Welectron.

Perfect Combination Of Size & Innovative Functions!

Ergonomic, Magnetic Hanger, Probe Holders, Tilt stand, Battery & Fuses Access Cover... User-Oriented!
PC-Comm, Bar-graph, BeepJack, Crest (Peak), Rec (Min Max), Relative, Backlit... Full-Features!
AutoCheck+LoZ, EF-Detection, Capacitance, Line Level Hz, Temperature... Full-Functions!

BM250s Series
Practical Multimeters

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

Right Size, High Safety and Nice Features !

Equipped With EF-Detection For Live Lines Identification !

Beep-Jack™ Guards Against Improper Plug In !

ASIC TECHNOLOGY
MORE FUNCTIONS & FEATURES
AT AFFORDABLE PRICES

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

TRUE RMS MEASUREMENTS
FOR NON-SINUSOIDAL WAVEFORMS
OF AC VOLTAGES & AC CURRENTS

AUTO & MANUAL-RANGING
AUTO-RANGING WITH
MANUAL-RANGING OVERRIDE

LARGE 6000 COUNTS LCD DISPLAY
5/SEC FAST NOMINAL UPDATE RATE

DISPLAY BACKLIGHT
FOR EASY VIEWING IN THE DARK

HIGH ACCURACY
0.2% BASIC DCV ACCURACY

FUNCTION SELECTION
TOGGLE CONVENIENTLY BETWEEN
PRIMARY & SECONDARY FUNCTIONS

ANALOG BAR-GRAPH
FAST UPDATE RATE 40/SEC

LOGIC LEVEL Hz (mV FUNCTION)
MEASURES HI FREQUENCY
LOGIC SIGNALS

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

LINE LEVEL Hz (V FUNCTION)
MEASURES NOISY HIGH VOLTAGE
ACV FREQUENCIES

MAX MIN RECORD
RECORD MAX and MIN
READINGS; AUTO-RANGING

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

HIGH IMPEDANCE VOLTAGE
1000VAC/DC MEASURING CAPABILITIES;
HIGH INPUT IMPEDANCE FOR
LOAD SENSITIVE CIRCUITS

DATA HOLD
FREEZES THE DISPLAYING
READING FOR LATER VIEW

AUTOCHECK™ FEATURE
AUTOMATIC SELECTION OF
LoZ DCV, LoZ ACV & OHMS

CREST (PEAK HOLD)
CAPTURES INSTANTANEOUS
+PEAK & -PEAK

GHOST-VOLTAGE-BUSTER
LoZ DRAINS GHOST/ STRAY VOLTAGES
LEAVING ONLY HARD SIGNALS
ON METER READINGS

TYPE-K TEMPERATURE
SELECTABLE °C & °F READINGS

AUTO-POWER-OFF
TO EXTEND BATTERY LIFE

DIODE TEST
FOR CHECKING DIODES
AND RECTIFIERS

ERGONOMIC STREAMLINE DESIGN
FITS COMFORTABLY IN ONE'S HAND

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

TRANSIENT PROTECTION
UP TO 6kV 1.2/50µs LIGHTNING SURGE;
SUPERB PROTECTION FOR SERIOUS USERS

EMC
MEETS EN61326-1:2013

BEEP-JACK™ AUDIBLE WARNING
BEEPS AGAINST IMPROPER A-TERMINAL
PLUG IN. DECREASES RISKS OF DAMAGE

LVD SAFETY
MEETS EN61010-1/-2-030/-2-033
CAT II 1kV, CAT III 600V & CAT IV 300V

PROTECTIVE HOLSTER
WITH HOLDERS FOR PROBE STORAGE
AND "THIRD HAND" FEATURE
REPLACEABLE & WASHABLE

PC INTERFACE CAPABILITY
OPTIONAL PURCHASE RS232C+USB CABLES
WITH DATA RECORDING PC SOFTWARE
FOR WIN98/NT4/2K/XP/VISTA

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

BM257s BM252s

BM255s BM251s

BRUA-20X interface kit (optional purchase)

