

Full Size Catalog Specifications of the BM830 (BM837) Professional DMM series

GENERAL SPECIFICATIONS

Display : 3-3/4 digits 4000 counts or 4-3/4 digits 40000 counts selectable (5 digits 99999 counts for Hz), and 4 digits 9999 counts dual display LCD
Polarity : Automatic
Update Rate :
 3-3/4D Data: 5 per second nominal;
 4-3/4D Data: 1.25 per second nominal;
 43 Segments Bar graph: 128 per second max
Low Battery: The indicator appears when the battery voltage drops below approx. 5.8V
Operating Temperature : 0°C to 35°C, 0-80% R.H.; 35°C to 50°C, 0-70% R.H.

Storage Temperature : -20°C to 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
Power Supply : Single Alkaline 9V battery; NEDA1604, JIS006P or IEC6F22
APO Timing : Idle for 4.5 minutes
APO Consumption : 20 μ A
Dimension : L186mm X W87mm X H35.5mm (without holster)
Safety : Designed to UL3111-1, CSA C22.2 NO.231, and IEC1010-1 installation category III

Overload Protections :

μ A & mA : 0.63A/500V Fuse, IR 200kA;
 A : 15A/600V Fuse, IR 100kA;
 V : 780Vrms, 1000Vpeak;
 mV : 600VDC/VAC rms;
 Others: 600VDC/VAC rms

Sensing : True RMS for BM837; Average responding for BM835

Power Consumption : 12 mA

Weight : 390 gm (without holster)

Accessories : Test leads (pair), holster, battery installed and user's manual

ELECTRICAL SPECIFICATIONS

ACCURACY IS \pm (% READING DIGITS + NUMBER OF DIGITS) OR OTHERWISE SPECIFIED, AT 23°C \pm 5°C & LESS THAN 75% R.H.

* True RMS responding accuracies are specified from 5% to 100% of range or otherwise specified; Crest Factor \leq 3:1 at full scale, and \leq 6:1 at half scale

DC Voltage

RANGE	BM835	BM837
	Accuracy	
<0.00 mV	0.5% + 6d	
400.0mV, 4.000V, 40.00V, 400.0V, 1000V	0.08% + 1d	

NMRR : >60dB @ 50/60Hz
 CMRR : >120dB @ DC, 50/60Hz, $R_s=1k\Omega$
 Input Impedance : 10M Ω , 30pF nominal (100pF nominal for 40mV & 400mV ranges)

AC Voltage

RANGE	BM835	BM837*
	Accuracy	
50Hz — 60Hz		
400.0mV, 4.000V, 40.00V, 400.0V, 750V	0.5% + 3d	0.5% + 3d
40Hz — 1kHz		
400.0mV	0.8% + 3d	0.8% + 3d
4.000V, 40.00V, 400.0V	0.8% + 4d	0.8% + 4d
750V	1.0% + 4d	1.0% + 4d
1kHz — 5kHz		
400.0mV	1.0% + 3d	1.0% + 3d
4.000V, 40.00V, 400.0V	1.0% + 6d	1.0% + 4d
750V	3.0% + 8d**	3.0% + 6d**
5kHz — 20kHz		
400.0mV	2.0% + 6d**	1.5% + 6d**
4.000V, 40.00V, 400.0V	1.8% + 8d**	1.8% + 6d**
750V	Unspec'd	Unspec'd
20kHz — 50kHz		
400.0mV	Unspec'd	2.5% + 8d***

CMRR : >60dB @ DC to 60Hz, $R_s=1k\Omega$
 Input Impedance : 10M Ω , 30pF nominal (100pF nominal for 400mV range)

**Specified from 10% to 100% of range

***Add (30000)reading counts below 38% of range

(AC + DC) Voltage

RANGE	BM837*
	Accuracy
50Hz — 60Hz	
4.000V, 40.00V, 400.0V, 750V	0.8% + 8d
40Hz — 1kHz	
4.000V, 40.00V, 400.0V	1.0% + 8d
750V	1.2% + 8d
1kHz — 5kHz	
4.000V, 40.00V, 400.0V	1.2% + 8d
750V	3.2% + 8d**

DC Current

RANGE	BM835	BM837	burden Voltage
	Accuracy		
400.0 μ A	0.4% + 4d		0.15mV μ A
4000 μ A	0.2% + 2d		0.15mV μ A
40.00mA	0.4% + 4d		3.3mV/mA
400.0mA	0.2% + 3d		3.3mV/mA
4.000A	0.8% + 6d		0.03VA
10.00A	0.4% + 4d		0.03VA

