Mobile Logger Supports Multi-session, More Memory & Dual Display!

12kV Transient Protection, 1kV Fuses, DC+AC True RMS, Duty %, 4 Digit Resolution, nS Conductance... And More!
Data-Logging, PC-Comm, Bar-graph, BeepJack, Crest (Peak), Rec (Min Max), Relative, Backlit... Full-Features!
Ergonomic, Magnetic Hanger, Probe Holders, Tilt stand & Hanger, Battery Access Cover... User-Oriented!
AutoCheck+LoZ, Capacitance, Line Level Hz, T1-T2 Temperature... Full-Functions!

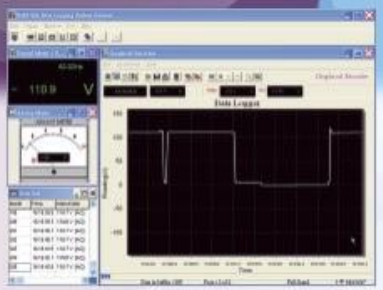
CE

BM520s Series
Professional Multimeter

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

BM525s

BM521s



BU-86X interface kit
(optional purchase)

525s	521s	FUNCTIONS & FEATURES
87,000	10,800	Stand-Alone Data-Logging Function (Points at Single Display Mode)
43,000	5,400	Stand-Alone Data-Logging Function (Points at Dual Display Mode)
●	●	4 Digits 10,000 Counts Large Easy To Read LCD Display
●	●	Fast Measurements, 5/Sec; Fully Auto-Ranging
●	●	Dual Digital Display
●	●	41 Segment Analog Bar-graph Updates 60/Sec
●	●	0.08% High Basic DCV Accuracy
●	●	Optional Purchase USB Cable & Software For Win98/2k/xp/Vista/7/8
●	●	Intelligent Auto Power Off
●	●	Data Hold
●	●	Relative Zero Mode
●	●	Audible & Visible BeepJack™ Input Warning Against Improper Plug In
●	●	AC, AC+DC True RMS Conversion
●	●	Record Max/Min/MAX-MIN Readings, Auto-Ranging
●	●	Crest (Peak Hold) Max/Min/MAX-MIN Readings, Auto-Ranging
●	●	Non-Contact EF-Detection (NCV)
●	●	Probe-Contact EF-Detection For More Precise Indication Of Live
●	●	AutoCheck™ Feature (Automatic DCV, ACV & Ohms Selection)
●	●	Lo-Z Volts To Drain Ghost Voltages (AutoCheck™ Feature)
●	●	Back-Lighted Large Easy To Read LCD Display
●	●	DCV 0.01mV To 1000V
●	●	ACV 0.01mV To 1000V
●	●	AC+DCV 0.01mV To 1000V
●	●	DCA 0.1μA To 10A; 20A For 30 Seconds Per 5 Minutes Cooling
●	●	ACA 0.1μA To 10A; 20A For 30 Seconds Per 5 Minutes Cooling
●	●	AC+DCA 0.1μA To 10A; 20A For 30 Seconds Per 5 Minutes Cooling
●	●	Ohms 0.1Ω To 60MΩ
●	●	Conductance 0.01nS To 100nS
●	●	Capacitance 0.01nF To 25mF
●	●	T1 Type-K Temperature Readings -50°C To 1000°C
●		T2 Dual Type-K Temperature Readings -50°C To 1000°C
●	●	Line Level Frequency 15.00Hz To 1.000kHz
●	●	Logic Level Frequency 5.00Hz To 1.000MHz
●	●	Logic Level Duty Cycle Readings 0.01% To 100.0%
●	●	Diode Tester
●	●	Rugged Fire Retarded Casing With Battery Access Door
●	●	Replaceable Protective Holster With Probe-Holders & Tilt-Stand
●	●	Optional Purchase Magnetic Hanger
●	●	1000V General (Ohm, Capacitance … etc.) Input Protection
●	●	1000V High Breaking Capacity Fuses Protected On Current Inputs
●	●	Transient Protection Up To 12kV 1.2/50μs Lightning Surge
●	●	LVD Meets EN61010-1 CAT IV 1kV
●	●	EMC EN61326-1:2013

The Best Of The Best : 1kV Protection + MobileLogger!

87,000 Points Stand-Alone Data-Logging With On-Screen Recall !
Includes AutoCheck™ & Ghost-Voltage-Buster™ !

