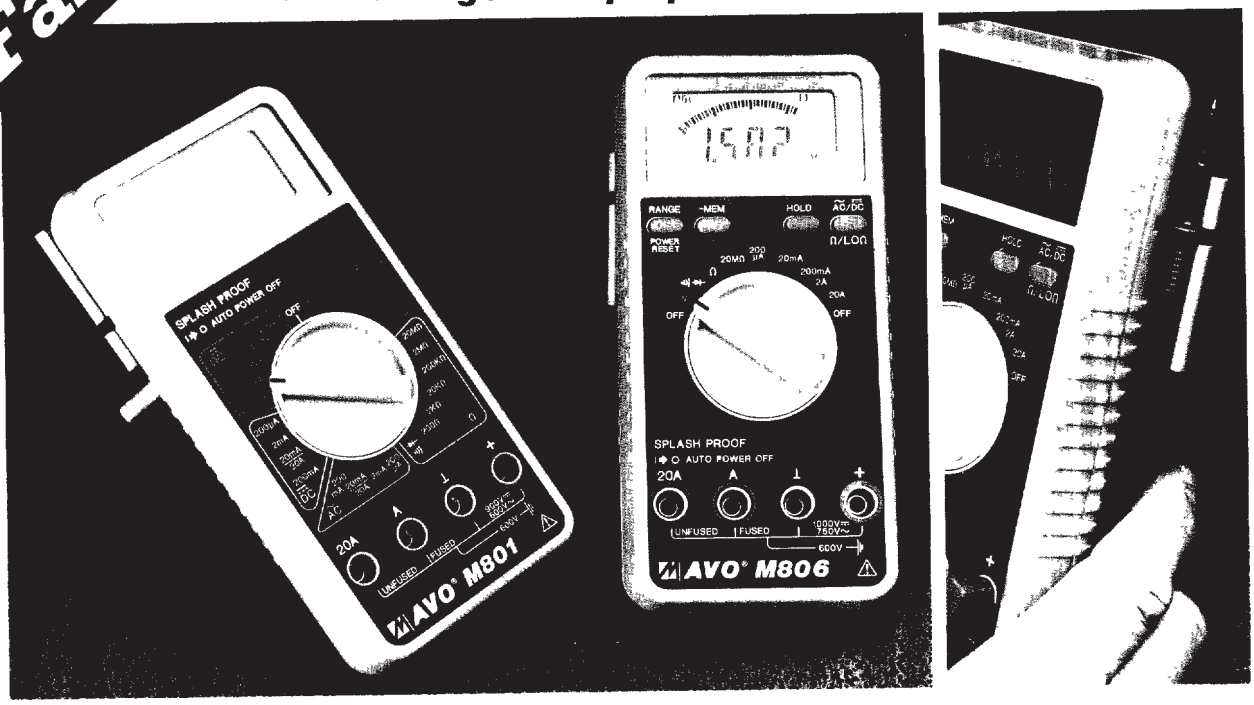
Available from Farnell

AVO® DIGITAL MULTIMETERS
M801 & M806

MEGGER INSTRUMENTS LIMITED

156-657/8

Robust, hand-held digital multimeters for general purpose use in arduous conditions.



M801 & M806

Shock and water resistant – a tough toolbag instrument.

Large character l.c.d. for easy reading.

Colour coded graphics for easy function selection.

Test lead prod holder and tilt stand for true two-hand operation.

Automatic switch-off to conserve battery power.

M806 only

Auto-ranging for voltage and resistance.

Analogue bar graph to follow changing values.

Data hold facility eases measurements in awkward situations.

Memory off-set to reduce zero errors.

The M801 and M806 are rugged hand-held multimeters The M801 has all switch selectable ranges, while the M806 is auto-ranging for voltage and resistance

Both instruments measure over a wide spectrum of range and have a basic accuracy on d.c voltage of ± 0,5% The M801 will measure d c voltage to 900 V and a c voltage to 600 V, both over five ranges It has five d.c. current and five a.c current ranges, both able to measure up to 20 A, and six resistance ranges where the maximum measurement is 20 MΩ A continuity buzzer and a diode test facility complete the measuring capabilities of this robust instrument

The M806 has exactly the same measuring capabilities as the M801 except that the voltage and resistance functions are auto-ranging and the maximum voltage that can be measured is 1000 V d c and 750 V a.c There is a range hold feature so that any range can be retained Also there is an option to measure resistance on low power or high power

There are four recessed terminals; a common terminal one for voltage and resistance, and two separate current terminals, one fused for all the lower current ranges and another unfused for the 20 A ranges. This provides the facility to measure current in inductive circuits e.g. current transformers with a greater degree of safety The voltage and resistance ranges also have overload protection

The 3½ digit l.c d on the M801 has large characters plus annunciators for polarity, over-range and low battery voltage The M806 has a similar 3½ digit display with an analogue bar graph which shows more clearly a genuinely varying reading The display on this instrument also has annunciators for range, measurement units, polarity, over-range, low battery voltage, auto-range/range hold, data hold, low power resistance measurement etc so that the operator can easily see exactly what measurement is being made.

