

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

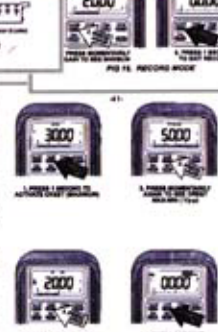
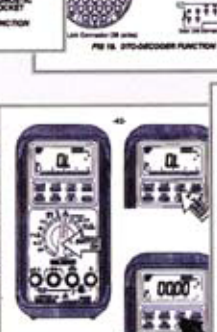
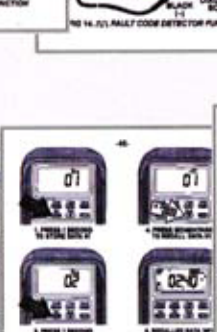
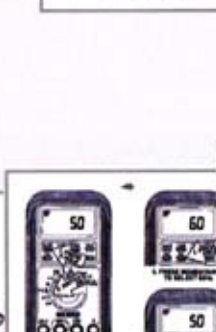
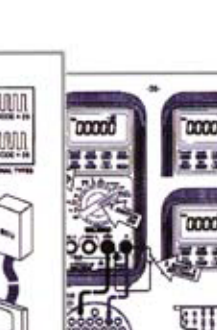
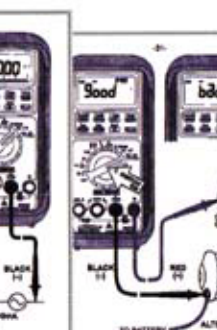
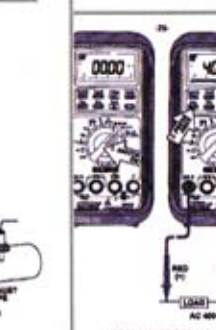
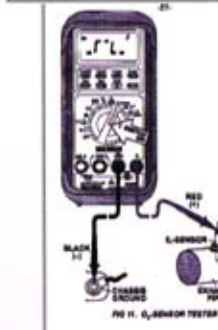
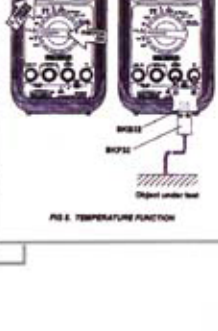
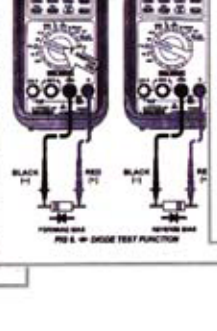
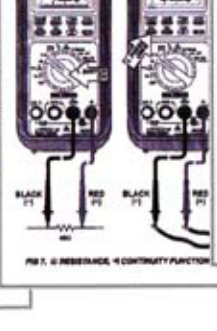
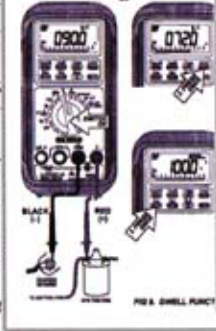
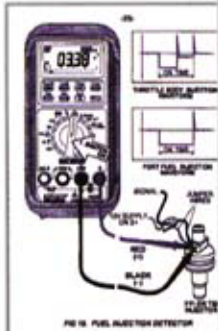
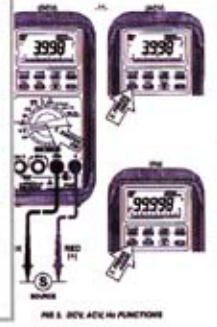
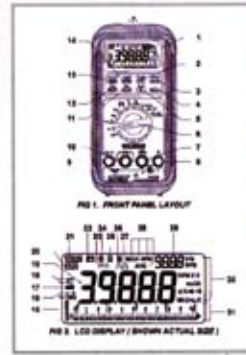
Sealed battery compartment design

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 :

3-3/4 Data: 5 per second nominal;

4-3/4 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,	0.1% + 2d
400.0V	
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,	0.8% + 4d
400.0V, 750V	
40Hz - 1kHz	
40.00mV*	3.5% + 10d
400.0mV, 4.000V, 40.00V,	2.5% + 5d
400.0V, 750V	
1kHz - 2kHz	
40.00mV*	4% + 10d
400.0mV, 4.000V, 40.00V,	3.6% + 8d
400.0V, 750V	

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

APD Timing : Idle for 5 minutes

APD 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
4.000k Ω, 40.00k Ω, 400.0k Ω	0.15% + 2d
4.000M Ω	0.3% + 2d
40.00M Ω	1.5% + 5d

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

Frequency

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

4 selectable trigger levels

RPM

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

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 10 Ω, and turns off when greater than 60 Ω. 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, IR 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

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/Recal/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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