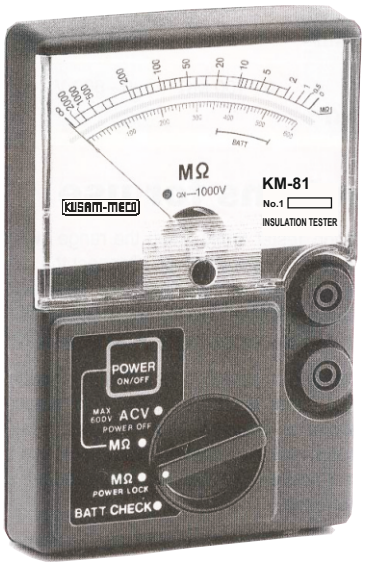
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ANALOG INSULATION RESISTANCE TESTER



INSTRUCTION MANUAL

MODELS - KM - 01, KM - 03, KM - 41, KM - 81

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KM - 81
KM - 41
KM - 03
KM - 01

ANALOG INSULATION RESISTANCE TESTER

INSTRUCTION MANUAL

BATTERY - DRIVEN
INSULATION RESISTANCE TSTERS

Introduction

Thank you very much for purchasing this insulation resistance tester. This is a small, easy-to-operate insulation resistance tester using a transistor-type, stable voltage type DC-DC converter. It enables the user to read promptly and directly the insulation resistance value of various electric equipment and lines.

1. A small, light-weight and easy-to operate product.
2. Used is a core-magnet type meter which is stable and little influenced by external magnetic field.
3. It is economical since only four SUM-3 or R6 batteries can drive the tester.
4. Incorporating the ACV range, it can measure the voltage of AC line.
5. The measuring switch can be locked, so it is very handy to make continuous measurements.
6. It incorporates an LED pilot lamp showing ON of high voltage power sources (500V) and lighting intermittently, so the user can know precisely whether or not any voltage exists. It also helps the user avoid forgetting to turn off the switch when it is locked.

Specifications

Model No.	Rated V Rated R	Scale range	ACV	Usage
KM-81	1000V 2000MΩ	0-2000MΩ	0-600V	General insulation tests. Tests for a high power equipment (e.g. high power apparatuses for cable and communications apparatuses)
KM-41	500V 1000MΩ	0-1000MΩ	0-600V	Insulation tests for general equipment and electronic components
KM-03	500V 100MΩ	0-100MΩ	0-600V	Insulation tests for general equipment, chiefly power equipment.
KM-01	100V 50MΩ	0-50MΩ	0-600V	Insulation tests for general equipment.

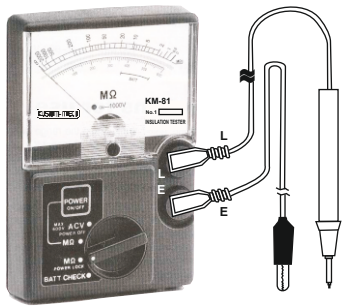
- Power source — Standard (1.5v) X 4 batteries.
- Accuracy — Within ±5% of the scale length
- Terminal-to-terminal voltage — ±10% of rated voltage ..... ∞ scale
  About 90% of rated voltage ..... Center scale
- ACV — Within ±5% of max. scale value
- Size & Weight — 150 X 100 X 45mm, About 350 g
- Accessories — Test lead with probe X1 Test lead with clip X1 carrying case

Frontal View and the Name of Parts

① L Terminal (LINE side)
② E Terminal (EARTH side)
③ Indicator
④ MΩ scale
⑤ ACV scale
⑥ Pointer
⑦ ∞ position adjuster
⑧ Control switch
⑨ Insulation resistance push switch
⑩ Pilot lamp for high power source
⑪ Rear case
⑫ BATT check scale
⑬ Connection plug
⑭ Test lead with probe
⑮ Test lead with clip

- **How to Use KM-81, KM-41, KM-03, KM-01**

1. Connection of Test Leads Connect the test lead with probe to the L terminal and the test lead with clip to the E terminal as shown in Figure 1.



2. Adjustment of Infinity (∞) Scale ... Confirmation Align the pointer to the infinity line, leftmost of the MΩ, scale, by turning the ∞ position adjuster(7) in the center of the indicator, if it doesn't point to it correctly.

3. Measurement of Insulation Resistance

3-1 Connect the clip to one side of the measured object and the probe to the other side of the measured object.

3-2 Turn the control switch from POWER OFF position, to MΩ position and push on PUSH switch(9), then the indicator shows the insulation resistance value.

3-3 If the pilot lamp (10) of 500V ON below of the scale plate, lights intermittently, the tester works properly and the voltage is correctly impressed on the test point. It doesn't light, however, if the internal batteries have worn out or the battery contact is incomplete.

3-4 Set the control switch to MΩ POWER LOCK position for continuous measurements. POWER switch remains ON regardless of PUSH switch. (The pilot lamp lights intermittently.)

3-5 Return the control switch to POWER OFF position after measurement.

4. Check of Internal Batteries.

Set the control switch to BATT CHECK position with the E and L terminals released.
If the pointer automatically swings to the BATT scale (12) both circuit and the internal batteries are normal. If the pointer points to the left side of the BATT scale as shown in Fig.2, the batteries have worn out.

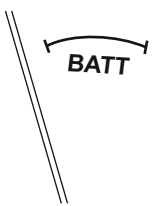


Fig.2

Replace them with new batteries. For replacement of the batteries, refer to page 7.

5. ACV Measurement

5-1 Connection of the test leads is same as in the foregoing paragraph.

5-2 Use the control switch in ACV (POWER OFF) position.

5-3 Connect the lead line tip to the measured point and read the voltage value in the red 0~600V scale.

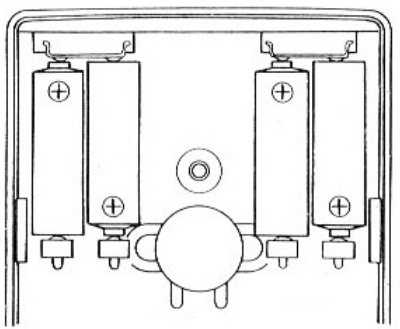
5-4 This ACV range can be used not only for general ACV measurements but also for a preliminary check as to whether or not ACV is impressed on the measured object, prior to insulation resistance measurement.

Precaution

Be sure to return the control switch to POWER OFF position after use. With the control switch to this position, the current doesn't flow and the batteries are protected from being exhausted for nothing even if the measuring push switch is inadvertently pushed on.

● Replacement of Battery

When replacing battery, loosen the 4∅ X 15 screw on the rear case, remove the case, and insert the new batteries correctly with the right polarity as shown in Fig.3.



Batteries 1.5V 4pcs.

Fig. 3

● Precaution for Use

1. E and L Terminals

When the minus side of the measured object is grounded, plug the test lead into the E terminal. Make measurement with the E terminal test lead connected to the ground side. By so doing it is common that the measured value is indicated at a smaller value. Safety in use is considered and promised. For general measurements, use either polarity of the terminals.

2. If the tester is not used for a long time, be sure to take out the internal batteries.

3. Don't store the tester in a high temperature and humidity.

4. Avoid giving any mechanical shock or vibration to the tester.

5. Don't rub strongly the surface of the indicator cover with a dry cloth. Should anti-static coating on the cover be removed, a cloth moistened with anti-static solvent should be used to clean the cover.

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MUMBAI

TEST CERTIFICATE

ANALOG INSULATION RESISTANCE TESTER

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. _____

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, burnt PCB’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.