

## BM907, BM906 & BM905 GENERAL SPECIFICATIONS

**Display:** 3-5/6 digits 6000 counts + 3 digits 999 counts dual display LCD

**Polarity:** Automatic

**Update Rate:** 5 per second nominal;

**Operating Temperature:** 0°C to 40°C

**Relative Humidity:** Maximum relative humidity 80% for temperature up to 31°C decreasing linearly to 50% relative humidity at 40°C

**Pollution degree:** 2

**Storage Temperature:** -20°C to 60°C, < 80% R.H. (with battery removed)

**Altitude:** Operating below 2000m

**Temperature Coefficient (T.C.):** nominal 0.15 x (specified accuracy) / °C @ 0°C - 18°C or 28°C - 40°C, or otherwise specified

**Sensing:** Average sensing for models BM905 & BM906; True RMS for model BM907

**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 Category II 1000V, CAT III

600V and CAT IV 300V AC & DC

**Transient Protection:** 6kV (1.2/50µs surge)

**Overload Protection:**

**µA & mA:** 0.63A/500Vac, IR 50kA or better, F fuse

**A:** 10A/600Vac, IR 100kA or better, F fuse

**V:** 1050 Vrms, 1450 Vpeak

**Terminals (to COM) Measurement Category:**

**V:** Category II 1000V, CAT III 600V and CAT IV 300V AC & DC.

**mAµA:** Category III 500Vac and 300Vdc.

**A:** Category III 600Vac and 300Vdc.

**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

**Power Supply:** 1.5V AAA Size battery X 2

**Power Consumption:** 5.4mA typical

**Low Battery:** Below approx. 2.4V

**APO Timing:** Idle for 34 minutes

**APO Consumption:** 10µA typical

**Dimension:** L186mm X W87mm X H35.5mm;

L198mm X W97mm X H55mm with holster

**Weight:** 340 gm; 430 gm with holster

**Accessories:** Test leads (pair), holster, batteries installed, user's manual

**Optional Accessories (BM907 & BM906 only):**

Bkp60 banana plug K-type thermocouple, BKB32 banana plug to type-K socket plug adaptor

**Special Features:** VFD-V & VFD-Hz in Dual Display;

Backlighted LCD (BM907 only); 5ms CREST-MAX

Capture mode (Peak Hold); Auto-ranging

Relative-Zero mode; Display Hold; EF-Detection (NCV);

Beep-Jack™ input warning

## Electrical Specifications

Accuracy is ±(% reading digits + number of digits) or otherwise specified, at 23°C ± 5°C & less than 75% relative humidity.

True RMS model BM907 AC voltage & AC current accuracies are specified from 5% to 100% of range or otherwise specified. Maximum Crest Factor <1.65:1 at full scale & <3.30:1 at half scale, and with frequency components fall within the specified frequency bandwidth for non-sinusoidal waveforms

## DC Voltage

RANGE	Accuracy
60.00 mV	0.6%+3d
600.0mV <sub>r</sub>	0.3%+3d
6.000V <sub>r</sub>	1.2%+3d
60.00V <sub>r</sub>	0.6%+3d
600.0V <sub>r</sub> , 1000V <sub>r</sub>	1.0%+3d

Input impedance: 10MΩ, 50 pF nominal

## AC Voltage

RANGE	Accuracy
50Hz ~ 500Hz	
60.00 mV	1.3% + 5d
600.0mV <sub>r</sub>	1.0% + 5d
6.000V <sub>r</sub>	2.0% + 5d
60.00V <sub>r</sub>	1.3% + 5d
600.0V <sub>r</sub> , 1000V <sub>r</sub>	2.0% + 5d

Input impedance: 10MΩ, 50 pF nominal

## VFD-Voltage (LPF-ACV)

RANGE	Accuracy <sup>1)</sup>
10.0Hz ~ 20.0Hz	
6.000V, 60.00V, 600.0V, 1000V	3.5% + 8d
20.0Hz ~ 200Hz	
6.000V, 60.00V, 600.0V, 1000V	2.5% + 8d
200Hz ~ 400Hz <sup>2)</sup>	
6.000V, 60.00V, 600.0V, 1000V	7.0% + 8d

Input impedance: 10MΩ, 50 pF nominal

<sup>1)</sup>Not specified for fundamental frequency > 400Hz

<sup>2)</sup>Accuracy linearly decreases from 2.5% + 8d @ 200Hz to 7.0% + 8d @ 400Hz

## Crest-MAX Capture (V & A only)

Accuracy: Specified accuracy plus 250 digits for changes > 5ms in duration

## Ohm

RANGE <sup>1)</sup>	Accuracy
600.0Ω <sub>r</sub>	0.8%+8d
6.000KΩ <sub>r</sub> , 60.00KΩ <sub>r</sub> , 600.0KΩ <sub>r</sub>	0.6%+4d
6.000MΩ <sub>r</sub>	1.5%+5d
60.00MΩ <sub>r</sub>	2.5%+5d

