Super integration

Professional clamp meter

Instructions of our product

VC3268C+

True RMS AC clamp multimeter

VC3268D+

Real effective value of AC and DC Clamp Meter

VC3268P

True RMS AC clamp power meter

Limited warranty and limited liability

We ensure that no material and technical flaws of E-ONE products from the date of purchase within one year. This warranty does not include the fuse, disposable batteries or the products damaged due to accident, negligence, misuse or non normal conditions of use or processing. Our E-ONE did not authorize dealers to extend the period of guarantee. If repairing needed during the guarantee period, please sent the test instrument attached with fault description to distributors or sent directly to the factory.

This warranty is your only compensation. Apart from it, E-ONE makes no expressed or implied warranty (for example ensure the adaptability of a special purpose). At the same time, E-ONE shall not be responsible for any special, indirect, incidental consequential damages or losses resulting from any causes or guesses.

Because of some countries or regions does not allow to limit the implied warranties and the attached or following damages, the scope of responsibility and regulations may have nothing to do with you.

Catalog

Ⅰ. Introductions

⚠⚠Warning

To avoid electric shock or injuries to people, please read the" safety instructions" and the "warnings and precautions "before using.

VC3268 digital clamp multimeter series (hereinafter referred to as "instrument")

Belongs to the largest count instrument which can maximumly show 10, 000 count resolution.

The clamp meter using battery power with digital screen.

Unless otherwise stated, the description an dinstructions in this manual applies to VC3268C+, VC3268D+ and VC3268P three types of instruments.

Unless otherwise marking, all the sketch maps are for VC3268C+ type instrument.

Ⅱ. The safety instructions

VC3268 digital clamp multimeter series are designed in accordance with IEC 1010-1 CAT Ⅰ 1000V, CAT Ⅱ 600V, CAT Ⅲ 300V voltage standards.

They must be used in accordance with the provisions of the instructions, otherwise the protection provided by the instrument may be invalid.

The "warning" shows the states and actions that may cause harm to the users.

The "Notice" shows the states and actions that could cause damages to the instrument or the measuring device.

Please use the instrument referring to the safe work habits.

⚠⚠ Warning and notes

In order to avoid electric shock, personal injury and damage to the meter or to-be-tested equipment, please use the meter based on safe working habits.

=>Please check the case before using the meter. Do not use the meter with a damaged case. Check whether there is any crack or missing plastic parts. Please pay special attention to the insulation layer of the contact.

=>Please check and test whether there is any damaged or exposed metal on the wire insulation. Test the wire continuity. If a wire is broken, please use the meter after replacing the broken wire.

=>Measure the known voltage with the meter and make sure the meter works normally. Please do not use the meter which works abnormally as the protective facility may be broken. If there is any problem, please have the meter repaired.

=>The voltage between any terminal and ground wire shall never be larger than the rated voltage.

=>Please be very careful when the operating voltage of the meter is larger than 25V, the mean AC voltage, 42V, the peak AC voltage or 36V, the DC voltage, as the electric shock risk exists under these circumstances.

=>Use the correct terminal, function and range scale in measurement.

=>Do not use this meter around the explosive gas, steam or dust.

=>In the process of testing the probe, fingers shall keep behind the protective device.

=>In the process of testing the wire connection, please connect the meter terminal first, then connect the charged to-be-tested terminal and disconnect the test end at last.

=>Before testing the resistance, continuity, diode or capacitance, the power must be cut off first and all high-voltage capacitors must be discharged.

Warning and notes (continued)

=>The safety function of the meter may be invalid if the meter is not used according to the instructions.

=>For all DC functions, including the manual and automatic scales, please use the AC function first to make sure there is no AC voltage and to avoid the electric shock hazard caused by the possible wrong readings. Then select a voltage range which is greater than or equal to the AC voltage range.

=>Please do not use the meter when its case (the entire case or part of the case) is taken off.

=>This meter shall use three AAA batteries which are installed in the battery compartment correctly.

=>The battery shall be replaced immediately when the battery indicator ( ) is on. The meter may display wrong reading and cause electric shock or personal injury when the power is low. Meanwhile, the battery with low power is likely to incur leakage and cause meter corrosion.

=>The test wire must be removed from the meter before the case or the battery cover is opened.

=>Do not measure the voltage which is above 600V for the II category and do not measure the voltage which is above 300V for the III category.

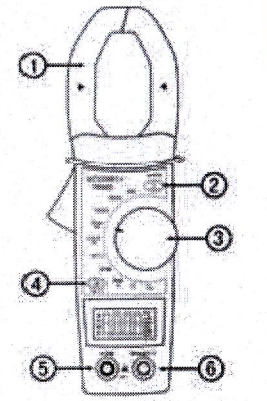
=>If the symbol ( ) shows at the REL mode, please be very careful as there might be dangerous voltage.

=>The replacement parts used for repairing the meter must be the ones specified by the factory.

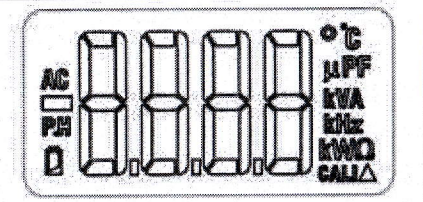
=>In order to guarantee the measurement accuracy, please do not adjust or change the internal wiring. This meter has the panel calibration function. If the calibration interface is entered by mistake (when LCD shows CALI), please shut down the meter immediately to exit and to avoid the meter data is calibrated wrongly.

