

**High Performance, High Resolution & High Quality !  
Plus Attractive High Technology Prices !**



**BM115/BM116**  
Performance Clamp-On Series



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





**BM116**



**BM115**

| 116 | 115 | FUNCTIONS & FEATURES                                 |
|-----|-----|--|
| ●   | ●   | Versatile & Stylish                                  |
| ●   | ●   | 1000A AC Clamp-on + Full Multimeter ranges           |
| ●   | ●   | 45mm Large 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            |
| ●   | ●   | Data HOLD  |
| ●   | ●   | Relative Zero feature                                |
| ●   | ●   | DCV 0.1mV to 600V                                    |
| ●   | ●   | ACV 0.1mV to 600V                                    |
| ●   | ●   | ACA 0.1A to 1000A non-invasive current measurements  |
| ●   | ●   | Ohm 0.1Ω to 40.00MΩ                                  |
| ●   | ●   | 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 EN61010-2-032 CAT III 600V                       |
| ●   | ●   | EMC EN61326(97/98A1)/EN61000-4-2(95)/EN61000-4-3(96) |



# Large Jaws Plus Large LCD Digits !

An Industrial Quality Tool That Is Simple & Easy To Use !

**LARGE U-SHAPE CLAMP JAWS**  
MEASURE ACA OF LARGE SINGLE CONDUCTOR  
OR DIFFERENTIAL ACA OF MULTIPLE CONDUCTORS

**RUGGED & DURABLE**

HIGH-IMPACT FIRE-RETARDED ENCLOSURE  
FOR REINFORCED SAFETY & RELIABILITY

**LVD CAT III 600V SAFETY**

MEETS EN61010-2-032 CAT III 600V

**TRUE RMS MEASUREMENTS (BM116 ONLY)**

FOR NON-SINUSOIDAL WAVEFORMS  
OF AC VOLTAGES & AC CURRENTS

**HIGH SPEED AUTO-RANGING**

SHORTENS THE TIME TO TEST  
AND INCREASES THE EASE OF USE

**FUNCTION SELECTION**

CONVENIENTLY TOGGLE BETWEEN  
PRIMARY & SECONDARY FUNCTIONS

**5 FULL DC VOLTAGE RANGES**

FROM 400mV RANGE  
UP TO 600 V RANGE

**5 FULL AC VOLTAGE RANGES**

FROM 400mV RANGE  
UP TO 600 V RANGE

**UP TO AC 1000 AMPS MEASUREMENTS**

2 NON-INVASIVE AC CURRENT AUTO-RANGES  
VIA CLAMP JAWS; BEST RESOLUTION 0.1A

**EMC**

MEETS EN61326(1997, 1998/A1),  
EN61000-4-2(1995), & EN61000-4-3(1996)

**TRANSIENT PROTECTION**

UP TO 6.5kV 1.2/50 $\mu$ s LIGHTNING SURGE;  
MORE CONFIDENCE FOR SERIOUS USERS

**STYLISH & HANDY**

ALSO COMES WITH A SOFT POUCH  
FOR EASY CARRYING & PROTECTION

**DATA HOLD**

FREEZES THE DISPLAYING  
READING FOR LATER VIEWING

**BATTERY COMPARTMENT**

WITH ACCESS DOOR FOR  
EASY BATTERY REPLACEMENT

**PROBE HOLDERS**

BUILT-IN PROBE STORAGE HOLDERS

**RELATIVE ZERO MODE**

FOR CONVENIENT READINGS  
COMPARISON & OFFSET ADJUSTMENT

**LARGE EASY-TO-READ LCD DIGITS**

WITH 3/SEC NOMINAL UPDATE RATE

**MANUAL-RANGING MODE**

AUTO-RANGING WITH MANUAL-RANGING OVERRIDE

**DIODE TEST**

FOR TESTING DIODES AND RECTIFIERS

**AUDIBLE CONTINUITY**

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

**RESISTANCE**

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





## BM115 & BM116 GENERAL SPECIFICATION

**Display:** 3-3/4 digits 4000 counts  
**Update Rate:** 3 per second nominal  
**Polarity:** Automatic  
**Operating Temperature:** 0°C ~ 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 ~ 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:**  
 Average sensing for BM115  
 True RMS sensing for BM116

