

BM525 & BM521 GENERAL SPECIFICATIONS

Display:
9999 counts: ACV, DCV, Hz & nS
6000 counts: mV, μ A, mA, A, Ohm & Capacitance

Update Rate:
Digital Display: 5 per second nominal;
41 Segments Bar-graph: 60 per second max

Low Battery: Below approx. 7V

Operating Temperature: 0°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

Pollution degree: 2

Storage Temperature: -20°C to 60°C, < 80% R.H. (with battery removed)

Altitude: Operating below 2000m

Temperature Coefficient: nominal 0.15 x (specified accuracy) / °C @ (0°C ~ 18°C or 28°C ~ 45°C), or otherwise specified

Sensing: AC, AC+DC True RMS

Safety: Double insulation per IEC61010-1 2nd Ed.,

Electrical Specifications

Accuracy is \pm (% reading digits + number of digits) or otherwise specified, at 23°C \pm 5°C & less than 75% relative humidity. True RMS voltage & current accuracies are specified from 10% to 100% of range or otherwise specified. Maximum Crest Factor < 3:1 at full scale & < 6:1 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	999.9mV, 9.999V, 99.99V, 999.9V	0.08%+2d

NMRR: >60dB @ 50/60Hz
CMRR: >110dB @ DC, 50/60Hz, R_s=1k Ω
Input Impedance: 10M Ω , 50pF nominal (80pF nominal for 600mV range)

AutoCheck™ (DCV)

RANGE	Accuracy
999.9mV, 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. 3.0k Ω , 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:

18k Ω @100V
125k Ω @ 300V
320k Ω @ 600V
500k Ω @ 1000V

AC & AC+DC Voltage

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

¹⁾Specified from 30% to 100% of range.

CMRR: >60dB @ DC to 60Hz, R_s=1k Ω
Input Impedance: 10M Ω , 50pF nominal (80pF nominal for 600mV range)

Non-zero residual reading does not affect measurement accuracy. It shows less than 5 digits with test leads shorted over time.

EN61010-1 2nd Ed., UL61010-1 2nd Ed. & CAN/CSA C22.2 No. 61010.1-0.92 to Category IV 1000Vac & Vdc.

Transient protection: 12kV (1.2/50 μ s surge)

Terminals (to COM) Measurement Category:

V / A / mA μ A: Category IV 1000Vac & Vdc

Overload Protections:

μ A & mA : 0.44A/1000Vac & Vdc, IR 10kA, F fuse

A : 11A/1000Vac & Vdc, IR 20kA, F fuse

V, mV, Ω , & Others: 1050Vrms, 1450Vpeak

E.M.C. : Meets EN61326-1:2006 (EN55022, EN61000-3-2, EN61000-3-3, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11)

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 IEC6LF22

Power Consumption: 5 mA typical

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APO Timing: Idle for 30 minutes

APO Consumption: 50 μ A typical

Dimension: L208mm X W103mm X H64.5mm with holster

Weight: 635 gm with holster

Special Features: Dual displays; Data Hold; Audible & Visible Input Warning; Auto-Ranging Relative Zero; USB

Interface capability (Optional purchase interface kit BU-82X);

AutoCheck™ V- Ω ; Auto-Ranging 50ms Record;

Auto-Ranging Crest (Instantaneous Peak Hold); Backlighted display;

T1-T2 differential temperature readings (BM525 only); nS conductance; Stand-alone logging capability

(5400/10800 points for BM521 dual/single display;

43500/87000 points for BM525 dual/single display) with selectable logged interval 0.05s, 0.1s, 0.5s, 1s, 2s, 3s, 4s, 5s, 10s, 15s, 30s, 60s, 120s, 180s, 300s, 600s

Accessories: Test lead pair; Battery installed; User's manual; One BKP60 banana plug type-K thermocouple

Optional purchase accessories:

USB interface kit BU-82X; BMH-01 Magnetic hanger; BKB32 banana plug to type-K socket plug adaptor

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