III. Meter introduction

1. Keys and terminals	
Mark number	Description
1	Current test clamp
2	Power button, holding key
3	Range selection rotary switch
4	Function shift key, relative value
5	It is applicable to all testing negative (return) input terminals
6	It is applicable to all testing positive input terminals



2. Display screen			
Symbol	Description		
CALI	The panel calibration program is entered		
AC	AC or DC current is selected		
	Low battery indication	PF	Power factor measurement is selected
°C	Temperature measurement is selected	kW	Active power measurement is selected
V	Voltage measurement is selected		Phase measurement is selected
A	Current measurement is selected	△	Relative value is enabled
μ F	Capacitance measurement is selected	H	Data hold is enabled
Ω	Resistance measurement is selected	PH	Peak hold is enabled
kHz	Frequency measurement is selected	△H	Minimum value hold is enabled



IV. Measuring method

Start-up: Touch the (⏻) key softly; after hearing the "beep" sound and LCD entering the full display state for one time, the meter enters the measurement state; if the symbol shows display screen, the measurement value may be inaccurate. In this case, please replace with batteries meeting requirements immediately before starting measurement. The low battery may cause system crash or start-up failure.

Power-off: Press and hold the (⏻) key for 5 seconds. After hearing the "beep" sound constantly, stop pressing the key and the meter shuts down. If the key and range scale have not worked for 10 minutes continuously, the meter will shut down automatically. The meter can start up by pressing the (⏻) key again.

Note: In order to cancel the automatic power-off instruction compulsorily, make the range locate at the capacitance scale first, then start up the meter.

1. DC and AC voltage measurement, live wire distinguishing

1-1. Turn the switch and select a proper range according to the tested AC or DC current.

1-2. Insert the red probe into VHzCxΩ℃ terminals and insert the black probe into the COM terminal.

1-3. Make the probe contact the to-be-tested circuit testi point and measure the voltage.

1-4. Read the voltage value which is measured and displayed on the screen. If the reading is "**0L**", it means the measured voltage is out of the current range.

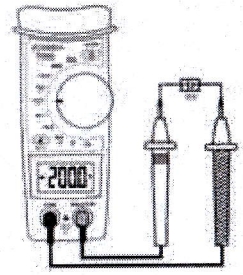
1-5. In the process of measuring DC voltage, if LCD shows the "-" symbol, it means the terminal connecting with the red probe is the negative voltage terminal.

1-6. When the voltage to be measured is greater than **DC36V (AC25V)**, the meter will make a buzzing sound to remind the user of being aware of high voltage.

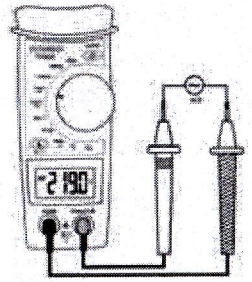
1-7. In the process of distinguishing the live wire, turn the rotary switch to the range of 750V. Hold the black probe tightly after winding the wire for many times, then make the red probe contact with the to-be-measured power socket. If the meter makes sounds for three times continuously, it means the terminal connecting with the red probe is the live wire; otherwise, the terminal is the null wire or ground wire.

Notes

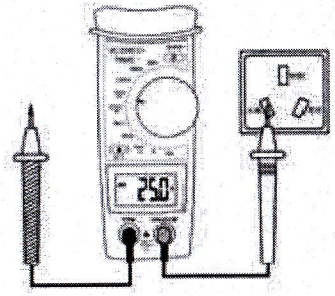
1. When the meter is operated in a dry environment or with gloves, the wire of black probe shall be winded for more times to increase the inducton intensity.
2. Before using the live wire distinguishing, please measure the AC voltage first and make sure there is no open circuit in the tested circuit to avoid wrong distinguishing due to over-high induction voltage of the circuit.



DC voltage measurement diagram



AC voltage measurement diagram



Live wire distinguishing diagram

2. DC/AC current measurement

Notes

1. When the tested current is less than 5% of the measurement range, the measurement value may be inaccurate. Please select a proper measurement range to lower the measurement uncertainty.

2. If the meter cannot be calibrated or set back to zero under special circumstances, it shall be subtracted from the measurement reading.

2-1. Turn the switch and select a proper range scale based on the tested AC or DC current.

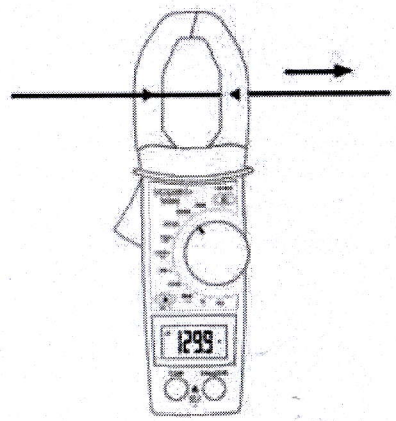
2-2. Open the clamp head and get stuck on the measured wire. The measured wire shall be located at the center indicated by the triangular symbol of clamp head vertically. Check whether the clamp head is closed well.

