

New High Technology to

Individually Measure & Display RPM in other functions

Measure Oxygen Sensor dynamic output

Measure TBI & PFI injection systems

Scan M. Benz Diagnostic Trouble Code

Store up to 18 displaying datas

Detect Blink Type Fault Code

Test Alternator go-no go

Like having
2 meters in 1



BM338
AUTOMOTIVE METER

CE

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

Innovative Functions & Features



Superb accuracies & resolutions

Super high speed autoranging

Inductive RPM readings in Dual Display with Individual Input

1 ms Crest Capture
Peak MAX, MIN, MAX-MIN readings

Super high speed bargraph updates 128/second MAX

50ms Record
MAX, MIN, MAX-MIN, AVG readings

Back light feature

40000 counts & 4000 counts modes

Relative Zero mode

Display Store & Recall 18 memories

Relative % change mode

Direct Dwell & On Off ratio (%) readings

ms Fuel Injection Detector for both TBI & PFI systems

High speed Continuity test response time < 200uS

Oxygen Sensor dynamic tester

Temperature measurements

Fault Code Detector for general blink code type car models

99999 counts Frequency Counter

Alternator quick go/no go tester

High Energy Fuse protected

Diagnostic Trouble Code (DTC) Decoder for M. Benz car models

Splash & Dust Proof case

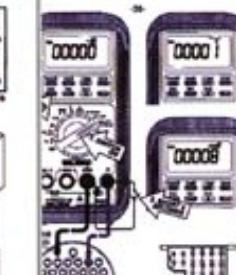
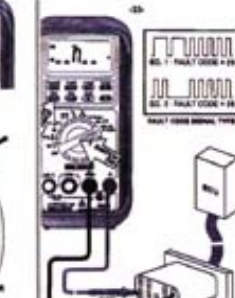
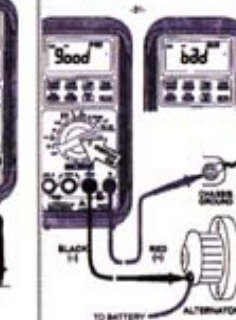
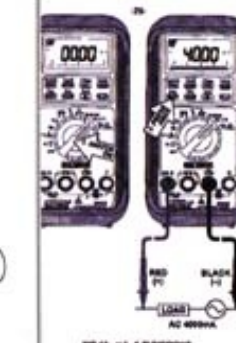
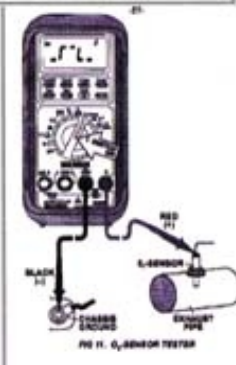
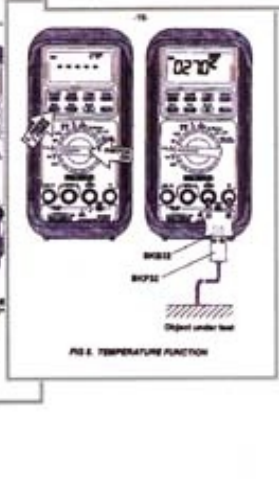
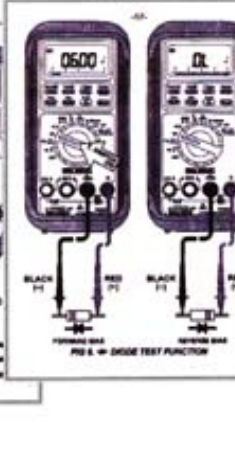
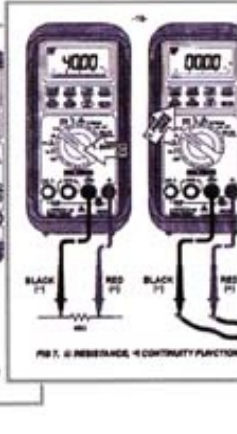
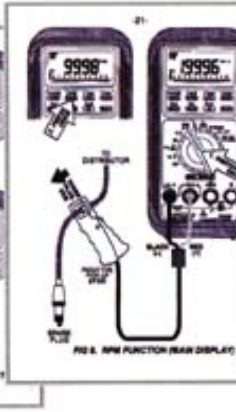
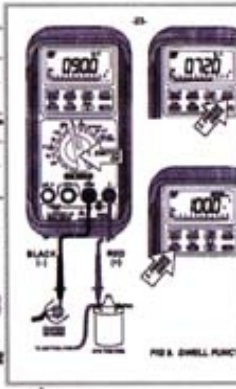
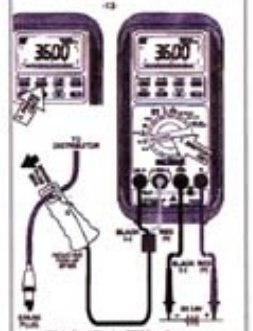
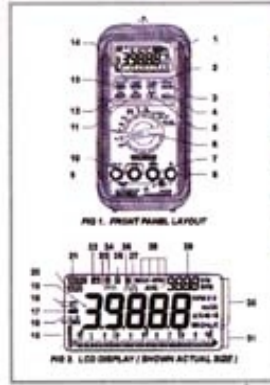
Sealed battery compartment design

