

MODEL KM 525

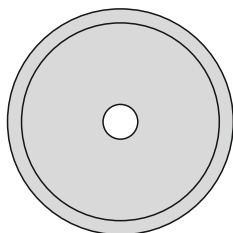


ACCESSORIES :

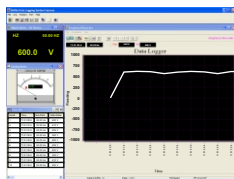
Test lead pair, Battery installed, User Manual,
One BKP60 banana plug type-K Thermocouple

OPTIONAL ACCESSORIES :

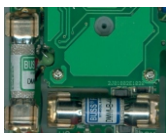
PC interface kit BU-82X; BMH-01 Magnetic Hanger;
BKB32 banana plug to type-K socket plug adaptor.
Current Clamp Adaptor CA500, CA1000, CA2000,
High Voltage Probe PD-28.



Software CD



Software



Fuse



Software Cable



Thermocouple



Magnetic Hanger

KM 525 Stand-alone logging capability 43500 / 87000 points for dual / single display with selectable logged interval 0.05s, 0.1s, 0.5s, 1s, 2s, 3s, 4s, 5s, 10s, 15s, 30s, 60s, 120s, 180s, 300s, 600s.

SPECIAL FEATURES :

- Stand alone Multi Parameter logging.
- Record Max/Min/MAX-MIN readings, Auto Ranging
- Audible & Visible Input Warning;
- Auto-Ranging Relative Zero Mode
- AutoCheck V & Auto-Ranging 50ms Record;
- T1-T2 differential temperature readings
- NCV & Probe-Contact EF-Detection
- nS conductance
- Lo-Z volts to drain Ghost Voltages (AutoCheck Feature)
- Logic & Line Level Frequency
- Logic Level Duty Cycle Readings

FEATURES :

- DC Voltage basic Accuracy 0.08%
- 4 digit 10,000 counts Backlight Dual Digital LCD Display
- Low Battery Indication
- AC, AC+DC True RMS Conversion; Frequency Bandwidth 20kHz (V) & 1kHz (A)
- Fast Measurements, 5/sec
- Auto Power Off

GENERAL SPECIFICATIONS :

- * Sensing : AC, AC+DC True RMS
- * Display :
9999 Counts : ACV, DCV, Hz & nS
6000 Counts : mV, μ A, mA, A, Ohm & Capacitance
- * Update Rate :
Digital Display : 5 per second nominal;
41 Segments Bar-graph : 60 per second max
- * Low Battery : Below approx 7V
- * Operating Temperature : 0°C to 45°C
- * Relative Humidity : Maximum 80% R.H. For Temperature up to 31°C decreasing linearly to 50% R.H. at 45°C
- * Storage Temperature : -20°C to 60°C, <80% R.H. (with battery removed)
- * Altitude : Operating below 2000m
- * Temperature Coefficient : nominal 0.15 x (specified accuracy)/°C @ (0°C ~ 18°C or 28°C ~ 45°C), or otherwise specified
- * Power Consumption : 5mA typical
- * APO Timing : Idle for 30 minutes
- * APO Consumption : 50 μ A typical
- * Power Supply : Single 9V battery
- * Dimension : 208(L) x 103(W) x 64.5(H) mm
- * Weight : Approx. 635gm with holster

SAFETY :

- Double insulation per IEC/UL/EN61010-1 Ed. 3.0, IEC/EN61010-2-030 Ed. 1.0, IEC/EN61010-2-033 Ed. 1.0, IEC/UL/EN61010-031 Ed. 1.1 and CAN/CSA-C22.2 No. 61010-1-12 Ed. 3.0 to Category IV 1000 Volts AC & DC.
- Transient Protection : 12 kV (1.2/50 μ S surge)
- Pollution degree : 2
- Terminals (to COM) Measurement Category :
 μ A/mA: Category IV 1000V AC & V DC
F Fuse
- Overload Protection :
 μ A & mA : 0.44A/1000V AC & V DC, IR 10kA
A : 11A/1000V AC & V DC, IR 20kA
F Fuse
V : 1100V DC/AC rms
mV, Ω & Others : 1000V DC/AC rms
- EMC : 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)
In an RF field of 3V/m :
Capacitance function is not specified
Other function ranges :
Total Accuracy = Specified Accuracy + 100digits
Performance above 3V/m is not specified.
- Rugged fire retarded casing with battery access door.
- Replaceable protective holster with probe-holders & Tilt-stand
- 1000V (Ohm, Capacitance & all other Functions) Input protection
- LVD meets EN61010-1 CAT IV 1kV

All Specifications are subject to change without prior notice

ELECTRICAL SPECIFICATIONS : KM 525

Accuracy is (% readings digits + number of digits) or otherwise specified, at 23°C ± 5°C & less than 75% relative humidity. True RMS Voltage & Current accuracies are specified from 10% to 100% of range or otherwise specified. Maximum Crest Factor < 3:1 at full scale & < 6:1 at half scale, and with frequency components within the specified frequency bandwidth for non-sinusoidal waveforms.