2-3. Read the measured current value on the display screen. If the reading is "0L", it means the measured current is out of the current measurement range.

2-4. In the process of measuring DC current, open the clamp head and get stuck on the measured wire. The reading displayed on the meter is the initial current. Remove the clamp head from the measured wire after the reading is stable. If the meter still shows a non-zero reading, this reading is the remanence of the clamp head and shall be calibrated to zero by touching the ▲ key lightly. (the following operation methods are identical to those of VC3268D+)

2-5. After calibrating the remanence reading of the meter to zero, open the clamp head and get stuck on the measured single wire again. The measured wire shall be located at the geometric center of clamp head vertically. Check whether the clamp head is closed well.

2-6. Read the measured current value on the display screen and the LCD reading is the measured DC current value. The current flows through the measured wire from top to down. If LCD shows the "-" symbol, it means the current flows through the measured wire from down to top.



The current direction in the process of measuring DC current (watch out the direction when VC3268D+ is used)

Current measurement diagram

What is a TRMS?

TRMS means "true root mean suare" which is abbreviate to "TRMS". In some documents, it is also called True RMS. RMS——Make DC current and AC current flow through two identical resistance devices respectively. If the heat generated by them is equal over the same time frame, the DC current value shall be regarded as the RMS of the AC current. The RMS of a sinusoidal current is 0.707 times of its peak value. The core component of a TRMS meter is TRMS/DC converter. Due to its high cost, usually it is not adopted by general multi-meter. With the development of large-scale integrated circuit, it is integrated to a single monolithic chip. The monolithic integrated circuit has many advantages such as high integration level, full function, a small quantity of peripheral components, easy circuit connection and high assurance level of electrical property index, etc. Such kind of chip can measure the RMS of various voltage waveforms accurately in real time with no need to consider the waveform parameter or distortion. In addition, the AC frequency response can reach above 100kHz. All these performances cannot be matched by any mean value meter.

3. Resistance Measurement and Continuity Testing

▲▲ Warning

Before continuity testing on resistance or electric circuit, please make sure the power supply for the electric circuit is cut off and electric discharge of all the high-voltage capacitors is made in case of electric shock or instrument damage.

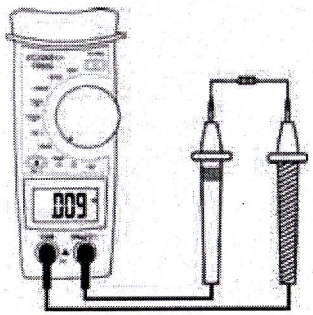
3-1. Turn the switch, choose an adequate resistance measurement range profile.

3-2. Insert the insertion ends of red probe and black probe into VHZCXΩ°C terminal and COM terminal respectively.

3-3. Connect the probes to both sides of the resistance to be measured and make sure reliable connections.

3-4. After the stabilization of reading, read the measured resistance value displayed on the viewing screen. If the reading is "0L", it indicates the measured resistance exceeds the measuring range.

3-5. At the measuring range profile of •)), continuous sound indicating short circuit will be emitted from the buzzer if the resistance of the measured circuit does not exceed 30Ω. If the reading of "0L" is displayed on the instrument, it indicates open circuit.



Graphic Representation Involving Resistance Measurement and Continuity Testing

4. Capacitance Testing

▲▲ Warning

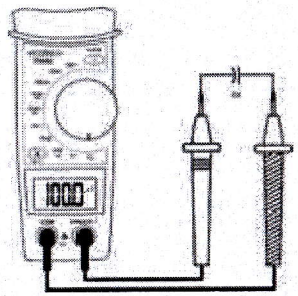
In capacitance measuring, please make sure the power supply for the electric circuit is cut off and it is suggested to undertake electric discharge of all the high-voltage capacitors in case of electric shock or instrument damage. The instrument damage due to the negligence of electric discharge of measured capacitor can be reduced as much as possible through the self-healing electronic protection function of this instrument. However, the discharge voltage should not be higher than 250v, and accurate capacitance measurement can not be achieved until the thorough circuit recovery 3 minutes after the protection.

4-1. Turn the switch, choose a capacitance measuring range profile.

4-2. Insert the insertion ends of the red probe and black probe into VHZCXΩ°C terminal and COM terminal respectively. If the probes are in open circuit and return-to-zero can not be achieved, please press key ▲ to adjust the display to zero.

4-3. Connect the pins of the probes to both sides of the capacitors to be measured respectively, make sure the contacts are reliable.

4-4. After the stabilization of reading, read the measured capacitance value displayed on the viewing screen. If the reading is"0L", it indicates the capacitance of the measured capacitor exceeds the measuring range.



Graphic Representation Involving Capacitance Measurement

5. Frequency Measurement and Phase Sequence Judgement

⚠⚠ Warnings

1. If the amplitude voltage of a frequency to be measured is lower than 25V, the measurement might be inaccurate and the result is only for reference. The voltage limit for a frequency measurement is 250V (mean effective value), measurement of a voltage higher than the limit value is not allowed in case of electric shock or instrument damage.
2. In phase sequence judgement, to guarantee accurate judgement, before testing, please make clear whether there is phase loss in the system that should have three phases by making use of the live wires and make sure there is no phase loss.

5-1. Turn the switch to choose a frequency measuring range profile, then "kHz" should be displayed.

