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
* 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)
* 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

KUSAM-MECO®

OFFICE ADDRESS / SERVICE CENTER

Shop No.18, 1st Floor, CIDCO Shopping Complex, Plot # 9, Sector-7,
Rajiv Gandhi Marg, Sanpada, Navi Mumbai-400705.
Tel : +91-9867488006, 9867675093
E-mail : sales@kusam-meco.co.in ; **Website :** www.kusamelectrical.com

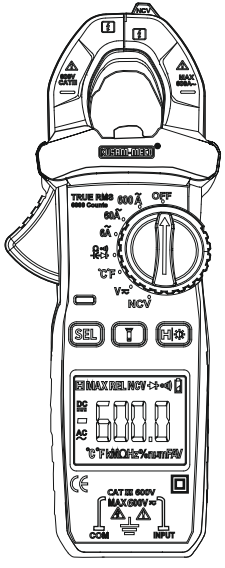
Dt. 27/03/2025

KUSAM-MECO®

AN ISO 9001:2015 COMPANY

600A AC TRMS DIGITAL CLAMPMETER

MODEL - KM 2731



Designed and Conforms to
IEC61010-1
CAT.III 600V

OPERATION MANUAL

Introduction

This Digital AC Current Clampmeter is a kind of stable performance & reliable instrument circuit design with micro-smart IC & Dual integral A/D convertor as the core, equipped with full range of overload protection circuit. It can be used to test AC current, AC & DC Voltage, Resistance, Temperature, Capacitance, Diode & Circuit Continuity.

Safety Standards

This instrument has been designed & manufactured with safety standards of IEC61010, IEC61010-2-032, Dual insulation CAT III 600V & pollution class 2.

Safety Symbols

⚠ Warning symbols, cautiously operate

⚠ High Voltage danger symbol

Allow to be used nearby conductors which are not dangerous with life.

Dual insulation (Class II safety equipment)

⏚ Ground

Notice

- Read the manual carefully, especially notice the "⚠" contents with "⚠" symbols. Please follow the instructions.
- If the Test Leads needs to be replaced, replace a new one with the same model number or same specifications.

- Check the instrument & Test Leads before use. If exposure of test leads, broken cover, abnormal display are found, do not use it.
- In test, do not touch the terminal not is use.
- When test DC Voltage higher than 60V or AC Voltage higher than 30V, do not reach your fingers beyond safety barrier.
- When the measured range is unknown, put the test range at the maximum.
- Do not test voltage higher than maximum range.
- The Test Lead should be away from tested circuit before switch range is selected.
- Before test diode in live circuit, cut off the power & discharge all capacitors.
- Do not expose the instrument in strong light, high temperature or damp environments.
- Do not touch naked circuit lines, connectors or measured circuits.

FEATURES :

- Max. Voltage between input & ground is CAT III 600V DC & 600V AC
- Dual Integral A/D convertor, Auto Range
- Display Function & unit symbols, Negative input shows "-".
- Overload Display : "OL"
- Data Hold Display : "H"
- Backlight & Flashlight
- NCV Sensor Probe
- Auto Power Off after 25 minutes
- Low battery indication
- Diode Test, Continuity Test

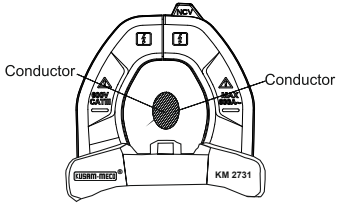
GENERAL SPECIFICATIONS :

- **Display :** 3-5/6 Digit 6000 Counts Backlight LCD display
- **Jaw Opening :** Max. 26mm
- **Digit Height :** 12mm
- **Sampling Time :** About 3 times / seconds.
- **Working Temperature :** 5°C ~ 55°C
- **Storage Temperature :** -10°C ~ 50°C
- **Power :** DC1.5V AAA x 2 battery.
- **Dimension :** Approx.185(L) x 71(W) x 35(H)mm.
- **Weight :** Approx. 200 gm (Including battery)
- **Accessories :** Test leads (pair), User's manual, Battery, Bead type Thermocouple upto 250°C & Carrying case.

SAFETY : IEC61010, IEC61010-2-032 Dual insulation CAT III 600V & Pollution Class 2.

ELECTRICAL SPECIFICATIONS

Accuracy is ± (% reading digits + number of digits) or otherwise specified, at 18°C-28°C; <75% R.H.



NOTICE :

In measuring AC Current, place the measured conductor at the center of the jaw, otherwise there might be an offset of 1.5%.

