KUSAM-MECO®

An ISO 9001:2015 Company

6000 COUNTS TRUE RMS DIGITAL INSULATION MULTIMETER MODEL KM 887

THINK SAFETY
THINK KUSAM-MECO®

SPECIAL FEATURES :

- VFD V & Hz readings.
- LCD Backlight Display
- Record MAX/MIN regular readings.
- Display Hold Function.
- Dual Display +Hz readings.
- Relative zero mode.
- LOCK-Test mode for Insulation Resistance
- BeepJack™ audible & visible input warning.
- High resolution 60.00mV & 60.00Ω ranges.

CAT III 1000V
CAT IV 600V

8KV
Transient
Protection



GENERAL SPECIFICATIONS :

- ✶ **DC Basic Accuracy :** 0.2%
- ✶ **Sensing :** AC, True RMS
- ✶ **Display :** 3-5/6 digits 6000 Counts Backlight LCD Display.
- ✶ **Polarity :** Automatic
- ✶ **Update Rate :** 5 per second nominal
- ✶ **61 Segments Bar Graph :** 40 per second max.
- ✶ **Operating Temperature :** -10ºC ~ 50ºC
- ✶ **Relative Humidity :** Maximum relative humidity 90% for temperature up to 28ºC decreasing linearly to 50% relative humidity at 50ºC.
- ✶ **Pollution degree :** 2
- ✶ **IP Rating Design :** IP40
- ✶ **Storage Temperature :** -20ºC ~ 60ºC, < 80% R.H. (with battery removed)
- ✶ **Altitude :** Operating below 2000m
- ✶ **Temperature Coefficient :** Nominal 0.1 x (specified accuracy)/ °C @(-10ºC~18ºC or 28ºC~50ºC), or otherwise specified.
- ✶ **Low Battery:** approx. 4.6V
- ✶ **APO Timing:** Idle for 20 minutes
- ✶ **APO Consumption:** 20μA typical
- ✶ **Auto Power Off.**
- ✶ **Power Supply:** Four AA Alkaline batteries
- ✶ **Power Consumption:** 6.5mA typical except the followings : VFD ACV $^{+Hz}$: 8mA

  Insulation Resistance @ 1mA Test Current :

  50V output Voltage : 25mA, 100V output Voltage : 45mA
  250V output Voltage : 85mA, 500V output Voltage : 170mA
  1000V output Voltage : 440mA

  Tester can perform at least 950 Insulation Tests with new alkaline batteries at room temperature.
  These are standard tests of 1000V into 1MΩ with a duty cycle of 5 seconds on and 25 seconds off.
- ✶ **Dimension:** Approx. 208(L) X 103(W) X 64.5(H) mm with holster
- ✶ **Weight:** Approx. 635 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 III 1000V AC & DC & CAT IV 600V AC & DC.
- ✶ **Compliance to IEC / EN61557:2007 :** (per CE requirements, not certified by UL or ETL) : IEC / EN61557-1 & IEC / EN61557-2 .
- ✶ **Overload Protections :**

  Insulation Resistance, μA & mA : 0.4A/1KV, IR 30kA, F Fuse, or better
  A : 11A/1KV, IR 20kA, F Fuse or better
  V : 1100Vrms
  mV, Ω & Others : 1000 Vrms
- ✶ **Transient Protection :** 8KV(1.2/50μS Surge)
- ✶ **E.M.C. :** Meets EN61326-1:2013

  In an RF field of 3V/m:
  Total Accuracy = Specified Accuracy + 25 digits.
  Performance above 3V/m is not specified.



ACCESSORIES : Test probe pair, BRP21S2-C Remote probe, Alligator clip pair, Holster, User manual & Carrying case.

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

All Specifications are subject to change without prior notice

ELECTRICAL SPECIFICATIONS : KM 887

Accuracy is ± (% of reading digits + number of digits) or otherwise specified, at 23°C ± 5°C & less than 80%relative humidity.

True RMS voltage & current accuracies are specified from 1 % to 100 % of range or otherwise specified.

Maximum Crest Factor < 1.8:1 at full scale & < 3.6:1 at half scale, and with frequency components fall within the specified frequency bandwidth for non-sinusoidal waveforms.

