

# Adding Measuring Muscle For Variety Applications



**BM620 Series**  
DIGITAL MULTIMETER

**BRYMEN**<sup>®</sup>  
BRIGHT PEOPLE'S CHOICE  
<http://www.brymen.com.tw>

# People Can Hardly Build Better Value Even With Cheap Materials ... And The Bright People Will Not Sacrifice Safety For Cost !

## FULLY AUTORANGING

SHORTENS THE TIME TO TEST AND INCREASES THE EASE OF USE

## %4-20mA LOOP CURRENT

SUPPORTS CALIBRATION LEVEL 0.05% ACCURACY ON THE 40mA RANGE, AND TRANSFERS THE CURRENT READINGS TO %4-20mA READINGS FOR PROCESS CONTROL APPLICATIONS

## T1-T2 TEMPERATURE

T1-T2 TWO CHANNELS K-TYPE TEMPERATURE MEASUREMENTS

## FUNCTION SELECTION

CONVENIENTLY TOGGLE BETWEEN PRIMARY & SECONDARY FUNCTIONS

## RANGE

AUTORANGING WITH MANUAL-RANGING OVERRIDE

## CAPACITANCE

AUTORANGING UP TO 10.00mF WITH 600V PROTECTION

## DIODE TEST

FOR CHECKING DIODES AND RECTIFIERS

## Hz FUNCTION

FREQUENCY MEASUREMENT WITH 4 SELECTABLE TRIGGER LEVELS

## HARMONICS INDEX (HIX)

INDICATES THE PRESENCE OF HARMONICS BY A PERCENTAGE % INDEX READING

## HBC FUSE PROTECTED

HIGH BREAKING CAPACITY 600V CERAMIC FUSE PROTECTED

## PROTECTIVE HOLSTER

INCREASES PRODUCT DURABILITY

## TRUE RMS

MEASURES TRUE VALUE REGARDLESS OF WAVEFORMS

## 0.15% HIGH BASIC ACCURACY

WITH LARGE EASY TO READ DISPLAY

## AUTO POWER OFF (APO)

TO EXTEND BATTERY LIFE

## FAST MEASUREMENTS

DATA UPDATES 4 TIMES / SEC

## MAX, MIN, & AVG RECORD

RECORD MAX, MIN, MAX-MIN, AND AVG READINGS, AUTORANGING

## DATA HOLD

FREEZES THE DISPLAYING READING FOR LATER VIEW

## RELATIVE ZERO MODE

FOR CONVENIENT READINGS COMPARISON & OFFSET

## AUDIBLE CONTINUITY

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

## 0.01 $\mu$ A HIGH RESOLUTION

FOR FLAME DETECTORS APPLICATIONS

## FIRE RETARDED CASE

FOR REINFORCED SAFETY

## SPLASH PROOF CONSTRUCTION

FOR HARSH ENVIRONMENT

## TRANSIENT PROTECTION

UP TO 6.5KV 1.2/50 $\mu$ s LIGHTNING SURGE, MORE CONFIDENCE FOR SERIOUS USERS

## EMC

MEETS EN55022/A1 CLASS B, EN50082-1, IEC801-2, IEC801-3

## LVD

MEETS EN61010-1 CAT III 11.5mm BASIC CREEPAGE & CLEARANCE



+ 9999 Counts + 0.15% Basic Accuracy + Autoranging Max Min average  
 + Relative Zero + CAT III 600V + 600V 100kA HBC Fuse + ...