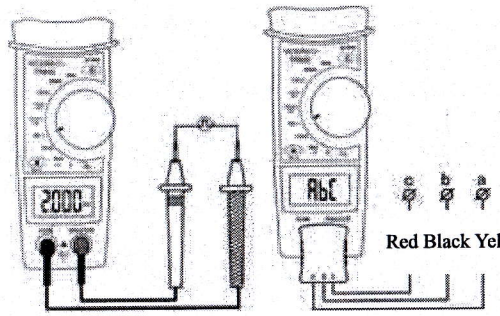
5-2. Insert the insertion ends of the red probe and black probe into the VHZCXΩ°C terminal and the COM terminal respctively.

5-3. Connect the pins of the probes to the two ends of the circuit to be measured, make sure the contacts are reliable.

5-4. After the stabilization of reading, read the measured frequency value displayed on the viewing screen. If the reading is"0L", it indicates the frequency measured exceeds the measuring range.

5-5. To make a phase sequence judgement, please press key ◀▶ to enter into the mode of phase sequence judgement, then 000 will be displayed on the display screen, insert the insertion ends of the phase sequence accessories into the COM and VHZCXΩ°C terminals of the instrument respectively.

5-6. Connect the yellow/black/red line clamp to the three testing endpoints, i.e., phase a, phase b and phase c, of the three-phase power source respectively, the display of AbC indicates positive phase sequence. The display of nO indicates the existence of anti-phase or phase loss, in this case, please make the red line clamp and black line clamp replace each other and phase loss is indicated if nO is still displaced.



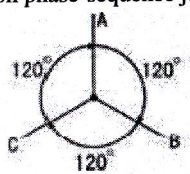
Red Black Yellow.

Graphic Representation Involving Frequency Measurement

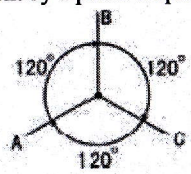
Connection Graph Involving Phase Sequence Judgement

Typical Application in Phase Sequence Judgement?

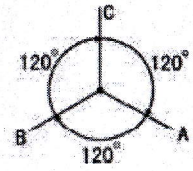
The phase sequence refers to the three-phase sequence arranged in accordance with phase angle sequence, positive phase sequence refers to the three-phase sequence arranged in clockwise direction as shown in the picture below, reverse phase sequence refers to the sequence arranged in the anticlockwise direction. Before the availability of a phase-sequence meter, the electrician usually undertakes wire connection for a three-phase motor and judges the phase sequence via the rotation direction of the motor, the motor rotation in positive direction indicates positive phase sequence, and the reversed rotation of motor indicates reverse phase sequence. However, the absolute phase sequence wiring of a three-phase power supply from power plant can not be distinguished through a common phase-sequence judgement by a phase-sequence meter.



Positive Phase Sequence 1



Positive phase sequence 2



Positive Phase Sequence 3

6. Temperature Measurement

⚠⚠ Warnings

1. Getting the temperature probe in touch with a high-voltage object for the purpose of measurement is prohibited in case of electric shock or instrument damage.
2. Please take notice that the temperature measurement probe should be accompanied with a meter during application, Wff should undertake calibration before temperature measurement probe replacement.

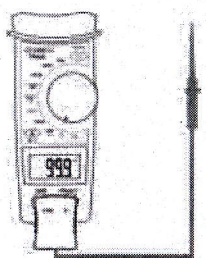
6-1. Turn the switch, choose a temperature measuring range profile (connection with a matching temperature measurement probe is a must).

6-2. Insert the corresponding plugs of the semiconductor temperature measuring probe into the COM terminal and VHZCXΩ°C terminal of the meter respectively.

6-3. Hold the hand shank of the temperature measuring probe manually, get the probe in touch with the object to be measured and make sure reliable contact.

3-4. After the stabilization of reading, read the measured temperature value displayed on the display screen. "0L" indicates the temperature measured exceeds the measuring range.

3-5. Switchover between Celsius displacement and Fahrenheit displacement can be achieved by pressing key ◄►.



Graphic Representation Involving Temperature Measurement

7. Measurement of Single-phase Electric Power Parameter (only for VC3268P model)

⚠ Cautions

1. If an electric current is smaller than 1/10 of the measuring range or exceeds the measuring range, the measurement might be inaccurate, please choose an adequate measuring range for measurement in order to reduce the uncertainty degree of measurement. If the electric current exceeds the measuring range or if a 20A-grade current is smaller than 1/10 of the measuring range, symbol "▲" will be displayed on the display screen, reminding the user that the reading at the time is only for reference.
2. The relevant technical indicators provided by the meter is used for the measurement of parameter of sine-wave alternating current and might bring about inaccuracy in non-sine wave measurement.

7-1. Turn the switch, choose an adequate electric current measuring range profile, record the measured electric current value and guarantee an adequate measuring range by referring to the way of electric current measurement.

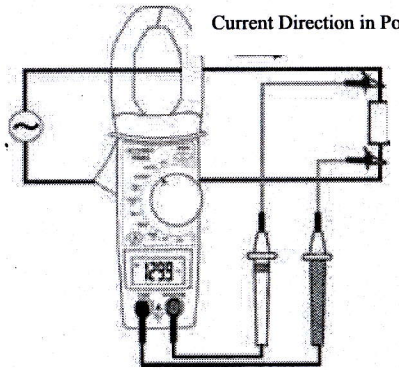
7-2. Insert the insertion ends of red probe and black probe into the VHZCXΩ°C terminal and COM terminal respectively.

