

# A Handy Yet Most Complete ACA/DCA Clamp-on Meter Series!

Measures Motor Capacitors, Full-Range Resistance, °C/°F, & Captures 30ms In-rush Current!



CE

## BM060 Series

Compact DC/AC Clamp-on Multimeter

**BRYMEN**®

BRIGHT PEOPLE'S CHOICE  
<http://www.brymen.com>



**BM065**



**BM063**



**BM062**



**BM061**

065	063	062	061	FUNCTIONS & FEATURES
●	●	●	●	Versatile & Handy
●	●	●	●	400A DC/AC Clamp-on + Full Multimeter ranges
●	●	●	●	30mm jaws opening
●	●	●	●	Fully auto-ranging on all functions for ease of use
●	●	●	●	4000 counts high resolution; Fast measurements
●	●	●	●	600VAC/DC input protection on all functions
●		●		AC True RMS voltage and current functions
●		●		Back lighted display
●	●	●	●	30ms Max HOLD to capture in-rush currents
●	●	●	●	Data HOLD
●	●	●	●	Relative Zero feature
●	●	●	●	Measure line-level ACV Frequency via test leads
●	●	●	●	DCV 0.1mV to 600V
●	●	●	●	ACV 0.1mV to 600V
●	●	●	●	DCA/ACA 0.1A to 400A non-invasive current measurements
●	●	●	●	Ohm 0.1Ω to 40.00MΩ
●	●	●	●	Capacitance 50nF to 3000μF
●	●			Type-K Temperature -20°C ~ 537°C (-4°F ~ 999°F)
●	●	●	●	Fast Audible Continuity
●	●	●	●	Diode Test
●	●	●	●	Battery cover with Probe holders
●	●	●	●	Rugged Fire retarded casing; Soft carrying pouch
●	●	●	●	Transient protection 6.5kV 1.2/50μs lightning surge
●	●	●	●	LVD EN61010-1 & EN61010-2-032 CAT III 600V
●	●	●	●	EMC EN61326-1:2006 (EN55011, EN61000-3-2/-3 & EN61000-4-2/-3/-4/-5/-6/-8/-11)

