



GENERAL SPECIFICATION

Display: 3-5/6 digits, 6,000 counts
 Update Rate: 5 per second nominal
 Operating Temperature: -10°C to 45°C
 Relative Humidity: Maximum relative humidity 80% for temperature up to 31°C decreasing linearly to 50% relative humidity at 45°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 @ (-10°C ~ 18°C or 28°C ~ 45°C), or otherwise specified
 Sensing: True RMS sensing
 Pollution Degree: 2
 Safety: Double insulation per IEC/UL/EN61010-1 Ed. 3.0, IEC/UL/EN61010-2-030 Ed. 1.0, IEC/UL/EN61010-2-033 Ed. 1.0, IEC/UL/EN61010-031 Ed. 1.1 and the corresponding CAN/CSA-C22.2 regulations to Measurement CAT II 1000V, CAT III 600V and CAT IV

Electrical Specification

Accuracy is given as $\pm$ (% of reading digits + number of digits) or otherwise specified @ 23°C $\pm$ 5°C
 ACV & ACA accuracies are specified from 1% to 100% of range or otherwise specified. Maximum Crest Factor <2:1 at full scale & <4:1 at half scale, and with frequency components fall within the meter specified frequency bandwidth for non-sinusoidal waveforms

AC Voltage

RANGE	Accuracy
50Hz ~ 60Hz	
6.000V, 60.00V, 600.0V, 1000V	0.7% + 3d
45Hz ~ 440Hz	
6.000V, 60.00V, 600.0V, 1000V	2.0% + 3d
10Hz ~ 500Hz	
60.0mV, 600.0mV	1.0% + 3d
500Hz ~ 800Hz	
60.0mV, 600.0mV	2.0% + 3d

Input Impedance: 10M Ω , 54pF nominal

VFD ACV (with Low Pass Filter)

RANGE	Accuracy ¹⁾
10Hz ~ 440Hz (fundamental)	
60.0V, 1000V	2.0% + 3d

¹⁾Not specified for fundamental frequency > 440Hz

AutoV ACV (BM235 only)

RANGE	Accuracy ¹⁾
45Hz ~ 440Hz	
60.0V, 1000V	2.0% + 3d

¹⁾Not specified at <1VAC

Threshold: > 1VAC nominal

Input Impedance:

Initially approx. 2.1k Ω , 164pF nominal; Impedance increases abruptly within a fraction of a second as display voltage is above 50V (typical). Ended up impedances vs display voltages typically are:
 12k Ω @100V
 100k Ω @300V
 240k Ω @600V
 580k Ω @1000V

DC Voltage

RANGE	Accuracy
60.0mV, 600.0mV, 6.000V, 60.00V, 600.0V, 1000V	0.3% + 2d

Input Impedance: 10M Ω , 54pF nominal

AutoV DCV (BM235 only)

RANGE	Accuracy ¹⁾
600.0V, 1000V	2.0% + 3d

¹⁾Not specified at <1VDC

Threshold: > +1.0VDC or < -1.0VDC nominal

Input Impedance:

Initially approx. 2.1k Ω , 164pF nominal; Impedance increases abruptly within a fraction of a second as display voltage is above 50V (typical). Ended up impedances vs display voltages typically are:
 12k Ω @100V
 100k Ω @300V

300V AC & DC

Transient Protection: 6.0kV (1/250 μ s surge)

Terminals (to COM) Measurement Category:

V / mA: I / A: Category II 1000V, CAT III 600V and CAT IV 300V AC & DC.