7-3. As shown in the picture, connect the probe(s) and tong head, make sure reliable connections.

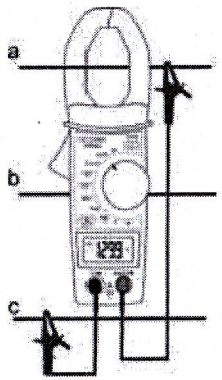
7-4. Cyclical selection of the power parameters of kW, PF and phase position is able to be achieved by pressing key ◄►

7-5. After stabilization of reading, read the measured value displayed on the display screen. The displacement of "0L" indicates the measured parameter exceeds the measuring range at the time.

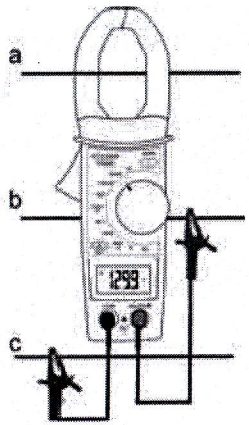
7-6. In power factor measurement, the maintenance of minimum value and measurement of instant minimum power factor can be achieved by pressing key H. PH for over two seconds so as to facilitate analysis and compensation.



Graphic Representation Involving Single-phase power Measurement



Graphic Representation A Involving Measurement via One Meter



Graphic Representation B Involving Measurement via One Meter

Expanded Applications of VC3268P Clamp-type Power Meter in Three-phase Power Supply

1. In the state of load equilibrium in Three-phase Three-wire system:

Under the circumstance that the loads of the three phases are the same, the sum of the powers of the three phases can be worked out with the aid of power measurement of any the of phases in the three-phase three-wire system with a single-phase digital power meter;

i.e., $P_{total} = P1 + P2$ or $P_{total} = P1X2$ (P1 = P2)

PF = Upper PF value on single-phase power meter. Example: Upper reading on the power meter: 120kW, sum of the powers of three phases: 120kWX2 = 240kW.

2. In the case of unbalanced loads in three-phase three-wire system:

2-1. In the case of relative invariability of load to be measured (non real-time power):

Take one phase as reference phase c (as indicated in the graphic representation involving measurement via two meters), clamp the wire of phase a via tong head, make the pins of the red probe and black probe get in touch with the voltage ends of phase a and phase c respectively, record the power reading P1 displayed on LGD.

In the second measurement: Clamp the wire of phase b via tong head, make the pins of the red probe and black probe get in touch with the voltage ends of phase b and phase c respectively, record again the power reading P2 displayed on LCD.

2-2. Real-time Power Measurement or the Measurement of Instant Load Change (real-time power):

Measure via two meters. Prepare two digital power meters which are the same. Meter one should clamp the wire of phase a via tong head, get the pins of its red probe and black probe in touch with the voltage ends of phase a and phase c respectively; clamp the wire of phase b with the tong head of meter two, get the pins of the red probe and black probe of meter two in touch with the voltage ends of phase b and phase c respectively. Simultaneously watch the power readings P1 and P2 displayed by the two power meters respectively.

Then the total power at the time: $P_{total} = P1 + P2$

Example: The readings of the two measurements are 80kW and 120kW respectively,

Sum of the active powers of the three phases: $P_{total} = 80kW + 120kW = 200kW$.

2-3. If PF=0.5B cun, the reading of one phase in P1 or P2 is zero, and P_{total} = p1 or P2; If PF<0.5, the reading of one of the phases is minus, and P_{total} =P1-P2 or P2-P1.

2-4. Power factor calculation under the circumstance of three-phase dissymmetry:

PF_{total} = total active power/total apparent power; total apparent power = (U1XI1) + (U2XI2).

Example: The measured active powers: 20KW and 30KW;

U1 and U2 are all 380V, I 1 is 60A, I 2 is 80A.

PF_{total} = (20+ 30) / (380X60 + 380X80) = 0.94.

3. In the state of unbalanced loads in three-phase four-wire system:

3-1. In the case of relative invariability of load:

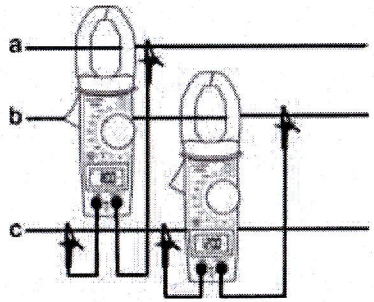
Get the pins of the red probe and black probe in touch with the voltage end of phase a and the null line respectively, clamp the wire of phase a with the tong head, record the power reading P1 displayed by LCD.

In the second measurement, get the pins of the red probe and black probe in touch with the voltage end of phase b and the null line respectively, clamp the wire of phase b by the tong head, record the power reading P2 displayed by LCD.