**Pollution Degree:** 2  
**Safety:** Meets IEC61010-2-032 (1994), EN61010-2-032 (1995), UL3111-2-032 (1999)  
**Measurement Category:**  
 CAT III 600V ac & dc  
**E.M.C.:** Meets EN61326 (1997, 1998/A1), EN61000-4-2 (1995), & EN61000-4-3 (1996)  
 In an RF Field of 3V/m:  
 Total accuracy = Specified accuracy + 45 digits  
 Performance above 3V/m is not specified  
**Overload Protection:**  
 ACA Clamp-on jaws:  
 AC 1000A rms continuous  
 + & COM terminals (all functions):  
 600VDC/VAC rms

**Transient Protection:**  
 6.5kV (1.2/50µs surge) for both models  
**Low Battery:** Below approx. 2.4V  
**Power Supply:** standard 1.5V AAA size (NEDA 24A or IEC LR03) battery x 2  
**Power Consumption:** 2.2mA typical  
**APO Consumption:**  
 40µA typical on all models functions except 190µA typical on BM116 voltage & current functions  
**APO Timing:** Idle for 30 minutes  
**Dimension:** L224mm x W78mm x H40mm  
**Weight:** approx. 220 gm  
**Jaws opening & Conductor Diameter:**  
 45mm max  
**Accessories:** Test leads (pair), batteries installed, user's manual, soft carrying pouch

## BM115 & BM116 Electrical Specification

Accuracy is ± (% of reading digits + number of digits) or otherwise specified, at 23°C ± 5°C & less than 75% R. H.  
 True RMS models BM116 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 waveform.

### DC Voltage

| RANGE                  | Accuracy |
|------------------------|----------|
| 400.0mV                | 1.0%+ 3d |
| 4.000V, 40.00V, 400.0V | 1.7%+ 3d |
| 600V                   | 2.0%+ 4d |

NMRR: > 50dB @ 50Hz/60Hz  
 CMRR: > 120dB @ DC, 50Hz/60Hz, Rs=1kΩ  
 Input Impedance: 10MΩ, 30pF nominal;  
 (1000MΩ for 400.0mV range)

### AC Voltage

| RANGE                  | Accuracy |
|------------------------|----------|
| <b>50Hz ~ 500Hz</b>    |          |
| 400.0mV <sup>1)</sup>  | 4.0%+5d  |
| <b>50Hz ~ 60Hz</b>     |          |
| 4.000V, 40.00V, 400.0V | 2.0%+5d  |
| <b>60Hz ~ 500Hz</b>    |          |
| 4.000V, 40.00V, 400.0V | 2.5%+5d  |
| <b>50Hz ~ 500Hz</b>    |          |
| 600V                   | 3.0%+5d  |

CMRR: > 60dB @ DC to 60Hz, Rs=1kΩ  
 Input Impedance: 10MΩ, 30pF nominal  
 True RMS model BM116 Crest Factor:  
 < 2.5 : 1 at full scale & < 5 : 1 at half scale

<sup>1)</sup>Selection by RANGE button manually, and is specified from AC 40mV (AC 60mV for True RMS model BM116) & up

### Ohms

| RANGE                     | Accuracy |
|---------------------------|----------|
| 400.0Ω                    | 1.5%+6d  |
| 4.000kΩ, 40.00kΩ, 400.0kΩ | 1.0%+4d  |
| 4.000MΩ                   | 1.5%+4d  |
| 40.00MΩ                   | 2.5%+4d  |

Open Circuit Voltage: 0.4VDC typical

### Audible Continuity Tested

Open Circuit Voltage: 0.4VDC typical  
 Range: 400.0Ω; Accuracy: 1.5%+6d  
 Audible Threshold: between 10Ω and 120Ω

### Diode Tester

| Open Circuit Voltage | Test Current (Typical) |
|----------------------|------------------------|
| < 1.6VDC             | 0.4mA                  |

### ACA Clamp-on Current

| RANGE              | Accuracy <sup>1) 2) 3)</sup> |
|--------------------|------------------------------|
| <b>50Hz / 60Hz</b> |                              |
| 400.0A             | 1.5%+5d                      |
| 1000A              | 1.5%+5d                      |

True RMS model BM116 Crest Factor:  
 < 2.6 at full scale & < 5.2 at half scale

- <sup>1)</sup>Add 8d to specified accuracy while reading is below 15% of range  
<sup>2)</sup>Induced error from adjacent current-carrying conductor: < 0.06A/A  
<sup>3)</sup>Specified accuracy is for measurements made at the jaw center.  
 When the conductor is not positioned at the jaw center, position errors introduced are:  
 Add 1% to specified accuracy for measurements made WITHIN jaws marking lines (away from jaws opening)  
 Add 4% to specified accuracy for measurements made BEYOND jaws marking lines (toward jaws opening)



### BRYMEN TECHNOLOGY CORPORATION

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