EMC, meet EN55011 & EN50082-1 standards

LVD, meet EN61010-1 CAT II safety standard

Protective Holster

Illustrative User's Manual



BM338 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
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
Temperature Coefficient : nominal 0.15 x (specified accuracy)/°C @ (0°C -18°C or 28°C -40°C), or otherwise specified
Low Battery: The indicator appears when the battery voltage drops below approx. 7V

BM338 ELECTRICAL SPECIFICATIONS

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

DC Voltage

| RANGE | Accuracy |
|---------------------------------|-----------|
| 40.00 mV | 0.8% + 6d |
| 400.0mV, 4.000V, 40.00V, 400.0V | 0.1% + 2d |
| 1000V | 0.1% + 4d |

NMRR : >60dB @ 50/60Hz

CMRR : >120dB @ DC, 50/60Hz, Rs=1kΩ

Input Impedance : 10MΩ, 30pF nominal (100pF nominal for 40mV & 400mV ranges)

AC Voltage

| RANGE | Accuracy |
|---------------------------------------|------------|
| 50Hz - 60Hz | |
| 40.00mV* | 1% + 10d |
| 400.0mV, 4.000V, 40.00V, 400.0V, 750V | 0.8% + 4d |
| 40Hz - 1kHz | |
| 40.00mV* | 3.5% + 10d |
| 400.0mV, 4.000V, 40.00V, 400.0V, 750V | 2.5% + 5d |
| 1kHz - 2kHz | |
| 40.00mV* | 4% + 10d |
| 400.0mV, 4.000V, 40.00V, 400.0V, 750V | 3.6% + 8d |

CMRR : >60dB @ DC to 60Hz, Rs=1kΩ

Input Impedance : 10MΩ, 30pF nominal (100pF nominal for 40mV & 400mV ranges)

*Specified from 25% to 100% of range

DC Current

| RANGE | Accuracy |
|--------|-----------|
| 4000mA | 1.2% + 6d |
| 10.00A | 0.8% + 4d |

Burden Voltage 0.03V/A

AC Current

| RANGE | Accuracy |
|---------------------|------------|
| 50Hz - 60Hz | |
| 4000mA* | 1.2% + 6d |
| 10.00A | 1% + 3d |
| 40Hz - 500Hz | |
| 4000mA* | 2.5% + 10d |
| 10.00A | 1.2% + 3d |
| 500Hz - 1kHz | |
| 4000mA* | 3.5% + 10d |
| 10.00A | 1.5% + 3d |

Burden Voltage 0.03V/A

*Accuracy specified from 25% to 100% of range

Diode Tester

| RANGE | Accuracy | Open Voltage |
|--------|----------|--------------|
| 2.000V | 0.5%+3d | < 3.2 VDC |

Polarity : Automatic

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)

Power Supply : Single Alkaline 9V battery; NEDA1604A, JIS6AM6 or IEC6LF22

APO Timing : Idle for 5 minutes

APO Consumption : 20 μA

Dimension : L186mm X W87mm X H35.5mm;

L198mm X W97mm X H55mm with holster

Weight : 390 gm; 500gm with holster

E.M.C. : Meets EN55011 and EN50082-1

Ohms

| RANGE | Accuracy |
|---------------------------|------------|
| 40.00 Ω | 0.5% + 40d |
| 400.0 Ω | 0.15% + 4d |
| 4.000kΩ, 40.00kΩ, 400.0kΩ | 0.15% + 2d |
| 4.000MΩ | 0.3% + 2d |
| 40.00MΩ | 1.5% + 5d |