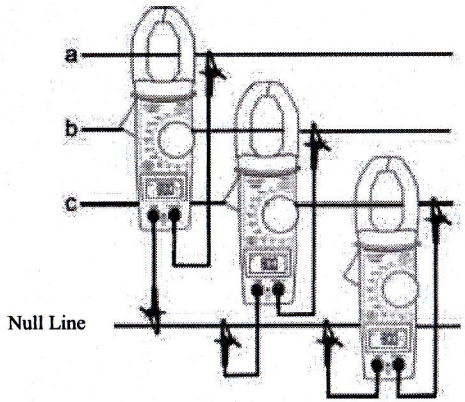
In the third measurement, get the pins of the red probe and black probe in touch with the voltage end of phase c and the null line respectively, clamp the wire of phase c with the tong head, record the power reading P3 displayed by LCD.

Active power of three-phase four-wire system: P_{total} =P1 + P2 + P3; power factor: PF = P_{total} /total apparent power.

The active power of each subcircuit can be obtained from the corresponding VG3268P reading, an apparent power = a distinct voltage reading displayed X the reading of corresponding current intensity.



Wiring Diagram Involving Power Measurement of Three-phase Three-wire System via Two Meters



Wiring Diagram Involving Power Measurement of Three-phase Four-wire System via Three Meters

8. Data hold/peak hold/minimum value hold/relative value

8-1. Data hold: In the measurement range of voltage, current, frequency, resistance, temperature, capacitance and power parameter, if it is not available to get the reading, please hold the measurement result on LCD screen and tough H. PH key lightly. After hearing a "beep" sound, the LCD screen shows a "H" symbol and CPU holds data on the display screen automatically. The data hold function can be exited by switching the range scale or lightly touching H.PH key again.

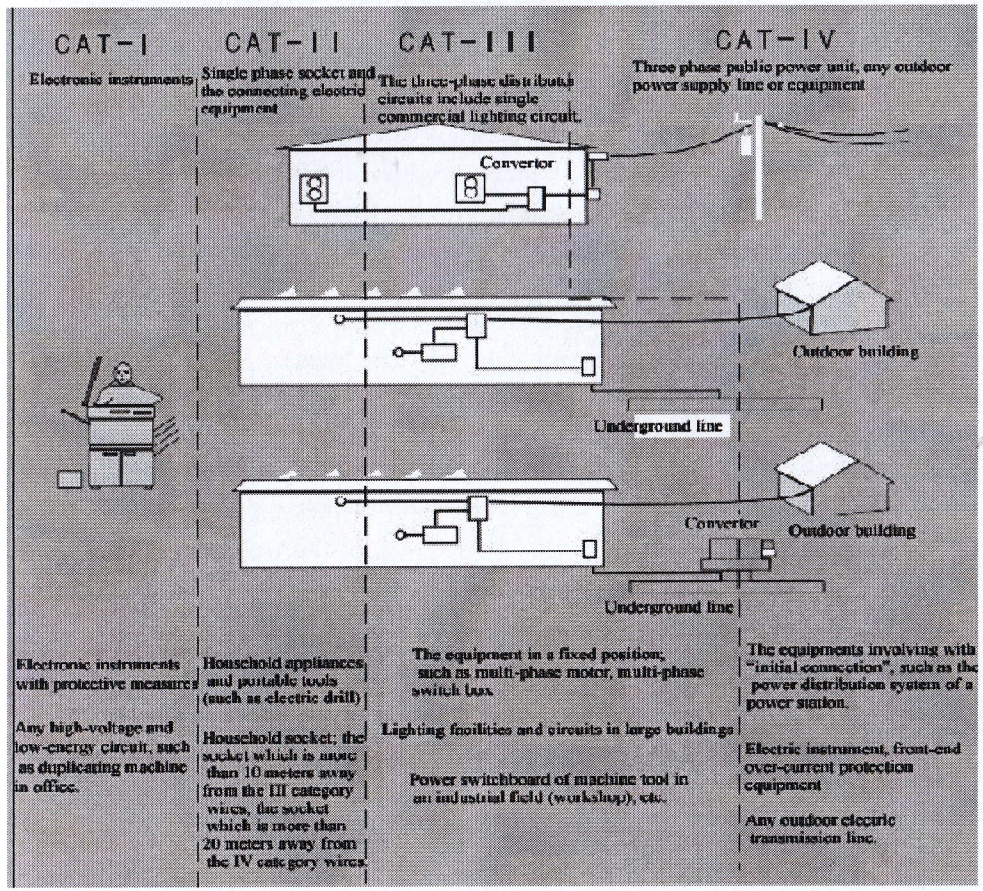
8-2. Peak hold: In the measurement range of current and voltage, press the H.PH key for more than 2 seconds. After hearing a "beep" sound, the meter enters into peak hold state and LCD screen shows a "PH" symbol. The high-speed A/D takes samples from the measured signal at the sampling rate of 4000 times/second and captures the periodic signals which are greater than 250uS. CPU holds the peak value and shows it on LCD. This function makes it very easier to measure the impulse current or flicker of motor or electrical load.

8-3. Minimum value hold: In the measurement range of power factor, the transiently changed minimum power factor must be measured. In the measurement, press the H.PH key for more than 2 seconds. After hearing a "beep" sound, the LCD screen shows a "H" symbol and a ▲ symbol and enters into the minimum value hold state. At this moment, CPU compares data in the measurement process and only holds the minimum power factor and displays it on LCD. The refresh rate of minimum value hold data is 2.5 seconds/time.

