

**KUSAM-MECO**

An ISO 9001:2008 Company



# 600A AC TRUE RMS DIGITAL CLAMP METER WITH VFD, EF-DETECTION, AMPTIP FUNCTION FOR LOW CURRENT MEASUREMENT

**MODEL KM 072****SPECIAL FEATURES :**

- AmpTip™ low-current range calibrated at Jaw-tip for slim-conditions for accurate readings
- MAX/MIN/AVG Recording mode (Auto ranging)
- VFD-V & Hz for fundamental V/Hz of most Variable-Frequency-Drives
- Display Hold & Non-Contact EF-Detection (NCV)
- Probe-Contact EF-Detection.

**GENERAL SPECIFICATIONS :**

- \* Sensing : AC; True RMS
- \* Jaws Opening size & conductor diameter : 30mm Max.
- \* Display : 3-5/6 digits 6000 counts
- \* Update Rate : 5 per second nominal
- \* Polarity : Automatic
- \* Operating Temperature : 0°C to 40°C
- \* Relative Humidity : Maximum relative humidity 80% for temperature up to 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 : Standard 1.5V AAA Size Battery X 2
- \* Power Consumption : typical 4.3mA
- \* Low Battery : Below approx. 2.85V for Capacitance & Hz  
Below approx. 2.5V for other functions
- \* APO timing : Idle for 32 minutes
- \* APO Consumption : typical 5µA
- \* Dimension : 217(L) x 76(W) x 37(H)mm
- \* Weight : approx 186 gms.

**SAFETY :**

- Safety : Double insulation per UL/IEC/EN61010-1 Ed. 3, IEC/EN61010-2-033 Ed. 1, CAN/CSA C22.2 No. 61010-1 Ed. 3, IEC/EN61010-2-032 Ed. 3 & IEC/EN61010-031 Ed. 1.1
- Measurement Category : CAT III 600V AND CAT IV 300V AC & DC
- E.M.C. : Meets EN61326-1 : 2006 (EN55022, EN61000-3-2, EN61000-3-3, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11) :  
DCA and DC+ACA Functions, in an RF field of 1V/m :  
Total Accuracy = Specified Accuracy + 20 digits at around 405MHz  
DCµA and 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
- Overload Protection :  
Current & Hz functions via jaws : 600ADC/AAC rms at <400Hz  
Voltage & 3-Phase Rotation functions via terminals : 660VDC/ 920VAC rms  
Other functions via terminals : 600VDC/ VAC rms
- Pollution Degree : 2
- Transient Protection : 6.0kV (1.2/50µs surge)
- Rugged Fire retarded casing.
- LVD EN61010-1/61010-2-032/EN61010-2-033 to CAT III 600V & CAT IV 300V

**ACCESSORIES :**

Test leads set, Users Manual, Battery &amp; Carrying Case.



Preliminary Data

All Specifications are subject to change without prior notice

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G-17, Bharat Industrial Estate, T. J. Road, Sewree (W), Mumbai - 400 015. INDIA.  
**Sales Direct.:** 022-24156638, **Tel. :** 022-24124540, 24181649, **Fax :** 022-24149659  
**Email :** kusam\_meco@vsnl.net, **Website :** www.kusamelectrical.com

## ELECTRICAL SPECIFICATIONS : KM 072

Accuracy is  $\pm$  (% of reading digits + number of digits) or otherwise specified, at  $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$   
Maximum Crest Factor  $<2.5:1$  at full scale &  $<5:1$  at half scale or otherwise specified, and with frequency spectrum not exceeding the specified frequency bandwidth for non-sinusoidal waveforms.

### REGULAR CLAMP-ON AC CURRENT

Range	Resolution	Accuracy <sup>1)2)</sup>
<b>50Hz ~ 100Hz</b>		
60.00 A <sup>3)</sup>	0.01 A	$\pm(1.8\%rdg + 5dgts)$
600.0 A	0.1 A	
<b>100Hz ~ 400Hz</b>		
60.00 A <sup>3)</sup>	0.01 A	$\pm(2.0\%rdg + 5dgts)$
600.0 A	0.1 A	

<sup>1)</sup> Induced error from adjacent current-carrying conductor :  $< 0.01A/A$

<sup>2)</sup> Specified accuracy is for measurements made at the jaw center. When the conductor is not positioned at the jaw center, add 2% to specified accuracy for position errors.

<sup>3)</sup> Add 10d to the specified accuracy @  $< 6A$  & unspecified accuracy @  $< 0.2A$

### AC VOLTAGE (with Digital Low-Pass Filter)

Range	Resolution	Accuracy
<b>50Hz ~ 60Hz</b>		
600.0 V	0.1 V	$\pm(1.0\%rdg + 5dgts)$

Input Impedance :  $10M\Omega$ , 100pF nominal

### RESISTANCE

Range	Resolution	Accuracy
600.0 $\Omega$	0.1 $\Omega$	$\pm(1.0\%rdg + 5dgts)$
6.000K $\Omega$	1 $\Omega$	
60.00K $\Omega$	10 $\Omega$	

Open Circuit Voltage : 1.0VDC typical

### HZ LINE LEVEL FREQUENCY

Function	Sensitivity <sup>1)</sup> (Sine RMS)	Range
600 V	50 V	5.00Hz~999.9Hz
1000 V		
60 A (AmpTip™)	20 A	50.00Hz~400.0Hz
60 A	20 A	50.00Hz~400.0Hz
600 A		

Accuracy :  $\pm(1\%rdg + 5dgts)$

<sup>1)</sup> DC-bias, if any, not more than 50% of Sine RMS

### AMPTIP™ CLAMP-ON AC CURRENT

Range	Resolution	Accuracy <sup>1)2)3)4)</sup>
<b>DC, 50Hz ~ 60Hz</b>		
60.00 A	0.01 A	$\pm(1.5\%rdg + 5dgts)$

<sup>1)</sup> Induced error from adjacent current-carrying conductor :  $< 0.01A/A$

<sup>2)</sup> Specified with Relative Zero mode applied to offset the non-zero residual readings, if any

<sup>3)</sup> Add 10d to the specified accuracy @  $< 4A$

<sup>4)</sup> Add 10d to the unspecified accuracy @  $< 0.2A$

### DC VOLTAGE

Range	Resolution	Accuracy
600.0 V	0.1 V	$\pm(1.0\%rdg + 5dgts)$

Input Impedance :  $10M\Omega$ , 100pF nominal

### Non-Contact EF-Detection

Typical Voltage	Bar-Graph Indication
20V (tolerance : 10V~36V)	-
55V (tolerance : 23V~83V)	--
110V (tolerance : 59V~165V)	---
220V (tolerance : 124V~330V)	----
440V (tolerance : 250V~1000V)	-----

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 : 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 contact EF-Detection with best sensitivity.

### AUDIBLE CONTINUITY TESTER

Audible Threshold	Between $10\Omega$ and $250\Omega$
Response Time	32ms approx.

### DIODE TESTER

Range	Resolution	Accuracy <sup>1)</sup>
2.000 V	1 mV	$\pm(1.5\%rdg + 5dgts)$

Test Current : 0.3mA typically

Open Circuit Voltage :  $< 3.5VDC$  typically

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