KUSAM-MECO®
An ISO 9001:2015 Company

AC+DC TRUE RMS DIGITAL CLAMPMETER WITH VFD, EF-DETECTION, AMPTIP FUNCTION FOR LOW CURRENT MEASUREMENT

THINK SAFETY
THINK KUSAM-MECO®

MODEL KM 078

NEW



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)
- Back-lighted easy-to-read LCD display
- Fast 80ms Peak-RMS mode to capture in-rush currents
- Auto-ranging Relative mode with DC-Zero mode on DCA, DC+ACA ranges

GENERAL SPECIFICATIONS :

- ✶ **Sensing :** AC+DC; True RMS
- ✶ **Jaws Opening size :** 35mm 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 0.15 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 13mA
- ✶ **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 :** 223(L) x 76(W) x 37(H)mm
- ✶ **Weight :** approx 234 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
- **Overload Protection :**
  Current & Hz functions via jaws : 600ADC/AC rms at <400Hz.
  Voltage : 660VDC rms
  Other functions via terminals : 600VDC/ VAC rms
- **Pollution Degree :** 2
- **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 405M
  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
- **Transient Protection :** 6.0kV (1.2/50µs surge)
- **Rugged Fire retarded casing.**
- **LVD EN61010-2-032/EN61010-2-032/EN61010-2-033 to CAT III 600V & CAT IV 300V**

Preliminary Data

ACCESSORIES : Test leads set, Users Manual, Carrying case.

ELECTRICAL SPECIFICATIONS : KM 078

Accuracy is ± (% of reading digits + number of digits) or otherwise specified, at 23°C ± 5°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[1) 2)]
50Hz ~ 100Hz		
60.00 A[3)]	0.01 A	±(1.8%rdg + 5dgts)
600.0 A	0.1 A	
100Hz ~ 400Hz		
60.00 A[3)]	0.01 A	±(2.0%rdg + 5dgts)
600.0 A	0.1 A	

[1)] **Induced error from adjacent current-carrying conductor :** < 0.01A/A
[2)] Maximum Crest Factor <2:1 at full scale & <4:1 at half scale.
[3)] Add 10d to the specified accuracy @ < 9A.

REGULAR CLAMP-ON DC CURRENT

Range	Resolution	Accuracy[1) 2)]
60.00 A[3)]	0.01 A	±(2.0%rdg + 5dgts)
600.0 A	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 10d to the specified accuracy @ < 9A

All Specifications are subject to change without prior notice

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REGULAR CLAMP-ON DC+AC CURRENT

Range	Resolution	Accuracy[1) 2)]
DC, 50Hz ~ 100Hz		
60.00 A[3)]	0.01 A	±(2.2%rdg + 7dgts)
600.0 A	0.1 A	
100Hz ~ 400Hz		
60.00 A[3)]	0.01 A	±(2.7%rdg + 7dgts)
600.0 A	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 10d to the specified accuracy @ < 9A

DC VOLTAGE

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

Input Impedance : 10MΩ, 100pF nominal

AC VOLTAGE (with Digital Low-Pass Filter)

Range	Resolution	Accuracy
50Hz ~ 60Hz		
600.0 V	0.1 V	±(1.0%rdg + 5dgts)

Input Impedance : 10MΩ, 100pF nominal

DC+AC VOLTAGE (with Digital Low-Pass Filter)

Range	Resolution	Accuracy
DC, 50Hz ~ 60Hz		
600.0 V	0.1 V	±(1.2%rdg + 7dgts)

Input Impedance : 10MΩ, 100pF nominal

HZ LINE LEVEL FREQUENCY

Function	Sensitivity[1)] (Sine RMS)	Range
600 V	50 V	5.00Hz~999.9Hz
60 A (AmpTip™)	40 A	50.00Hz~400.0Hz
60 A	40 A	50.00Hz~400.0Hz
600 A		

Accuracy : ±(1%rdg + 5dgts)
[1)] DC-bias, if any, not more than 50% of Sine RMS

CAPACITANCE

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

[1)] Accuracies with film capacitor or better

DIODE TESTER

Range	Resolution	Accuracy[1)]
2.000 V	1 mV	±(1.5%rdg + 5dgts)

Test Current : 0.3mA typically
Open Circuit Voltage : < 3.5VDC typically

AMPTIP™ CLAMP-ON AC CURRENT

Range	Resolution	Accuracy[1) 2) 3)]
50Hz ~ 60Hz		
60.00 A	0.01 A	±(1.5%rdg + 5dgts)

[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 10d to the specified accuracy @ < 4A

AMPTIP™ CLAMP-ON DC CURRENT

Range	Resolution	Accuracy[1) 2) 3)]
60.00 A	0.01 A	±(2.0%rdg + 5dgts)

[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 10d to the specified accuracy @ < 4A

AMPTIP™ CLAMP-ON DC+ACA CURRENT

Range	Resolution	Accuracy[1) 2) 3)]
DC, 50Hz ~ 60Hz		
60.00 A	0.01 A	±(2.0%rdg + 7dgts)

[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 10d to the specified accuracy @ < 4A

RESISTANCE

Range	Resolution	Accuracy
600.0 Ω	0.1 Ω	±(1.0%rdg + 5dgts)
6.000KΩ	1 Ω	
60.00KΩ	10 Ω	

Open Circuit Voltage : 1.0VDC typical

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.

PEAK-RMS (ACV & ACA)

Response	80ms to > 90%

AUDIBLE CONTINUITY TESTER

Audible Threshold	Between 10Ω and 250Ω
Response Time	32ms approx.