DC VOLTAGE

Range	Resolution	Accuracy
60.00 mV	0.01 mV	±(0.2%rdg + 3dgts)
600.0 mV	0.1 mV	±(0.1%rdg + 2dgts)
6.000 V	1 mV	
60.00 V	10 mV	
600.0 V	100 mV	±(0.2%rdg + 3dgts)
1000 V	1 V	

Input Impedance : 10MΩ, 110pF nominal

VFD AC VOLTAGE

Range	Resolution	Accuracy[1)]
10Hz ~ 45Hz		
600.0 V	100 mV	±(4%rdg + 5dgts)
45Hz ~ 200Hz		
600.0 V	100 mV	±(2.5%rdg + 5dgts)
200Hz ~ 440Hz		
600.0 V	100 mV	±(9.0%rdg + 5dgts)[2)]

Input impedance : 10MΩ, 110pF nominal.

[1)] Unspecified for fundamental frequency > 440Hz

[2)] Accuracy linearly decreases from 2.5% + 5d @ 200Hz to 9.0% + 5d @ 440Hz

RESISTANCE

Range[1)]	Resolution	Accuracy
60.00Ω[2)]	0.01 Ω	±(0.5%rdg + 5dgts)
600.0Ω	100 mΩ	±(0.2rdg + 3dgts)
6.000kΩ	1 Ω	±(0.2%rdg + 2dgts)
60.00kΩ	10 Ω	
600.0kΩ	100 Ω	±(0.3%rdg + 2dgts)
6.000MΩ[3)]	1 kΩ	±(1%rdg + 3dgts)
60.00MΩ[4)]	10 kΩ	±(1.5%rdg + 6dgts)[5) 6)]

[1)] **Open Circuit Voltage :** 1.7VDC typical

[2)] Specified assumes input lead resistance been offset by **REL**Δ or **Shrt** (short) feature.

[3)] Constant Test Current : 0.2μA typical

[4)] Constant Test Current : 0.2μA typical

[5)] Add 1% @ >20MΩ

[6)] Add 2% @ operation temperature >35°C

AUDIBLE CONTINUITY TESTER

Audible Threshold	Between 20Ω and 350Ω
Response Time	< 30ms approx.

DIODE TESTER

Range	Resolution	Accuracy
2.700 V	1 mV	±(1.5%rdg + 4dgts)

Test Current : 0.4mA typically

Open Circuit Voltage : < 2.8VDC typically

AC VOLTAGE

Range	Resolution	Accuracy
50Hz ~ 60Hz		
60.00 mV	0.01 mV	±(0.7%rdg + 4dgts)
600.0 mV	0.1 mV	
6.000 V	1 mV	
60.00 V	10 mV	
600.0 V	100 mV	
1000 V	1 V	
40Hz ~ 1kHz		
60.00 mV	0.01 mV	±(1.3%rdg + 4dgts)
600.0 mV	0.1 mV	
6.000 V	1 mV	
60.00 V	10 mV	
600.0 V	100 mV	
1000 V	1 V	±(2%rdg + 4dgts)
1kHz ~ 5kHz		
60.00 mV	0.01 mV	±(2%rdg + 4dgts) [1)]
600.0 mV	0.1 mV	
6.000 V	1 mV	
60.00 V	10 mV	
600.0 V	100 mV	
1000 V	1 V	Unspecified
5kHz ~ 20kHz [2)]		
60.00 mV	0.01 mV	Unspecified
600.0 mV	0.1 mV	±(2%rdg + 20dgts)
6.000 V	1 mV	
60.00 V	10 mV	
600.0 V	100 mV	Unspecified
1000 V	1 V	Unspecified

Input Impedance : 10MΩ, 110pF nominal

[1)] Add 20d @ >80% of range

[2)] Unspecified @ <5% of range

RECORD MODE

This mode records standard measurement Max & Min readings on most functions, Manual or Auto-ranging where available.

Nominal response & accuracy : Same as standard measurement.

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ELECTRICAL SPECIFICATIONS : KM 887

DC CURRENT

Range	Resolution	Accuracy	Burden Voltage
600.0 µA[1]	0.1 µA	±(0.2%rdg + 4dgts)	0.2mV / µA
6000 µA[1]	1 µA	±(0.2%rdg + 2dgts)	
60.00 mA[1]	0.01 mA	±(0.2%rdg + 4dgts)	3mV / mA
600.0 mA[1][2]	0.1 mA	±(0.3%rdg + 3dgts)	
6.000 A	0.001 A	±(0.5%rdg + 4dgts)	30mV / A
10.00 A[3]	0.01 A	±(0.7%rdg + 2dgts)	

[1] µA / mA DC accuracies will be affected by extreme interior temperatures of the meter. for rated accuracies, allow 6 to 20 minutes cool down interval after measuring A-currents of 3 to 10A continuously.