DC^{AC} & AC+ DC^{AC} VOLTAGE

Function	Range	Accuracy
DC 50Hz ~ 60Hz		
mV	60.00 mV, 600.0 mV	±(0.7%rdg + 6dgts)
V	9.999 V, 99.99 V, 999.9 V	
40Hz ~ 1kHz		
mV	60.00 mV, 600.0 mV	±(1.0%rdg + 6dgts)
V	9.999 V, 99.99 V	±(2.2%rdg + 6dgts)
	999.9 V	±(2.2%rdg + 6dgts)
1kHz ~ 20kHz		
mV	60.00 mV ¹⁾ , 600.0 mV ¹⁾	±(2.2%rdg + 6dgts)
V	9.999 V ²⁾ , 99.99 V	3dB
	999.9 V	Unspec'd

¹⁾ Specified from 30% to 100% of range.

²⁾ for 1kHz ~ 15kHz only

Input Impedance : 10MΩ, 50pF nominal (80pF nominal for 600mV ranges)

DC VOLTAGE

Function	Range	Accuracy
mV	60.00 mV	±(0.12%rdg + 2dgts)
	600.0 mV	±(0.06%rdg + 2dgts)
V	9.999 V, 99.99 V, 999.9 V	±(0.08%rdg + 2dgts)

Input Impedance : 10MΩ, 50pF nominal (80pF nominal for 600mV range)

AC VOLTAGE

Function	Range	Accuracy
50Hz ~ 60Hz		
mV	60.00 mV, 600.0 mV	±(0.5%rdg + 3dgts)
V	9.999 V, 99.99 V, 999.9 V	
40Hz ~ 500Hz		
mV	60.00 mV, 600.0 mV	±(0.8%rdg + 4dgts)
V	9.999 V, 99.99 V	±(1.0%rdg + 4dgts)
	999.9 V	±(2.0%rdg + 4dgts)
500Hz ~ 1kHz		
mV	60.00 mV, 600.0 mV	±(2.0%rdg + 3dgts)
V	9.999 V, 99.99 V	±(1.0%rdg + 4dgts)
	999.9 V	±(2.0%rdg + 4dgts)
1kHz ~ 3kHz		
mV	60.00 mV, 600.0 mV	±(2%rdg + 3dgts)
V	9.999 V, 99.99 V, 999.9 V	±(3.0%rdg + 4dgts)
3kHz ~ 20kHz		
mV	60.00 mV ¹⁾ , 600.0 mV ¹⁾	±(2%rdg + 3dgts)
V	9.999 V ²⁾ , 99.99 V	3dB
	999.9 V	Unspec'd

¹⁾ Specified from 30% to 100% of range.

²⁾ for 1kHz ~ 15kHz only

Input Impedance : 10MΩ, 50pF nominal (80pF nominal for 600mV range)

CREST MODE (INSTANTANEOUS PEAK HOLD)

Accuracy : Specified accuracy adds 250 digits for changes > 1.0 ms in duration

AC & AC+ DC CURRENT

Range	Accuracy	Burden Voltage
50Hz ~ 60Hz		
600.0 μA, 6000 μA	±(0.6%rdg + 3dgts)	0.08mV / μA
60.00 mA		2.1mV / mA
600.0 mA	±(1.0%rdg + 3dgts)	0.02V / A
6.000 A, 10.00 A ¹⁾	±(0.8%rdg + 6dgts)	
40Hz ~ 1kHz		
600.0 μA, 6000 μA	±(0.8%rdg + 4dgts)	0.08mV / μA
60.00 mA		2.1mV / mA
600.0 mA	±(1.0%rdg + 4dgts)	0.02V / A
6.000 A, 10.00 A ¹⁾	±(0.8%rdg + 6dgts)	

¹⁾ 10A continuous, > 10A to 20A for 30 second max with 5 minutes cool down interval

DC CURRENT

Range	Accuracy	Burden Voltage
600.0 μA, 6000 μA	±(0.2%rdg + 4dgts)	0.08mV / μA
60.00 mA		2.1mV / mA
600.0 mA		0.02V / A
6.000 A, 10.00 A ¹⁾		

¹⁾ 10A continuous, > 10A to 20A for 30 second max with 5 minutes cool down interval

RESISTANCE

Range	Accuracy
600.0Ω, 6.000kΩ, 60.00kΩ, 600.0kΩ	±(0.1%rdg + 3dgts)
6.000MΩ	±(0.4%rdg + 3dgts)
60.00MΩ	±(1.5%rdg + 5dgts)

Open Circuit Voltage : < 1.2VDC (<1.0VDC for 60M Ω range)

CONDUCTANCE

Range	Accuracy
99.99nS	±(0.8%rdg + 10dgts)

TEMPERATURE (K-TYPE THERMOCOUPLE)

Range	Accuracy
-50°C to 1000°C	±(0.3%rdg + 2°C)
-58°F to 1832°F	±(0.3%rdg + 5°F)

Type-K thermocouple range & accuracy not included.

