

B	Title	Part No.
	PRODUCTION TEST SPEC	6171-976
	1st Used On: BM400 SERIES & BM80 SERIES	Sheet 1 of 3

- Notes: 1. 'BM80 series' includes BM81, BM82 etc and BM80/A, BM80/B etc.
 2. The specification column is for information only.
 3. This instrument performs most tests without the need to press the TEST button.
 4. Tests should be performed with a battery voltage from power supply with output voltages:
 HIGH = 8V – 0.1V and LOW = 6.25V – 0.1V.
 5. This generic test specification is suitable for any BM400 type instrument and BM80 type instruments- simply omit tests that the instrument cannot do.

Initial test procedure:

Set Battery volts to LOW.
 Fit a locking type test button.

Select any MΩ range.
 Press the Test button and rotate its centre so that it locks down.
 If the button is locked down a reading should appear in the display.
 If the button will not lock down, the instrument is defective.

Select 'Battery check'.

After a short delay, read 5.9 to 6.6 V.
 Release the Test button and observe:

- (1) Display segment check.
- (2) Instrument type display code.
- (3) Software version number.

Check that the instrument type display code is correct according to the following table.

Model number	Display code	Model number	Display code
BM400	J08	BM80	J0F
BM401	J08	BM81	J0F
BM402	J00	BM82	J0F
BM403	J09	BM80/A	J0F
BM404	J00		

(To get a repeat display of the above, press Test button and release it when the battery voltage appears)



(Set battery volts to HIGH.
 Press and release Test button, and read 7.0V to 8.8V.
 Set battery volts back to LOW)

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7	24Jul96	15234		
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Calibration test:

<u>Range</u>	<u>Apply</u>	<u>Read</u>	<u>[Specification]</u>
1. Volts *	o/c	000V Not 0V	[Checking for shutdown]
2.	5 Vdc	5V –1	[–1% –1 dig dc, 2digs ac]
3.	240 Vdc	240V –3	
3a. BM80 series only:	5 Vac	5V –1	[–1% –1 digit]
4.	240 Vac	240V –3	
5.	500 Vac	500V –9	
* For instruments without a voltage range select MΩ 500V, apply 240Vac and check that the display flashes.			
6. Ohms	0 Ω	0.02 to 0.25	[Lead res = 0.2Ω typ]
7. Press button momentarily to set reading to zero (–1 digit). Buzzer will sound as button is pressed. Display flag  will appear. (Button may be pressed repeatedly to hear buzzer operation, ensure flag  is on before proceeding).			
8.	9Ω	9.00 –0.19	[–2% –1 digits]
9.	12Ω	12.0 –0.4	[–2% –2 digits] [Note 1]
10.	90Ω	90.0 –2.8	[–3% –1 digits]
	For BM80 series: 90.0 –1.9		[–2% –1 digits]
11.	1Ω Approx	201 to 211 mA s/c current	
12. Buzzer	1Ω	Buzzer must sound.	
14. kΩ	0 Ω	00.0 – 0	[0Ω test is more critical
15.	100Ω	00.1KΩ – 1 dig	than the customer spec]
16.	50kΩ	50.0 kΩ –2.6kΩ	[5% –1 digits]
	For BM80 series (not BM80/A): 50.0 kΩ –1.6kΩ		[3% –1 digits]
17.		Pointer must indicate	
18. Connect voltmeter (10 MΩ or greater)			

Press the Test button for each of the following tests.

If an instrument does not have a particular range, the test should be omitted.

19. MΩ 50V	Read output voltage	51 V to 57 V.	[Slightly]
20. MΩ 100V	Read output voltage	101 V to 114 V.	[tighter]
21. MΩ 250V	Read output voltage	251 V to 286 V.	[than]
22. MΩ500V	Read output voltage	502 V to 568 V.	[+15% -0%]
23. MΩ 1000V	Read output voltage	1004 V to 1146 V.	

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Press the Test button for each of the following tests:

	<u>Range</u>	<u>Apply</u>	<u>Read</u>	<u>[Specification]</u>	
24.	MΩ 1000V	1 MΩ	1.00MΩ –0.03 MΩ & OPV >1002		
25.		9 MΩ	9.00MΩ –0.18 MΩ		
26.		500MΩ	500MΩ –10 MΩ		
27.	MΩ 500V	0 MΩ	0.00MΩ –0 dig	[–2% –2digs]	[Note 1]
28.		0.1MΩ	Short circuit current: 1mA to 2mA		
29.		500kΩ	0.50MΩ –0.02MΩ & OPV >502		
30.		250kΩ	0.25MΩ –0.02MΩ		[Note 2]
31.		500MΩ	500MΩ –10 MΩ		
32.			Analogue pointer on		
For BM80 series (Not BM80/A '>' must flash with leads removed.					
33.	MΩ 250V	250kΩ	0.25MΩ –0.02MΩ & OPV >250		
34.		500MΩ *	500MΩ –10MΩ * (– 15MΩ BM80/A)	[–2% –0digs]	[Note 1]
35.	MΩ 100V	500 MΩ *	500MΩ –15MΩ * (– 22MΩ BM80/A)	[2%+2% per GΩ,+0 digs]	
36.	MΩ 50V	500 MΩ *	500MΩ –20MΩ * (– 35MΩ BM80/A)	[2%+4% per GΩ,+0 digs]	
37.	OFF	Display goes out with no segments showing.			

* 500M is the nominal value. The actual value is marked on the test box.

On succesful completion, remove the test button and fit the oval quality label in the recess provided on the back of the instrument.

Notes: 1. These tests are according to BM80 customer specification, and slightly tighter than necessary for the BM400.
2. This test is to check operation of the input voltage clamp.

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