

# Adding Measuring Muscle For Variety Applications



**BM620 Series**  
DIGITAL MULTIMETER

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

+ 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 |

# 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

**0.01µA HIGH RESOLUTION**  
FOR FLAME DETECTORS APPLICATIONS

**FIRE RETARDED CASE**  
FOR REINFORCED SAFETY

**SPLASH PROOF CONSTRUCTION**  
FOR HARSH ENVIRONMENT

**TRANSIENT PROTECTION**  
UP TO 6.5kV 1.2/50µs 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



## 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

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

**APO 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,        |       | 0.15%+3d |       |
| 99.99 V         |       |          |       |
| 999.9 V         |       | 0.4%+5d  |       |

NMR: >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,             | 1.25% + 3d |           | 1.1% + 3d  |
| 750.0V              |            |           |            |
| <b>500Hz — 2kHz</b> |            |           |            |
| 9.999V,             |            |           |            |
| 99.99V,             | Unspec'd   |           | 1.8% + 3d* |
| 750.0V              |            |           |            |

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)

|                      |                  |
|----------------------|------------------|
| <b>Range</b>         | 0.0% to 99.9%    |
| <b>Input Voltage</b> | 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,        |       | 0.5%+2d |       |
| 99.99kΩ         |       |         |       |
| 999.9kΩ,        |       | 0.8%+2d |       |
| 4.000MΩ         |       |         |       |
| 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,        |       | 0.05%+4d |       |
| 9.999kHz,       |       |          |       |
| 50.00kHz        |       |          |       |

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



**BRIGHT PEOPLE'S CHOICE**

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NOTICE

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