

Enhanced 2nd Gen Functions, Improved Industrial Reliability, & UL Listed Safety!

VFD V/Hz, Logic/Line-level Hz, Speeded μ F & M Ω , Hi-res 60.00mV, °C/°F,
CAT III 1kV & CAT IV 600V, & All Models True-RMS plus Double-sided EMI Shielding!

BM2800 SERIES

Enhanced
Practical
Multimeters

勝特力電材超市-龍山店 886-3-5773766
勝特力電材超市-光復店 886-3-5729570
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www.brymen.com

BRYMEN[®]
Bright People's Choice

CE

UK
CA

UL[®] US



BM2807CSE



BM2805CSE



BM2803CSE

| 2807 CSE | 2805 CSE | 2803 CSE | FUNCTIONS & FEATURES |
|-------------|-------------|-------------|--------------------------------------------------------------------------------|
| • | | | Single-pole Contact EF-Detection for Precise Indications of Live Conductors |
| • | | | Non-Contact EF-Detection (NCV); Features Hi/Lo Selectable Sensitivities |
| • | | | Type-K Temperature from -40.0°C to 400°C; Selectable °F Readings |
| • | • | | Line Frequency from 10.00Hz to 50.00kHz |
| • | • | | Logic Frequency from 5.00Hz to 300.0kHz |
| • | • | | Speeded Capacitance: nF Ranges 20.00 to 2000, μ F Ranges 20.00 to 2000 |
| • | • | | VFD-V & VFD-Hz Measures Fundamental V & Hz of Most Variable Frequency Drives |
| • | • | • | 3-5/6 Digits 6,000 Counts Nominal; 26mm Large digit LCD Display |
| • | • | • | Nominal 5/Sec Fast Measurements; Fast Auto-Ranging |
| • | • | • | Best Basic DCV Accuracy 0.2%+2d |
| • | • | • | AC True RMS Conversions |
| • | • | • | Relative Zero Mode |
| • | • | • | Intelligent Auto Power Off |
| • | • | • | Amber LED Warm Backlight LCD Display |
| • | • | • | Data-hold; Features Hold-alert™ to Warn Against On-hold Readings |
| • | • | • | MAX-hold; Captures Max Readings as High as 40 Conversions per Second |
| • | • | • | BeepLit™ Continuity Tester; Features Audible Beep & Visible Backlight Effects |
| • | • | • | BeepLit™ Diode Tester; Features BeepPass™ (Short-beep) & BeepLit™ (Continuity) |
| • | • | • | Double-sided EMI Shielding for Harsh Electromagnetic Interfering Environments |
| • | • | • | BeepJack™ Input Warning Against Improper Plug into μ AmA/A Terminals |
| • | • | • | High Resolution DC/AC mV Ranges 60.00mV to 600.0mV |
| • | • | • | DC/AC Voltage Ranges 6.000V to 1000.0V |
| • | • | • | Speeded Ohms Ranges 600.0 Ω to 60.00M Ω |
| • | • | • | DC/AC μ A, mA, & A Ranges 600.0 μ A to 10.00A |
| • | • | • | HBC 1kV Fuses Protected on μ AmA & A Terminals |
| • | • | • | Detachable Protective Holster with Probe-Holders & Tilt-Stand |
| • | • | • | Rugged Fire Retarded Housing™ with Battery Compartment Door |
| • | • | • | Transient Protection up to 8kV 1.2/50 μ s + 8/20 μ s Combo Surges |
| • | • | • | LVD Certified to EN61010-2-033 CAT III 1000V & CAT IV 600V |
| • | • | • | EMC Certified to EN61326-1 |

Enhanced 2nd Gen Popular Meters with Most Up-to-date Bright People's Features!

Hi/Lo EF-Detection, Diode BeepPass™ + BeepLit™, Data Hold-alert™, BeepJack™ InEr, Intelligent-APO, 40/s Max-hold, Relative Zero, & All Models Backlighted Display!

