

Multitalented and Compact; Loaded with Nice Up-to-date Features!

AutoHold Real-Read™, BeepPass™ Diode, BeepLit™ Continuity, BeepJack™ InEr,
LoZ AutoV, Hi/Lo EF, VFD, REC MaxMinAvg, CREST MaxMin,
REL, HOLD, i-APO, PC-Comm!

BM2250 Series

Versatile
Professional
Multimeters



www.brymen.eu

CE
UK
CA



Bright People's Choice

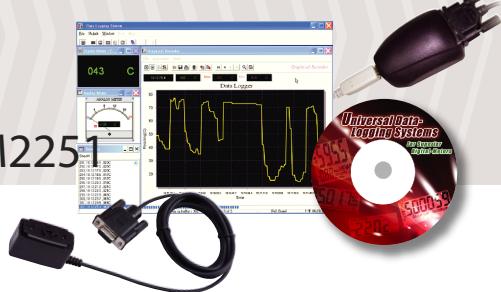




BM2257



BM2251

**BRUA-20X Interface Kit
(Optional Purchase)**


2257	2251	FUNCTIONS & FEATURES
•		AutoV Automatic Selection of ACV or DCV
•		LoZ Ghost-voltage-buster AutoV to Drain Ghost Voltages for Hard Signals
•		Capacitance; 7 Ranges @ 20.00nF to 10.00mF
•		Type-K Temperature from -40.0°C to 1000°C or -40.0°F to 1832°F; °C/°F Selectable
•	•	3-5/6 Digits 6,000 Counts Large LCD Display
•	•	5/Sec Nominal Data Update; Fast Auto-Ranging & Measurements
•	•	60 Segment High-Resolution Analog Bar-graph Updates 40/Sec
•	•	Amber LED Warm Backlight LCD Display
•	•	AutoHold with Real-Read™ to Avoid "Blind" Measurements
•	•	Relative Zero for Readings Comparison & Offset
•	•	CREST Max/Min >5ms Peaks; Automatic iAPO Disable
•	•	REC Max/Min/Avg; Auto-ranging; Automatic iAPO Disable
•	•	Display HOLD Freezes the Displaying Reading for Later Viewing
•	•	AC True RMS on Voltage and Current Functions
•	•	DCV Best Accuracy 0.2% + 3d; 3 Ranges @ 6.000V to 600V
•	•	ACV; 3 Ranges @ 6.000V to 600V
•	•	VFD_ACV with LPF; Range @ 600.0V
•	•	High-Resolution AC/DC mV; 2 Ranges @ 60.00mV to 600.0mV
•	•	AC/DC mA, mA, & A; 6 Ranges 600.0µA to 10.00A
•	•	Resistance; 6 Ranges @ 600.0Ω To 60.00MΩ
•	•	AC Line-level Hz via Test leads; 10Hz to 50kHz
•	•	Logic Level Hz from 10.00Hz to 200.0kHz
•	•	Fast BeepLit™ Continuity with Beep + Backlight Effects; Response Time <15ms
•	•	Diode with BeepLit™ (Continuity) & BeepPass™ (Short Beep) Features
•	•	EF-Detection for Identifying Live Lines; Selectable Hi/Lo Sensitivities
•	•	BeepJack™ Guards Against Improper Amp Terminals Plug-in
•	•	Auto Power Off (iAPO) Stays ON While in Measurements
•	•	PC-Comm Interface Capability; Optional Purchase USB Cable & PC Software Set
•	•	600V General Input Protection on All Functions and Ranges
•	•	High Breaking Capacity HBC Fuses Protected on µAmA & A Terminals
•	•	Transient Protection to 6kV 1.2/50µs + 8/20µs Combo Surges
•	•	Fire-retarded Housing with Battery Access Door
•	•	Protective Holster with Probe-Holders & Tilt-Stand; Washable & Replaceable
•	•	Rugged & Durable; Robust Enclosure and Premium Plated Low Leakage PCB
•	•	EMC Certified; Superior Immunity to Interferences
•	•	LVD with cULus Listed to CAT III 600V; UL, CSA, CE, and UKCA Compliance

Powerful and Handy; High-Performance Full Functions for Daily Use!

Speedy Hi-res Bar-graph, VFD-V/Hz, Logic/Line Hz, Wide-range Cx, °C/°F, Speeded MΩ, Hi-res 60.00mV, AC True-RMS, CAT III 600V cUL_{US} Listed

3-5/6 Digits LCD Display

6,000 Counts Nominal;
19mm Height Large Digit

Relative Zero Mode

Convenient Readings
Comparison & Offset

Capacitance

Measures Small to Large Motor Capacitors;
7 Ranges @ 20.00nF to 10.00mF

Fast Measurements

5/Sec Nominal Data Update;
Fast Auto-Ranging & Measurements

DCV Best Accuracy 0.2% + 3d

Measures DCV; 3 Ranges @ 6.000V to 600V

Fast Analog Bar-graph

60 Segment High-Resolution
Analog Bar-graph Updates 40/Sec

PC-Comm Interface Capability

Optional Purchase USB
Cable & PC Software Set

Warm Amber Backlight

Amber LED Warm
Backlight LCD Display

REC Max/Min/Avg Auto-ranging

Records Max, Min, and Calculates
Average Readings Over Time;
Auto-ranging; Automatic iAPO Disable