E.M.C.: Meets EN1326-1:2006

In an RF field of 3V/m:

Temperature function is not specified

Ohm function:

Total Accuracy = Specified Accuracy + 15 digits

Other functions:

Total Accuracy = Specified Accuracy

Performance above 3V/m is not specified

Overload Protection:

Performance above 3V/m is not specified

μA & mA: 0.4A/1000V DC/AC rms, IR 30kA, F fuse

A: 11A/1000V DC/AC rms, IR 20kA, F fuse

V & AutoV: 1100V DC/AC rms

mV, Ohm & others: 1000V DC/AC rms

Low Battery: Below approx. 2.5V

Power Supply: 1.5V AAA Size battery X 2

Power Consumption (typical): 3.2mA

APC Consumption (typical): 10 μ A

APC Timing: Idle for 30 minutes

Dimension: 161*80*50mm L*W*H (With Holster)

Weight: Approx. 334 gm (With Holster)

Special Features: AutoV (LoZ) (BM235 only); VFD;

Auto-ranging MAX/MIN/AVG Record; Backlight LCD;

Auto-ranging Relative Zero mode; Display Hold;

EF-Detection (NCV); BeepJack™ on μ A/mA terminals

Accessories: Test lead pair; Batteries included; Users manual; BKP60 banana plug type-K thermocouple (BM235 only)

Optional Purchase Accessories: BKB32 banana plug to type-K socket plug adaptor (BM235 only); BMH-01 magnetic hanger; BMP-25x soft carrying pouch

Full Function Handy DMMs for Lab and Field Services!

Full μ A/mA/10A Ranges, Audible + Visible BeepLit™ Continuity, AutoV + Ghost Voltage Buster, VFD V & Hz Fundamentals, Hi & Lo EF-Detection, Records Min/Max/Average, Relative Zero, BeepJack™ Warning!



Temperature (BM235 only)

RANGE	Accuracy
-40.0 °C ~ 99.9 °C	1% + 1 °C
100 °C ~ 400 °C	
-40.0 °F ~ 99.9 °F	1% + 2 °F
100 °F ~ 752 °F	

Type-K thermocouple range & accuracy not included

Line Frequency (BM233 & BM235 only)

Function	Sensitivity (Sine RMS)	Range
60mV, 600mV	50mV	10Hz - 50kHz
6V	3V	10Hz - 50kHz
60V	5V	10Hz - 50kHz
600V	50V	10Hz - 1kHz
1000V	500V	10Hz - 1kHz
VFD 600V	50V	10Hz - 1kHz
VFD 1000V	500V	10Hz - 1kHz
600 μ A, 6000 μ A	500 μ A	10Hz - 5kHz
60mA, 600mA	50mA	10Hz - 5kHz
6A, 10A	8A	50Hz - 1kHz

Accuracy: 0.03% + 2d

Non-Contact EF-Detection (BM237R & BM239R only)

Bar-Graph Indication	EF-H (Hi Sensitivity)	EF-L (Lo Sensitivity)
-	10V (3V~19V)	40V (16V~71V)
--	20V (10V~38V)	80V (32V~142V)
---	40V (21V~79V)	160V (63V~285V)
----	80V (40V~156V)	300V (105V~608V)
-----	160V (>80V)	500V (>300V)

Indication: Bar-graph segments & audible beep tones

proportional to the field strength

Detection Frequency: 50/60Hz

Detection Antenna: Top-left end of the meter

Probe-Contact EF-Detection: For more precise

indication of live wires, such as distinguishing between

live and ground connections, use direct contact testing

with one single test-probe via the input terminal COM

or V. The COM terminal (Black) has the best

sensitivity.

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-34970699
 勝特力电子(深圳) 86-755-83298787
 Http://www.100y.com.tw

BM230 Series
Practical Multimeter

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

Compact Yet Optimized For Your Daily Service!

Full μ A/mA/10A Ranges, BeepLit™ Continuity, Hi/Lo EF-Detection, LoZ AutoV, VFD V/Hz, °C/°F, Min/Max/Avg, BeepJack™ Warning