26mm Large digit LCD
3-5/6 Digits 6,000 Counts Nominal

Fast Auto-Ranging
Nominal 5/Sec Fast Measurements

Relative Zero
To Offset Measurement Readings

BeepLit™ Continuity Tester
Features Audible Beep & Visible Backlight Effects

Warm LED Backlight
LCD Display

BeepLit™ Diode Tester
Features BeepPass™ (Short-beep) & BeepLit™ (Continuity)

Logic Frequency
From 5.00Hz to 300.0kHz

Type-K Temperature
From -40.0°C to 400°C;
Selectable °F Readings

VFD-V & VFD-Hz
Measures Fundamental V & Hz of Most Variable
Frequency Drives

Non-Contact EF-Detection (NCV)
Features Hi/Lo Selectable Sensitivities

Single-pole Contact EF-Detection
For Precise Indications of Live Conductors

Line Frequency
From 10.00Hz to 50.00kHz

BeepJack™ InEr
Input Warning Against Improper Plug into μ AmA/A Terminals

Detachable Protective Holster
Features Probe-Holders & Tilt-Stand

HBC 1kV Fuses
Protected on μ mA & A Terminals



MAX-hold
Captures Max Readings as High as 40 Conversions per Second

Data-hold with Hold-alert™
To Warn Against On-hold Readings

Speeded Capacitance
nF Ranges 20.00 to 2000,
 μ F Ranges 20.00 to 2000

True RMS
AC Conversions

iAPO
Intelligent Auto Power Off

Fire Retarded Housing
Rugged with Battery Compartment Door

Double-sided EMI Shielding
For Harsh Electromagnetic Interfering Environments

EMC Certified
To EN61326-1

DC/AC μ A, mA, & A
Ranges 600.0 μ A to 10.00A

Speeded Resistance
Ranges 600.0 Ω to 60.00M Ω

High Resolution DC/AC mV
Ranges 60.00mV to 600.0mV

DC Voltage
Ranges 6.000V to 1000.0V

AC Voltage
Ranges 6.000V to 1000.0V

8kV Transient Protection
Against 1.2/50 μ s + 8/20 μ s Combo Surges

UL Listed & LVD Certified
To EN61010-2-033 CAT III 1000V & CAT IV 600V

GENERAL SPECIFICATIONS

Display: 3-5/6 digits 6,000 counts

Update Rate: 5 per second nominal

Operating Temperature: -10°C to 50°C

Relative Humidity: Maximum relative humidity 80% for temperature up to 31°C decreasing linearly to 50% relative humidity at 50°C

Altitude: Operating below 2000m

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

Temperature Coefficient: Nominal 0.15 x (specified accuracy) / °C @ (-10°C ~ 18°C or 28°C ~ 50°C), or otherwise specified

Sensing: True RMS sensing

Pollution Degree: 2

Safety: Certified per IEC/UL/EN61010-1 Ed. 3.1, IEC/UL/EN61010-2-033 Ed.

2.0, IEC/UL/EN61010-031 Ed. 2.0 and the corresponding CAN/CSA-C22.2 regulations to Measurement Categories: CAT III 1000V and CAT IV 600V

Transient Protection: 8.0kV (1.2/50µs surge)

E.M.C.: Meets EN61326-1

mV, Diode, Ohm, & Temperature; in an RF field of 1V/m:

Total Accuracy = Specified Accuracy + 100 digits

Other functions; in an RF field of 3V/m:

Total Accuracy = Specified Accuracy + 100 digits

Overload Protection:

µA & mA: 0.63A/1000V DC/AC rms, IR 10kA, F fuse; or better

A: 11A/1000V DC/AC rms, IR 20kA, F fuse; or better

V: 1100V DC/AC rms

mV, Ohm, & others: 1000V DC/AC rms

Low Battery: Below approx. 2.5V

Power Supply: 1.5V AAA Size battery X 2

Power Consumption (typical): 3.2mA

IAPC Consumption (typical): 10µA

IAPC Timing: Idle for approx. 32 minutes

Accessories: Test lead set, User's manual, Banana-plug type-K thermocouple (Model 2807 only)

Optional purchase accessories: BKB32 banana-plug to type-K socket plug adaptor (Model 2807 only)