Supplied thermocouple suitable for measurement upto 250°C.

RECORD MODE

Accuracy : Specified accuracy adds 10 digits for changes > 100 ms in duration

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ELECTRICAL SPECIFICATIONS : KM 525

CAPACITANCE

Range	Accuracy ¹⁾
60.00 nF, 600.0 nF	±(0.8%rdg + 3dgts)
6.000 μF	±(1.0%rdg + 3dgts)
60.00 μF	±(2.0%rdg + 3dgts)
600.0 μF ²⁾	±(3.5%rdg + 5dgts)
6.000 mF ²⁾	±(5.0%rdg + 5dgts)
25.00 mF ²⁾	±(6.5%rdg + 5dgts)

¹⁾ Accuracies with film capacitor or better

²⁾ In manual-ranging mode, measurements not specified below 50.0μF, 0.54mF and 5.4mF for 600.0μF, 6.000mF and 25.00mF ranges respectively.

LINE LEVEL FREQUENCY (Hz)

Function Range	Frequency	Sensitivity (sine Rms)
AC 60.00 mV	15.00 ~ 50.00kHz	40 mV
AC 600.0 mV		60 mV
AC 9.999 V	15.00 ~ 10.00kHz	2.5 V
AC 99.99 V		25 V
AC 999.9 V		100 V
AC 600.0 μA		200 μA
AC 6000 μA	15.00 ~ 3.000kHz	600 μA
AC 60.00 mA		40 mA
AC 600.0 mA		60 mA
AC 6.000 A		4 A
AC 10.00 A		6 A

Accuracy : 0.04% + 4d

AUTOCHECK (DCV)

Range	Accuracy
9.999V, 99.99V, 999.9V	±(0.5%rdg + 3dgts)

Lo-Z DCV Threshold : > +1.5 VDC or < -1.0VDC nominal

Lo-Z DCV Input Impedance :

Initially approx. 3.0kΩ, 165pF nominal;
Impedance increases abruptly within a fraction of a second as display voltage is above 50V (typical).
Ended up impedances vs display voltages typically are:

18kΩ @ 100V
125kΩ @ 300V
320kΩ @ 600V
500kΩ @ 1000V

AUTOCHECK (ACV)

Range	Accuracy
50Hz ~ 60Hz	
9.999V, 99.99V, 999.9V	±(1.0%rdg + 4dgts)

Lo-Z ACV Threshold : >3VAC (50/60Hz)nominal

Lo-Z ACV Input Impedance : Initially approx. 3.0kΩ, 150pF nominal
Impedance increases abruptly within a fraction of a second as display voltage is above 50V (typical).

Ended up impedances vs display voltages typically are:

18kΩ @ 100V
125kΩ @ 300V
320kΩ @ 600V
500kΩ @ 1000V

LOGIC LEVEL FREQUENCY (□Hz) & DUTY CYCLE (D%)

@DCmV Function	Range	Accuracy ¹⁾
Frequency	5.00Hz ~ 1.000MHz	±(0.04%rdg + 4dgts)
Duty Cycle	0.00% ~ 100.0%	3d/kHz + 2d ²⁾

¹⁾ Sensitivity : 2.5Vp (Square wave)for 3V & 5V Logic Family

²⁾ Specified Frequency : 5Hz ~ 10kHz

AUDIBLE CONTINUITY TESTER

Audible threshold : between 20Ω and 300Ω;

Response time : < 100μs

AUTOCHECK (OHMS)

Range	Accuracy
600.0Ω, 6.000kΩ, 60.00kΩ, 600.0kΩ	±(0.5%rdg + 4dgts)
6.000MΩ	±(0.8%rdg + 3dgts)
60.00MΩ	±(2.0%rdg + 5dgts)

Open Circuit Voltage : < 1.2VDC (<1.0VDC for 60MΩ range)

DIODE TESTER

Range	Accuracy
2.000V	±(1.0%rdg + 1dgts)

Test Current (Typically) : 0.4mA

Open Circuit Voltage : < 3.5V DC

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KUSAM-MECO[®]

An ISO 9001:2015 Company

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

Website : www.kusamelectrical.com