

## LIST OF PRODUCTS

- \* Digital Multimeter
- \* AC Clamp Adaptor
- \* Thermo Anemometer
- \* Distance Meter
- \* Network Cable Tester
- \* Earth Resistance Tester
- \* DC Power Supplies
- \* Calibrators
- \* Frequency Counter
- \* Phasing Sticks
- \* Waterproof Pen Testers
- \* EMF Detector
- \* Wood, Paper & Grain Moisture Meter
- \* Transistorised Electronic Analog & Digital Insulation Resistance Testers(upto 15 KV)
- \* Digital Sound Level Meter & Sound Level Calibrator
- \* Digital contact & Non-contact Type Tachometer
- \* Digital Non-contact (infrared) Thermometer/ Thermal Imaging Camera
- \* Maximum Demand Controller/Digital Power Meter
- \* Digital Hand Held Temperature Indicators
- \* Digital AC & AC/DC Clampmeter
- \* AC/DC Current Adaptor
- \* Thermo Hygrometer
- \* Digital Lux Meter
- \* Power Factor Regulator
- \* Digital Panel Meters
- \* High Voltage Detectors
- \* Gas Detectors
- \* Function Generator
- \* Battery Tester
- \* Solar Power Meter
- \* Discharge Rods(400 KV)



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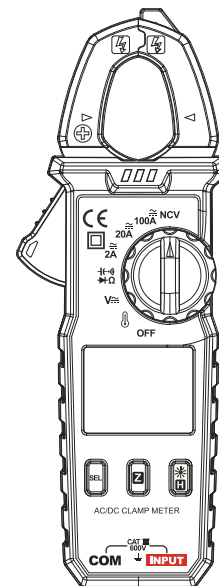
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AN ISO 9001:2015 COMPANY

## 100A AC / DC TRMS DIGITAL CLAMP METER MODEL - KM 2730



## OPERATION MANUAL

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## Overview

This instrument is a digital AC/DC miniature clamp meter, highly reliable and precise and easy to carry. It has automatic range, reading hold, temperature measurement, automatic shutdown, backlight, full range overload protection and battery under - voltage indication. Whether used by professionals, factories, schools, enthusiasts or families, it is an ideal multi-functional instrument. The meter can be used for the test of AC/DC current, AC/DC voltage, resistance, capacitance, diode, continuity, temperature and NCV test.

## 1. Safety information

### 1.1 Warnings



Attention should be paid when using the meter. Improper operation may cause electric shock or damage to the meter. Please read the instructions before using it, and use the meter according to the operating instructions.

1.1.1 When using the meter, users must follow standard safety rules:

1.1.2 After receiving the meter, inspect it for damage in transit.

1.1.3 Check if the test pen is in good condition.

1.1.4 Attention should be paid to prevent electric shock, arc discharge and other injuries when measuring around bare conductors or buses.

### 1.2 Use

1.2.1 Users should first check whether the meter shell is damaged, whether the insulation layer of the test pen is complete and whether the range of the gear is correct.

1.2.2 Do not exceed the indicated value of the protection range in each measurement range or switch the gear during the measurement.

1.2.3 It is forbidden to touch the top of the test pen (the metal section) when the meter is connected to the tested circuit.

1.2.4 If the measured voltage is higher than 60V DC or 30V AC (valid value), be careful to avoid electric shock and place your finger after the protection device of the test pen sheath.

1.2.5 Don't measure when the voltage between the input terminal and the ground is over 600V.

1.2.6 Remove the test pen from the tested circuit before the rotary switch changes the measurement function.

1.2.7 Don't store or use the meter under the sun, high temperature or humidity.

### 1.3 Symbols

Symbols used on the body of the instrument and in the instruction manual:

|                |                                                                                                                                                    |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
|                | Warning (important safety information, refer to the instruction manual)                                                                            |
|                | Can be used for dangerous live conductor                                                                                                           |
|                | Double insulation protection ( II )                                                                                                                |
| <b>CAT III</b> | Overvoltage (installation) III according to EC-61010<br>(Contamination level 2 refers to the level of pulse withstand voltage protection provided) |
| <b>CE</b>      | Complies with the directives of the European Union                                                                                                 |
|                | Grounding                                                                                                                                          |

### 1.4 Maintenance

1.4.1 Non-professional repairman shall not open the bottom shell to adjust or repair the instrument.

1.4.2 In order to avoid electric shock caused by wrong reading, the battery should be replaced immediately when the instrument displays

1 4 3 when the instrument is not in use switch to OFF

1.4.4 If the instrument is not used for a long time, the battery should be taken out to prevent the liquid from damaging the instrument.

