LIST OF PRODUCTS

* Digital Multimeter
* Digital AC & AC/DC Clampmeter
* AC Clamp Adaptor
* AC/DC Current Adaptor
* Transistorised Electronic Analog & Digital Insulation Resistance Testers
* Digital Sound Level Meter & Sound Level Calibrator
* Digital contact & Non-contact Type Tachometer
* Digital Non-contact (infrared) Thermometer
* Thermo Hygrometer
* Thermo Anemometer
* Wood Moisture Meter
* Distance Meter
* Digital Hand Held Temperature Indicators
* Digital Lux Meter
* Network Cable Tester
* Power Factor Regulator
* Maximum Demand Controller/Digital Power Meter

KUSAM-MECO®

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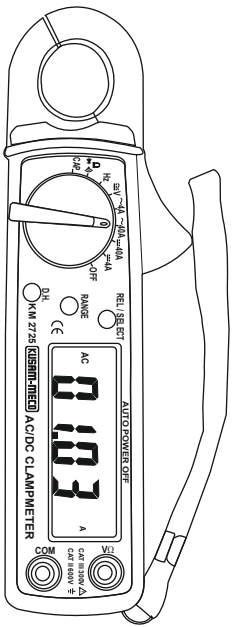
KUSAM-MECO

AUTORANGING CLAMPMETER KM 2720 / KM 2725

OPERATION MANUAL

KUSAM-MECO

Autoranging Clampmeter
KM 2720 / KM2725



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TAKE MEASUREMENT CAREFULLY AND YOU'LL SPARE YOUR METER AND YOURSELF, SOME PAIN

Nearly every electrical engineer has a hand held digital multimeter (DMM). We sometimes take them for granted, until we damage them or "burn them out" if you incorrectly connect your DMM to a circuit or have the DMM on wrong setting, you damage the meter and possibly hurt yourself. You can also get into trouble if you try to measure the voltage across a charged capacitor.

DMM users frequently burn their meters by trying to measure current the same way as they measure voltage, Remember, you measure voltage across a circuit, and current through a circuit. When you use the current input, your DMM becomes a lower impedance circuit element. If you accidentally connect this low impedance path across your circuit, you'll effectively short-circuit it. You can, therefore send high current through your meter and severely damage it. Unless the meter has a fused input, you can even get an explosion or fire.

Even if you correctly insert your DMM into the circuit, you can still damage your meter. Don't try to measure current in excess of your meter's capacity. Handheld DMMs usually have a maximum current rating of 10A or 20A.

If you are measuring current in industrial environment, you can easily exceed those ratings. The best way to avoid damage is to use a clamp meter or to connect a clamp attachment to your DMM.

To prevent excess current from flowing through your meter, always disconnect the test leads from the circuit under test whenever you change DMM functions, Set your meter to the correct function, say current and its highest range for the setting, say 10A. Next, connect the test leads before you apply power to the circuit. To be safe, start by setting your meter to its highest range first.

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TABLE OF CONTENTS

TITLE	PAGE
Safety	01
General Specifications	02
Electrical specifications	03
Push Button	05
Measurement Operation	06
Maintenance	09
Battery Replacement	10
Fuse Replacement	10
Test Certificate	11
Warranty	13

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GENERAL INSTRUCTION

The KM 2720 / KM 2725 is a handhold Digital Clampmeter with auto range & auto power off functions. It can test the AC/DC Current & Voltage, Frequency, Resistance, Diode, etc. It is ideal instrument for use in many fields, such as Industry, Scientific, Training and Electric department.

1) SAFETY INFORMATION

The following safety information must be observed to insure maximum personal safety during the operation at this meter:

1.1 Do not use the meter if it looks damaged. Inspect the leads for damaged insulation or exposed metal, check test lead continuity, and replace the damaged leads.

1.2 Do not measure with high voltage (above DC 1000V or AC 750V).

1.3 Be cautions when working at DC 60V or AC 30V, such voltage may cause a shock hazard.

1.4 When making measurements, keep your finger behind the guard's plant on the probes for safety.

2. GENERAL FEATURES

- **Display :** 3 ¾ digits LCD display with 3999 counts.
- **Over range indication :** Display “OL” or “-OL”
- **Auto Function :** Auto range, Auto power off, Auto polarity display, Auto zero adjustment, Auto units display.
- **Reading Rate :** 2.5 reading / Sec.
- **Low battery indication :** “ ” mark is displayed when the battery voltage drops below 2.4V.
- **Operating Temperature :** 0°C to 50°C, ≤ 70%RH
- **Storage Temperature :** -20°C to 60°C, ≤ 80%RH (without battery)
- **Power supply :** R6 Um3 “AA” 1.5V x 2
- **Dimension :** 183(L) x 43(W) x 31(H)mm
- **Weight :** Approx. 200g (including Battery)