Each instrument will automatically switch itself off after 30 minutes (M806) or 15 minutes (M801) from the last use of the selector switch, if it has been left on inadvertently and no new measurement has been made This ensures that battery power is not wasted. Each instrument has a single range/function selector switch and, for convenience the M806 has two off positions The M806 has small push buttons to activate the range hold, data hold, a c./d c./resistance measurement and '-MEM' facilities The data hold may be used to ease the problems of viewing the display when measurements are made in awkward situations It holds both the digital and bar graph readings

The '-MEM' facility on the M806 stores in memory the two least significant digits and subtracts them from the subsequent input signals This continues until the facility is turned off and is useful for suppressing zero off-set or test lead resistance

These instruments resist mechanical shock and the ingress of moisture Each is powered by a single 9 V battery, IEC 6-F22 type Useful mechanical features include a tilt stand that can also be used to hook the instrument in a convenient position and two clips to hold either (or both) of the test lead prods for storage and so that two-handed use is easy

Applications

These multimeters are useful for making measurements in all kinds of electrical and electronic circuits They are equally suited to field service applications as to the laboratory or workshop and may be used on power circuits up to 440 V a c

Accessories are available to extend the measuring ranges and functions of each instrument.

When measuring or detecting voltage in situations where a high energy level is present the advice given in the Health and Safety Executive Guidance Note GS 38 must be followed, particularly in regard to the use of test leads with fused prods

AVO®

SPECIFICATION

M801

Ranges

Voltage d c	200 mV 2 V 20 V 200 V 900 V (max resolution 0,1 mV)
Voltage a c	200 mV 2 V 20 V 200 V 600 V (max resolution 0,1 mV)
Current d c and a c	200 μA 2 mA 20 mA 200 mA 20 A (max resolution 0,1 μA)
Resistance	200 Ω 2 kΩ 20 kΩ 200 kΩ 2 MΩ 20 MΩ (max resolution 0,1 Ω)
Continuity Buzzer	Effective for resistance < 50 Ω

Accuracy (18 °C to 28 °C, < 75% RH)

Voltage Ranges d c	± 0,5% of reading ± 1 digit
Voltage Ranges a c	± 1,25% of reading ± 4 digits 40 Hz to 500 Hz
Current Ranges d c	200 μA to 200 mA ranges, ± 1% of reading ± 1 digit 20 A range, ± 2% of reading ± 3 digits
Current Ranges a c	200 μA to 200 mA ranges, ± 1,5% of reading ± 3 digits 40 Hz to 500 Hz 20 A range, ± 2,5% of reading ± 3 digits 40 Hz to 500 Hz
Resistance Ranges	200 Ω range, ± 0,75% of reading ± 4 digits 2 kΩ to 2 MΩ ranges, ± 0,75% of reading ± 1 digit 20 MΩ range, ± 1,5% of reading ± 5 digits
Diode Check	± 1,5% of reading ± 5 digits
Temperature Coefficient	0,15 x specified accuracy/ °C, < 18 °C or > 28 °C

Input Characteristics

Voltage Ranges d c and a c	10 MΩ (in // < 100 pF for a c)
Current Ranges d c and a c	200 μA to 20 mA ranges, voltage burden 600 mV max (r m s max for a c.) 200 mA and 20 A ranges, voltage burden 1,4 V max (r m s max for a c)

Resistance Ranges

Range	Max test current	Max a c voltage
200 Ω	2,5 mA	3,2 V
2 kΩ	200 μA	0,5 V
20 kΩ	40 μA	0,5 V
200 kΩ	4 μA	0,5 V
2 MΩ	400 nA	0,5 V
20 MΩ	40 nA	0,5 V