# Small Jaws For Better Portability & Access To Tighter Places!

**DCA, ACA, Full-Range Functions Plus True RMS Conversion For Advanced Applications!**



**SMALL DCA/ACA CLAMP JAWS**  
FOR EASY ACCESS TO TIGHT PLACES  
WITH 400A DC/AC CAPABILITY

**RUGGED & DURABLE**  
HIGH-IMPACT FIRE-RETARDED ENCLOSURE  
FOR REINFORCED SAFETY & RELIABILITY

**STYLISH & HANDY**  
ALSO COMES WITH A SOFT POUCH  
FOR EASY CARRYING & PROTECTION

**LVD CAT III 600V SAFETY**  
MEETS EN61010-1 & EN61010-2-032  
2ND EDITION CAT III 600V

**30ms MAX HOLD**  
CAPTURES PEAK IN-RUSH CURRENT  
AS SHORT AS 30ms IN DURATION

**TRUE RMS (BM065 & BM062 ONLY)**  
FOR NON-SINUSOIDAL WAVEFORMS  
OF AC VOLTAGES & AC CURRENTS

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

**HIGH SPEED AUTO-RANGING**  
SHORTENS THE TIME TO TEST  
AND INCREASES THE EASE OF USE

**BATTERY COMPARTMENT**  
WITH ACCESS DOOR FOR  
EASY BATTERY REPLACEMENT

**DISPLAY BACKLIGHT (BM065 & BM062 ONLY)**  
FOR EASY VIEWING IN THE DARK

**PROBE HOLDERS**  
BUILT-IN PROBE STORAGE HOLDERS

**FUNCTION SELECTION**  
CONVENIENTLY TOGGLE BETWEEN  
PRIMARY & SECONDARY FUNCTIONS

**RELATIVE ZERO MODE**  
FOR CONVENIENT READINGS COMPARISON  
& DCA ZERO ADJUSTMENT

**5 FULL DC VOLTAGE RANGES**  
FROM 400mV RANGE  
UP TO 600 V RANGE

**LARGE EASY-TO-READ LCD DIGITS**  
WITH 3/SEC NOMINAL UPDATE RATE

**5 FULL AC VOLTAGE RANGES**  
FROM 400mV RANGE  
UP TO 600 V RANGE

**HIGH VOLTAGE (ACV) Hz**  
MEASURES NOISY HIGH VOLTAGE  
ACV FREQUENCY VIA TEST LEADS

**TYPE-K TEMPERATURE**  
(BM063 & BM065 ONLY)  
SELECTABLE °C AND °F READINGS;  
COMES WITH BKP60 BEAD PROBE

**DIODE TEST**  
FOR TESTING DIODES AND RECTIFIERS

**DC 400 AMPS MEASUREMENTS**  
NON-INVASIVE DC CURRENT  
VIA CLAMP JAWS; BEST RESOLUTION 0.1A

**CAPACITANCE**  
6 RANGES; AUTO-RANGING  
UP TO 3000µF WITH 600V PROTECTION

**AC 400 AMPS MEASUREMENTS**  
NON-INVASIVE AC CURRENT  
VIA CLAMP JAWS; BEST RESOLUTION 0.1A

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

**EMC**  
MEETS EN61326-1:2006  
(EN55011, EN61000-3-2/-3 &  
EN61010-4-2/-3/-4/-5/-6/-8/-11)

**TRANSIENT PROTECTION**  
UP TO 6.5kV 1.2/50µs LIGHTNING SURGE;  
MORE CONFIDENCE FOR SERIOUS USERS

**RESISTANCE**  
6 RANGES; AUTO-RANGING  
UP TO 40MEGA OHMS WITH 600V PROTECTION

## BM061, BM062, BM063 & BM065 GENERAL SPECIFICATION

**Display** : 3-3/4 digits 4000 counts LCD display  
**Update Rate** : 3 per second nominal  
**Polarity** : Automatic  
**Low Battery** : Below approx. 2.4V  
**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  
**Altitude** : Operating below 2000m  
**Storage Temperature** : -20°C to 60°C, < 80% R.H. (with battery removed)  
**Temperature Coefficient** : nominal 0.15 x (specified accuracy)/°C @ (0°C -18°C or 28°C -40°C), or otherwise specified  
**Sensing** :  
 BM062 & BM065 : True RMS sensing  
 BM061 & BM063 : Average sensing  
**Safety** : Meets IEC61010-1 2nd Ed., EN61010-1 2nd Ed., UL61010-1 2nd Ed., IEC61010-2-032,

EN61010-2-032, UL61010B-2-032  
 Measurement Category : III 600 Volts ac & dc  
**Transient protection** : 6.5kV (1.2/50µs surge)  
**Pollution degree** : 2  
**E.M.C.** : Meets 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 + 50 digits  
 Performance above 3V/m is not specified  
**Overload Protections** :  
 Clamp-on jaws : DC/AC 400A rms continuous + & COM terminals (all functions) : 600VDC/VAC rms  
**Power Supply** : standard 1.5V AAA Size (NEDA 24A or IEC LR03) battery X 2  
**Power Consumption** :

DCA & ACA : 11mA typical  
 Other functions : 2.9mA typical  
**APO Timing** : Idle for 30 minutes  
**APO Consumption** :  
 BM061 & BM063 : 10µA typical  
 BM062 & BM065 : 190µA typical  
**Dimension** : L188 X W63 X H40 mm  
**Weight** : 218 gm approx  
**Jaw opening & Conductor diameter** : 30 mm max  
**Special features** : Backlight display (BM062 & BM065 only); Display Hold; PEAK-rms MAX HOLD  
**Accessories** : Test leads (pair), batteries installed, user's manual, soft carrying pouch, Bkp60 banana plug K-type thermocouple x 1 (BM063 & BM065 only)  
**Optional Accessories** : Bkb32 banana pins to K-type socket plug adapter (BM063 & BM065 only)

## ELECTRICAL SPECIFICATION

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

True RMS Model BM065 & BM062 ACV & ACA clamp-on accuracies are specified from 5% to 100% of range or otherwise specified. Maximum Crest Factor are as specified below, and with frequency spectrums, besides fundamentals, fall within the meter specified AC bandwidth for non-sinusoidal waveforms. Fundamentals are specified at 50Hz and 60Hz.