1.4.5 The cycle of the meter shall be one year and it shall be re-calibrated under the condition that the temperature is 18°C~28°C and the relative humidity lower than 75%.

## 2. Specifications

### 2.1 Overview

Sensing : True Rms Sensing

Automatic range

Full range overload protection

Maximum input voltage for COM and INPUT: AC600V,DC 600V

Working height: up to 2000m

Display : 3½ Digit 1999 Counts Backlight LCD display

Maximum display value: 1999 digits

Polar indication: automatic indication, - is negative.

Overrange display: "OL" or "-OL".

Sampling time: About 3 times/second.

Automatic shutdown time: 15 minutes.

Power supply: 2x 1.5 AAA battery

Battery low voltage display: LCD displays .

Working temperature: 0°C to 40°C

Storage temperature: -10°C to 50°C

Dimensions: 165x56x31mm

Weight: 140g (Including battery)

## 2.2 Description of the display

### Display symbols

| Symbols                                                                           | Description                        |
|-----------------------------------------------------------------------------------|------------------------------------|
|  | Battery undervoltage / low battery |
|  | Automatic shutdown function        |
|  | Negative input polarity            |
|  | AC current/voltage                 |
|  | DC current/voltage                 |
|  | Continuity test                    |
|  | Diode test                         |
| <b>NCV</b>                                                                        | Non-contact AC voltage detection   |
|  | Reading hold                       |
|  | apacitance measurement             |
|  | Resistance measurement             |
| <b>°C/°F</b>                                                                      | Temperature measurement            |
| <b>A</b>                                                                          | Current measurement                |
|  | Clear the DC current               |

### 2.3 Description of keys

| Keys          | Function                                          |
|---------------|---------------------------------------------------|
| <b>SEL</b>    | Selection                                         |
| <b>HOLD/☼</b> | Reading hold(shortly press)/Backlight(long press) |
| <b>ZERO</b>   | Clear the low number of the DC current            |

### 2.4 Description of the input socket

| Input sockets | Description                                                                                                       |
|---------------|-------------------------------------------------------------------------------------------------------------------|
| <b>COM</b>    | Connect the input terminal with the black test pen.                                                               |
| <b>INPUT</b>  | AC /DC Voltage, resistance, capacity, diode, continuity measurement, temperature (connect with the red test pen). |

### 2.5 Accessories

|                       |        |
|-----------------------|--------|
| 1. Meter              | One    |
| 2. Instruction manual | One    |
| 3. Test pen wire      | A pair |
| 4. 1.5x2 AAA battery  | A pair |
| 5. Thermocouple       | One    |
| 6. Bag                | One    |

### 3. Operation guide

#### 3.1 Reading hold/ backlight

The reading hold mode can hold the current reading on the display by shortly pressing the HOLD key.Change the gear of measuring function or shortly press the HOLD key to exit the reading hold mode.

Press the ☼ key for 2 seconds to turn on or off the backlight.

#### 3.2 Automatic shutdown

(1) If there is no operation within 15 minutes after starting,this meter will shut down automatically and enter the sleep state.

(2) Press HOLD button under the automatic shutdown mode to turn on the meter.

#### 3.3 Measurement guide

This meter adopts automatic range design. When measuring AC/DC voltage,resistance and capacity, the value will be automatically displayed.

#### 3.4 Measurement of AC/DC voltage

1. Turn the rotary switch to **V~** position and shortly press SEL key to switch AC or DC.

2. Plug the black and red test pen to COM socket and Input socket respectively.

3. Connect the test pen to the tested circuit.

Note:

In the mV range of DC and AC, even if there is no test pen input or connection, the meter will display numerical value In this case, if the " V " and " COM " terminalsare short-circuited, the meter will display zero, which is normal.

The AC/DC voltage range of this meter is:

gear **AC** 2V, 20V, 200V, 600V

gear **DC** 2V, 20V, 200V, 600V

### 3.5 Measurement of resistance / diode/ continuity/capacitance

1. Turn the switch to  , press SEL key to choose corresponding functions, and plug the red and black test pens to the INPUT socket and COM socket respectively.