ANALOG BAR-GRAPH
FAST UPDATE RATE 60/SEC

HIGH ACCURACY
0.08% BASIC DCV ACCURACY;
FAST AUTO-RANGING

DISPLAY BACKLIGHT
FOR EASY VIEWING IN THE DARK

FUNCTION SELECTION
TOGGLE CONVENIENTLY BETWEEN
PRIMARY & SECONDARY FUNCTIONS

nS CONDUCTANCE
nS=1/GΩ VIRTUALLY EXTENDS RESISTANCE
MEASUREMENT TO THE ORDER OF GΩ.
IT IS USEFUL FOR LEAKAGE MEASUREMENTS

CREST (PEAK HOLD)
CAPTURES INSTANTANEOUS
+PEAK & -PEAK, AUTO-RANGING

LOGIC LEVEL DUTY%
MEASURES DIGITAL LOGIC LEVEL
DUTY CYCLE % READINGS

LOGIC LEVEL Hz
MEASURES DIGITAL LOGIC LEVEL
FREQUENCIES UP TO 2MHz

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

Hz OF LINE LEVEL VOLTAGE
MEASURES NOISY HIGH VOLTAGE
ACV FREQUENCIES UP TO 200kHz
IN DUAL DISPLAY

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

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

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

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

STAND-ALONE DATA-LOGGING
UP TO 87,000 DATA ITEMS IN SINGLE
DISPLAY MODE, OR 43,000 DATA
ITEMS IN DUAL DISPLAY MODE

STAND-ALONE DATA RECALL
ON-SCREEN REVIEW LOGGED READINGS
WITHOUT THE NEED OF A COMPUTER

AC, AC+DC TRUE RMS MEASUREMENTS
FOR NON-SINUSOIDAL WAVEFORMS
OF COMPLEX VOLTAGE OR CURRENT SIGNALS

SELECTABLE SAMPLING INTERVAL
16 SELECTABLE SAMPLING INTERVALS
FROM 0.05S TO 600S

DUAL DIGITAL DISPLAY
SIMULTANEOUSLY VIEW
RELEVANT PARAMETERS IN
COMPLEMENTARY DISPLAY

LARGE 10000 COUNTS LCD DISPLAY
5/SEC FAST NOMINAL UPDATE RATE

DATA HOLD
FREEZES THE DISPLAYING
READING FOR LATER VIEW

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

DIODE TEST
FOR CHECKING DIODES
AND RECTIFIERS

T1-T2 TYPE-K TEMPERATURE
2 CHANNEL MEASUREMENTS,
SELECTABLE °C & °F READINGS

CAPACITANCE
UP TO 25mF WITH 1000V PROTECTION;
AUTO-RANGING

CURRENT & Hz
MEASURES CURRENT & FREQUENCIES
IN DUAL DISPLAY

ERGONOMIC STREAMLINE DESIGN
FITS COMFORTABLY IN ONE'S HAND

INTELLIGENT AUTO-POWER-OFF
TO EXTEND BATTERY LIFE

TRANSIENT PROTECTION
UP TO 12kV 1.2/50µs LIGHTNING SURGE;
SUPERB PROTECTION FOR SERIOUS USERS

EMC
MEETS EN61326-1:2013

LVD Safety
MEETS EN61010-1/-2-030/-2-033
CAT III 1kV & CAT IV 600V

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

GENERAL SPECIFICATIONS

Display:
9999 counts: ACV, DCV, Hz & nS
6000 counts: mV, µA, mA, A, Ohm & Capacitance
Polarity: Automatic
Update Rate:
Digital Display: 5 per second nominal;
41 Segments Bar-graph: 60 per second max
Low Battery: Below approx. 7V
Operating Temperature: 0ºC to 45ºC
Relative Humidity: Maximum relative humidity 80% for temperature up to 31ºC decreasing linearly to 50% relative humidity at 45ºC
Pollution degree: 2
Storage Temperature: -20ºC to 60ºC, < 80% R.H. (with battery removed)
Altitude: Operating below 2000m
Temperature Coefficient: nominal 0.15 x (specified accuracy)/ ºC @(0ºC ~ 18ºC or 28ºC ~ 45ºC), or otherwise specified
Sensing: AC+DC True RMS
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 IV 1000Vac & Vdc.
Transient protection: 12kV (1.2/50µs surge)
Terminals (to COM) Measurement Category:
V / A / mAµA : Category IV 1000Vac & Vdc
Overload Protections:
µA & mA: 0.44A/1000V DC/AC rms, IR 10kA, F fuse
A: 11A/1000V DC/AC rms, IR 20kA, F fuse
V: 1100V DC/AC rms
mV, Ω & Others: 1000V DC/AC rms
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
Power Supply: Single 9V battery; NEDA1604G, JIS006P IEC6F22, NEDA1604A, JIS6AM6 or IEC8LF22
Power Consumption: 5 mA typical
APO Timing: Idle for 30 minutes
APO Consumption: 50µA typical
Dimension: L208mm X W103mm X H64.5mm with holster
Weight: 635 gm with holster
Accessories: Test lead pair; battery installed; user's manual; BKP60 banana plug type-K thermocouple
Optional purchase accessories: USB interface kit BU-86X; BKB32 banana plug to type-K socket plug adaptor; BMH-01 magnetic hanger; BMP-86x soft carrying pouch