AC CURRENT (TRMS)

Range	Resolution	Accuracy
6 A	0.001 A	± (2.5% rdg + 10 dgts)
60 A	0.01 A	
600 A	0.1 A	

Maximum Input Current : 120% of full scale, less than 60 seconds
Frequency Range : 50Hz ~ 60Hz

DC VOLTAGE

Range	Resolution	Accuracy
600 mV	0.1 mV	±(0.5% rdg + 3 dgts)
6 V	0.001 V	±(0.8% rdg + 2 dgts)
60 V	0.01 V	
600 V	1 V	±(1.0% rdg + 2 dgts)

Input resistance : 10MΩ
The maximum input voltage : 600VDC or 600V rms AC

AC VOLTAGE (TRMS)

Range	Resolution	Accuracy
6 V	0.001 V	±(1.0% rdg + 10 dgts)
60 V	0.01 V	
600 V	1 V	±(1.2% rdg + 10 dgts)

Input resistance : 10MΩ
Frequency Response : 40Hz ~ 400Hz
The maximum input voltage : 600VDC or 600V rms AC

TEMPERATURE

Range	Resolution	Accuracy
-40 ~ 1000°C	1°C	± (2.0% rdg + 2°C)
-40 ~ 1832°F	1°F	± (2.0% rdg)

Accuracy does not include the error of thermocouple probe.
Overload Protection : 600V DC or 600V rms AC

RESISTANCE

Range	Resolution	Accuracy
600 Ω	0.1 Ω	±(1.2 %rdg + 2 dgts)
6 KΩ	0.001 kΩ	
60 KΩ	0.01 kΩ	
600 KΩ	0.1 kΩ	
6 MΩ	0.001MΩ	
60 MΩ	0.01 MΩ	±(2.0 %rdg + 5 dgts)

Overload Protection : 600V DC or 600V rms AC

CAPACITANCE

Range	Resolution	Accuracy
6.000 nF	0.001 nF	±(4.0%rdg + 50 dgts)
60.00 nF	0.01 nF	±(4.0%rdg + 3 dgts)
600.0 nF	0.1 nF	
6.000 µF	1 nF	
60.00 µF	10 nF	
600.0 µF	100 nF	
6.000 mF	1 µF	
60.00 mF	10 µF	

Overload Protection : 600V DC or 600V rms AC

DIODE TEST

Function	Range	Description
→|←	1mV	Forward voltage drop value Open Circuit Voltage : about 2.3V

Overload : 600V DC or 600V rms AC

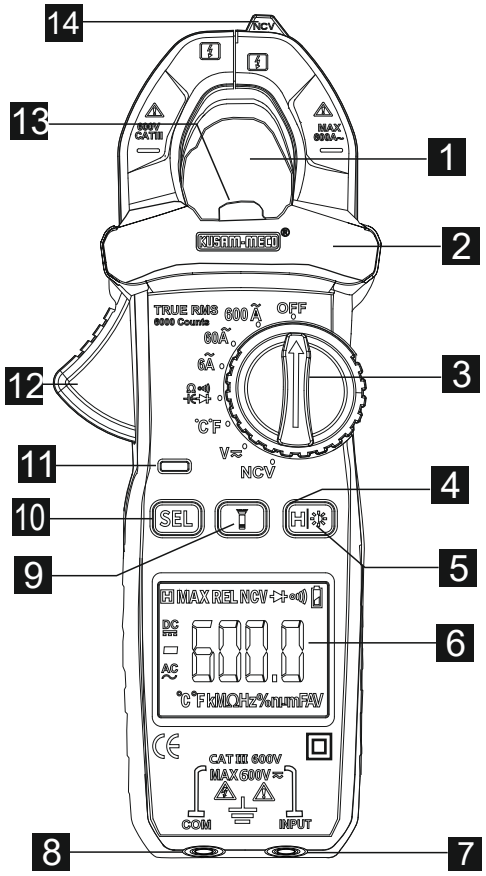
BUZZER CONTINUITY

Function	Resolution	Description
•)))	0.1Ω	Beeper sounds when Resistance is less than 50Ω

Overload : 600V DC or 600V rms AC

Open Circuit Voltage: about 2.1V.

PRODUCT DESCRIPTION



PRODUCT DESCRIPTION

1. **Jaw Assembly :** Sampling AC
2. **Safety Barrier :** Prevent touching live conductors in test.
3. **Rotary range selector :** Select measuring functions & ranges.
4. **Data Hold :** Press “H” button, the last reading keeps on display “H” symbol shows. Press “H” button again to resume normal test mode.
5. **Backlight :** press & hold 2 seconds to turn on backlight, press & hold 2 seconds again to turn off.
6. **LCD :** Maximum display 6000, reading height 12mm
7. **Input Terminal :** Red Test lead positive input terminal in testing voltage, Diode, Resistance & Continuity.
8. **COM Terminal :** Black Test Lead negative input terminal except AC measurement.
9. **Flashlight :** Press this button to turn on flashlight. Press again to turn off.
10. **SEL :** In test mode, select between Diode, Resistor, Capacitance & continuity.
11. **Warning Light :** In continuity test, Red light turns on with NCV warning.
12. **Lever for Jaw Opening Closing :** press to open & release to close the jaw.
13. Clamp Body Light.
14. **NCV Sensor Probe :** when strong AC signal is detected, Red light turns on & buzzer sounds.