2. Capacitance measurement

The Capacitance range of the meter is 200nF, 2μF, 20μF, 200μF, 2000μF.

Measure the Capacitance:

Press SEL key to nF, which is the automatic switch for automatic range nF/μF measurement

Note:

The Capacitance shall be fully discharged before measuring the Capacitance. Thus it takes some time to stabilize the reading as the Capacitance needs to be charged.

3. Resistance measurement

Press SEL key to MΩ, which is the automatic switch for automatic range Ω/kΩ/MΩ measurement

Note:

① The actual value of the resistance will be different from that measured on the circuit.

② When the meter is open circuit or the measured resistance value is too big, it will display "OL", which means the measured value is beyond the range.

4. Continuity measurement

If the resistance of the tested object is less than about 50Ω, the indicating light (red light) of the meter will be on for a long time and the buzzer will sound continuously.

5. Diode measurement

Press SEL key to . When measuring normal diode, the meter will display the forward voltage drop of the diode-Normal 0.5V to 0.8V forward voltage drop.

### 3.6 NCV test

Switch to NCV key and move the clamp head close to the conductor. According to the detected signal strength, the meter judges the strength of the tested voltage, and the screen displays ----red indicating light and the buzzer emits alarm sounds of different frequencies.

### 3.7 AC/DC current measurement

1. Turn the range switch to A for current measurement, and press SEL key to switch to AC/DC current according to the test demand.

2. Hold the trigger to open the jaws, and clamp a wire of the measured line in the center of the clamp head. When the left and right jaws are completely closed, the meter will display the measured current value.

Note:

(1) Only a single wire is clamped for measurement. It is impossible to accurately measure the current by clamping two wires at the same time.

(2) The measured wire is in the center of the clamp head.

(3) The maximum current for measurement is 100A.

(4) To ensure the readings are accurate, shortly press ZERO key under the DC current mode, which can clear the low number of the DC caused by electromagnetic interference in the use environment.

### 3.8 Temperature measurement

1. Set the range switch to the  position, the meter automatically measures the environment temperature at that time, and press SEL key to switch to °F.

2. To measure the object or the liquid, insert the red plug of the K-type thermocouple into the " INPUT " socket and the black plug into the " COM " socket, then the thermocouple probe comes into contact with the tested area.

## ELECTRICAL SPECIFICATION :

### 4.1 DC voltage

| Range | Resolution | Accuracy                   |
|-------|------------|----------------------------|
| 200mV | 0.1mV      | ± (0.5% reading +3 digits) |
| 2V    | 0.001V     |                            |
| 20V   | 0.01V      |                            |
| 200V  | 0.1V       |                            |
| 600V  | 1V         |                            |

Input impedance: 10MΩ; Maximum input voltage: 600V

### 4.2 AC voltage

| Range | Resolution | Accuracy                   |
|-------|------------|----------------------------|
| 2V    | 0.001V     | ± (1.0% reading +3 digits) |
| 20V   | 0.01V      |                            |
| 200V  | 0.1V       |                            |
| 600V  | 1V         |                            |

Input impedance: 10MΩ; Maximum Input Voltage: 600V  
Frequency Response: 40Hz-1KHz

### 4.3 Resistance

| Range | Resolution | Accuracy                  |
|-------|------------|---------------------------|
| 200Ω  | 0.1Ω       | ±(0.8% reading +3 digits) |
| 2kΩ   | 0.001KΩ    |                           |
| 20kΩ  | 0.01KΩ     |                           |
| 200KΩ | 0.1KΩ      |                           |
| 2MΩ   | 0.001MΩ    |                           |
| 20MΩ  | 0.01MΩ     |                           |

Overload protection: 250V/ open circuit voltage: 1.2V

### 4.4 Diode

| Function                                                                                        | Range      | Resolution | Test condition                                                                                                         |
|-------------------------------------------------------------------------------------------------|------------|------------|------------------------------------------------------------------------------------------------------------------------|
| Diode test<br> | 0.15V-2.5V | 0.001V     | Forward DC: about 1mA; Open circuit voltage: about 2.5V.<br>Display the approximate value of the diode forward voltage |