Electrical Specifications

Accuracy is ±(% reading digits + number of digits) or otherwise specified, at 23ºC ± 5ºC & less than 75% relative humidity.
True RMS voltage & current accuracies are specified from 10 % to 100 % of range or otherwise specified. Maximum Crest Factor < 2:1 at full scale & < 4:1 at half scale, and with frequency components within the specified frequency bandwidth for non-sinusoidal waveforms.

DC Voltage

Function	RANGE	Accuracy
mV	60.00mV	0.12%+2d
	600.0mV	0.06%+2d
V	9.999V, 99.99V, 999.9V	0.08%+2d

Input Impedance: 10MΩ, 50pF nominal (80pF nominal for 600mV range)

AC Voltage

Function	RANGE	Accuracy
50Hz ~ 60Hz		
mV	60.00mV, 600.0mV	0.5% + 3d
V	9.999V, 99.99V, 999.9V	
40Hz ~ 500Hz		
mV	60.00mV, 600.0mV	0.8% + 4d
V	9.999V, 99.99V	1.0%+4d
	999.9V	2.0%+4d
500Hz ~ 1kHz		
mV	60.00mV, 600.0mV	2.0% + 3d
V	9.999V, 99.99V	1.0%+4d
	999.9V	2.0%+4d
1kHz ~ 3kHz		
mV	60.00mV, 600.0mV	2.0%+3d
V	9.999V, 99.99V, 999.9V	3.0%+4d
3kHz ~ 20kHz		
mV	60.00mV [1], 600.0mV [1]	2%+3d
V	9.999V [2], 99.99V	3dB
	999.9V	Unspecfd

[1]Specified from 30% to 100% of range.
[2]for 3kHz ~ 15kHz only
Input Impedance: 10MΩ, 50pF nominal (80pF nominal for mV ranges)

dBm

At 600Ω, -11.76dBm to 54.25dBm,
Accuracy: ± 0.25dB + 2d (@40Hz – 20kHz)
Input Impedance: 10MΩ, 50pF nominal
Selectable reference Impedance of 4, 8, 16, 32, 50, 75, 93, 110, 125, 135, 150, 200, 250, 300, 500, 600, 800, 900, 1000, 1200Ω

AutoCheck™ (DCV)

RANGE	Accuracy
9.999V, 99.99V, 999.9V	0.5%+3d

Lo-Z DCV Threshold: > +1.5VDC or < -1.0VDC nominal
Lo-Z DCV Input Impedance:
Initially approx. 3.0kΩ, 165pF 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:
18kΩ @100V
125kΩ @ 300V
320kΩ @ 600V
500kΩ @ 1000V

DC [AC] & AC+DC [AC] Voltage

Function	RANGE	Accuracy
DC, 50Hz ~ 60Hz		
mV	60.00mV, 600.0mV	0.7% + 6d
V	9.999V, 99.99V, 999.9V	
40Hz ~ 1kHz		
mV	60.00mV, 600.0mV	1.0%+6d
V	9.999V, 99.99V, 999.9V	2.2%+6d
1kHz ~ 20kHz		
mV [1]	60.00mV, 600.0mV	2.2%+6d
V	9.999V [2], 99.99V	3dB
	999.9V	Unspecfd

[1]Specified from 30% to 100% of range.
[2]for 1kHz ~ 15kHz only
Input Impedance: 10MΩ, 50pF nominal (80pF nominal for mV ranges)

AutoCheck™ (ACV)