VFD_ACV with LPF

For Noisy Electrical and
VFD Signals; Range @ 600.0V

AutoV

Automatic Selection of ACV or
DCV Whichever Higher in Magnitude

LoZ Ghost-voltage-buster AutoV

Low Ramp-up Input Impedance to
Drain Ghost Voltages Leaving Meter
Readings on Hard Signals

BeepJack™ Input Warning

Guards Against Improper Amp Terminals
Plug-in for Voltage Measurements

Detachable Protective Holster

Features Probe-Holders & Tilt-Stand;
Washable & Replaceable

Auto Power Off (iAPO)

Stays ON While in Measurements;
Intelligently Turns OFF to Extend Battery Life;
Power-up Disable option

HBC Fuses Protected

High Breaking Capacity Fuses
Protected on μAma & A Terminals

EF-Detection with Hi/Lo Sensitivities

Features Non-Contact (NCV) &
Single-Pole Contact Voltage Detections;
Selectable Hi/Lo Sensitivities

ACV

Measures ACV;
3 Ranges @ 6.000V to 600V



EMC Certified

Superior Immunity to Interferences;
Reliable Operations and Readings;

EN61326-1 Certified

AC True RMS

Ideal for Non-sinusoidal & Complex Waveforms
on Voltage and Current Functions

AC Line-level Hz

Measures Noisy High Voltage Frequency
via Test leads; 10Hz to 50kHz

Logic Level Hz

Measures Digital Logic Level Frequencies
from 10.00Hz to 200.0kHz

High-Resolution AC/DC mV

2 Ranges @ 60.00mV to 600.0mV

Type-K Temperature

Measures from -40.0 °C to 1000 °C or -40.0 °F
to 1832 °F; °C/F Selectable

AutoHold with Real-Read™

Shows Real-time Readings and Automatically
Latches the Last Stable Reading for Later Viewing

Display HOLD

Freezes the Displaying
Reading for Later Viewing

CREST Max/Min >5ms Peaks

Fast Captures +/- Peak Extremes at
Durations > 5ms; Automatic iAPO Disable

Rugged & Durable

Robust Enclosure, Premium Plated Low
Leakage PCB, and Reliable Rotary Switch

AC/DC μA, mA, & A

6 Ranges @ 600.0μA to 10.00A

Fast BeepLit™ Continuity

Fast Captures +/- Peak Extremes at
Durations > 5ms; Automatic iAPO Disable

600V General Input Protection

Superb Protection for Misinput on All
Functions and Ranges

Transient Protection to 6kV

1.2/50μs + 8/20μs Combo Surges;
Fully Certified by Independent Test Lab;
Years of Credibility for Serious Users

Resistance

6 Ranges @ 600.0Ω To 60.0MΩ

LVD with cULus

Listed to CAT III 600V; UL, CSA, CE,
and UKCA Compliance

Diode with BeepLit™ & BeepPass™

Continuous Beep + Backlight
Effects on Shorted Diodes;
Short-Beep Alerts on Good Diodes

Battery Access Door

Fire-retarded Housing with
Battery Access Door

GENERAL SPECIFICATIONS

Display: 3-5/6 digits 6,000 counts

Update Rate:

3-5/6 digits: Max 5 per second nominal

60 Segment Bar-graph: 40 per second max

Operating Temperature: -10°C to 50°C continuous operating (except on A function, see Electrical Specifications below for more details)

Relative Humidity: Maximum relative humidity 80% for temperature up to 31°C decreasing linearly to 50% relative humidity at 50°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 ~ 50°C), or otherwise specified

Sensing: True RMS sensing

Ingress Protection: IP40

Pollution Degree: 2

Safety: Certified per IEC/UL/EN/BSEN 61010-1

Ed. 3.1, IEC/UL/EN/BSEN 61010-2-033 Ed. 2.0,

IEC/UL/EN/BSEN 61010-031 Ed. 2.0 and the

corresponding CAN/CSA-C22.2

regulations to Measurement Categories:

CAT III 600V and CAT IV 300V AC & DC

Transient Protection: 6.0kV (1.2/50μs surge)

E.M.C.: Meets EN61326-1

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:

µA & mA: 0.63A/1000V DC/AC rms, IR 30kA, F fuse; or better

A: 12A/600V, IR 50kA for Vdc & 100kA for Vac, F fuse; or 11A/1000V DC/AC rms, IR 30kA, F fuse; or better

V & AutoV: 1100V AC rms & 660V DC

mV, Ohm & others: 600V DC/AC rms

Low Battery: Below approx. 2.5V

Power Supply: 1.5V AAA size battery X 2

Power Consumption (typical): 4.0mA

iAPO Consumption (typical): 20µA

iAPO Timing: Idle for 30 minutes

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

Weight: Approx. 334 gm (With Holster)