OPERATION :

AC & DC Voltage Measurement :

Insert the Red Test Lead into the “ ” jack and blackTest Lead into the “COM” jack.

1. DC Voltage Measurement :

Turn the rotary range selector to $\overline{V}$, connect the test lead to Voltage to be measured. Read measurement value & polarity of Red Test lead from display.

2. AC Voltage Measurement :

Turn the rotary range selector to $\tilde{V}$, connect the test lead to Voltage to be measured. Read measurement value from display.

CAUTION :

*If the measured voltage range is not known in advance, turn the rotatory range selector to maximum. Then decrease gradually to get satisfactory resolution.

*Beware of Electric Safety in measuring high voltage.

3. AC Current Measurement :

1. Turn the rotary range selector to AC Current.
2. Clamp the jaw around the conductor to be measured. Do not clamp more than one conductor at the same time.
3. Read measurement value from display.

NOTICE

*If the measured Current range is not known in advance, turn the rotatory range selector to maximum. Then decrease gradually to get satisfactory resolution.

4. Resistance Measurement :

1. Insert the Red Test Lead into the " V Ω " jack & Black Test Lead into the "COM" jack.
2. Turn the rotary range selector to "Ω", press "SEL" button to switch to Ω, place the Test Probe tips into contact with the sample to be measured.
3. Read measurement value from display.

NOTICE

*If the measured sample has higher resistance beyond maximum range, "OL" will be display. Please change to use a meter with higher measurement range.

*When measuring a Resistance, make sure power is off & all capacitors are fully discharged.

*When measuring Resistance over 1MΩ, it might take a few seconds to stabilize the reading.

5. Diode & Continuity Test Measurement :

Insert the Red Test Lead into the " V Ω " jack & Black Test Lead into the "COM" jack. Polarity of Red Test Lead is "+".

1. Turn the rotary range selector to "Ω", press "SEL" button to switch to ▶| . Bring the Red Test Lead in contact with positive electrode & Black Test lead in contact with negative electrode. Read forward Voltage drop value from the display.
2. Turn the rotary range selector to "Ω", press "SEL" button to switch to . Place the test leads in contact with two points of measured circuit. If the resistance is less than 50Ω, the beeper continuous sound.

5. Capacitance Measurement :

1. Insert the Red Test Lead & Black Test Lead into the "INPUT" & "COM" Terminals.
2. Set the function range switch to "Ω", press to "SEL" switch to " ", & connect the Test leads to two points of the measured capacitor.
3. Read the measurement results from the display.

NOTICE :

If the measured capacitance exceeds the maximum value of the selected range, the display will appear "OL"

When checking the in-line capacitance, the power supply to the line under test must be cut off & all capacitors fully discharged, otherwise the meter can be damaged.

6. Temperature Measurement :

1. Set the functional range switch to the TEMP range position. The LCD displays the current ambient Temperature.
2. When the Thermocouple is needed to measure the temperature, the red plug of the K-type thermo-couple can be inserted “INPUT” jack, black plug into “COM” jack, & use thermocouple probe to contact the measured object or area for measurement.
3. Display the reading on the LCD.

7. Auto Off

The unit powers off automatically when stay idle over 25 minutes to save power.

8. Maintenance

1. Before open back cover, take away the test leads from measured circuit.
2. Use wet cloth & a little detergent to clean the instruments. Do not use chemical or grinding solvent.
3. Stop using if any abnormal conditions occur.
4. Calibration or maintenance can only be performed by professionals.

9. Battery Replacement

⚠ WARNING

To avoid electric shocks, take away test leads from measured circuit before opening battery cover. Replace batteries with same type & electric specifications only.

When low power icon " 🔋 " appears, batteries need to be replaced immediately.

1. Take away test leads from measured circuit. Turn rotary range selector to OFF. Take away test leads from input jacks.
2. Use a screwdriver to unscrew the battery cover.
3. Take out used batteries & replace with new 1.5V size AAA batteries.
4. Put on the cover & fasten screw tightly.



MUMBAI

TEST CERTIFICATE

600A AC
TRMS DIGITAL CLAMPMETER

This Test Certificate warranties 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 2731**

SERIAL NO. _____

DATE: _____

ISO 9001:2015
REGISTERED

QC
KUSAM-MECO
PASS

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 transaction are subject to Mumbai Jurisdiction.