● **BM235**

● **BM233**

● **BM231**

235	233	231	FUNCTIONS & FEATURES
●	●	●	3-5/6 Digits 6,000 Counts Large Easy To Read LCD Display
●	●	●	Fast Measurements, 5/Sec; Fully Auto-Ranging
●	●	●	Intelligent Auto Power Off
●	●	●	True RMS AC Conversion
●	●	●	Data Hold
●	●	●	Records Max/Min Readings & Calculates Avg Readings Over Time
●	●	●	VFD V & Hz Fundamental Readings Of Most Variable-Frequency-Drives
●	●	●	Paper white Back-Lighted LCD Display
●	●	●	BeepLit™ Continuity. Features Audible BEEP & Visible Backlight Effects
●	●	●	Relative Zero Mode
●	●	●	Non-Contact EF-Detection (NCV) With Hi/Lo Selectable Sensitivities
●	●	●	Probe-Contact EF-Detection For More Precise Indication Of Live
●	●	●	AutoV LoZ Feature. Automatic DC & AC 1000V Selection With Low Initial Impedance To Drain Ghost Voltages
●	●	●	DC/AC V Ranges 600.0mV To 1000V
●	●	●	Ohms Ranges 600.0 Ω To 60.0M Ω
●	●	●	Cx Ranges 20.0nF to 10.0mF For Start & Run Motor Capacitors
●	●	●	Line Level Frequency Ranges 99.99Hz To 50.00kHz
●	●	●	DC/AC μ A, mA & A Ranges 600.0 μ A To 10.00A (20A for 30s / 5 mins cool down)
●	●	●	Type-K Temperature Readings -40°C To 400°C or -40°F To 752°F
●	●	●	Beep-Jack™ Input Warning Against Improper μ A/mA/A-Terminals Plug In
●	●	●	Diode Tester
●	●	●	Rugged Fire Retarded Housing
●	●	●	Replaceable Protective Holster With Probe-Holders & Tilt-Stand
●	●	●	Optional Purchase Magnetic Hanger
●	●	●	Batteries And Fuses Access Door
●	●	●	Transient Protection Up To 6kV 1.2/50 μ s Lightning Surge
●	●	●	LVD: EN61010-1/2-030/2-033 CAT-II 1kV, CAT-III 600V & CAT-IV 300V
●	●	●	EMC: EN61326-1:2013

White Display Backlight
For Easy Viewing In The Dark

Auto & Manual-ranging
Auto-ranging With
Manual-ranging Override

True RMS Measurements
For Non-sinusoidal Waveforms
Of AC Voltages & AC Currents

Large 6000 Counts LCD Display
5/sec Fast Nominal Update Rate

Max Min Avg Record
Record Max/Min And
Calculates Average
Readings Over Time

Relative Zero Mode
For Convenient Readings
Comparison & Offset

Data Hold
Freezes The Displaying
Reading For Later View

Hi/Lo Senses EF-Detection
Both Non-contact (NCV) &
Single-probe Voltage Detection
For Identifying Live Lines

Full μ A, mA & A Ranges
6 Full Current Ranges With
1000V HBC Fuses Protected

BeepLit™ Continuity
Quick Open-short Tests.
Beep and Backlight Effects
For Noisy Environments

Type-k Temperature
Selectable °C & °F Readings

Intelligent Auto-power-off
To Extend Battery Life

Transient Protection

Up To 6kV 1.2/50 μ s Lightning Surge;
Superb Protection For Serious Users

Function Selection
Toggle Conveniently Between
Primary & Secondary Functions

Hz Of Line Level Voltage
Measures Noisy High Voltage
ACV Frequencies

VFD V & Hz Feature
Measures Fundamental
Voltage & Frequency Of Most
Variable-Frequency-Drives

High Impedance Voltage
1000VAC/DC Measuring Capabilities;
High Input Impedance For
Load Sensitive Circuits

AutoV LoZ Feature
Automatic Selection Of
LoZ DCV And LoZ ACV

Ghost-voltage-buster
AutoV LoZ Drains Ghost/ Stray Voltages
Leaving Only Hard Signals
On Meter Readings

Beep-jack™ Audible Warning
Beeps Against Improper A-terminal
Plug In. Decreases Risks Of Damage

Protective Holster
With Holders For Probe Storage
And "third Hand" Feature,
Replaceable & Washable



EMC
Meets EN61326-1:2013

LVD Safety
Meets EN61010-1/2-030/2-033
CAT II 1kV & CAT III 600V

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