Special Features: VFD-ACV & VFD-FHz; Hi/Lo EF-Detection (NCV & Single pole); Display Hold w/Hold-alert™ warning; MAX Hold; BeepLit™ Diode w/BeepPass™ indication; BeepLit™ Continuity; Relative-Zero mode;

Backlighted LCD display; BeepJack™ audible & visible input warning

ELECTRICAL SPECIFICATIONS

Accuracy is given as ± (% of reading digits + number of digits) or otherwise specified @ 23°C ± 5°C

AC Voltage & Current accuracies are specified from 1% to 100% of range or otherwise specified. Maximum Crest Factor <2.1 at full scale & <4.1 at half scale, and with signal component frequencies limited to the specified bandwidth of the AC functions for non-sinusoidal waveforms

AC Voltage

| RANGE | Accuracy |
|-----------------------------------------------|-------------|
| 50Hz ~ 60Hz | |
| 60.00mV ¹⁾ , 600.0mV ²⁾ | 1.0% + 3d |
| 6.000V, 60.00V, 600.0V, 1000V | 0.7% + 3d |
| 45Hz ~ 500Hz | |
| 60.00mV ¹⁾ , 600.0mV ²⁾ | 2.0% + 3d |
| 6.000V, 60.00V, 600.0V, 1000V | 2.0% + 3d |
| 500Hz ~ 1kHz | |
| 60.00mV ¹⁾ , 600.0mV ²⁾ | 2.0% + 3d |
| 6.000V, 60.00V, 600.0V, 1000V | Unspecified |

Input Impedance: 10MΩ, 20pF nominal

¹⁾ Signal peak absolute values, including DC bias, less than 130mV_{rms}

²⁾ Signal peak absolute values, including DC bias, less than 1300mV_{rms}

VFD-ACV (with Low Pass Filter)

| RANGE | Accuracy ¹⁾ |
|---------------|--------------------------|
| 10 ~ 100Hz | |
| 600.0V, 1000V | 1.0% + 3d |
| 100 ~ 400Hz | |
| 600.0V, 1000V | 10.0% + 3d ²⁾ |

¹⁾ Not specified for fundamental frequency > 400Hz

²⁾ Accuracy linearly decreases from 1% + 3d @ 100Hz to 10% + 3d @ 400Hz

DC Voltage

| RANGE | Accuracy |
|--------------------------|-----------|
| 60.00mV, 600.0mV, 6.000V | 0.3% + 2d |
| 60.00V | 0.4% + 2d |
| 600.0V | 0.2% + 2d |
| 1000V | 0.4% + 2d |

Input Impedance: 10MΩ, 20pF nominal

Ohms

| RANGE ¹⁾ | Accuracy |
|-----------------------------------------------|-------------------------|
| 600.0Ω, 6.000kΩ | 0.3% + 3d |
| 60.00kΩ, 600.0kΩ | 0.5% + 3d |
| 6.000MΩ ²⁾ , 60.00MΩ ³⁾ | 0.9% + 2d ⁴⁾ |

¹⁾ Open Circuit Voltage: 1.6VDC typical

²⁾ Constant Test Current: 0.2µA Typical

³⁾ Constant Test Current: 0.02µA Typical

⁴⁾ 5%+20d @ >30MΩ

BeepLit™ Continuity Tester

Continuity Threshold: Between 30Ω and 480Ω

Continuity ON Response Time: <15ms

Audible Indication: Beep sound

Visible Indication: LCD Backlight

Capacitance (Models 2805 & 2807 only)

| RANGE | Accuracy |
|--------------------------|-----------|
| 20.0nF, 200.0nF | 1.5% + 8d |
| 2000nF | 1.5% + 3d |
| 20.00µF, 200.0µF, 2000µF | |

Accuracies with film capacitor or better

BeepLit™ Diode Tester

| RANGE | Accuracy | Test Current (Typical) | Open Circuit Voltage |
|---------|-----------|------------------------|----------------------|
| 3.0000V | 0.5% + 2d | 0.3mA | < 3.2 VDC |

