

# Innovative Dual-Display Multimeters For Electrical Professionals!

Features VFD V/Hz, 5ms Crest Capture, Large Cx,  
EF-Detection and Temperature °C/°F!



**BM900 SERIES**  
Versatile Multimeters

**BRYMEN**<sup>®</sup>  
BRIGHT PEOPLE'S CHOICE  
<http://www.brymen.com>



**BM907**



**BM906**



**BM905**

907	906	905	FUNCTIONS & FEATURES
●	●	●	3-5/6 digits 6,000 counts + 999 counts dual display
●	●	●	Fully auto-ranging for ease of use
●	●	●	Dual display ACA+Hz and ACV+Hz
●	●	●	Fast measurement updates 5/sec
●	●	●	Relative Zero mode
●	●	●	Auto Power Off
●	●	●	Data HOLD
●	●	●	Diode Test
●	●	●	Fast Audible Continuity
●			Back-Lighted easy to read LCD display
●			AC True RMS voltage and current functions
●	●		Type-k temperature -50°C to 1000 °C and -58°F to 1832°F
●	●	●	Fast 5ms Crest-MAX to capture instantaneous peak V or A signals
●	●	●	VFD-V & Hz for fundamental V/Hz of most Variable Frequency Drives
●	●	●	DCV 5 ranges 600.0mV to 1000V
●	●	●	ACV 5 ranges 600.0mV to 1000V
●	●	●	DCA 6 ranges 600.0µA to 9.00A (15.00A for 30 secs per 5 mins)
●	●	●	ACA 6 ranges 600.0µA to 9.00A (15.00A for 30 secs per 5 mins)
●	●	●	Ohm 6 ranges 600.0Ω to 60.00MΩ
●	●	●	Cx 6 ranges 60.00nF to 3000µF for start & run motor capacitors
●	●	●	Line-level Frequency (dual display) 4 ranges 9.99Hz to 50.0kHz
●	●	●	Logic-level Frequency 6 ranges 5.000Hz to 300.0kHz
●	●	●	Non-Contact EF-Detection (NCV)
●	●	●	Probe-Contact EF-Detection for more precise indication of live
●	●	●	Beep-Jack™ audible & visible input warning against improper plug in
●	●	●	Rugged fire retarded industrial casing with battery access door
●	●	●	Washable and replaceable protective holster
●	●	●	Transient protection 6kV 1.2/50µs lightning surge
●	●	●	600VAC/DC general (Ohms, Cx ... etc.) input protection
●	●	●	LVD EN61010-1 DC/AC CAT II 1000V, CAT III 600V & CAT IV 300V
●	●	●	EMC EN61326-1:2006 (EN55022, EN61000-3-2/-3 & EN61000-4-2/-3/-4/-5/-6/-8/-11)

# Measures Variable Frequency Drives V & Hz In Dual Display!

5/5s Fast Measurements, Dual Display Convenience, Full Functions for Advanced Users!

And Come With High Technology Affordable Costs For Professionals!

