



5-4/5 DIGITS 50000/500,000 COUNTS HAND HELD TRMS DIGITAL MULTIMETER with PC INTERFACE

SPECIAL FEATURES

- 500,000 counts high resolution stable reading mode.
- 20kHz Bandwidth voltage function
- Record MAX, MIN, MAX-MIN readings.
- Crest (Instantaneous Peak Hold) MAX, MIN, MAX- MIN readings.
- Relative zero mode.
- dBm readings.
- % 4 -20mA loop current readings.
- High noise rejection filtered Line Level Frequency mode.
- Line Level Frequency with 4 Trigger Levels.
- HBC Fuse Protection

FEATURES :

- DC Voltage Basic Accuracy 0.03%
- Fully Autoranging
- Backlighted display.
- Fast Data Measurement 5/sec
- Data Hold function
- Diode Test & Duty Cycle
- Audible & Visible input warning.
- Auto Power Off

GENERAL SPECIFICATIONS :

- * **Sensing** : AC, AC + DC True RMS; Frequency Bandwidth 20kHz (V) & 1kHz (A)
- * **Display** : 4-4/5 digits 50,000 counts. Selectable stable mode 5-4/5 digits 500,000 counts for DC Voltage & 6 digits 999,999 counts for Hz
- * **Update Rate** : 4-4/5 digits fast mode : 5 per second nominal; 5-4/5 digits stable mode : 1.25 per second nominal; 42 Segments Analog Bar graph :60 per second max.
- * **Polarity** : Automatic
- * **Low Battery** : Below approx. 7V
- * **Operating Temperature** : 0°C to 45°C
- * **Relative Humidity** : Maximum 80% R.H. For Temperature upto 31°C decreasing linearly to 50% R.H. at 45°C
- * **Pollution Degree** : 2
- * **Storage Temperature** : -20°C-60°C, < 80% R.H. (With battery removed)
- * **Altitude** : Operating below 2000m
- * **Temperature Coefficient** : nominal 0.1 x (specified accuracy) / °C @ (0°C -- 18°C or 28°C -- 40°C), or otherwise specified
- * **Power Consumption** : 6mA typical
- * **APO Timing** : Idle for 17 minutes
- * **APO Consumption** : 55µA typical
- * **Power Supply** : Single Alkaline 9V battery.
- * **Dimension** : 186(L) mm x 87(W) mm x 35.5(H) mm; 198(L) mm x 97(W) mm x 55(H) mm with Holster
- * **Weight** : Approx. 390 gm, Approx. 500 gm with Holster

SAFETY :

- Double insulation per IEC61010-1 2nd Ed., EN61010-1 2nd Ed., UL61010-1 2nd Ed. & CAN/CSA C22.2 No. 61010.1-0.92 to CAT III 1000V AC & DC and CAT IV 600V AC & DC.
- **Transient Protection** : 8KV (1.2/50µS surge)
- **Terminals (to Com) Measurement Category**:
V : CAT III 1000V AC & V DC & CAT IV 600V AC & V DC.
A/mAµA : CAT III & CAT IV 600V AC & V DC.
- **Overload Protections** :
µA & mA : 1A/600V, IR 10kA, or better, F fuse
A : 10A/600V, IR 100kA or better, F fuse
V : 1050Vrms, 1450Vpeak
mV, & Others : 600V DC & V AC rms
- **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) In an RF field of 3V/m:
Capacitance function is not specified
Other function ranges:
Total Accuracy = Specified Accuracy +100 digits
Performance above 3V/m is not specified

ACCESSORIES :

Test Leads pair, Holster, Battery installed, User Manual

OPTIONAL ACCESSORIES :

PC interface kit, RS232 optical adapter cable + Software CD + BUA-2303 USB-to-Serial adaptor.
Current Clamp CA300,
Current Clamp Adaptor CA500, CA1000, CA2000,
High Voltage Probe PD-28.