Special Features: AutoHold; AutoV (LoZ); VFD-ACV &

VFD-Hz; Hi/Lo EF-Detection (NCV & Single pole);

BeepLit™ Diode w/BeepPass™ indication; BeepLit™

Continuity; Auto-ranging REC MAX/MIN/AVG; Auto-

ranging CREST (Instantaneous Peak) MAX/MIN;

Backlighted LCD; Auto-ranging Relative-zero; Display

Hold; BeepJack™ audible & visible input warning

Accessories: Test lead pair; Batteries; User's manual;

BKP60 banana plug type-K thermocouple

Optional Purchase Accessories: BKB32 banana plug

to type-K socket plug adaptor; BMH-01 magnetic

hanger; USB interface kit BRUA-20X

ELECTRICAL SPECIFICATIONS

BeepLit™ Diode Tester

RANGE	Accuracy	Test Current (Typical)	Open Circuit Voltage
3.0000V	1.0% + 3d	0.3mA	< 3.2 VDC

BeepPass™ Indication (Short-beep): Drop Across 0.850V

BeepLit™ Indication (Continuity) Threshold: < 0.100V

Audible Indication: Beep Sound

Visible Indication: LCD Backlight

DC Current

RANGE	Accuracy	Burden Voltage
600.0µA, 6000µA	0.5% + 5d	0.1mV/µA
60.00mA, 600.0mA		1.9mV/mA
6.000A, 10.00A ¹⁾	1.0%+5d	0.04V/A

¹⁾10A continuous up to ambient 40°C only, and is <3 mins on per >15 mins off @ 40°C ~ 55°C; >10A to 20A for <30 seconds on per >15 mins off

AC Current

RANGE	Accuracy	Burden Voltage
50Hz ~ 400Hz		
600.0µA, 6000µA		0.1mV/µA
60.00mA, 600.0mA	1.0% + 5d	1.9mV/mA
6.000A, 10.00A ¹⁾		0.04V/A

¹⁾10A continuous up to ambient 40°C only, and is <3 mins on per >15 mins off @ 40°C ~ 55°C; >10A to 20A for <30 seconds on per >15 mins off

Temperature (Models 2257 only)

RANGE	Accuracy ^{1,2)}
-40.0°C ~ 99.9°C	1.0% + 1°C
100 °C ~ 1000 °C	0.3%+3°C
-40.0°F ~ 99.9°F	1.0% + 2°F
100 °F ~ 1832 °F	0.3%+6°F

¹⁾Accuracies assume the meter interior and the ambient have reached the same temperature (isothermal stage) for a correct junction voltage compensation. Allow enough settling time for a significant change in ambient temperature. It can take up to an hour for changes > 5°C.

²⁾Type-K thermocouple range & accuracy not included

Logic Level Hz (DCmV Function)

RANGE	Sensitivity (Square wave)
10.00 Hz ~ 200.0 kHz	3Vpeak

Accuracy: 0.03% + 3d

Line Frequency

Available Function	Trigger Level	Sensitivity (Sine RMS)	Range
ACV/DCV	0	1V	10Hz - 50kHz
	1	4V	
	2	40V	
VFD-ACV	3	400V	10Hz - 1kHz
	2	40V	
µA	3	400V	10Hz - 5kHz
	0	40µA	
mA	1	400µA	10Hz - 5kHz
	0	4mA	
A	1	40mA	50Hz - 1kHz
	0	0.6A	
	1	6A	

Accuracy: 0.03% + 3d

Non-Contact EF-Detection

Bar-segment 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: Display bar-segments, backlight flashing, & beep tones in proportion to the field strength

Detection Frequency: 50/60Hz

Detection Antenna: Top-right end of the meter

Probe-Contact EF-Detection: For more precise indications 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.

CREST mode (Instantaneous Peak Hold)

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

Availability: Voltage and Current functions

Resolution: 6000 counts

AutoHold Real-Read™

Accuracy: Specified accuracy ± 50 digits

Availability: Resistance, Continuity, LoZ AutoV, VFD Volts, Voltage and Current functions

Ohm

RANGE ¹⁾	Accuracy
600.0Ω, 6.000kΩ, 60.00kΩ, 600.0kΩ	0.5% + 4d
6.000MΩ ²⁾	0.7% + 4d

¹⁾Open Circuit Voltage: 1.6VDC typical

²⁾Constant Test Current: 0.2µA typical

³⁾Constant Test Current: 0.02µA typical

⁴⁾5%+20d @ >30MΩ

BeepLit™ Continuity Tester

Continuity Threshold: Between 30Ω and 480Ω

Continuity ON Response Time: <15ms

Audible Indication: Beep sound

Visible Indication: LCD Backlight

Capacitance (Models 2257 only)

RANGE	Accuracy
20.00nF, 200.0nF	1.5% + 8d
2000nF, 20.00µF, 200.0µF, 2000µF	1.5% + 2d

10.00mF

4.5% + 10d

Accuracies with film capacitor or better



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