**FULLY AUTO-RANGING**  
SHORTENS THE TIME TO MEASURE  
AND INCREASES THE EASE OF USE

**MANUAL-RANGING MODE**  
AUTO-RANGING WITH  
MANUAL-RANGING OVERRIDE

**BACKLIGHTED LCD DISPLAY**  
(BM907 ONLY)  
FOR EASY VIEWING IN THE DARK

**6000 + 999 COUNTS DUAL DISPLAY**  
SIMULTANEOUS MEASUREMENTS  
OF ACA+Hz OR ACV+Hz

**LOGIC LEVEL Hz**  
UP TO 0.001Hz RESOLUTION  
LOGIC LEVEL FREQUENCY

**5/5s FAST MEASUREMENT**  
DISPLAY UPDATES 5 PER SECOND  
NOMINAL FOR FAST CHANGES

**AUDIBLE CONTINUITY**  
FOR QUICK OPEN-SHORT TESTS  
ON SWITCHES, FUSES AND WIRES

**RELATIVE ZERO MODE**  
FOR CONVENIENT READINGS  
COMPARISON & OFFSET

**CAPACITANCE**  
6 AUTO-RANGES UP TO 3000 $\mu$ F  
TO MEASURE MOTOR CAPACITORS

**5ms CREST-MAX**  
CAPTURES PEAK SIGNALS OF VOLTS/  
AMPS AS SHORT AS 5ms IN DURATION

**DIODE TEST**  
FOR TESTING DIODES & RECTIFIERS

**DATA HOLD**  
FREEZES THE DISPLAYING  
READING FOR LATER VIEW

**RESISTANCE**  
6 AUTO-RANGES UP TO 60M $\Omega$

**FULL CURRENT RANGES**  
DCA 6 RANGES TO 9A, 15A FOR 30S  
ACA 6 RANGES TO 9A, 15A FOR 30S

**EF-DETECTION**  
BOTH NON-CONTACT (NCV) &  
SINGLE-PROBE VOLTAGE DETECTION  
FOR IDENTIFYING LIVE LINES

**AUTO-POWER-OFF**  
EXTENDS BATTERY LIFE

**TYPE-K TEMPERATURE**  
(BM906 & BM907 ONLY)  
SELECTABLE °C AND °F READINGS;  
OPTIONAL PURCHASE BKP60 BEAD PROBE

**TRUE RMS MEASUREMENTS**  
(BM907 ONLY)  
FOR NON-SINUSOIDAL WAVEFORMS  
OF AC VOLTAGES & AC CURRENTS

**1kV VOLTAGE MEASUREMENT**  
IMPROVED MEASURING CAPABILITIES  
DCV 5 AUTO-RANGES TO 1000V  
ACV 5 AUTO-RANGES TO 1000V

**TRANSIENT PROTECTION**  
UP TO 6kV 1.2/50 $\mu$ S LIGHTNING SURGE;  
MORE CONFIDENCE FOR SERIOUS USERS

**LINE LEVEL (DUAL DISPLAY) Hz**  
MEASURES NOISY LINE LEVEL  
VOLTAGE ACV FREQUENCY

**LVD MEASUREMENT CATEGORY**  
MEETS EN61010-1 & IUL STANDARDS  
CAT II 1kV, CAT III 600V & CAT IV 300V

**VFD V & Hz FEATURE**  
MEASURES FUNDAMENTAL  
VOLTAGE & FREQUENCY OF MOST  
VARIABLE FREQUENCY DRIVES

**EMC DIRECTIVE**  
MEETS EN61326-1:2006 (EN55022,  
EN61000-3-2/3 & EN61000-4-2/3-4/1-5/6/8/11)

**BEEP-JACK™**  
AUDIBLE & VISIBLE INPUT WARNING  
AGAINST IMPROPER PLUG IN

**RUGGED & DURABLE**  
HIGH-IMPACT FIRE-RETARDED ENCLOSURE  
WITH BATTERY COMPARTMENT & ACCESS DOOR

**PROTECTIVE HOLSTER**  
INCREASES PRODUCT DURABILITY;  
WASHABLE & REPLACEABLE

## 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

### Electrical Specifications

Accuracy is  $\pm 1\%$  reading digits + number of digits) or otherwise specified, at 23°C  $\pm 5^\circ\text{C}$  & 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	0.3%+3d
6.000V	1.2%+3d
60.00V	0.6%+3d
600.0V, 1000V	1.0%+3d

Input impedance: 10M $\Omega$ , 50 pF nominal

### AC Voltage

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

Input impedance: 10M $\Omega$ , 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: 10M $\Omega$ , 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
600.0 $\Omega$	0.8%+8d
6.000K $\Omega$ , 60.00K $\Omega$ , 600.0K $\Omega$	0.6%+4d
6.000M $\Omega$	1.5%+5d
60.00M $\Omega$	2.5%+5d

Open Circuit Voltage: 0.45VDC typical

### Audible Continuity Tester

**Audible Threshold:**  
between 10 $\Omega$  and 120 $\Omega$

600V and CAT IV 300V AC & DC

**Transient Protection:** 6kV (1.2/50 $\mu\text{s}$  surge)

**Overload Protection:**

**uA & 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.

**mA $\mu$ A:** 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

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, 6.000 $\mu\text{F}$ ,	2.0%+5d
60.00 $\mu\text{F}$ , 600.0 $\mu\text{F}$ <sup>3)</sup>	3.5%+5d
3000 $\mu\text{F}$ <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
600.0 $\mu\text{A}$	1.2% + 5d	0.25mV/ $\mu\text{A}$
6000 $\mu\text{A}$	1.0% + 3d	0.25mV/ $\mu\text{A}$
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		
600.0 $\mu\text{A}$	2.0% + 6d	0.25mV/ $\mu\text{A}$
6000 $\mu\text{A}$	1.5% + 5d	0.25mV/ $\mu\text{A}$
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

### Rf Hz Logic Level Frequency

RANGE	Accuracy <sup>1)</sup>
5.000MHz ~ 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

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

**Power Consumption:** 5.4mA typical

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

**APD Timing:** Idle for 34 minutes

**APD Consumption:** 10 $\mu\text{A}$  typical

**Dimensions:** 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 VFD-K socket plug adaptor

**Special Features:** Type-V & VFD-H 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

### ~ 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-5kHz
600V	60V	10Hz-5kHz
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
600 $\mu\text{A}$	60 $\mu\text{A}$	10Hz-10kHz
6000 $\mu\text{A}$	600 $\mu\text{A}$	10Hz-10kHz
60mA	6mA	10Hz-10kHz
600mA	60mA	10Hz-10kHz
6A	6V & 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

**BRYMEN TECHNOLOGY CORPORATION**

http://www.brymen.com

TEL: +86 2 2226 3396 (rep)

FAX: +86 2 2225 0025

Specifications subject to change without notice.

