KUSAM-MECO®

An ISO 9001:2015 Company

AC TRUE RMS DIGITAL CLAMPMETER

MODEL KM 175D

THINK SAFETY
THINK KUSAM-MECO®

17 FUNCTIONS 22 RANGES

SPECIAL FEATURES :

- AmpTip™ low-current range.
- Backlighted LCD display.
- Duo-Core to simultaneously measure clamp-on Amps + A DMM functions.
- VFD-V & Hz for fundamental V/Hz of most Variable-Frequency-Drives
- Display Hold & Non-Contact EF-Detection (NCV)
- AC True RMS Voltage & Current functions.
- Fast 80ms Peak-RMS mode to capture in-rush currents
- Probe contact EF-Detection for more precise indication of live.
- Line level ACV frequency 10.00Hz to 999.9Hz.
- Cx ranges 200.0μF to 2500μF for start & Run Motor Capacitors.



Preliminary Data

GENERAL SPECIFICATIONS :

- ✶ **Sensing :** True RMS
- ✶ **Jaws Opening size & conductor diameter :** 30mm Max.
- ✶ **Display :** 3-5/6 digits 6000 counts; dual display
- ✶ **Update Rate :** 5 per second nominal
- ✶ **Polarity :** Automatic
- ✶ **Operating Temperature :** 0ºC to 40ºC
- ✶ **Relative Humidity :** Maximum 80%R.H. for temperature upto 31°C decreasing linearly to 50% R.H. 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 Battery x 2
- ✶ **Power Consumption :** typical 6.2mA
- ✶ **Low Battery :** Below approx. 2.85V for Capacitance & Hz
  Below approx. 2.5V for other functions
- ✶ **APO timing :** Idle for 32 minutes approx.
- ✶ **APO Consumption :** typical 5μA.
- ✶ **Dimension :** 217(L) x 76(W) x 37(H)mm
- ✶ **Weight :** approx. 189 gms.

SAFETY :

- **Safety :** Double insulation per UL/IEC/EN61010-1 Ed. 3.0, CAN/CSA C22.2 No. 61010-1 Ed. 3.0, UL/IEC/EN61010-2-032 Ed. 3.0 & UL/IEC/EN61010-2-033 Ed. 1.0 CAT III 600V & CAT Iv 300V AC & DC.
- **E.M.C. :** Meets EN61326-1 : 2013
  Temperature function at 80MHz ~ 150MHz :
  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 :**
  Clamp-on jaws : 600A rms continuous
  "+" & COM Terminals (all other functions): 600VDC/VAC rms
- **Pollution Degree :** 2
- **Transient Protection :** 6.0kV (1.2/50μs surge)
- **Rugged Fire retarded casing.**
- **LVD EN61010-2-032 / EN61010-1 to CAT III 600V & CAT IV 300V**

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

OPTIONAL ACCESSORIES : BKB32 banana plug to type-K socket plug adaptor.

All Specifications are subject to change without prior notice

ELECTRICAL SPECIFICATIONS : KM 175D

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 components within the specified frequency components within the specified frequency bandwidth for non-sinusoidal waveforms.

AMPTIP™ CLAMP-ON AC CURRENT

Range	Resolution	Accuracy[1) 2) 3) 4)]
50Hz ~ 60Hz		
60.00 A	0.1 A	±(1.5%rdg + 5dgts)

[1)] **Induced error from adjacent current-carrying conductor :** < 0.06A/A
[2)] Induced error from ACV measurement <0.60A / kV @ 50 / 60Hz
[3)] Add 10d to the specified accuracy @ < 6A
[4)] Induced non-zero residual while beeper turns on : <20d

REGULAR CLAMP-ON AC CURRENT

Range	Resolution	Accuracy[1) 2) 3) 4)]
50Hz ~ 100Hz		
60.00 A[5)]	0.01 A	±(1.8%rdg + 5dgts)
600.0 A	0.1 A	
100Hz ~ 400Hz		
60.00 A[5)]	0.01 A	±(2.0%rdg + 5dgts)
600.0 A	0.1 A	

[1)] **Induced error from adjacent current-carrying conductor :** < 0.06A/A
[2)] Induced error from ACV measurement <0.60A / kV @ 50 / 60Hz.
[3)] 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.
[4)] Induced non-zero residual while beeper turns on : < 20d
[5)] Add 10d to specified accuracy @ < 6A.

DCμA

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

Burden Voltage : 3.5mV/μA

TEMPERATURE

Range	Accuracy[1) 2)]
-40.0ºC ~ 99.9ºC	1.0% ~ 0.8ºC
100.0ºC ~ 400ºC	1.0% ~ 1ºC
-40.0ºF ~ 99.9ºF	1.0% ~ 1.5ºF
100ºF ~ 752ºF	1.0% ~ 2ºF

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

DIODE TESTER

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

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

80ms PEAK-RMS for Clamp-on ACA

Response	80ms to > 90% of specifications, & is specified from 2% of range.

AUDIBLE CONTINUITY TESTER

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

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 VOLTAGE

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

Input Impedance : 10MΩ, 100pF nominal

RESISTANCE

Range	Resolution	Accuracy
600.0Ω	0.1 Ω	±(1.0%rdg + 5dgts)
6.000KΩ	0.001kΩ	
60.00KΩ	0.01 kΩ	
600.0KΩ[1)]	0.1 kΩ	±(1.2%rdg + 5dgts)
6000KΩ[2)]	1 kΩ	

Open Circuit Voltage : 1.7VDC typical
[1)] **Test Current :** 2μA typical
[2)] **Test Current :** 0.2μA typical

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

HZ LINE LEVEL FREQUENCY

Function	Sensitivity (Sine RMS)[1)]	Range
600 V	50 V	5.00Hz~999.9Hz

Accuracy : 1% + 5d
[1)] DC-bias, if any, not more than 50% of Sine RMS.

NON-CONTACT EF-DETECTION

Bar-Graph Indication	EF-H (High Sensitivity)	EF-L (Low Sensitivity)
	Typical Voltage (Tolerance)	
-	10V (5V ~ 25V)	40V (32V ~ 70V)
- -	25V (20V ~ 66V)	110V (55V ~ 165V)
- - -	55V (50V ~ 125V)	220V (130V ~ 265V)
- - - -	110V (90V ~ 200V)	400V (250V ~ 500V)
- - - - -	220V (>180V)	550V (>430V)

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 direct contact testing with one single test-probe via an input terminal. The COM terminal (Black) has the test sensitivity.

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