KUSAM-MECO®
An ISO 9001:2015 Company

VOLTAGE TESTER
Model KM 69 / KM 66

THINK SAFETY
THINK KUSAM-MECO®

SPECIAL FEATURES :

- EF-Detection
- RCD leakage-path **(KM 69)**
- LCD Indication **(KM 69)**
- RST Phase Rotation Detection **(KM 69)**
- AC-Detection Shaker **(KM**



FEATURES :

- Handy & Stylish, Fits Comfortably in one's hand
- 19mm Probe Pitch For Quick European Receptacle Testing
- 4mm Test Tips with IP2X Retractable shroud for IEC61243-3 Ed3
- Detachable (Black) test lead for easy replacement.
- User Replaceable Screw-On stationary (Red) Probe Body
- Battery-less ELV Limit (120VDC/50VAC) LED Indication
- Battery-less DCV & ACV Auto-selection with LED polarity indication
- Battery-less DCV 8-Ranges LED Indication : 12, 24, ... to 1000V
- Battery-less ACV 8-Ranges LED Indication : 12, 24, ... to 1000V
- Automatic Power On & Power Off
- Non-contact EF-Detection (NCV)
- Probe contact EF-Detection for more precise indication of live
- Continuity : Audible beeper & visible LED indications
- Display Backlight & flash-light for easy viewing in the dark **(KM 69)**
- True RMS ACV Reading on LCD Numeric Display **(KM 69)**
- AC-Detection Shaker indicates ACV is being measured **(KM 69)**
- RCD Leakage Load for 230V AC / 30mA RCD Circuit Breakers **(KM 69)**
- RST Phase sequence / Rotation indication **(KM 69)**
- Low Battery warning for battery operated functions & features
- Battery Access Door

GENERAL SPECIFICATIONS :

- **LCD Display :** 3½ Digits 1999 counts **(KM 69)**
- **Update Rate** : 5 per second nominal **(KM 69)**
- **Sensing** : TRMS sensing for LCD indication **(KM 69)**; Average sensing for LED indication**(KM 66)**
- **Operating Temperature** : -10°C ~ 55°C
- **Relative Humidity** : £ 90%
- **Altitude** : Operating below 2000m
- **Storage Temperature** : -20°C ~ 65°C, £ 80% R.H. (with battery removed)
- **Temperature Coefficient** : Nominal 0.15 X (specified accuracy) / °C @ (10°C ~ 18°C or 28°C ~ 50°C), or otherwise specified
- **Pollution Degree :** 2
- **Low Battery** : Below approx. 2.6V
- **APO Timing** : Idle for 16 seconds
- **Power Consumption (typical)** : 2.7mA for Power-on ready & DCV; 50mA for ACV (with shaker on 105mA For RCD; 40mA for Buzzer on @ Continuity or EF function; 55mA for resistance or capacitar Add 30mA for backlight on. **(KM 69).**
  1mA for Power on ready; 40mA for Buzzer on @ Continuity of EF function **(KM 66).**
- **APO Consumption (typical)**: 12µA **(KM 69)**, 6µA **(KM 66)**
- **Power Supply** : 1.5V AAA Size (NEDA 24A or IEC LR03) alkaline battery x 2
- **Dimension** : 278(L) x 57(W) x 40(H)mm
- **Weight** : Approx. 235gm

SAFETY :

- Meets IEC/EN61010-1Ed. 3.0, IEC/EN61010-2-033Ed. 1.0, IEC/EN61243-3:2014 to CAT III 1000V & CAT IV 600V
- Transient Protection : 8kV lightning surge (1.2/50µs)
- Measurement Category : CAT III 1000V & CAT IV 600V AC & DC
- Overload Protection : 1100VDC & VAC rms
- Type of Protection : IP65 Per EN60529 - water and Dust Resistant.
- Rugged fire retarded double injected casing
- E. M. C. : Meets EN61326-1:2013
  For LCD display only : **(KM69)**
  Total Accuracy = Specified accuracy + 45d @ an RF field of 3V/m.