AC Current

RANGE	BM835	BM837*	burden Voltage
	Accuracy		
50Hz — 60Hz			
400.0 μ A	1.0% + 4d	1.0% + 4d**	0.15mV μ A
4000 μ A	0.8% + 3d	0.8% + 3d	0.15mV μ A
40.00mA	1.0% + 4d	1.0% + 4d**	3.3mV/mA
400.0mA	0.8% + 3d	0.8% + 3d	3.3mV/mA
4.000A	1.0% + 4d	1.0% + 4d**	0.03VA
10.00A	0.8% + 3d	0.8% + 3d	0.03VA
40Hz — 300Hz			
400.0 μ A	1.5% + 4d	1.5% + 4d**	0.15mV μ A
4000 μ A	1.0% + 3d	1.0% + 3d	0.15mV μ A
40.00mA	1.5% + 4d	1.5% + 4d**	3.3mV/mA
400.0mA	1.0% + 3d	1.0% + 3d	3.3mV/mA
4A	1.5% + 4d	1.5% + 4d**	0.03VA
10A	1.0% + 3d	1.0% + 3d	0.03VA
300Hz — 3kHz			
400.0 μ A	Unspec'd	Unspec'd	0.15mV μ A
4000 μ A	1.2% + 3d	1.2% + 3d	0.15mV μ A
40.00mA	Unspec'd	Unspec'd	3.3mV/mA
400.0mA	1.2% + 3d	1.2% + 3d	3.3mV/mA
4A	Unspec'd	Unspec'd	0.03VA
10A	1.2% + 3d	1.2% + 3d	0.03VA

**Specified from 10% to 100% of range

Ohms

RANGE	BM835	BM837
	Accuracy	
40.00 Ω	0.2% + 6d	
400.0 Ω , 4.000k Ω , 40.00k Ω , 400.0k Ω	0.15% + 2d	
4.000M Ω	0.3% + 2d	
40.00M Ω	1.5% + 5d	
400.0nS	0.7% + 5d	

Frequency & ACV or AC ADP in Dual Display

RANGE	BM835	BM837
	Accuracy	
99.99Hz, 999.9Hz, 9.999kHz, 20.00kHz	0.002% + 1d	

Sensitivity** : 5Hz—100 Hz, >15% F.S. of AC range;
 100Hz—1kHz, >20% F.S. of AC range;
 1kHz—10kHz, >35% F.S. of AC range;
 10kHz—20kHz, >50% F.S. of AC range

**ACV 750V range : 5Hz—100Hz, >420VAC
 100Hz—1kHz, >550VAC

Duty Cycle

RANGE	BM837
	Accuracy
0.1% — 99.9%	0.5d/kHz + 2d

Input Frequency : 50Hz — 300 kHz; 5V Logic Family

Capacitance

RANGE	BM835	BM837
	Accuracy**	
4.000nF***	4.0% + 10d	
40.00nF	3.0% + 5d	
400.0nF	0.8% + 5d	
4.000 μ F	0.8% + 3d	
40.00 μ F	2.0% + 3d	
400.0 μ F	3.0% + 5d	
4.000mF	3.5% + 5d	
40.00mF	4.0% + 5d	

**Accuracies with film capacitor or better

***Specified from 10% to 100% of range

dBm (BM837 only)

Selectable reference impedance of 4, 8, 16, 32, 50, 75, 93, 110, 125, 135, 150, 200, 250, 300, 500, 600, 800, 900, 1000, 1200 Ω
 At 600 Ω , -11.76dBm to 54.25dBm,
 Accuracy : \pm 0.25dB + 2d (@40Hz—20kHz)
 Input Impedance : 10M Ω , 30pF nominal

➤) Audible Continuity Tester

Audible threshold : the beeper sounds if the measured resistance is lower than 10 Ω , and turns off when greater than 60 Ω . Response time \leq 150 μ s

DC Adaptor

10 counts per 1 mVDC
 Accuracy : 0.08% + 1d
 Input Impedance : 1000M Ω , 70pF nominal

AC Adaptor

10 counts per 1 mVAC
 Accuracy : Same as AC 400.0mV range
 Input Impedance : 1000M Ω , 70pF nominal

4.000V, 40.00V, 400.0V	1.2% + 8d
750V	3.2% + 8d**
5kHz — 20kHz	
4.000V, 40.00V, 400.0V,	2.0% + 8d**
750V	Unspec'd

Input Impedance : 10M Ω , 30pF nominal

**Specified from 10% to 100% of range

→ Diode Tester

Range	Accuracy	Test Current (Typical)	Open Circuit Voltage
4.000V	2%+1d	0.8mA	< 3.5 VDC

40.00M Ω	1.5% + 5d
400.0nS	0.7% + 5d

Open Circuit Voltage : < 1.3VDC

Frequency

RANGE	8M835	8M837
	Accuracy	
99.999Hz, 999.99Hz, 9.9999kHz, 99.999kHz, 999.99kHz, 4.0000MHz	0.002% + 3d	

Sensitivity : 5Hz — 100kHz**, > 200 mVrms;
 100kHz — 500kHz, > 400 mVrms;
 500kHz — 2MHz, > 850 mVrms;
 2MHz — 4 MHz, > 1Vrms

**Pulse Width > 3 μ s

Accuracy : Same as AC 400.0mV range
 Input Impedance : 1000M Ω , 70pF nominal



BRIGHT PEOPLE'S CHOICE

BRYMEN TECHNOLOGY CORPORATION

5F, 756 CHUNG JENG ROAD, CHUNG HO CITY 235,
 TAIPEI, TAIWAN, R.O.C.

TEL: 886-2-2263396 (MAIN) FAX: 886-2-2250025

COPYRIGHT (C) MCMXCV BRYMEN

ALL RIGHTS RESERVED

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

P/N BMC 9502

PRINTED IN TAIWAN