Open Circuit Voltage: 0.45VDC typical

## Audible Continuity Tester

Audible Threshold:  
between 10Ω and 120Ω

Response time: <32ms

## Diode Tester

RANGE: 1.000V

Test Current: 0.2mA typical

Open Circuit Voltage: < 1.8VDC typical

## Capacitance

RANGE	Accuracy <sup>1)</sup>
60.00nF <sup>2)</sup> , 600.0nF, 6.000µF <sub>r</sub>	2.0%+5d
60.00µF <sub>r</sub> , 600.0µF <sub>r</sub> <sup>3)</sup>	3.5%+5d
3000µF <sub>r</sub> <sup>3)</sup>	4.0%+5d

<sup>1)</sup>Accuracies with film capacitor or better

<sup>2)</sup>Accuracy unspecified

<sup>3)</sup>T.C.: 0.25 x specified accuracy / °C @ 0 ~ 18 °C, 28 ~ 40 °C

## DC Current

RANGE	Accuracy	Burden Voltage
600.0µA	1.2% + 5d	0.25mV/µA
6000µA	1.0% + 3d	0.25mV/µA
60.00mA	2.0% + 5d	4.0mV/mA
600.0mA	1.5% + 3d	4.0mV/mA
6.000A	1.5% + 5d	0.045V/A
9.00A <sup>1)</sup>	1.2% + 3d	0.045V/A

<sup>1)</sup>9A continuous, >9A to 15A for 30 seconds max with 5 minutes cool down interval

## AC Current

RANGE	Accuracy <sup>1)</sup>	Burden Voltage
50Hz ~ 500Hz		
600.0µA	2.0% + 6d	0.25mV/µA
6000µA	1.5% + 5d	0.25mV/µA
60.00mA	2.5% + 6d	4.0mV/mA
600.0mA	2.1% + 5d	4.0mV/mA
6.000A	2.0% + 6d	0.045V/A
9.00A* <sup>1)</sup>	1.8% + 5d	0.045V/A

<sup>1)</sup>9A continuous, >9A to 15A for 30 seconds max with 5 minutes cool down interval

## µF Hz Logic Level Frequency

RANGE	Accuracy <sup>1)</sup>
5.000Hz ~ 300.0KHz	0.2%+4d

<sup>1)</sup>Accuracy is specified at < 20VAC rms

Input Signal : Square wave with duty cycle > 40% & < 70%, or Sine wave

Sensitivity :

5Hz~20Hz : > 1Vrms Sine wave;

20Hz~300kHz : > 2.6Vp; or 1.9Vrms Sine wave

## ~ Hz Line Level Frequency (Dual Display)

AC Range	Sensitivity (Sine RMS)	Range
600mV	0.1V	10Hz~100kHz
6V	0.6V	10Hz~10kHz
60V	6V	10Hz~50kHz
600V	60V	10Hz~50kHz
1000V	600V	45Hz~10kHz
VFD 6V	0.6V~2.1V <sup>1)</sup>	10Hz~400Hz
VFD 60V	6V~21V <sup>1)</sup>	10Hz~400Hz
VFD 600V	60V~210V <sup>1)</sup>	10Hz~400Hz
600µA	60µA	10Hz~10kHz
6000µA	600µA	10Hz~10kHz
60mA	6mA	10Hz~10kHz
600mA	60mA	10Hz~10kHz
6A	0.6A	20Hz~3kHz
9A	6A	20Hz~3kHz

Accuracy: 0.2%+4d

<sup>1)</sup>VFD sensitivity linearly decreases from 10% F.S. @ 200Hz to 35% F.S. @ 400Hz

## Temperature (BM906 & BM907 only)

RANGE	Accuracy
-50 °C ~ 1000 °C	1% + 3d
-58 °F ~ 1832 °F	1% + 6d

K type thermocouple range & accuracy not included

## Non-Contact EF-Detection

Typical Voltage	Bar-Graph Indication
20V (tolerance: 10V ~ 36V)	-
55V (tolerance: 23V ~ 83V)	--
110V (tolerance: 59V ~ 165V)	---
220V (tolerance: 124V ~ 330V)	----
440V (tolerance: 250V & 1000V)	-----

Indication: Bar-graph segments & audible beep tones proportional to the field strength

Detection Frequency: 50/60Hz

Detection Antenna: Top end of the meter

Probe-Contact EF-Detection: For more precise indication of live wires, such as distinguishing between live and ground connections, use the Red (+) test probe for direct contact measurement

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