**BM629**



**BM627**



**BM626**

BM629	BM627	BM626	FUNCTION & FEATURE
●	●	●	FREQUENCY 0.001Hz TO 50kHz WITH 4 SELECTABLE TRIGGER LEVELS
●	●	●	T1-T2 TWO CHANNELS K-TYPE TEMPERATURE -20°C TO 500°C
●	●	●	RECORD MAX, MIN, MAX-MIN, AVG READINGS, AUTO-RANGING
●	●	●	%4-20mA PROCESS CONTROL LOOP CURRENT READING
●	●	●	HARMONICS INDEX (HIX) 0.0% TO 100%
●	●	●	CAPACITANCE 1nF TO 10mF
●	●	●	OHM 0.1Ω TO 40MΩ
●	●	●	DCV 0.1mV TO 1000V
●	●	●	ACV 0.1mV TO 750V
●	●	●	DCA 0.01μA TO 40mA
●	●	●	ACA 0.1μA TO 40mA
●	●	●	DCA 1mA TO 20A
●	●	●	ACA 10mA TO 20A
●	●	●	DIODE TEST
●	●	●	DATA HOLD
●	●	●	TRUE RMS
●	●	●	AUTO POWER OFF
●	●	●	FULLY AUTO-RANGING
●	●	●	RELATIVE ZERO MODE
●	●	●	FIRE RETARDED CASE
●	●	●	PROTECTIVE HOLSTER
●	●	●	600V INPUT PROTECTION
●	●	●	FAST MEASUREMENT 4/SEC
●	●	●	0.15% HIGH BASIC ACCURACY
●	●	●	SPLASH PROOF CONSTRUCTION
●	●	●	FAST AUDIBLE CONTINUITY < 150μs
●	●	●	A INPUT 600V HBC IR 100kA FUSE PROTECTED
●	●	●	TRANSIENT PROTECTION UP TO 6.5kV 1.2/50μs LIGHTNING SURGE
●	●	●	LVD MEETS EN61010-1 CAT II 1kVDC/750VAC & CAT III 600VAC/DC
●	●	●	EMC MEETS EN55022/A1 CLASS B, EN50082-1, IEC801-2, & IEC801-3

## BM629 BM627 BM626 GENERAL SPECIFICATIONS

**Display :** 4 digits 9999 counts LCD

**Polarity :** Automatic

**Update Rate :**

Data: 4 per second nominal;

42 Segments Bar graph: 20 per second max

**Low Battery :** Below approx. 7.2VDC

**Operating Temperature :** 0°C to 35°C, 0-80% R.H.; 35°C to 40°C, 0-70% R.H.

**Storage Temperature :** -20°C to 55°C, 0-80% R.H. (with battery removed)

**Temperature Coefficient :** nominal 0.15 x (specified accuracy)/°C @ 0°C-18°C or 28°C-40°C

**Power Supply :** Single 9V battery; NEDA1604, JIS006P or IEC6F22

**APD Timing :** Idle for approx. 17 minutes

**APD Consumption :** 30µA Typical

**Sensing :** True RMS for BM629; Average responding for BM627 & BM626

**Overload Protections :**

V: 1000Vpeak/780VAC rms;

A: 15A/600V HBC F Fuse, IR 100kA; mA, mA, & T2: 0.16A/250V F Fuse, IR 1.5kA;

Others: 600VDC/VAC rms

**Safety :** Meets EN61010-1, UL3111-1, CSA C22.2

NO.1010-1, and IEC1010-1 CAT III for 600V DC & AC, and CAT II for 1kV DC & 750V AC

**Transient protection :** 6.5kV (1.2/50µs surge)

**E.M.C. :** Meets EN55022(1994/A1; 1995/Class B) and EN50082-1(1992)

**Dimension :** L150mm X W75mm X H34mm (without holster); L160mm X W82mm X H48mm (with holster)

**Weight :** approx. 252 gm (without holster); approx. 345 gm (with holster)

**Power Consumption :** 3.5 mA Typical

**Accessories :** Test leads (pair), Bkp60 banana plug K type thermocouple, battery (installed) and user's manual

**Special Features :** T1-T2 Temperature measurement, Percentage of 4mA-20mA Loop Current Measurement, Auto-ranging Record (Max, Min, Max-Min, Avg), Auto-ranging Relative (Zero), and Data Hold

## BM629 BM627 BM626 ELECTRICAL SPECIFICATIONS

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

**BM629 True RMS ACV & ACA accuracies are specified from 5 % to 100 % of range or otherwise specified, Crest Factor <3:1 at full scale & <6:1 at half scale, and with frequency component within the specified frequency bandwidth**

### DC Voltage

Range	BM626	BM627	BM629
<b>Accuracy</b>			
999.9 mV, 9.999 V, 99.99 V		0.15%+3d	
999.9 V		0.4%+5d	

