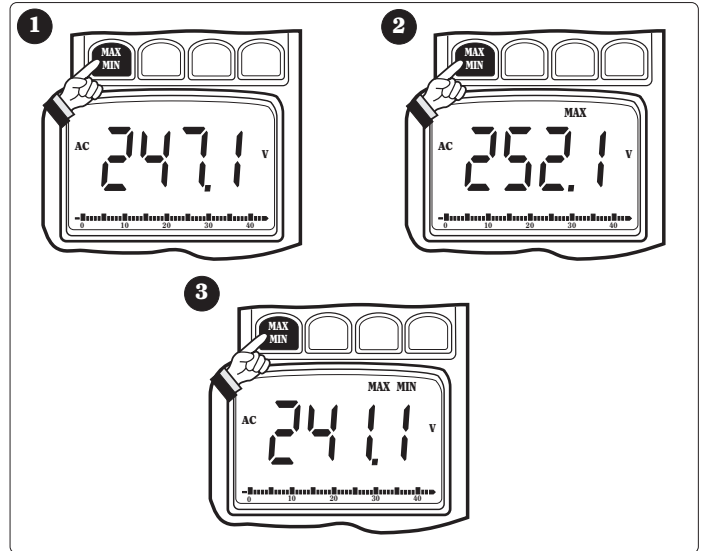
- **HOLD function ⑦**
 - On all ranges
 - Retains the last value read on the display. Disabled when pressed a second time.



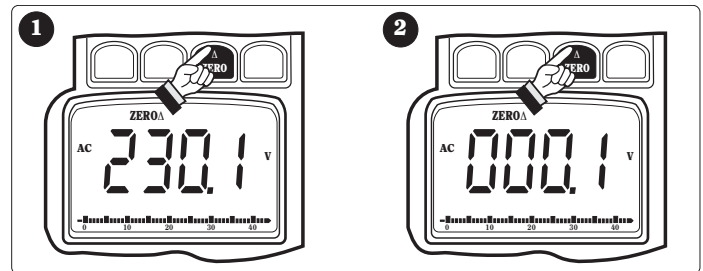
- **PEAK function ⑧**
 - For alternating current measurement
 - Reading of the minimum and peak current values.
When ⑧ is pressed after the display of the peak the function is deactivated.



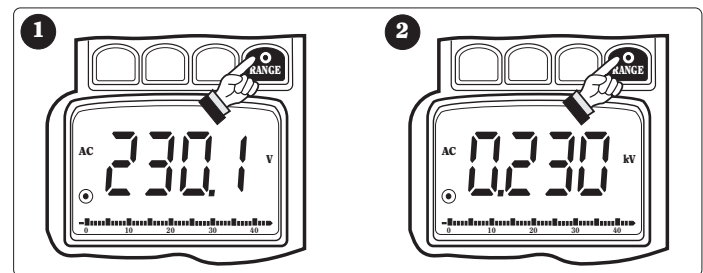
- **MAX MIN function ⑨**
 - On all ranges except alternating current
 - Reading of the minimum and maximum values of the dimensions measured.
When ⑨ is pressed after the display of the MAX value the function is deactivated.



- **ZERO function ⑩**
 - On all ranges
 - Zeroes the indication on the display. The next value measured is the difference between the value measured and that measured when the "ZERO" key is pressed.
When ⑩ is held down for two seconds the function is deactivated.



- **Manual selection of the "RANGE" measurement range ⑫**
 - On all ranges except current measurement
 - Used to select the measurement range manually.
When ⑫ is held down for two seconds the function is deactivated.



- **Selezione manuale della portata di misura "RANGE" ⑫**
 - Su tutte le portate, tranne che per la misura di correnti
 - Permette di selezionare manualmente la portata di misura.
 - Tenendo premuto ⑫ per due secondi si disattiva la funzione.