



An ISO 9001:2015 Company

3-5/6 DIGIT 6000 COUNTS TRMS DIGITAL MULTIMETER WITH VFD, EF-DETECTION



Model KM 233

SPECIAL FEATURES :

- VFD V & Hz Function
- EF-Detection (NCV)
- Paper White Backlight Display
- Auto Power Off
- Auto-ranging MAX/MIN/AVG record
- Diode & Continuity Test
- BeepLit Continuity, Features Audible Beep & Visible Backlight Effects
- Beep-Jack Input warning on μ mA/A terminals plug in
- Auto-ranging Relative Zero Mode
- Low Battery Indication
- Display Hold
- Rugged Fire retarded casing.

GENERAL SPECIFICATIONS :

- * Sensing : TRUE RMS sensing
- * Display : 3-5/6 digits 6000 counts LCD display
- * Update Rate : 5 per second nominal
- * Operating Temperature : -10°C to 45°C
- * Relative Humidity : Maximum relative humidity 80% for temperature upto 31°C decreasing linearly to 50% relative humidity at 45°C
- * Altitude : Operating Below 2000m.
- * Storage Temperature: -20°C to 60°C, <80% R.H. With battery removed from meter.
- * Pollution Degree : 2
- * Temperature Coefficient : nominal 0.15 x (specified accuracy) /°C @ (0°C~18°C or 28°C~45°C), or otherwise specified.
- * Low battery : Below approx. 2.5V
- * Power Consumption : Typical 3.2mA
- * APO Consumption : Typical 10 μ A
- * APO Timing : Idle for 30 minutes
- * Power Supply : 1.5V AAA battery x 2
- * Dimension : 161(L) X 80(W) X 50(H) mm (with Holster)
- * Weight : Approx. 334 gm (with Holster)

SAFETY :

- Safety : Double insulation per IEC/UL/EN61010-1 Ed. 3.0, IEC/UL/EN61010-2-030 Ed. 1.0, IEC/UL/EN61010-2-033 Ed. 1.0, IEC/UL/EN61010-031 Ed. 1.1 & the corresponding CAN/CSA-C22.2 regulations to measurement CAT II 1000V, CAT III 600V and CAT IV 300V AC & DC.
- E. M. C. : Meets EN61326-1:2006
 - In an RF field of 3V/m :
 - Ohm function :
 - Total Accuracy = Specified Accuracy + 15 digits
 - Other function ranges :
 - Total Accuracy = Specified Accuracy
 - Performance above 3V/m is not specified.
- Transient Protection : 6.0kV lightning surge (1.2/50 μ s)
- Terminals (to COM) Measurement Category :
 - V/ mA μ A / A : CAT II 1000 Volts and CAT III 600V and CAT IV 300 Volts AC & DC.
- Overload Protections :
 - μ A & mA : 0.4A / 1000V DC/AC rms, IR 30kA, F fuse
 - A : 11A / 1000V DC/AC rms, IR 20kA, F fuse
 - V & Auto V: 1100V DC/ACrms
 - mV, Ω & Others : 1000V DC/AC rms

ACCESSORIES :

Test leads pair, Carrying Case, Batteries installed, User's Manual.

OPTIONAL ACCESSORIES :

Magnetic Hanger
Current Clamp CA300, Current Clamp Adaptor CA500, CA1000, CA2000, High Voltage Probe PD-28.



Magnetic Hanger

All Specifications are subject to change without prior notice.

ELECTRICAL SPECIFICATIONS - KM 233

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

ACV & ACA accuracies are specified from 1% to 100% of range or otherwise specified. Maximum Crest Factor <2:1 at full scale & <4:1 half scale, and with frequency components fall within the meter specified frequency bandwidth for non-sinusoidal waveforms.

DC VOLTAGE

Range	Resolution	Accuracy
60.00 mV	10 μ V	$\pm(0.3\%rdg + 2dgts)$
600.0 mV	100 μ V	
6.000 V	1 mV	
60.00 V	10 mV	
600.0 V	100 mV	
1000 V	1 V	

Input Impedance : 10M Ω , 54pF nominal

DC CURRENT

Range	Resolution	Accuracy	Burden Voltage
600.0 μ A	100 nA	$\pm(1.0\%rdg + 3dgts)$	0.1 mV / μ A
6000 μ A	1 μ A		0.1 mV / μ A
60.00 mA	10 μ A	$\pm(0.7\%rdg + 3dgts)$	1.9 mV / mA
600.0 mA	100 μ A		1.9 mV / mA
6.000 A	1 mA		0.04 V / A
10.00 A ¹⁾	10 mA		0.04 V / A