ACCESSORIES :

Batteries, User's manual, Screw-on stationary red probe and detachable leaded black probe.

Note: All Specification are Subject to change without prior notice.

ELECTRICAL SPECIFICATIONS : KM 69 / KM 66

Accuracy is given as ± (% of reading digits + number of digits) or otherwise specified @ 23°C ± 5°C & less than 75% R.H.

DC & AC VOLTAGE (LED)

Voltage Marking	Typical Threshold (Turn ON)	Typical Threshold (Turn OFF)
12 V	9.6 V	7 V
24 V	19.2 V	14 V
50 V	40 V	33 V
120 V	96 V	67 V
230 V	184 V	140 V
400 V	320 V	283 V
690 V	552 V	490 V
1000 V	800 V	760 V

LED Threshold ON : < 85% of Voltage Marking.
LED Threshold OFF : > 110% of pre-voltage Marking.
Input Impedance : 12V, 24V, 50V Voltage Markings : 100KW, 160pF nominal.
120V, 230V, 400V, 690V, 1000V Voltage Marking : 200KW~ 500KW vary linearly, 160pF nominal
ACV Frequency Responses : 45Hz ~ 65Hz
Duty ratio : Continuous @ £ 300V
Time rating (t_1) ON for 30 seconds &
recovery time (r_1) OFF for 2 minutes@ > 300V

RCD LEAKAGE LOAD (KM69)

RCD Circuit Breakers Intended : 30mA/230Vac
Activation Inhibited : at <201V or >264V
Activation Indication : flashing RCD-LED accompained with beep sound
Path Impedance : 6.1 KWnominal, PTC protected
Load Current : ³ 30mA typical at 230V
Activation Interval[1] : Maximum 5 seconds with automatic cutoff
1) In the event of a full continuous 5second activation interval, the protection PTC will heat up and affect the load curren tmagnitude thereafter. Allow cooling for 120 seconds before the next activation then.

DC & AC VOLTAGE (LCD display) (KM69)

Range	Threshold	Accuracy
DC 199.9V, 1000V	> +27VDC or < - 4.5VDC	±(1.5%rdg + 3dgts)
AC 199.9V, 1000V	> 8 VAC	±(2.5%rdg + 4dgts)

Input Impedance : 12V, 24V, 50V Voltage Marking : 100KW, 160pF nominal
120V, 230V, 400V, 690V, 1000V Voltage Markings :
200KW~ 500kWvary linearly, 160pF nominal
ACV Frequency Response : 45Hz ~ 65 Hz
Duty ratio : Continuous @ £ 300V
Time rating (t_1) ON for 30 seconds &
recovery time (r_1) OFF for 2 minutes@ > 300V

AC DETECTION SHAKER THRESHOLD (KM69)

Shaker Threshold : Between 8V & 15V AC

RST 3-Phase Rotation Detection (KM69)

Voltage Rage : 165V ~ 1000V
Frequency Range : 45Hz ~ 65Hz
Applications : Intended for Y-Connection 3P4W & High-leg D-Connection 3P3W System.
Not Intended for D-Connection 3P3W System without an earth-ground neutral.

AUDIBLE CONTINUITY

Open Circuit Voltage : 0.7 DC Typical
Audible Threshold : between 500KWand 750KW

Electric field EF-Detection

Non-contact EF-Detection : an antenna is located at the top-right side of the tester
Probe-contact EF-Detection : Via Black (-) test probe for direct-contact detection. it is mainly for identification of live connections using maximum sensitivity.
Detection Frequency : 50/60Hz
Strength Indication : Signal Strength is indication by the flashing rate of Continuity-LED accompanied with beep sound.
Display successive bar-graph segments proportional to the field strength on LCD. Typical Non-contact EF-Detection values are shown in the following table.

Typical Non-contact Voltage Range	LCD Bar Graph Indication
15V to 55V	–
30V to 95V	– –
55V to 170V	– – –
Above 120V	– – – –

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