8-4. Relative value measurement: In the measurement range of voltage, resistance and capacitance, the relative value measurement function can help you to calculate the data of secondary measurement (subtract the measured value before pressing the key from the measured value after pressing the ▲ key, and the result is the relative value). Touch the ▲ key lightly. After hearing a "beep" sound, the meter enters into the relative value measurement state. The relative value measurement function can be exited by pressing the key again.

What are **CAT** standards?

CAT standards are safety standards specially made for electronic instruments by the International Electronic Electrician Standard Committee. The major standard divides overvoltage into four categories. The higher the category level is, the wider the service environment and range are and the more difficult the product design and production are. **VC3268** series clamp meters are designed according to **CAT**-III standards and are safe and reliable.



V. Product specification

1. General specification:

The limit value of input voltage of test terminal (1 minute at most):

Function	Input terminal		Maximum input value	
DCV	V/Ω	COM	1000V AC	RMS/DC
ACV	V/Ω	COM	750V AC	RMS/DC
Ω	V/Ω	COM	250V AC	RMS/DC
Hz	V/Ω	COM	250V AC	RMS/DC
Cx	V/Ω	COM	250V AC	RMS/DC
℃	V/Ω	COM	250V AC	RMS/DC

Display screen:	Digit, the maximum display value is 9999
Sampling rate:	4000 times/second
Battery type:	Three AAA 1.5V batteries
Total quiescent current:	About 20mA
Working environment:	0℃～40℃; relative humidity: <80%RH
Storage environment:	-10℃～+50℃; relative humidity: <85%RH
Meter size:	208X70X33mm; maximum opening of clamp head: 45mm
Package size:	242X170 X50 mm
Total weight:	About 550g (including batteries)
Accessory list:	One Operating Instruction (manufacturer certificate), a pair of testing probe, one semi-conductor temperature measurement probe, one phase sequence accessory and a pair of testing wire clamp (for P model only)

What is an all-in-one professional clamp meter?

The clamp meter is a common instrumental meter which is necessary for power installation and electro-mechanical equipment maintenance. The function combination of the previous design is weak and cannot meet the field test demand. Many clamp meters with lower prices are suitable for maintaining air conditioner or meeting the general test demands of electrician. Firstly, a professional clamp meter must meet international safety standards and reach the CAT –III level. The insulation test shall exceed 5500V. Secondly, the meter shall be able to measure the TRMS and detect the non-sinusoidal wave signal accurately. Thirdly, it must have a very reliable protection mechanism to prevent the meter from fusing in the test range. Fourthly, the meter must have a proper detection function combination. VC3268 series completely meet the above requirements. In addition to test the demanded current and voltage range, the meter must have the unique semi-conductor quick temperature measurement function and the power/capacitance detection function. In addition, the meter must have the power/capacitance self-discharge protection mechanism. Digital display phase sequence, live wire distinguishing and relative value measurement make VC3268 series clamp meters be unique all-in-one professional meters.

What is the difference between different models of **VC3268** series clamp meter?

VC3268 series clamp meters include three models which are VC3268C+, VC3268D+ and VC3268P respectively. All these meters use the dedicated chip for TRMS and 24-bit high-speed A/D convertor. In order to realize isolation and antijamming of ultra density components, the meter is made by a four-layer circuit board.

The test object of VC3268C+ is AC current.

VC3268D+ added DC measurement with .The basic functions are all the same.

VC3268P is a clamp power meter measuring small power parameters. It is applicable to energy-efficient equipment installation, electric balance debugging, electric energy meter wiring distinguishing and refrigeration equipment maintenance, etc.

2. Technical specifications:

The uncertainty is only applicable when the meter needs to be adjusted after it is calibrated for one year. Please visit **WWW. E-ONE. NET. CN** to download the related data.

The environmental condition guaranteeing the uncertainty is **23°C ±5°C;** the relative humidity is less than **80%RH;** the uncertainty is expressed as ± (reading percentage + number of significance bit).

2-1. DC/AC voltage

Measurement range	Uncertainty		Resolution	Model
	DCV	ACV (TRMS)		
1000V	± (1.0%+3d)	NO	100mV	C+/D+/P
750V	NO	± (1.2%+3d)		

The input impedance is about 6MQ and the AC frequency response range is from 40Hz to 2kHz

2-2. DC/AC current

Measurement range	Uncertainty		Resolution	Model
	DCA	ACA (TRMS)		
2A	NO	±(3.0%+5d)	1mA	P
30A/20A	NO	±(2.5%+5d)	10mA	C+/P
300A/200A	± (2.5%+5d)		100mA	C+D+/P
1000A	±(2.5%+5d)	±(2.5%+5d)	1A	C+/D+

VC3268C+/P is an AC current measurement; VC3268D+ is a DC/AC current measurement

AC frequency response: 40Hz-400Hz

2-3. Resistance

Measurement range	Uncertainty	Resolution	Model
3kΩ	± (1.0%+3d)	1Ω	C+D+/P
30kΩ	± (1.0%+3d)	10Ω	C+/P

The open-circuit voltage is about 3.6V.