Open Circuit Voltage : < 1.3VDC (< 3.3VDC for 40Ω & 400Ω ranges)

Frequency

| RANGE | Accuracy |
|--|-------------|
| 99.999Hz, 999.99Hz, 9.9999kHz, 20.000kHz | 0.002% + 4d |

4 selectable trigger levels

RPM

| | RANGE | Accuracy |
|-------|----------------|----------|
| RPM 4 | 120 -20000 RPM | 2 RPM |
| RPM 2 | 60 -10000 RPM | 2 RPM |

Δ Dwell

| RANGE* | Accuracy |
|---------------|----------------------|
| 0.0° - 360.0° | 1.2° /krpm + 1d |
| 0.0% - 100.0% | 0.04% /krpm/cyl + 2d |

4 selectable trigger levels and ± trigger slopes

9 selectable cylinders 1, 2, 3, 4, 5, 6, 8, 10, & 12

*Specified ranges depend on ± trigger slopes, engine rpm and number of cylinders (cyl)

⚡ Fuel Injection Detector (Both TBI & PFI)

| RANGE* | Accuracy |
|-------------------------------|----------------------|
| Multi-Point-Injection | |
| 0.05ms - 250.0ms | 0.05ms + 1d |
| 0.0% - 100.0% | 0.04% /krpm + 2d |
| Single-Point-Injection | |
| 0.05ms - 250.0ms | 0.05ms + 1d |
| 0.0% - 100.0% | 0.04% /krpm/cyl + 2d |

4 selectable trigger levels and ± trigger slopes

*Specified ranges depend on ± trigger slopes, engine rpm, and number of cylinders (cyl)

Temperature (K-type)

| RANGE | Accuracy* |
|-------------------|------------|
| -20.0°C -1000.0°C | 0.2% + 3°C |
| -4°F -1832°F | 0.2% + 6°F |

*Thermocouple accuracy not included

→ Audible Continuity Tester

Application : For quick open-short test

Threshold : The beeper turns on when the measured resistance is lower than 10Ω, and turns off when greater than 60Ω. Response time < 200 μs

Safety : Designed to EN61010-1, UL3111-1, CSA C22.2 NO.1010-1, and IEC1010-1 installation category II, Pollution degree 1

Overload Protections :

mA & A : 15A/600V Fuse, 1R 100kA;

V : 780Vrms, 1000Vpeak;

mV : 600VDC/VAC rms;

Others : 600VDC/VAC rms

AC Sensing : Average responding

Power Consumption : 10 mA typical

Accessories : Test leads (pair), inductive pick up, holster, temperature adaptor, bead type temperature probe, battery (installed), and user's manual

O₂ Sensor Tester

Application : For O₂ Sensor dynamic test

Main Display : Symbolic waveform display of O₂ Sensor dynamic output

Mini display : Cross count per second parameter. A beep sound will alert the user on each significant cross count edge

Sweep Rate : 10 per second

⚡ Alternator tester

Application : For quick alternator go / no go test

Threshold : The display indicates "bad" and the beeper turns on when the measured ripple voltage is greater than 0.45V AC

FL1 Fault Code Detector

Application : For blink type fault code detection

Display : The display indicates a symbolic pulse and the beeper turns on when the blink code pulse is detected

Threshold : 4.5VDC with selectable positive or negative pulse trigger (by ± Trigger button)

DTC (Diagnostic Trouble Code) Decoder

Application : A replacement of the Impulse Counter Scan Tool as specified in the Mercedes Benz Diagnostic Trouble Code Reference Guide to scan the DTC Code automatically in the Mercedes Benz car series

Special Features

Dual display : Individual RPM input & display

Memory : Store/Recall/Erase 18 data memories

Record : Max, Min, Max-Min, Avg readings

Crest : Peak Max, Min, Max-Min readings

Relative : Relative zero and relative % changes

Level : 4 selectable trigger levels

± Trigger : Selectable positive & negative trigger

Cylinder : 9 Selectable no. of cylinders in Dwell

Backlight : Easy reading in dark working area

Hold : Freezes the display data for later view

Range : Manual / Auto ranging selection

RPM 4 : For 4-stroke engine application

RPM 2 : For DIS & 2-stroke engine application



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