KUSAM-MECO®
An ISO 9001:2015 Company

30A AC /DC TRUE RMS DIGITAL CLAMPMETER WITH EF-DETECTION, AMPTIP FUNCTION FOR LOW CURRENT MEASUREMENT

MODEL - KM 137ma

THINK SAFETY
THINK KUSAM-MECO®

SPECIAL FEATURES :

- **AmpTip™ low-current range.**
- **MAX Hold**
- **Relative-zero mode.**
- **Ergonomic & Streamline Body**
- **Rugged & Durable**
- **Display Hold**
- **EF-Detection (NCV).**
- **Back-lighted easy-to-read LCD display**
- **Fully Autoranging**
- **BeepLit™ Feature.**

NEW

CAT III 600V
CATIV 300V
AC & DC



Preliminary Data

GENERAL SPECIFICATIONS :

- ✷ **Sensing :** True RMS
- ✷ **Jaws Opening size :** 26mm Max.
- ✷ **Display :** 3-5/6 digits 6000 counts
- ✷ **Update Rate :** 5 per second nominal
- ✷ **Polarity :** Automatic
- ✷ **Operating Temperature :** 0ºC to 40ºC
- ✷ **Relative Humidity :** Maximum relative humidity 80% for temperature up to 31ºC decreasing linearly to 50% relative humidity at 40ºC
- ✷ **Altitude :** Operating below 2000m
- ✷ **Storage Temperature :** -20°C ~ 60°C, <80% R.H. (with battery removed)
- ✷ **Temperature Coefficient :** Nominal 0.1 x (specified accuracy) / °C @ (0°C — 18°C or 28°C — 40°C), or otherwise specified
- ✷ **Power Supply :** Standard 1.5V AAA Size Battery X 2
- ✷ **Power Consumption :** typical 13mA
- ✷ **Low Battery :** Below approx. 2.85V for Capacitance & Hz. Below 2.5V for other functions
- ✷ **APO timing :** Idle for 32 minutes
- ✷ **APO Consumption :** typical 5µA
- ✷ **Dimension :** 188(L) x 66(W) x 32(H)mm
- ✷ **Weight :** approx 202 gms.

SAFETY :

- **Safety :** Certified per IEC/EN/CSA_C22.2_No./UL standards: 61010-1 Ed. 3.1, 61010-2-032 Ed. 4.0, & 61010-031 Ed. 2.0 to Measurement Categories CAT III 600V and CATIV 300V AC & DC
- **Overload Protection :**
  Current via jaws : 200A DC / AC rms at <400Hz.
  Voltage via terminal: 660V DC / 1100VAC rms.
  Other functions via terminals : 600V DC / AC rms
- **Pollution Degree :** 2
- **Rugged Fire retarded housing.**
- **Transient Protection :** 6.0kV (1.2/50µs surge)
- **E.M.C. :** Meets EN61326-1
  DCA and ACA Functions, in an RF field of 1V/m :
  Total Accuracy = Specified Accuracy + 40 digits at around 87MHz
  DCµA & Ohm Functions, in an RF field of 1V/m :
  Total Accuracy = Specified Accuracy + 25 digits
  Other Functions, in an RF field of 3V/m :
  Total Accuracy = Specified Accuracy + 20 digits
- **LVD Certified EN61010-2-032, EN61010-1 & Relevant Standards On CAT III 600V & CAT IV 300V.**

ACCESSORIES : Test leads set, Users Manual, Bkp60 banana plug type-K thermocouple & Carrying case.

All Specifications are subject to change without prior notice.

ELECTRICAL SPECIFICATIONS : KM 137ma

Accuracy is ± (% of reading digits + number of digits) or otherwise specified, at 23°C ± 5°C

Maximum Crest Factor <2 :1 at full scale & <4:1 at half scale or otherwise specified, and with frequency spectrum not exceeding the specified frequency bandwidth for non-sinusoidal waveforms.

AC CURRENT (CLAMP-ON)

Range	Resolution	Accuracy[1]
50Hz ~ 60Hz		
30.00 A	0.01 A	±(2.5%rdg + 8dgts)
200.0 A[2]	0.1 A	

[1] Induced error from adjacent current-carrying conductor : < 0.01A/A
[2] Temperature Coefficient : nominal 0.25 x (specified accuracy) / °C @ (0°C – 18°C or 28°C – 40°C)

AC CURRENT (CLAMP-ON AmpTip™)

Range	Resolution	Accuracy[1]
50Hz ~ 60Hz		
3.000 A	0.001 A	±(2.5%rdg + 8dgts)
30.00 A	0.01 A	

[1] **Induced error from adjacent current-carrying conductor :** < 0.01A/A

DC CURRENT (CLAMP-ON)