RANGE	Accuracy
50Hz ~ 60Hz	
9.999V, 99.99V, 999.9V	1.0%+4d

Lo-Z ACV Threshold: > 3VAC (50/60Hz) nominal
Lo-Z ACV Input Impedance:
Initially approx. 3.0kΩ, 150pF 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:
18kΩ @100V
125kΩ @ 300V
320kΩ @ 600V
460kΩ @ 1000V

Ohms

RANGE	Accuracy
600.0Ω, 6.000kΩ, 60.00kΩ, 600.0kΩ	0.1%+3d
6.000MΩ	0.4%+3d
60.00MΩ	1.5%+5d
99.99nS	0.8%+10d

Open Circuit Voltage: < 1.2VDC (< 1.0VDC for 60MΩ range)

AutoCheck™ (Ohms)

RANGE	Accuracy
600.0Ω, 6.000kΩ, 60.00kΩ, 600.0kΩ	0.5%+4d
6.000MΩ	0.8%+3d
60.00MΩ [1]	2.0%+5d

[1]Temperature Coefficient: 0.6 x (specified accuracy)/ ºC @(0ºC ~ 18ºC or 28ºC ~ 45ºC)
Open Circuit Voltage: < 1.2VDC (< 1.0VDC for 60MΩ range)

Audible Continuity Tester

Audible threshold: between 20Ω and 300Ω; Response time < 100µs

Capacitance

RANGE	Accuracy [1]
60.00nF, 600.0nF	0.8% + 3d
6.000µF	1.0% + 3d
60.00µF	2.0% + 3d
600.0µF [2]	3.5% + 5d
6.000mF [2]	5.0% + 5d
25.00mF [2]	6.5% + 5d

[1]Accuracies with film capacitor or better
[2]In manual-ranging mode, measurements not specified below 50.0µF, 0.54mF and 5.4mF for 600.0µF, 6.000mF and 25.00mF ranges respectively

AC & AC+DC Current

RANGE	Accuracy	Burden voltage
50Hz ~ 60Hz		
600.0µA, 6000µA	0.6%+3d	0.08mV/µA
60.00mA		2.1mV/mA
600.0mA	1.0%+3d	
6.000A, 10.00A [1]	0.8%+6d	0.02V/A
40Hz ~ 1kHz		
600.0µA, 6000µA	0.8%+4d	0.08mV/µA
60.00mA		2.1mV/mA
600.0mA	1.0%+4d	
6.000A, 10.00A [1]	0.8%+6d	0.02V/A

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

DC Current

RANGE	Accuracy	Burden voltage
600.0µA, 6000µA	0.2%+4d	0.08mV/µA
60.00mA, 600.0mA		2.1mV/mA
6.000A, 10.00A [1]		0.02V/A

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

Line Level Frequency (~Hz)

Function Range	Frequency	Sensitivity (Sine RMS)
AC 60.00mV	15.00 ~ 50.00kHz	40mV
AC 600.0mV		60mV
AC 9.999V	15.00 ~ 10.00kHz	2.5V
AC 99.99V		25V
AC 999.9V		100V
AC 600.0µA	15.00 ~ 3.000kHz	200µA
AC 6000µA		600µA
AC 60.00mA		40mA
AC 600.0mA		60mA
AC 6.000A		4A
AC 10.00A		6A

Accuracy: 0.04%+4d

Logic Level Frequency (⊓⊓ Hz) & Duty Cycle (D%)

@ DCmV Function	Range	Accuracy [1]
Frequency	5.00Hz ~ 1.000MHz	0.04%+4d
Duty Cycle	0.00% ~ 100.0%	3d/kHz+2d [2]

[1] Sensitivity: 2.5Vp (Square wave) for 3V & 5V Logic Family
[2] Specified Frequency: 5Hz ~ 10kHz

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)	—

Indication: Bar graph segments & audible beep tones proportional to the field strength
Detection Frequency: 50/60Hz
Detection Antenna: Top 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.

Crest mode (Instantaneous Peak Hold)

Accuracy: Specified accuracy adds 250 digits for changes > 1.0 ms in duration

Record mode

Accuracy: Specified accuracy adds 10 digits for changes > 100 ms in duration

Diode Tester

RANGE	Accuracy
2.000V	1.0%+1d

Test Current (Typically): 0.4mA
Open Circuit Voltage: < 3.5 VDC

Temperature

RANGE	Accuracy
-50ºC to 1000ºC	0.3%+2ºC
-58ºF to 1832ºF	0.3%+5ºF

Type-K thermocouple range & accuracy not included