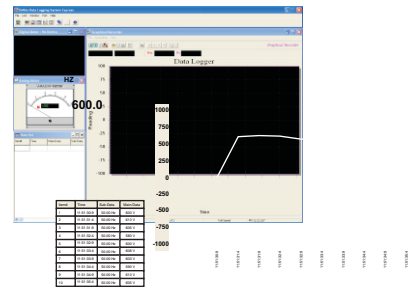
13 FUNCTIONS 42 RANGES

CAT III
1KV
CAT IV 600V
UL
Approved

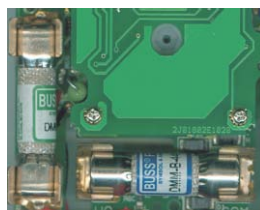
Model KM 857



Software CD



Software



Fuse



Software Cable

ELECTRICAL SPECIFICATIONS : KM-857

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

DC VOLTAGE

Range	Resolution	Accuracy
500.000 mV	1 V	$\pm(0.03\%rdg + 2dgts)$
5.00000 V	10 V	
50.0000 V	100 V	$\pm(0.05\%rdg + 2dgts)$
500.000 V	1 mV	
1000.00 V	10 mV	$\pm(0.01\%rdg + 2dgts)$

NMRR : > 60dB @ 50/60Hz

CMRR : > 120dB @ DC, 50/60Hz, Rs = 1k

Input Impedance : 10M , 30pF nominal
(80pF nominal for 500mV ranges)

DC CURRENT

Range	Resolution	Accuracy	Burden Voltage
500.00 A	10 nA	$\pm(0.15\%rdg + 20dgts)$	0.15 mV/ A
5000.0 A	0.1 A	$\pm(0.1\%rdg + 20dgts)$	0.15 mV/ A
50.000 mA	1 A	$\pm(0.15\%rdg + 20dgts)$	3.3 mV/mA
500.00 mA	10 A	$\pm(0.1\%rdg + 30dgts)$	3.3 mV/mA
5.0000 A	100 A	$\pm(0.5\%rdg + 20dgts)$	45 mV/A
10.000 A*	1 mA	$\pm(0.5\%rdg + 20dgts)$	45 mV/A

* 10A continuous, >10A to 15A for 30 second max with 5 minutes cool down interval.

AC & AC+DC CURRENT

Range	Resolution	Accuracy	Burden Voltage
50Hz -- 60Hz			
500.00 A	10 nA	$\pm(1.0\%rdg + 40dgts)$	0.15mV/ A
5000.0 A	0.1 A		0.15mV/ A
50.000 mA	1 A		3.3 mV/mA
500.00 mA	10 A		3.3 mV/mA
5.0000 A	100 A		45 mV/A
10.000 A*	1 mA		45 mV/A
40Hz -- 1kHz			
500.00 A	10 nA	$\pm(1.0\%rdg + 40dgts)$	0.15mV/ A
5000.0 A	0.1 A		0.15mV/ A
50.000 mA	1 A		3.3 mV/mA
500.00 mA	10 A		3.3 mV/mA
5.0000 A	100 A		45 mV/A
10.000 A*	1 mA		45 mV/A

*10A continuous, >10A to 15A for 30 second max with 5 minutes cool down interval.

~HZ LINE LEVEL FREQUENCY

Function Range	Sensitivity (sine Rms)	Range
500 mV	100 mV	10Hz ~ 200kHz
5 V	1 V	10Hz ~ 200kHz
50 V	10 V	10Hz ~ 100kHz
500 V	100 V	10Hz ~ 100kHz
1000 V	900 V	10Hz ~ 10kHz

Accuracy : 0.02%+4d

DIODE TESTER

Range	Resolution	Accuracy
5.0000V	100 V	$\pm(1\%rdg + 1dgt)$

Test Current (typical) : 0.4mA

Open Circuit Voltage : < 3.5VDC

CREST MODE (Instantaneous Peak Hold) :