[2] ≤ **400mA continuous :** >400mA for < 1.1 hours on per > 20 minutes off

[3] 10A continuous upto ambient 35°C; < 15 mins on per >5 mins off @ 35°C~50°C. >10A to 20A for < 30 second on per >5 mins off.

INSULATION RESISTANCE

Test Voltage[1]	Range	Test Current	Accuracy
50 V	3.000MΩ, 30.00MΩ, 55.0MΩ	1mA @50kΩ	±(1.5%rdg + 5dgts)
100 V	3.000MΩ, 30.00MΩ, 110.0MΩ	1mA @100kΩ	
250 V	3.000MΩ, 30.00MΩ, 275.0MΩ	1mA @250kΩ	
500 V	3.000MΩ, 30.00MΩ, 300.0MΩ, 550.0MΩ	1mA @500kΩ	
1000 V	3.000MΩ, 30.00MΩ, 300.0MΩ	1mA @1MΩ	±(1.5%rdg + 5dgts)
	3000MΩ		±(2.0%rdg + 5dgts)
	25.0GΩ		±(10%rdg + 5dgts)

[1] **Actual output voltage :** 100% ~ 120% of Test Voltage

Live Circuit Detector : Inhibit test and display voltage reading instead if terminal voltage > 30V prior to initialization of test.

Display Voltage Accuracy : DCV : 1.5% + 5d , **ACV :** 3.0% + 5d @50Hz ~ 60Hz

Specified measuring range is 0.020MΩ....25.0GΩ for percentage operating uncertainly B(%) ≤ ± 30% per IEC/EN61557-2 requirements.

CAPACITANCE

Range	Resolution	Accuracy[1]
2.000 µF [2]	0.001 µF	±(1.5%rdg + 5dgts)
20.00 µF	0.01 µF	
200.0 µF	0.1 µF	
2000 µF	1 µF	
20.00 mF	0.01 mF	±(5%rdg + 5dgts)

[1] **Accuracies with film capacitor or better**

[2] **Specified from 0.200µF**

TEMPERATURE

Range	Accuracy [1][2]
-40.0°C to 0.0°C	1% + 2°C
0.0°C to 50.0°C	2.2°C
50.0°C to 537.0°C	1% + 2°C
-40.0°F to 32.0°F	1% + 3.6°F
32.0°F to 122.0°F	4°F
122.0°F to 999.0°F	1% + 3.6°F

[1] 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 significant change of ambient temperature. It can take up to an hour for changes > 5°C.

[2] Type-K thermocouple range & accuracy not included.

AC CURRENT

Range	Resolution	Accuracy	Burden Voltage
50Hz ~ 60Hz			
600.0 µA	0.1 µA	±(1%rdg + 3dgts)	0.2mV / µA
6000 µA	1 µA		
60.00 mA	0.01 mA		3mV / mA
600.0 mA[1]	0.1 mA		
6.000 A	0.001 A		30mV / A
10.00 A[2]	0.01 A		
40Hz ~ 3kHz			
600.0 µA	0.1 µA	±(2%rdg + 3dgts)	0.2mV / µA
6000 µA	1 µA		
60.00 mA	0.01 mA		3mV / mA
600.0 mA[1]	0.1 mA		
6.000 A	0.001 A		30mV / A
10.00 A[2]	0.01 A		
3kHz ~ 5kHz			
600.0 µA	0.1 µA	±(2%rdg + 5dgts)	0.2mV / µA
6000 µA	1 µA		
60.00 mA	0.01 mA		3mV / mA
600.0 mA[1]	0.1 mA		
6.000 A	0.001 A	Unspecified	30mV / A
10.00 A[2]	0.01 A		

[1] ≤ **400mA continuous :** >400mA for < 1.1 hours on per > 20 minutes off

[2] 10A continuous upto ambient 35°C; < 15 mins on per >5 mins off @ 35°C~50°C. >10A to 20A for < 30 second on per >5 mins off.

~ Hz Line Level Frequency

Function Range	Sensitivity (Sine RMS)	Range
60 mV	4 mV	6Hz ~ 50kHz
600 mV	40 mV	10Hz ~ 100kHz
6 V	0.4 V	10Hz ~ 50kHz
60 V	4 V	
600 V	40 V	10Hz ~ 30kHz
1000 V	400 V	10Hz ~ 5kHz
VFD 600 V	40 V	10Hz ~ 440Hz
600 µA	40 µA	10Hz ~ 5kHz
6000 µA	400 µA	
60 mA	4 mA	
600 mA	40 mA	
6 A	0.6 A	10Hz ~ 3kHz
10 A	6 A	

Accuracy : ±(0.02%rdg + 4dgts)

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