KUSAM-MECO®

An ISO 9001:2015 Company

3¾ DIGITS DIGITAL CLAMPMETER + MULTIMETER
MODEL - KM 111M / KM 112M

THINK SAFETY
THINK KUSAM-MECO®

SPECIAL FEATURES :

- 600A AC Clamp-on + Multimeter ranges
- Ultra-slim jaws to access tight places
- Light weight & compact body to fit your hand
- Fully Auto-ranging for fast measurements
- Input Protection on all ranges
- Fast 30ms MAX Hold to capture in-rush currents
- Relative Zero mode
- Measures non-invasive ACA Frequency via clamp jaws
- Line level frequency measurements
- Data Hold function

Model KM 111M - Average Sensing - 18 FUNCTIONS 30 RANGES
KM 112M - True RMS Sensing - 19 FUNCTIONS 30 RANGES



GENERAL SPECIFICATIONS :

- ✶ **Sensing :** Average sensing (KM 111M); True RMS Sensing (KM 112M)
- ✶ **Jaw Opening Size :** 26mm
- ✶ **Basic Accuracy :** 0.5%
- ✶ **Display :** 3¾ Digits 4000 counts LCD display
- ✶ **Update Rate :** 3 per second nominal
- ✶ **Polarity :** Automatic
- ✶ **Low Battery :** Below approx. 2.4V.
- ✶ **Operating Temperature:** 0°C to 40°C.
- ✶ **Relative Humidity:** Maximum relative humidity 80% for temperature upto 31°C decreasing linearly to 50% relative humidity at 40°C
- ✶ **Altitude :** Operating below 2000m
- ✶ **Storage Temperature :** -20°C ~ 60°C,< 80% R.H. (With Battery removed)
- ✶ **Temperature Coefficient :** Nominal 0.15 x (specified accuracy) / °C @ (0°C ~ 18°C or 28°C ~ 40°C), or otherwise specified.
- ✶ **Power Supply :** Single 3V coin Battery IEC CR-2032.
- ✶ **Power Consumption :** 2.8mA typical, except 3.3mA typical for current function.
- ✶ **APO Timing :** Idle for 30 minutes.
- ✶ **APO Consumption :** 5µA typical.
- ✶ **Dimension :** 190(L) x 63(W) x 32(H)mm
- ✶ **Weight :** Approx. 139gm

Safety :

- **Safety :** Meets IEC61010-2-032, EN61010-2-032, UL61010B-2-032, IEC61010-1 2nd Ed., EN61010-1 2nd Ed., UL61010-1 2nd Ed.
  Measurement Category : CAT III 600 Volts AC & DC.
- **Pollution degree :** 2
- **E.M.C. :** Meets EN61326 (1997, 1998/A1), EN61000-4-2 (1995, 2000/A2), and EN61000-4-3 (2002)
  In an RF field of 3 V/m :
  Capacitance function is not specified.
  Total Accuracy = specified Accuracy + 65 digits.
  Other function ranges :
  Total Accuracy = Specified Accuracy + 45 digits.
  Performance above 3V/m is not specified.
- **Overload Protections :**
  ACA Clamp-on jaws : AC 600A rms Continuous.
  + / µA & COM terminals : 600VDC / VAC rms.
- **Transient protection :** 6.5KV (1.2/50µS surge)
- Rugged Fire-retarded casing



ACCESSORIES :

Test lead pair, Battery installed, User's Manual & Carrying case.

All Specifications are subject to change without prior notice

ELECTRICAL SPECIFICATIONS : KM 111M / KM 112M

Accuracy is ± (% reading digits + number of digits) or otherwise specified, at 23°C ± 5°C & less than 75% R.H. True RMS accuracy of ACV is specified from 5% to 100% of range, & ACA is specified from 10% to 100% of range, or otherwise specified. Maximum Crest Factor <1.75 : 1 at full scale & <3.5 : 1 at half scale, and with frequency spectrums, besides fundamentals, fall within the meter specified AC bandwidth for non-sinusoidal waveforms.

AC CURRENT (CLAMP-ON) (50HZ / 60HZ)

Range	Resolution	Accuracy [1)2)3)]
40.00 A	10 mA	±(1.5%rdg + 8dgts)
400.0 A	100 mA	
600 A	1 A	

[1)] **Induced error from adjacent current-carrying conductor :** 0.05/A

[2)] **Specified accuracy is from 1% to 100% of range and for measurements made at the jaw center. When the conductor is not positioned at the jaw center, position errors introduced are:**
Add 2% to specified accuracy for measurements made BEYOND jaw marking lines (toward jaw opening)

[3)] Add 8d to specified accuracy @ reading < 10% of range.

AC VOLTAGE (50HZ ~ 500HZ)

Range	Resolution	Accuracy
4.000 V	1 mV	±(1.5%rdg + 5dgts)
40.00 V	10 mV	
400.0 V	100 mV	
600 V	1 V	±(2.0%rdg + 5dgts)

CMRR : > 60dB @ DC to 60Hz, Rs=1kΩ

Input Impedance : 10 MΩ, 30pF Nominal.

DC VOLTAGE

Range	Resolution	Accuracy
400.0 mV	100 µV	±(0.3%rdg + 4dgts)
4.000 V	1 mV	±(0.5%rdg + 3dgts)
40.00 V	10 mV	
400.0 V	100 mV	
600 V	1 V	±(1.0%rdg + 4dgts)

NMRR : > 50dB @ 50/60Hz

CMRR : > 120dB @ DC,50/60Hz; Rs=1KΩ

Input impedance : 10MΩ, 30pF nominal
(1000MΩ for 400.0mV range)

DIODE TESTER

Open Circuit Voltage	Test Current (typical)
< 1.6 VDC	0.25mA

MAX HOLD (WHERE APPLICABLE)

Specified accuracy ± 50 digits for changes > 25ms in duration.

HZ FREQUENCY

Function	Sensitivity (sine Rms)	Range
400.0 mV	350 mV	10Hz ~ 2KHz
4.000 V	1 V	5Hz ~ 5KHz
40.00 V	32 V	5Hz ~ 100KHz
400.0 V	90 V	5Hz ~ 10KHz
600 V	500 V	5Hz ~ 5KHz
400.0 A	60 A	40Hz ~ 400Hz

Display counts : 5000

Best Resolution : 0.001Hz

Accuracy : ±(0.5%rdg + 4dgts)

RESISTANCE

Range	Resolution	Accuracy
400.0 Ω	0.1 Ω	±(0.8%rdg + 6dgts)
4.000 KΩ	1 Ω	±(0.6%rdg + 4dgts)
40.00 KΩ	10 Ω	
400.0 KΩ	100 Ω	
4.000 MΩ	1 kΩ	±(1.0%rdg + 4dgts)
40.00 MΩ	10 kΩ	±(2.0%rdg + 4dgts)

Open Circuit Voltage : 0.4VDC typical

CAPACITANCE

Range[1)]	Resolution	Accuracy [2) 3)]
500.0 nF	100 pF	±(3.5%rdg + 6dgts)
5.000 µF	1 nF	
50.00 µF	10 nF	
500.0 µF	100 nF	
3000 µF	1 µF	

[1)] Additional 50.00nF range accuracy is not specified.

[2)] Accuracies with film capacitor or better

[3)] Specified with battery voltage above 2.8V (approx. half full battery). Accuracy decreases gradually to 12% at low battery warning voltage of approx. 2.4V.

AUDIBLE CONTINUITY TESTER

Audible threshold	between 20Ω and 120Ω.

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