257s	255s	252s	251s	FUNCTIONS & FEATURES
●	●	●	●	3-5/6 Digits 6,000 Counts Large Easy To Read LCD Display
●	●	●	●	Fast Measurements, 5/Sec; Fully Auto-Ranging
●	●	●	●	24 Segment Analog Bar-graph Updates 40/Sec
●	●	●	●	0.2% High Basic DCV Accuracy
●	●	●	●	Auto Power Off
●	●	●	●	Optional Purchase RS232C+USB Cables & Software For Win98/2k/xp/Vista/7/8
●				True RMS AC Conversion
●	●			AutoCheck™ Feature (Automatic DCV, ACV & Ohms Selection)
●	●			Lo-Z Volts To Drain Ghost Voltages (AutoCheck™ Feature)
●	●			Record Max/Min Readings, Auto-Ranging
●	●			Crest (Peak Hold) Max/Min Readings
●	●			Back-Lighted Large Easy To Read LCD Display
●	●	●	●	Data Hold
●	●	●	●	Relative Zero Mode
●	●	●	●	Non-Contact EF-Detection (NCV)
●	●	●	●	Probe-Contact EF-Detection For More Precise Indication Of Live
●	●	●	●	Beep-Jack™ Input Warning Against Improper A-Terminal Plug In
●	●	●	●	DCV 0.01mV To 1000V
●	●	●	●	ACV 0.01mV To 1000V
●	●	●	●	DCA 0.1μA To 10A (20A for 30 sec. max with 5 minutes cool down interval)
●	●	●	●	ACA 0.1μA To 10A (20A for 30 sec. max with 5 minutes cool down interval)
●	●	●	●	Ohms 0.1Ω To 60MΩ
●	●	●		Capacitance 60.00nF To 3000μF
●	●	●		Type-K Temperature Readings -50°C To 1000°C
●	●	●	●	Line Level Frequency 10.00Hz To 10.00kHz
●	●	●	●	Logic Level Frequency 5.00Hz to 1.000MHz
●	●	●	●	Diode Tester
●	●	●	●	Rugged Fire Retarded Casing
●	●	●	●	Replaceable Protective Holster With Probe-Holders & Tilt-Stand
●	●	●	●	Optional Purchase Magnetic Hanger
●	●	●	●	Batteries And Fuses Access Door
●	●	●	●	1000V General (Ohm, Capacitance ... etc.) Input Protection
●	●	●	●	Transient Protection Up To 6kV 1.2/50μs Lightning Surge
●	●	●	●	LVD Meets EN61010-1 CAT II 1000V, CAT III 600V & CAT IV 300V
●	●	●	●	EMC EN61326-1:2013

GENERAL SPECIFICATION

Display: 3-5/6 digits 6,000 counts
Update Rate: 5 per second nominal
24 Segments Bar graph: 40 per second max
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 ~ 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:
BM251s, BM252s & BM255s: Average sensing
BM257s: 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 CAN/CSA-C22.2 No. 61010-1-12 Ed. 3.0 to Category II 1000V, CAT III 600V and CAT IV 300V AC & DC
Transient Protection: 6.5kV (1.2/50μs surge)
Terminals (to COM) Measurement Category:
V / mAμA / A: Category II 1000V, CAT III 600V and CAT IV 300V AC & DC.
E.M.C. : Meets EN61326-1:2013
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
Overload Protection:
μA & mA: 0.4A/1000V DC/AC rms, IR 30kA, F fuse
A: 11A/1000V DC/AC rms, IR 20kA, F fuse
V & AutoCheck™: 1100V DC/AC rms
mV, Ohm & others: 1000V DC/AC rms
Low Battery: Below approx. 2.3V
Power Supply: 1.5V AAA Size battery X 2
Power Consumption (typical): 3.5mA
APO Consumption (typical): 10μA
APO Timing: Idle for 34 minutes
Dimension: 161*80*50mm L*W*H (With Holster)
Weight: Approx. 340 gm (With Holster)
Special Features: AutoCheck™ V & Ω (BM255s & BM257s only); Auto-ranging MAX/MIN Record (BM255s & BM257s only); Crest mode (Peak Hold, BM255s & BM257s only), Backlighted LCD (BM255s & BM257s only); Auto-ranging Relative Zero mode; Display Hold; EF-Detection (NCV); Interface capabilities with PC computer; Input warning detection
Accessories: Test lead pair; Batteries installed; User's manual; BKP60 banana plug type-K thermocouple (BM252s, BM255s & BM257s only)
Optional purchase accessories: BRUA-20X USB interface kit; BMH-01 Magnetic hanger; BKB32 banana plug to type-K socket plug adaptor (BM252s, BM255s & BM257s only); BMP-25x soft carrying pouch

Electrical Specification

Accuracy is given as ± (% of reading digits + number of digits) or otherwise specified @ 23°C ± 5°C and less than 75% R.H.
True RMS Model 257s ACV & ACA accuracies are specified from 5 % to 100 % of range or otherwise specified. Maximum Crest Factor <3:1 at full scale & <6:1 at half scale, and with frequency components fall within the meter specified frequency bandwidth for non-sinusoidal waveforms

DC Voltage

RANGE	Accuracy
60.00mV	0.4%+5d
600.0mV	0.2%+3d
6.000V, 60.00V, 600.0V, 1000V	

NMRR: > 60dB @ 50Hz/60Hz
CMRR: > 100dB @ DC, 50Hz/60Hz; Rs=1kΩ
Input Impedance: 10MΩ, 50 pF nominal