NMRR: >50dB @ 50/60Hz

CMRR: >100dB @ DC, 50/60Hz, Rs=1kΩ

Input Impedance: 10MΩ, 30pF nominal (16MΩ nominal for 999.9mV range)

### AC Voltage

Range	BM626	BM627	BM629
<b>Accuracy</b>			
<b>50Hz — 200Hz</b>			
999.9mV		2.5% + 8d	
<b>50Hz — 500Hz</b>			
9.999V, 99.99V, 750.0V	1.25% + 3d		1.1% + 3d
<b>500Hz — 2kHz</b>			
9.999V, 99.99V, 750.0V	Unspec'd		1.8% + 3d*

CMRR: >60dB @ DC to 60Hz, Rs=1kΩ

Input Impedance: 10MΩ, 30pF nominal (16MΩ nominal for 999.9mV range)

\*True RMS Specified from 10% to 100% of range

### Harmonics Index™ HIX (BM629 only)

Range	Accuracy
0.0% to 99.9%	
Input Voltage	30mVAC to 750VAC

### DC Current

Range	BM626	BM627	BM629
<b>Accuracy</b>			
40.00µA	0.3% + 4d		0.25% + 3d
400.0µA	0.2% + 3d		0.15% + 2d
4.000mA	0.3% + 4d		0.25% + 3d
40.00mA	0.2% + 3d		0.05% + 3d
4.000A	N/A	0.6% + 4d	0.5% + 4d
10.00A*	N/A	0.4% + 3d	0.3% + 3d

\*10A Continuous; 20A for 30 Second Max with 5 minutes cool down interval

### AC Current

Range	BM626	BM627	BM629*
<b>Accuracy</b>			
<b>50Hz — 500Hz</b>			
400.0µA	1.2% + 3d		1.0% + 3d
40.00mA	1.2% + 3d		1.0% + 3d
10.00A***	N/A	1.2% + 4d	1.0% + 4d**
<b>500Hz — 2kHz</b>			
400.0µA	1.8% + 3d		1.5% + 3d
40.00mA	1.8% + 3d		1.5% + 3d
10.00A***	N/A	1.8% + 4d	1.5% + 4d**

\*True RMS Specified from 10% to 100% of range

\*\*True RMS Specified from 25% to 100% of range

\*\*\*10A Continuous; 20A for 30 Second Max with 5 minutes cool down interval

### Ohms

Range	BM626	BM627	BM629
<b>Accuracy</b>			
999.9Ω		0.5%+5d	
9.999kΩ, 99.99kΩ		0.5%+2d	
999.9kΩ, 4.000MΩ		0.8%+2d	
40.00MΩ		1.5%+2d	

Open Circuit Voltage: Typical 1.3VDC ( 2.7VDC @ 999.9Ω Range )

### Diode Tester

Range	Test Current (Typical)	Open Circuit Voltage
2.000 V	0.5mA	< 3.5 VDC

### Audible Continuity Tester

Audible threshold : Between 10Ω and 200Ω  
Response time <150µs

### Capacitance

Range	BM626	BM627	BM629
<b>Accuracy*</b>			
1.000µF		1.0% + 4d	
10.00µF		1.0% + 3d	
100.0µF		1.2% + 3d	
1.000mF		1.5% + 4d	
10.00mF		4.0% + 5d	

\* Accuracies with film capacitors, or capacitors that have negligible dielectric absorption

### Frequency

Range	BM626	BM627	BM629
<b>Accuracy</b>			
9.999Hz, 99.99Hz, 999.9Hz, 9.999kHz, 50.00kHz		0.05%+4d	

4 selectable trigger levels 1, 2, 3, and 4 (by Range button)

Input Signal: Sine wave, or Square wave with duty cycle >40% & <70%

### Temperature T1 & T2

Range	BM626	BM627	BM629
<b>Accuracy</b>			
-20°C to 300°C / 0°F to 572°F		± (3°C+1d) / ± (6°F+2d)	
301°C to 500°C / 573°F to 932°F		± (2%+1d) / ± (2%+2d)	

Temperature Coefficient : nominal 0.2 x (specified accuracy)/°C @ 0°C-18°C or 28°C-40°C

Sensor: "K" Type Thermocouple, sensor accuracy not included



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