### DC Voltage

RANGE	Accuracy
400.0mV	0.3% + 3d
4.000V, 40.00V, 400.0V	0.5% + 3d
600.0V	1.0% + 4d

NMRR : >50dB @ 50/60Hz  
 CMRR : >120dB @ DC, 50/60Hz, Rs=1kΩ  
 Input Impedance: 10MΩ, 30pF nominal  
 (1000MΩ for 400mV range)

### AC Voltage

RANGE	Accuracy
<b>50Hz ~ 60Hz</b>	
4.000V, 40.00V, 400.0V	1.0% + 4d
<b>60Hz ~ 500Hz</b>	
4.000V, 40.00V, 400.0V	1.5% + 4d
<b>50Hz ~ 500Hz</b>	
600.0V	2.0% + 4d

CMRR: >60dB @ DC to 60Hz, Rs=1kΩ  
 Input Impedance: 2MΩ, 30pF nominal  
 TRMS Model BM062 & BM065 Crest Factor:  
 < 2 : 1 at full scale & < 4 : 1 at half scale

### ACA Current (Clamp-on)

RANGE	Accuracy <sup>1) 2)</sup>
<b>400.0A</b>	
40Hz ~ 60Hz @ 0 ~ 50A	1.0% + 6d
60Hz ~ 400Hz @ 0 ~ 50A	1.5% + 5d
40Hz ~ 60Hz @ 50A ~ 200A	1.5% + 5d
60Hz ~ 200Hz @ 50A ~ 200A	2.0% + 5d
40Hz ~ 60Hz @ 200A ~ 300A	2.0% + 5d
40Hz ~ 60Hz @ 300A ~ 400A	2.5% + 5d

<sup>1)</sup>Induced error from adjacent current-carrying conductor: < 0.01A/A  
 TRMS Model BM062 & BM065 Crest Factor:  
 < 1.8 : 1 at full scale & < 3.6 : 1 at half scale

### DCA Current (Clamp-on)

RANGE	Accuracy <sup>1) 2)</sup>
<b>400.0A</b>	
0 ~ 50.0A	1.0% + 4d
50.0A ~ 200.0A	1.5% + 5d
200.0A ~ 300.0A	2.0% + 5d
300.0A ~ 400.0A	2.5% + 5d

<sup>1)</sup>Induced error from adjacent current-carrying conductor: < 0.01A/A  
<sup>2)</sup>Relative Zero Δ mode is applied to offset the non-zero residual readings, if any

### Audible Continuity Tester

Audible threshold: between 10Ω and 120Ω.  
 Range: 400.0Ω; Accuracy: 1.5%+8d  
 Open Circuit Voltage : 0.4VDC typical

### Ohms

RANGE	Accuracy
400.0Ω	0.8% + 6d
4.000kΩ, 40.00kΩ, 400.0kΩ	0.6% + 4d
4.000MΩ	1.0% + 4d
40.00MΩ	2.0% + 4d

Open Circuit Voltage : 0.4VDC typical

### Diode Tester

Test current: 0.4mA typical  
 Open Circuit Voltage : < 1.6VDC typical

### Capacitance

RANGE <sup>1)</sup>	Accuracy <sup>2) 3)</sup>
500.0nF, 5.000µF, 50.00µF, 500.0µF, 3000µF,	3.5%+6d

<sup>1)</sup>Additional 50.00nF range accuracy is not specified  
<sup>2)</sup>Accuracies with film capacitor or better  
<sup>3)</sup>Specified with battery voltage above 2.8V (approximately half full battery).  
 Accuracy decreases gradually to 12% at low battery warning voltage of approximately 2.4V

### Hz Frequency

Function	Sensitivity (Sine Wave)	Range
400.0mV	350mV	10Hz ~ 1kHz
4.000V	3.2V	5Hz ~ 20kHz
40.00V	25V	5Hz ~ 100kHz
400.0V	100V	5Hz ~ 100kHz
600V	410V	5Hz ~ 5kHz
DCA/ACA	Unspecified	

Display counts: 5000  
 Maximum resolution: 0.001Hz  
 Accuracy: 0.5%+4d

### Type-K Temperature (BM063 & BM065 only)

RANGE	Accuracy
-20 °C ~ 300 °C	2% + 3d
300 °C ~ 537 °C	3% + 3d
-4 °F ~ 572 °F	2% + 6d
572 °F ~ 1000 °F	3% + 6d

Type-K thermocouple range & accuracy not included

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