¹⁾ 10A continuous, >10A to 20A for 30 Sec. Max with 5 minutes cool down interval

AC VOLTAGE

Range	Resolution	Accuracy
50Hz -- 60Hz		
6.000 V	1 mV	$\pm(0.7\%rdg + 3dgts)$
60.00 V	10 mV	
600.0 V	100 mV	
1000 V	1 V	
45Hz -- 440Hz		
6.000 V	1 mV	$\pm(2.0\%rdg + 3dgts)$
60.00 V	10 mV	
600.0 V	100 mV	
1000 V	1 V	
10Hz -- 500Hz		
60.00 mV	10 μ V	$\pm(1.0\%rdg + 3dgts)$
600.0 mV	100 μ V	
500Hz -- 800Hz		
60.00 mV	10 μ V	$\pm(2.0\%rdg + 3dgts)$
600.0 mV	100 μ V	

Input Impedance : 10M Ω , 54pF nominal

AC CURRENT

Range	Resolution	Accuracy	Burden Voltage
50Hz -- 400Hz			
600.0 μ A	100 nA	$\pm(1.5\%rdg + 3dgts)$	0.1 mV / μ A
6000 μ A	1 μ A		0.1 mV / μ A
60.00 mA	10 μ A	$\pm(1.0\%rdg + 3dgts)$	1.9 mV / mA
600.0 mA	100 μ A		1.9 mV / mA
6.000 A	1 mA		0.04 V / A
10.00 A ¹⁾	10 mA		0.04 V / A

¹⁾ 10A continuous, >10A to 20A for 30 Sec. Max with 5 minutes cool down interval

VFD AC VOLTAGE (with Low Pass Filter)

Range	Resolution	Accuracy ¹⁾
10Hz -- 440Hz (fundamental)		
600.0 V	100 mV	$\pm(2.0\%rdg + 3dgts)$
1000 V	1 V	

¹⁾ Not specified for fundamental frequency >440Hz

LINE FREQUENCY

Function	Sensitivity (Sine RMS)	Range
60 mV	50 mV	10Hz - 50kHz
600 mV	50 mV	10Hz - 50kHz
6 V	3 V	10Hz - 50kHz
60 V	5 V	10Hz - 50kHz
600 V	50 V	10Hz - 1kHz
1000 V	500 V	10Hz - 1kHz
VFD 600 V	50 V	10Hz - 1kHz
VFD 1000V	500 V	10Hz - 1kHz
600 μ A	500 μ A	10Hz - 5kHz
6000 μ A	500 μ A	10Hz - 5kHz
60 mA	50 mA	10Hz - 5kHz
600 mA	50 mA	10Hz - 5kHz
6 A	8 A	50Hz - 1kHz
10 A	8 A	50Hz - 1kHz

Accuracy : 0.03%+2d

BEEPLIT CONTINUITY TESTER

Continuity Threshold :	Between 30 Ω and 480 Ω
Response time :	64ms
Latch time :	128ms
Audible Response :	Beep sound
Visible Response :	LCD Backlight

CAPACITANCE

Range	Resolution	Accuracy
20.00 nF	10 pF	$\pm(1.5\%rdg + 8dgts)$
200.0 nF	100 pF	
2000 nF	1 nF	$\pm(1.5\%rdg + 2dgts)$
20.00 μ F	10 nF	
200.0 μ F	100 nF	
2000 μ F	1 μ F	$\pm(4.5\%rdg + 10dgts)$
10.00 mF	10 μ F	

Accuracies with film apacitor or better

OHMS

Range ¹⁾	Resolution	Accuracy
600.0 Ω	100 m Ω	$\pm(0.3\%rdg + 3dgts)$
6.000 k Ω	1 Ω	
60.00 k Ω	10 Ω	$\pm(0.5\%rdg + 3dgts)$
600.0 k Ω	100 Ω	
6.000 M Ω ²⁾	1 k Ω	$\pm(0.9\%rdg + 2dgts)$ ⁴⁾
60.00 M Ω ³⁾	10 k Ω	

¹⁾ Open Circuit Voltage : 1.6VDC typical.

²⁾ Constant Test Current : 0.2 μ A Typical

³⁾ Constant Test Current : 0.02 μ A Typical

⁴⁾ 5% + 20d @ > 30M Ω .

DIODE TESTER

Range	Resolution	Accuracy
3.000 V	100mV	$\pm(0.9\%rdg + 2dgts)$

Test Current : 0.3mA typical.

Open Circuit Voltage : <3.2VDC typical.

All Specifications are subject to change without prior notice.



E-mail : sales@kusam-meco.co.in

Website : www.kusamelectrical.com