BeepPass™ Indication (Short-beep): Drop Across 0.850V

BeepLit™ Indication (Continuity) Threshold: < 0.100V

Audible Indication: Beep Sound

Visible Indication: LCD Backlight

DC Current

| RANGE | Accuracy | Burden Voltage |
|------------------------------|-----------|----------------|
| 600.0µA, 6000µA | 1.0% + 3d | 0.1mV/µA |
| 60.00mA, 600.0mA | 0.7% + 3d | 3.0mV/mA |
| 6.000A, 10.00A ¹⁾ | | 25mV/A |

¹⁾ CA cont.nuous, >10A to 20A for 30 seconds max with 5 m nutes cool down interval

AC Current

| RANGE | Accuracy | Burden Voltage |
|------------------------------|-----------|----------------|
| 50Hz ~ 500Hz | | |
| 600.0µA, 6000µA | 1.5% + 3d | 0.1mV/µA |
| 60.00mA, 600.0mA | 1.0% + 5d | 3.0mV/mA |
| 6.000A, 10.00A ¹⁾ | | 25mV/A |

¹⁾ CA cont.nuous, >10A to 20A for 30 seconds max with 5 m nutes cool down interval

Logic Frequency (Models 2805 & 2807 only)

| Range | Sensitivity (Square wave) |
|-------------------|---------------------------|
| 5.00Hz ~ 300.0kHz | 3Vpeak |

Accuracy: 0.03% + 4d

Temperature (Model 2807 only)

| RANGE | Accuracy ¹⁾²⁾ |
|-----------------|--------------------------|
| -40.0°C ~ 0.0°C | 1% + 2°C |
| 0.0°C ~ 99.9°C | 1% + 1°C |
| 100°C ~ 400°C | |
| 40.0°F ~ 32.0°F | 1% + 4°F |
| 32.0°F ~ 99.9°F | 1% + 2°F |
| 100°F ~ 752°F | |

¹⁾ °F selection can be left out as factory calibration default; for countries that only accept metric units

²⁾ Accuracies assume the meter interior and the ambient have reached the same temperature (isothermal stage) for a correct junction voltage compensation. Allow enough settling time for a significant change in ambient temperature. It can take up to an hour for changes > 5°C

³⁾ Type-K thermocouple range & accuracy not included

Line Frequency (Models 2805 & 2807 only)

| Function | Sensitivity (Sine RMS) | Range |
|---------------|------------------------|--------------|
| 6V | 5V | 10Hz - 50kHz |
| 60V | 10V | 10Hz - 50kHz |
| 600V | 50V | 10Hz - 1kHz |
| 1000V | 500V | 50Hz - 1kHz |
| VFD 600V | 50V | 10Hz - 1kHz |
| VFD 1000V | 500V | 50Hz - 1kHz |
| 600µA, 6000µA | 500µA | 10Hz - 5kHz |
| 60mA, 600mA | 50mA | 10Hz - 5kHz |
| 6A, 10A | 8A | 50Hz - 1kHz |

Accuracy: 0.03% + 4d

Non-Contact EF-Detection (Models 2807 only)

| Bar-segment Indication | EF-H (Hi Sensitivity) | EF-L (Lo Sensitivity) |
|------------------------|-----------------------------|-----------------------|
| - | Typical Voltage (Tolerance) | |
| - | 15V (3V ~ 30V) | 70V (30V ~ 120V) |
| -- | 30V (10V ~ 60V) | 140V (60V ~ 240V) |
| --- | 60V (20V ~ 120V) | 280V (120V ~ 480V) |
| ---- | 120V (40V ~ 240V) | 560V (240V ~ 960V) |
| ----- | 240V (>80V) | 1000V (>900V) |

Indication: Display bar-segments, backlight flashing, & beep tones in proportion to the field strength

Detection Frequency: 50/60Hz

Detection Antenna: Top end center of the meter

Probe-Contact EF-Detection: For more precise indications of live wires, such as distinguishing between live and ground connections, use direct contact testing with one single test-probe via the input terminal COM or V. The COM terminal (Back) has the best sensitivity.



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