AutoCheck™_DCV (BM255s & BM257s only)

RANGE	Accuracy
1.000V ~ 1000V	1.3% + 3d

AutoCheck™ Lo-Z DCV Threshold:
> +1.0VDC & < -1.0VDC nominal
AutoCheck™ Lo-Z DCV Input Impedance:
Initially approx. 2.5kΩ, 120pF 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:
15kΩ @100V
100kΩ @300V
250kΩ @600V
375kΩ @1000V

AC Voltage

RANGE	Accuracy
50Hz ~ 400Hz	
60.00mV, 600.0mV	1.0% + 5d
6.000V, 60.00V, 600.0V, 1000V	

CMRR: >60dB @ DC to 60Hz, Rs=1kΩ
Input Impedance: 10MΩ, 50 pF nominal

AutoCheck™_ACV (BM255s & BM257s only)

RANGE	Accuracy
50Hz/60Hz	
1.000V ~ 1000V	1.4% + 5d

AutoCheck™ Lo-Z ACV Threshold: > 1V nominal
AutoCheck™ Lo-Z ACV Input Impedance:
Initially approx. 2.5kΩ, 120pF 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:
15kΩ @100V
100kΩ @300V
250kΩ @600V
375kΩ @1000V

CREST Mode (BM255s & BM257s only)

Accuracy: Specified accuracy plus 150 digits for changes > 5ms in duration

RECORD Mode (BM255s & BM257s only)

Accuracy: Specified accuracy plus 100 digits for changes > 100ms in duration

Ohm

RANGE	Accuracy
600.0Ω, 6.000KΩ, 60.00KΩ, 600.0KΩ	0.5%+4d
6.000MΩ	0.7%+4d
60.00MΩ	1.2%+4d

Open Circuit Voltage: 0.45VDC typical

AutoCheck™_Ohm (BM255s & BM257s only)

RANGE [1]	Accuracy
000.0Ω ~ 60.00MΩ	1.2% + 10d

Open Circuit Voltage: 0.45VDC typical
[1]AutoCheck™ Ohm Threshold: < 10.00MΩ nominal

Audible Continuity Tester

Audible Threshold: Between 10Ω and 80Ω
Response time: 32ms

Capacitance (BM252s, BM255s & BM257s only)

RANGE	Accuracy
60.00nF, 600.0nF	2.0%+5d
6.000μF, 60.00μF, 600.0μF	1.5%+5d
3000μF	2.0%+5d

Accuracies with film capacitor or better

Diode Tester

RANGE	Accuracy
1.000V	1.0% + 3d

Test Current: 0.56mA typically
Open Circuit Voltage: < 1.8VDC typically

DC Current

RANGE	Accuracy	Burden Voltage
600.0μA	0.5%+5d	0.10 mV/uA
6000μA	0.5%+3d	
60.00mA	0.5%+5d	1.7 mV/mA
600.0mA	0.5%+3d	
6.000A	1.2%+6d	0.03V/A
10.00A[1]	1.8%+6d	

[1] 10A continuous, >10A to 20A for 30 sec. max with 5 minutes cool down interval

AC Current

RANGE	Accuracy	Burden Voltage
50Hz ~ 400Hz		
600.0μA, 6000μA	1.0%+3d	0.10 mV/uA
60.00mA, 600.0mA		1.7 mV/mA
6.000A	1.2%+6d	0.03V/A
10.00A[1]	1.8%+6d	

[1] 10A continuous, >10A to 20A for 30 sec. max with 5 minutes cool down interval

Logic Level Hz (mV Function)

RANGE	Sensitivity (square wave)
5.00 Hz ~ 500.0 kHz	3 Vpeak
5.00 Hz ~ 1.000 MHz	5 Vpeak

Accuracy: 0.03%+2d

Hz (Line) @ ACV, DCV, Current & AutoCheck™

Function	Sensitivity (Sine RMS)	Range
6V	0.4V	10Hz - 10kHz
60V	4V	10Hz - 50kHz
600V	40V	10Hz - 50kHz
1000V	400V	45Hz - 1kHz
600μA	40μA	10Hz - 10kHz
6000μA	400μA	10Hz - 10kHz
60mA	4mA	10Hz - 10kHz
600mA	40mA	10Hz - 10kHz
6A	1A	10Hz - 1kHz
10A	6A	10Hz - 1kHz

Accuracy: 0.03%+3d

Temperature (BM252s, BM255s & BM257s only)

RANGE	Accuracy
-50 °C ~ 1000 °C	0.3% + 3d
-58 °F ~ 1832 °F	0.3% + 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-right 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 measurements

BRYMEN TECHNOLOGY CORPORATION
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