Range	Resolution	Accuracy[1] [2]
30.00 A	0.01 A	±(2.0%rdg + 8dgts)
200.0 A[3] [4]	0.1 A	

[1] Induced error from adjacent current-carrying conductor : < 0.01A/A
[2] Specified with DC-Zero mode applied to offset the non-zero residual readings; if any .
[3] Add 4% to specified accuracy @ -100.0A ~ -200.0A
[4] Temperature Coefficient : nominal 0.25 x (specified accuracy) / °C @ (0°C – 18°C or 28°C – 40°C)

DC CURRENT (CLAMP-ON AmpTip™)

Range	Resolution	Accuracy[1] [2]
3.000 A	0.001 A	±(2.0%rdg + 8dgts)
30.00 A	0.01 A	

[1] **Induced error from adjacent current-carrying conductor :** < 0.01A/A
[2] **Specified with DC-Zero mode applied to offset the non-zero residual readings; maintain the same measuring orientation to minimize the geomagnetic field effect.**

DC VOLTAGE

Range	Resolution	Accuracy
60.00 V	0.01 V	±(1.0%rdg + 5dgts)
600.0 V	0.1 V	

Input Impedance : 10MΩ, 100pF nominal

AC VOLTAGE (Low-Pass Filter (LPF))

Range	Resolution	Accuracy
50Hz ~ 60Hz		
600.0 V	0.1 V	±(1.5%rdg + 5dgts)

Input Impedance : 10MΩ, 100pF nominal

DCμA

Range	Resolution	Accuracy
200.0μA	0.1μA	±(1.0%rdg + 5dgts)
2000μA	1μA	

Burden Voltage : 3.5mV/μA

RESISTANCE

Range	Resolution	Accuracy
600.0 Ω	0.1 Ω	±(1.0%rdg + 5dgts)
6.000KΩ	0.001kΩ	
60.00KΩ	0.01kΩ	
600.0KΩ	0.1kΩ	
6000KΩ	1kΩ	

Open Circuit Voltage : 1.0VDC typical

NON-CONTACT EF-DETECTION (NCV)

Bar-Graph Indication	EF-H (Hi Sensitivity)	EF-L (Lo Sensitivity)
	Typical Voltage (Tolerance)	
-	10V (2V~20V)	40V (10V~70V)
- -	20V (4V~40V)	80V (20V~140V)
- - -	40V (8V~70V)	160V (40V~280V)
- - - -	80V (16V~140V)	320V (80V~560V)
- - - - -	160V (40V ~ 600V)	500V (160V~600V)

Indication : Bar-graph segments & audible beep tones proportional to the field strength.
Detection Frequency : 50/60Hz
Detection Antenna : Inside the top side of the stationary jaw
Probe-Contact EF-Detection (Single-pole measurement) : For more precise indication of live wires, such as distinguishing between live and ground connections, use one single probe to test via terminal COM for direct Metal contact probing to achieve the most distinctive indication.

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CAPACITANCE

Range	Resolution	Accuracy[1]
200.0µF	0.1µF	±(2.0%rdg + 4dgts)
2500µF	1µF	

[1] Accuracies with film capacitor or better

Hz (LPF added) LINE-LEVELFREQUENCY

FUNCTION	SENSITIVITY[1] (SINE RMS)	RANGE
600VAC	50V	5.00Hz ~ 999.9Hz

Accuracy : 1% + 5dies with film capacitor or better
[1] DC-bias, if any not more than 50% of Sine RMS

TEMPERATURE

Range	Resolution	Accuracy[1] [2]
-40ºC ~ 99.9ºC	0.1ºC	1.0% + 1ºC
100ºC ~ 400ºC	1ºC	
-40ºF ~ 211.8ºF	0.1ºF	1.0% + 2ºF
212ºF ~ 752ºF	1ºF	

[1] Accuracies assume meter interior has the same temperature (isothermal stage) of the ambient for a correct junction voltage compensation. Allow the meter and the type-K probe set to reach isothermal stage for a significant change of ambient temperature. It can take up to an hour for changes > 5°C.
[2] Type-K thermocouple range & accuracy not included

BeepLit™ CONTINUITY TESTER

Continuity Threshold	Between 30Ω & 480Ω
Continuity ON Response Time	15ms approx.
Audible Indication	Beep sound
Visible Indication	LCD Backlight

BeepLit™ DIODE TESTER

Range	Resolution	Accuracy
3.000 V	1 mV	±(1.5%rdg + 5dgts)

Test Current : 0.3mA typically
Open Circuit Voltage : < 3.5VDC typically
Beep Alert Threshold : Drop across 0.850V
BeepLit™ ON Threshold : <0.100V
Audible indication : Beep Sound
Visible Indication : LCD Backlight.

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