3. ELECTRICAL SPECIFICATIONS

AC VOLTAGE(Model KM 2720 & KM 2725)

Range	Resolution	AC Accuracy
400 mV	0.1 mV	±(1.8%rdg + 5dgts)
4 V	1 mV	±(1.0%rdg + 3dgts)
40 V	10 mV	±(1.0%rdg + 3dgts)
400 V	0.1 V	±(1.0%rdg + 3dgts)
750 V	1 V	±(1.5%rdg + 3dgts)

Note : Input Resistance : ≥ 10MΩ.
AC Voltage test Frequency : 50Hz ~ 500Hz for 400V and below, 50Hz~100Hz for above.
Over load protect : DC 1000V or AC 750V RMS.

AC CURRENT (Model KM 2720)

Range	Resolution	Accuracy
40A	0.01A	±(2.0%rdg + 0.03dgts)
200A	0.1A	±(2.5%rdg + 0.3dgts)

DC CURRENT (Model KM 2720)

Range	Resolution	Accuracy
40A	0.01A	±(2.0%rdg + 0.02dgts)
200A	0.1A	±(2.5%rdg + 0.2dgts)

AC CURRENT (Model KM 2725)

Range	Resolution	Accuracy
4A	0.001A	±(2.0%rdg + 3dgts)
40A	0.01A	±(2.0%rdg + 3dgts)

DC Current (Model KM 2725)

Range	Resolution	Accuracy
4 A	0.001 A	±(2.0%rdg + 2dgts)
40 A	0.01 A	±(2.0%rdg + 2dgts)

DC Voltage(Model KM 2720 & KM 2725)

Range	Resolution	Accuracy
400 mV	0.1 mV	±(1.0%rdg + 2dgts)
4 V	1 mV	±(0.8%rdg + 2dgts)
40 V	10 mV	±(0.8%rdg + 2dgts)
400 V	0.1 V	±(0.8%rdg + 2dgts)
1000 V	1 V	±(0.8%rdg + 2dgts)

Note : Input Resistance : ≥ 10MΩ.
AC Voltage test Frequency : 50Hz ~ 500Hz for 400V and below, 50Hz~100Hz for above.
Over load protect : DC 1000V or AC 750V RMS.

Frequency And Duty Cycle Range
(Model KM 2720 & KM 2725)

Range	Accuracy	Sensitivity
9.999Hz	Unspecified	Frequency: 0.7V AC RMS Voltage : 0.1V AC RMS
99.99Hz-9.999MHz	± 0.2%rdg ± 3	
DUTY Range : 0.1% to 99.9%		

Overload Protection : 250V RMS

Diode & Continuity Test (Model KM 2720 & KM 2725)

Range	Description
→|←	Display read approx. Forward voltage of diode. Accuracy : ±(3.0%rdg + 3)
•)))	If the resistance is less than 100Ω, the beeper sounds continuously

Resistance

Range	Resolution	Accuracy
400 Ω	0.1 Ω	±(1.0%rdg + 2dgts)
4 kΩ	1 Ω	±(1.0%rdg + 2dgts)
40 kΩ	10 Ω	±(1.0%rdg + 2dgts)
400 kΩ	100 Ω	±(1.0%rdg + 2dgts)
4 MΩ	1 kΩ	±(1.0%rdg + 2dgts)
40 MΩ	10 kΩ	±(1.5%rdg + 2dgts)

Overload Protection : 250V RMS

Capacitance (Model KM 2720 & KM 2725)

Range	Resolution	Accuracy
40 nF	10 pF	±(2.5%rdg + 10dgts)
400 nF	100 pF	±(2.0%rdg + 4dgts)
4 μF	1 nF	±(2.0%rdg + 4dgts)
40 μF	10 nF	±(2.5%rdg + 4dgts)

Overload Protection : 250V RMS

4. PUSH BUTTON

4.1 REL/SELECT BUTTON

Press **REL** to automatic zero adjustment. Press **SELECT** to select DC or AC and →|← or •))) mode.

4.2 RANGE BUTTON

Press this button to enter the manual range mode.

Press **RANGE** more than 2 seconds, return to auto range mode (except for Frequency range).

4.3 HOLD BUTTON

Press this button to enter data hold mode.