Overload protection: 250V

### 4.5 Buzzer continuity

| Function                                                                          | Range | Resolution | Description                                   | Test condition                 |
|-----------------------------------------------------------------------------------|-------|------------|-----------------------------------------------|--------------------------------|
|  | 100Ω  | 1Ω         | Resistance is less than 50Ω the buzzer sounds | Open circuit voltage: about 1V |

Overload protection: 250V

### 4.6 Capacitance

| Range  | Resolution | Accuracy                 |
|--------|------------|--------------------------|
| 200nF  | 0.1nF      | ± (3.5%reading+15digits) |
| 2μF    | 0.001μF    |                          |
| 20μF   | 0.01μF     |                          |
| 200μF  | 0.1μF      |                          |
| 2000μF | 0.001μF    |                          |

Overload protection: 250V

#### 4.7 AC current

| Range | Resolution | Accuracy                                       |
|-------|------------|------------------------------------------------|
| 2A    | 0.001A     | $\pm (2.5\% \text{ reading} + 6\text{digits})$ |
| 20A   | 0.01A      |                                                |
| 100A  | 0.1A       |                                                |

Maximum input current:100A/ Frequency range: 40Hz-400Hz

#### 4.8 DC current

| Range | Resolution | Accuracy                                       |
|-------|------------|------------------------------------------------|
| 2A    | 0.001A     | $\pm (2.5\% \text{ reading} + 6\text{digits})$ |
| 20A   | 0.01A      |                                                |
| 100A  | 0.1A       |                                                |

#### 4.9 Temperature

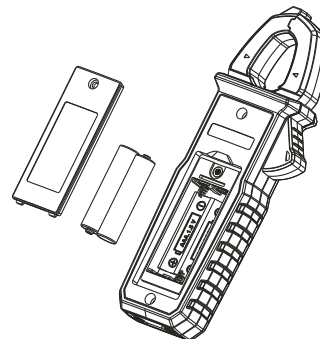
| Range      | Resolution | Accuracy                                         |
|------------|------------|--------------------------------------------------|
| -20~1000°C | 1°C        | $\pm (2.0\% \text{ reading} + 2 \text{ digits})$ |
| -4~1832°F  | 1°F        |                                                  |

Overload protection: 250V

#### 5. Battery replacement

Please follow these steps to replace the battery:

1. Turn off the power supply of the meter.
2. Remove all the test lines from the measuring circuit.
3. Use a screwdriver to remove the screw that fixes the battery cover on the back of the meter.
4. Remove the battery cover.
5. Remove the old battery.
6. Replace it with a new 2 x 1.5V AAA battery.
7. Install the battery cover and use the screwdriver to fix the screw.



**MUMBAI****TEST CERTIFICATE****100A AC / DC  
TRMS DIGITAL CLAMPMETER**

This Test Certificate warrants that the product has been inspected and tested in accordance with the published specifications.

The instrument has been calibrated by using equipment which has already been calibrated to standards traceable to national standards.

MODEL NO. **KM 2730**

SERIAL NO. \_\_\_\_\_

DATE: \_\_\_\_\_

**ISO 9001:2015  
REGISTERED****WARRANTY**

Each "KUSAM-MECO" product is warranted to be free from defects in material and workmanship under normal use & service. The warranty period is one year (12 months) and begins from the date of despatch of goods. In case any defect occurs in functioning of the instrument, under proper use, within the warranty period, the same will be rectified by us free of charges, provided the to and fro freight charges are borne by you. This warranty extends only to the original buyer or end-user customer of a "KUSAM-MECO" authorized dealer.

This warranty does not apply for damaged IC's, fuses, disposable batteries, carrying case, test leads, or to any product which in "KUSAM-MECO's" opinion, has been misused, altered, neglected, contaminated or damaged by accident or abnormal conditions of operation or handling. "KUSAM-MECO" authorized dealer shall extend this warranty on new and unused products to end-user customers only but have no authority to extend a greater or different warranty on behalf of "KUSAM-MECO". "KUSAM-MECO's" warranty obligation is limited, at option, free of charge repair, or replacement of a defective product which is returned to a "KUSAM-MECO" authorized service center within the warranty period. THIS WARRANTY IS BUYER'S SOLE AND EXCLUSIVE REMEDY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. "KUSAM-MECO" SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, INCLUDING LOSS OF DATA, ARISING FROM ANY CAUSE WHATSOEVER.

All transactions are subject to Mumbai Jurisdiction.