Continuity Buzzer/ Diode Check	1,5 mA max test current, 3,2 V max o/c voltage

Overload Ratings

Voltage Ranges d c and a c	200 mV range, 500 V d c , 350 V a c other ranges, 1100 V d.c , 770 V a.c
Current Ranges d c and a c	All except 20 A, 250 mA (F) 660 V fuse, 20 A range (unfused) 30 s max > 10 A
Resistance Ranges	500 V d c or a c r m s (also Diode Check and Continuity Buzzer)
Display	3½ digit l c d , automatic polarity, max indication 1999

M806

Ranges

Voltage d c	200 mV 2 V 20 V 200 V 1000 V (max resolution 0,1 mV)
Voltage a c	2 V 20 V 200 V 750 V (max resolution 1 mV)
Current d c and a c	200 μA 20 mA 200 mA 2 A 20 A (max resolution 0,1 μA)
Resistance	200 Ω 2 kΩ 20 kΩ 200 kΩ 2 MΩ 20 MΩ (max resolution 0,1 Ω)
Continuity Buzzer	Effective for resistance < 50 Ω

Accuracy (18 °C to 28 °C, <75% RH)

Voltage Ranges d c	± 0,5% of reading ± 1 digit
Voltage Ranges a c	± 1,25% of reading ± 5 digits 40 Hz to 500 Hz
Current Ranges d c	200 μA to 200 mA ranges, ± 0,75% of reading ± 1 digit 2 A and 20 A ranges, ± 1,5% of reading ± 3 digits
Current Ranges a c	200 μA to 200 mA ranges, ± 1,5% of reading ± 3 digits 40 Hz to 500 Hz 2 A and 20 A ranges, ± 2,5% of reading ± 5 digits 40 Hz to 500 Hz.
Resistance Ranges	200 Ω to 200 kΩ ranges, ± 0,75% of reading ± 1 digit 2 MΩ range, ± 1% of reading ± 3 digits 20 MΩ range, ± 1,5% of reading ± 5 digits
Diode Check	± 1,5% of reading ± 5 digits
Temperature Coefficient	0,15 x specified accuracy/°C, < 18 °C or > 28 °C

Input Characteristics

Voltage Ranges d c and a c	10 MΩ (in // < 100 pF for a c)
Current Ranges d c and a c	200 μA to 200 mA ranges, voltage burden 600 mV max (r m s max for a c.) 2 A and 20 A ranges, voltage burden 900 mV max (r m s max for a c)
Resistance Ranges	On low power o/c voltage is 450 mV, on high power o/c voltage is 900 mV
Continuity Buzzer/ Diode Check	1,5 mA max test current, 3,3 V max o/c voltage

Overload Ratings

Voltage Ranges d c and a c	1200 V d c or peak
Current Ranges d c and a c	All except 20 A, 2 A (F) 660 V fuse, 20 A range (unfused) 30 s max >10 A
Resistance Ranges	500 V d c or a c r m s (also Diode Check and Continuity Buzzer)
Display	3½ digit l c d , automatic polarity, max indication 1999 measuring to 2999 in manual mode, plus 41 segment analogue bar graph

M801 and M806

Temperature Range

Operating	0 °C to + 50 °C
Storage	– 20 °C to + 60 °C

Humidity Range

Operating	0 to 80% RH at 0 °C to + 50 °C
Fuse	250 mA for M801 or 2 A for M806, (F) 660 V 30 kA breaking capacity 32 mm x 6 mm ceramic HBC
Safety	These instruments will, in general, meet the requirements of BS 4743 (1979) and IEC 348 (1978) specifications
Power Supply	Single 9 V battery IEC 6-F22 type, battery life 300 hours (M801) or 800 hours (M806) approx , automatic power off after 15 min (M801) or 30 min (M806)
Dimensions	175 mm x 84 mm x 41 mm (6⅞ in x 3⅜ in x 1⅝ in approx)
Weight	345 gm (¾ lb) approx

Accessories

Supplied with the instrument	Test lead set with prods PVC carrying case
Supplied as an optional extra	Test leads with fused prods (comply with Health and Safety Executive Guidance Note GS 38) black part no. 6121-125 red part no 6121-126 Probe, 30 kV part no 6310-704 Current clamp – 0 - 100 A and 0 - 1000 A a c /d c part no. 6110-246 Temperature probe, immersion, – 20 °C to + 350 °C part no 6110-202 Temperature probe, surface, – 20 °C to + 350 °C part no 6210-109 Temperature probe, immersion, – 60 °C to + 700 °C part no. 6110-248 Temperature probe, surface, – 60 °C to + 700 °C part no 6110-247

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