

A Well Trained Meter ... That Works In A Professional Way !



BM318
AUTOMOTIVE METER

CE

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

Innovative Functions & Features



4 DIGITS 9999 COUNTS
UP TO 5 TIMES THE RESOLUTION OF
TRADITIONAL DIGITAL MULTIMETERS

FULLY AUTORANGING FEATURE
SHORTENS THE TIME TO TEST
AND INCREASES THE EASE OF USE

0.3% HIGH BASIC ACCURACY
FOR ACCURATE MEASUREMENTS

AUTO POWER OFF (APO)
TO EXTEND BATTERY LIFE

EMC
MEETS EN55011 & EN50082-1

ANALOG BARGRAPH
UPDATES 20 TIMES / SECOND
TO WATCH SIGNAL TREND

DATA UPDATES 4 TIMES / SECOND
FOR FAST MEASUREMENTS

DIRECT DWELL READINGS
FOR 1, 2, 3, 4, 5, 6, 8, 10, & 12
CYLINDER ENGINES

50ms RECORD
CAPTURES FAST CHANGING
VOLTAGE (LIKE OXYGEN
SENSOR) MAX, MIN,
MAX-MIN, & AVG
READINGS

ms FUEL INJECTION DETECTOR
FOR TESTING ON TIME OF
BOTH TBI & PFI SYSTEMS

DATA HOLD
FREEZES THE DISPLAYING
READING FOR LATER VIEW

DIODE TEST
FOR CHECKING DIODES AND
ALTERNATOR RECTIFIERS

RELATIVE ZERO MODE
FOR CONVENIENT READINGS
COMPARISON BETWEEN
CYLINDERS ETC

K-TYPE TEMPERATURE
°C AND °F MEASUREMENTS

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

FREQUENCY
WITH 4 SELECTABLE
SENSITIVITIES FOR
CHECKING SENSORS
IN NOISY AUTOMOTIVE
APPLICATIONS

INDUCTIVE RPM
FOR DIS, 2-STROKE WASTE
IGNITION, AND CONVENTIONAL
4-STROKE & 2-STROKE ENGINES

DUTY CYCLE % (ON-OFF RATIO)
FOR MEASURING FEEDBACK
CARBURETORS AND
ELECTRONIC EGR
VALVES

LVD
MEETS EN61010-1 CAT II

SPLASH PROOF CASE
FOR HARSH ENVIRONMENT

FIRE RETARDED CASE
FOR TOUGH SAFETY STANDARDS

PROTECTIVE HOLSTER
INCREASES PRODUCT DURABILITY

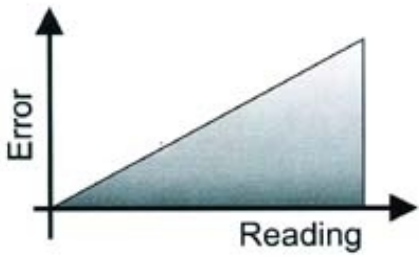
Superior Performance

1999 Counts **Competition**

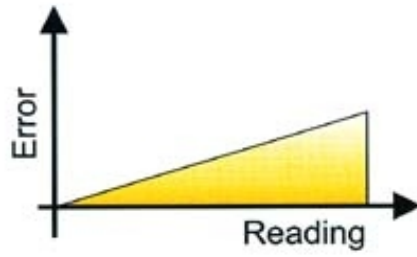
3999 Counts **Competition**

9999 Counts **BM318**

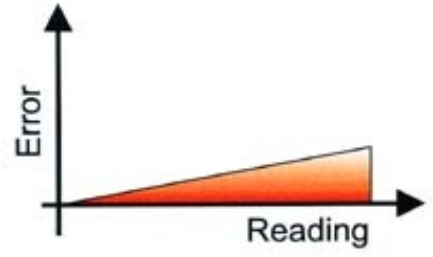
Higher Resolution



Competition
0.9% Accuracy

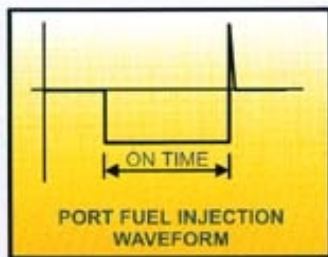


Competition
0.5% Accuracy

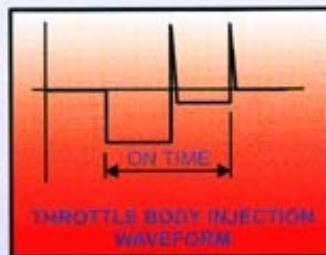
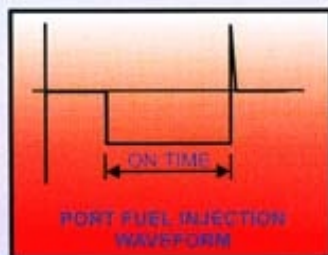