Accuracy : Specified accuracy \pm 100 digits for changes > 0.8ms in duration

||| HZ LOGIC LEVEL FREQUENCY

Range	Accuracy
5.0000Hz -- 2.00000MHz	$\pm(0.002\%rdg + 4dgts)$

Sensitivities : 2.5Vp square wave

dBm :

At 600 , -11.76 dBm to 54.25 dBm,
Accuracy : $\pm 0.25dB + 2d$ (@40Hz -- 20kHz)
Input Impedance: 10M , 30pF nominal
Selectable reference impedance values of 4, 8, 16, 32, 50, 75, 93, 110, 125, 135, 150, 200, 250, 300, 500, 600, 800, 900, 1000, 1200

))) AUDIBLE CONTINUITY TESTER

Audible threshold	between 20 & 200
Response Time	<100 s

% DUTY CYCLE

Range	Accuracy
0.1%--99.99%	3d/kHz+2d

Input Frequency : 5Hz -- 500 kHz,
5V Logic Family

AC & AC+DC VOLTAGE

Range	Resolution	Accuracy*
20Hz -- 45Hz		
500.00 mV	10 V	Unspec'd
5.0000 V	100 V	
50.0000 V	1 mV	
500.00 V	10 mV	
1000.0 V	100 mV	
45Hz -- 300Hz		
500.00 mV	10 V	$\pm(0.8\%rdg + 60dgts)$
5.0000 V	100 V	
50.0000 V	1 mV	
500.00 V	10 mV	
1000.0 V	100 mV	
300Hz -- 1kHz		
500.00 mV	10 V	$\pm(0.8\%rdg + 40dgts)$
5.0000 V	100 V	$\pm(2.0\%rdg + 60dgts)$
50.0000 V	1 mV	
500.00 V	10 mV	$\pm(1.0\%rdg + 40dgts)$
1000.0 V	100 mV	
1kHz -- 20kHz		
500.00 mV	10 V	1 dB**
5.0000 V	100 V	2 dB**
50.0000 V	1 mV	
500.00 V	10 mV	3 dB**
1000.0 V	100 mV	Unspec'd

*From 5% to 10% of range : Accuracy % of reading (or in dB) + 80d

**From 5% to 10% of range : Accuracy % of reading (or in dB) + 180d

** From 10% to 15% of range : Accuracy % of reading (or in dB) + 100d

CMRR : > 80dB @ DC to 60Hz, Rs = 1k

Input Impedance : 10M , 30pF nominal (80pF nominal for 500mV range) Residual reading less than 50 digits with test leads shorted.

RESISTANCE

Range	Resolution	Accuracy
500.00	10 m	$\pm(0.1\%rdg + 6dgts)$
5.0000 k	100 m	$\pm(0.1\%rdg + 6dgts)$
50.000 k	1	$\pm(0.1\%rdg + 6dgts)$
500.00 k	10	$\pm(0.1\%rdg + 2dgts)$
5.0000 M	100	$\pm(0.4\%rdg + 6dgts)$
50.000 M	1 k	$\pm(2.0\%rdg + 6dgts)$

Open Circuit Voltage : <1.3VDC (<3VDC for 500 range)

CAPACITANCE

Range	Resolution	Accuracy*
50.00 nF	10 pF	$\pm(0.8\%rdg+3dgts)$
500.0 nF	100 pF	$\pm(0.8\%rdg+3dgts)$
5.000 F	1 nF	$\pm(1.5\%rdg+3dgts)$
50.00 F	10 nF	$\pm(2.5\%rdg+3dgts)$
500.0 F**	100 nF	$\pm(3.5\%rdg+5dgts)$
9999 F**	1 F	$\pm(5.0\%rdg+5dgts)$

*Accuracies with film capacitor or better

**In manual-ranging mode, measurement not specified below 45.0 F & 450 F for 500.0 F & 9999 F ranges respectively.

All Specifications are subject to change without prior notice