5.MEASUREMENT

5.1 DC/AC Current Measurement

WARNING

To avoid damage to the meter or injury if the fuse blows, never attempt to make an in-circuit current measurement where the open-circuit potential to earth is greater than 1000V. To avoid damage to the meter, check the meter's fuses before proceeding. Use the proper terminals, function,and range for your measurement. Never place the probes in Parallel with a circuit or component when the test leads are plugged into the current terminals.

1. Set the rotary switch to AC or DC 40A & 200A position. Then press **REL/SELECT** to auto adjust zero. **(KM 2720)**
2. Set the rotary switch to AC or DC 4A & 40A position. Then press **REL/SELECT** to auto adjust zero.**(KM 2725)**
3. Open the jaw and clamp on the wire under testing and get reading.

   Node : Test one wire each time.
4. If you want to keep the test data, press the **HOLD** button and get reading.

5.2 DC/AC Voltage Measurement

1. Set the rotary switch to **"V"** position. Press **REL/SELECT** button to select DC or AC mode according to test voltage.
2. Connect the black test lead to **"COM"** terminal and the red test lead to **"VΩ"** terminal.
3. Touch the probes to the test points and get reading.

5.3 Frequency and duty cycle Measurement

1. Set the rotary switch to **"Hz"** position. Touch the probes to signal source and get reading.
2. Connect the black test lead to **"COM"** terminal and the red test lead to **"VΩ"** terminal.
3. Press **REL/SELECT** to select Hz or DUTY test mode.

5.4 Resistance Measurement

CAUTION

To avoid damage to the meter or to the equipment under test, disconnect circuit power and discharge all high-voltage capacitance before measuring resistance.

1. Set the rotary switch to "Ω" position.
2. Connect the black test lead to **"COM"** terminal and the red test lead to "VΩ" terminal.
3. Touch the probes to test points or resistance and get reading.

5.5 Diode and Continuity Test

CAUTION

To avoid damage to the meter or to the equipment under test, Disconnect circuit power and discharge all high-voltage capacitance before measuring Diode or Continuity.

1. Set the rotary switch to " →|— ·))) " position.
2. Press to select " →|— " or " ·))) " test mode.
3. Connect the black test lead to **"COM"** terminal and the red test lead to "V Ω" terminal.
4. Touch the probes to the two ends of diode. For diode, a good diode should display a forward-bisa reading of 0.3V to 0.8V. However, the reverse-bisa reading will be over range and appears **"OL"** on display. A shorted circuit diode reading is near 0V, open circuit diode appears **"OL"** in both directions. For continuity, if the test points resistance below 100Ω, the beeper sounds.

5.6 Capacitance measurement

1. Set the rotary switch to **"CAP"** position. Touch the probes to tested capacitor and get reading.
2. Connect the black test lead to **"COM"** terminal and red test lead to "V Ω" terminal.

NOTE : When testing the large capacitor, please discharge the capacitor first by short circuit. This meter use charge method to test the capacitor, so it will take long time to get the rading if testing the large capacitor.

5.7 Auto power off

When the meter is auto switch off, it will be awaken to work state by turning the function switch or pressing any button.

6. Maintenance

WARNING

To avoid electrical shock or damage the meter' do not get water inside the case. If the meter fails to operate, check battery, test leads, fuse, etc., And replace them if necessary. If the meter still does not work, double check operating procedure as described in this manual.

6.1 Maintenance

The meter is a precis product. Please do not promiscuously change the circuit or regulation-resistance. And pay attention to following :

1. Do not use the Resistance, Diode, Transistor or Current range to test Voltage.
2. Only replace the battery or Fuse when remove the probe and power off.
3. Avoid damp, high temperature, greasy dirt and strong magnetic field when storage.
4. Please power off the meter when not using. Take out of the battery if it is not used for a long time.

6.2 Battery Replacement

The meter is powered by two 1.5V, R6 Um3 AA SIZE carbon zinc or alkaline battery, Replace battery if the low battery sign " ⊞ " is displayed.

1. Set the rotary switch to "OFF" position.
2. Loosen screws on bottom cover, pull up and move the cover.
3. Replace the defective battery.
4. Reverse the procedure of opening cover to close the bottom cover.

6.3 Fuse Replacement

1. Perform steps 1 to 2 of battery replacement procedure.
2. Replace the defective fuse and use same size and rating install in the fuse holder.
3. Reverse the procedure of opening cover to close the bottom cover.

MUMBAI

TEST CERTIFICATE

AUTORANGING CLAMPMETER

This Test Certificate warrantees 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 2720 / KM 2725**

SERIAL NO. _____

DATE: _____

ISO 9001
REGISTERED

QC
KUSAM-MECO
PASS

KUSAM-MECO

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.

KUSAM-MECO

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.

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