BM318
0.3% Accuracy

More Accurate



Competition measures PFI on time or none



BM318 measures both PFI & TBI on times

ms Fuel Injection Detector

BM318 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: Low battery indicator appears when the battery voltage drops 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)

APO Timing : Idle for 4 minutes

APO Consumption : 30 μ A Typical

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

Power Consumption : 3.5 mA Typical

Temperature Coefficient : Nominal 0.15 x (specified accuracy)/°C @ 0°C to 18°C or 28°C to 40°C

Safety : Designed to EN61010-1 (IEC1010-1), UL3111-1 installation category II for 600V, pollution degree 1

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

Overload Protections :

mA & A : 10A/250V Fast Acting Fuse

Others : 600VDC/VAC rms

Dimension : L150mm X W75mm X H34mm; L160mm X W82mm X H48mm (with holster)

Weight : Approx. 252 gm; approx. 345 gm (with holster)

Accessories : RPM inductive pick up, test leads (pair), battery (installed), and user's manual

BM318 ELECTRICAL SPECIFICATIONS

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

DC Voltage

Range	Accuracy
999.9 mV,	
9.999 V,	0.3% + 3d
99.99 V	
600.0 V	0.3% + 5d

NMRR : > 50dB @ 50/60Hz

CMRR : > 100dB @ DC, 50/60Hz, Rs=1k Ω

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

AC Voltage

Range	Accuracy
50Hz - 200Hz	
999.9mV	2.5% + 5d
50Hz - 500Hz	
9.999V,	
99.99V,	2.5% + 5d
600.0V	

CMRR : > 60dB @ DC to 60Hz, Rs=1k Ω

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

DC Current

Range	Accuracy
4000mA	1.2% + 6d
10.00A*	0.8% + 4d

Burden Voltage : 0.03V/A

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

AC Current

Range	Accuracy
50Hz - 500Hz	
4000mA	2.5% + 10d
10.00A*	1.2% + 3d

Burden Voltage : 0.03V/A

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

Ohms

Range	Accuracy
999.9 Ω	0.5% + 6d
9.999k Ω , 99.99k Ω	0.5% + 2d
999.9k Ω , 4.000M Ω	0.8% + 2d
40.00M Ω	1.5% + 5d

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

Frequency

Range	Accuracy
9.999Hz	
99.99Hz, 999.9Hz,	0.01% + 2d
9.999kHz, 20.00kHz	

Selectable Sensitivities : 1Vrms, 2Vrms, 20Vrms, & 200Vrms (by RANGE button)

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

Diode Tester

Range	Test Current (Typical)	Open Circuit Voltage
9.999V	0.2mA	< 3.5 VDC

Temperature

Range	Accuracy
-20°C to 300°C / 0°F to 572°F	\pm (3°C + 1d) / \pm (6°F + 2d)
301°C to 500°C / 573°F to 932°F	\pm (2% + 1d) / \pm (2% + 2d)

Sensor : *K Type Thermocouple, sensor accuracy not included

Audible Continuity Tester

Audible Threshold : The beeper sound if the measured voltage is lower than 100 Ω , and turns off when greater than 700 Ω . Response time < 500 ms

RPM

	RANGE	Accuracy
RPM 4	120 -20000 RPM	2 RPM
RPM 2	60 -10000 RPM	2 RPM
RPM 2 M	30 -5000 RPM	2 RPM

Dwell

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

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

*Specified ranges depend on \pm 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

selectable \pm trigger slopes

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

Special Features

Record : High speed 50ms Autoranging Max, Min, Max-Min, Avg readings

Relative : Autoranging Relative zero readings

Trigger : Selectable positive & negative trigger slopes

Cylinder : 9 Selectable number of cylinders in Dwell function

Hold : Freezes the display data for later view

Range : Manual / Auto ranging selection

RPM 4 : RPM of 4-stroke engines (1 ignition per 4 strokes)

RPM 2 : RPM of 4-stroke DIS & 2-stroke engines (1 ignition per 2 strokes)

RPM 2 M : RPM of 2-stroke DIS waste ignition engines (1 ignition per 1 stroke)

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