2-4. Continuity test

Measurement range	Description	Test condition
•)))	<30Ω: the buzzer makes a sound	The open-circuit voltage is about 3.6V

2-5. Capacitance

Measurement range	Uncertainty	Resolution	Model
200 uF	± (5.0%+5d)	100nF	C+/D+/P

The test frequency is about 2. 5Hz and the test voltage is about 5V.

2-6. Phase sequence

Phase sequence	Voltage range	Display
Paraelectric phase	45V-450V	ABC
Anti-phase/ default phase	45V-450V	NO

2-7. Frequency

Measurement range	Uncertainty	Resolution	Test voltage
2kHz	± (1.0%+5d)	1Hz	>25V

Note: The frequency range does not have the H/PH function; the frequency measurement range is from 40Hz to 2kHz.

2-8. Temperature (semi-conductor probe)

Measurement range	Uncertainty	Resolution
-10℃ ~ +100℃	± (2.0%+5d)	0.1℃

2-9. Power parameter measurement (for VC3268P only)

Parameter	Measurement range	Uncertainty	Resolution
Active power	50W~120kW	±(3.0%+5d)	10W
Power factor	0.02-1.00	±(3.0%+5d)	0.01
Phase	0°• 90°	±(3.0%+5d)	1°

The minimum input current is 1A; the current measurement result being less than 1A is for reference only.

The minimum input voltage is 5V.

Why does a DC clamp meter require zero setting?

VC3268D+ is a AC/DC clamp meter. In order to solve the direct current detection problem, usually a circuit consisting of Hall elements is used. For each measurement, the direct current passes through the magnetic circuit consisting of magnetic materials and Hall elements and the remanence of magnetic materials may influence the next measurement. In addition, the geomagnetism may have an impact on the test magnetic circuit. Therefore, a DC clamp meter requires zero setting before the test and VC3268D+ is no exception. The only difference is that VC3268D+ adopts the relative value and subtracts the remanence reading to guarantee the accuracy of next measurement. Meanwhile, the current flow direction shall be paid attention to in the measurement.

Why can a semi-conductor measure temperature quickly?

Most common multimeters usually take the k-type thermocouple to work with the cold junction compensation circuit for the purpose of measuring the temperature. However, all cold junction compensating components require a temperature conduction process which requires a certain time to balance the measuring circuit; otherwise, the measuring result will be influenced directly. According to properties of the k-type thermocouple, the output level is very low in the ambient temperature range and only the internal compensating diode is in action. Therefore, the test speed is influenced and the measurement error is larger. The 3268 series clamp meter uses a semi-conductor probe directly and avoids the utilization of internal cold junction compensation circuit. In addition, the resolution is increased to 0.1℃ from 1℃ of a k-type thermocouple. It has one disadvantage which is the small measurement range; however, the measurement range is still enough for maintaining refrigeration equipments.

VI. Maintenance

1. This instrument is a precision measuring instrument, in order to prolong its service life, please avoid using in harsh environments.

2. To ensure the measuringt uncertainty, please do not adjust or change the internal circuit.

3. The instrument adopts panel calibration, When requiring calibration, please download the calibration procedures from E-ONE. NET. CN; Notice: do not enter the instrument panel calibration status without the calibration conditions.

4. If not using for a long time, please take out the battery, to prevent the battery leakage corrodes the instrument.

5. When replacing batteries, please disconnect the measuring circuit, fasten the screws on the battery door off, remove the used batteries, and replace new ones.

6. Its surface should be cleaned with Pledge, wiped with dry clothes, and no o ther chemical agents or sharp objects mustn't be used.

7. If splashed or watered, it can't be used to measure the voltage of more than 20V until the water dry.

VII. After sale services

You have chosen our after-sale services when buying our machine. So what services do you enjoy?

To make sure you smoothly and correctly use this product, please read the instructions of the product. If there are still some questions, please send your comments to our company service center by logining WWW. E-ONE.NET.CN, or call our 24 hours service hotline 0756-6698961.

If having been already familiar with the instructions before using the product, you will not accidently damage the instrument, besides, in circuit design, our VC3268 integrated professional clamp meter series have adopted the self recovery type complete protection measures, which greatly reduces the damaging probabilities due to false operating.

After buying the E-One product, please send the user receipt card ASAP by:

1) Logining WWW.E-ONE.NE.TCN;

2) Sending text messages to 15811668521 (free of charge);

3) Faxxing to 0756-8659599;

4) Mailing according to the address;

5) Directly filingl it out and giving it to E-one stores (cabinet).

If any damages happen while using, please send the user form along with the user receipt card to our company repairing service center. We will repair it within ten days and sendback to you. All the repairing expenses (excluding the costs of materials) are free within two years, to assure you safety both buying and using.

E-one oscillograph ®be obvious to all

ET521 Bautomatic oscillograph field comprehensive tester

★ 200Ms/s sampling rate / dual core technology

★ 50MHz digital storage automatic oscillograph

★ 60000 u F wide range of capacitance measurement

★ 156kHz high frequency inductive automatic range

★ 10Hz~156kHz function signal output

★ 6600 code automatic oscillograph multimeter

★ 60MHz frequency / duty cycle measurement

★ crystal / remote control / triode detection

★ 200 groups of test data storage list

★ 200 sets of automatic recording be convenient to IC detection

★ 40 sets of waveform storage / call

★ full function Chinese help window hints

WWW.ET521.NET