

BM 518 MULTIMETER



The BM 518 multimeter is a fully transistorized multi-purpose measuring instrument for the ascertainment of basic DC and AC parameters of components and circuits. Among its advantages are a high input resistance, a minimum voltage drop in DC current measurements and the possibility to measure resistances within a wide range, to measure RMS values within the frequency range from 50 Hz to 1 MHz of even non-sinusoidal waveforms, to measure RF voltages using a probe and a feed-through adapter which has a low input capacitance (less than 1.5 pF) and a high output resistance (over 70 k Ω), thus ensuring minimum loading of the circuit measured. The scale of the meter is linear for both types of AC measurement. The BM 518 multimeter has an output for a recording device, which allows continuous graphic recording of all data measured. The instrument can be powered either from the mains or by external batteries.

DC Voltmeter

Range
300 μ V to 300 V f.s.d. in 13 ranges

Measurement error
 $\pm 5\%$ within the ranges 300 μ V to 1 mV
 $\pm 2.5\%$ within the ranges 3 mV to 300 V

Input resistance
100 k Ω within all ranges with a possibility of disconnection by the push-button
With resistance disconnected the input resistance reaches
100 M Ω within the ranges 300 μ V to 30 mV
500 M Ω within the ranges 100 mV to 10 V
101 M Ω within the ranges 30 V to 300 V

DC ammeter

Range
3 nA to 100 mA f.s.d. in 16 ranges

Voltage drop
1 mV for ranges 3 nA to 10 μ A
10 mV for ranges 30 μ A to 1 mA
100 mV for ranges 3 mA to 100 mA

Measuring error
Given by the voltage measuring error $\pm 1\%$

Ohmmeter
Measuring ranges
10 Ω , 100 Ω , 1 k Ω , 1 M Ω , 10 M Ω
centre-scale deflection

Measuring error $\pm 5\%$

Maximum measuring voltage 100 mV

Output for a recorder
 ± 100 mV, adjustable within $\pm 20\%$; internal resistance
1 k Ω

The circuit earth of the instrument is insulated from the framework

AC AF voltmeter
Measuring range
30 mV to 300 V f.s.d. in 9 partial ranges switched in 10 dB steps, linear scale

Frequency range: 50 Hz to 1 MHz

Detect
The in

Measu
20 Hz
 $\pm 3\%$
 $\pm 5\%$
 $\pm 5\%$
error

Input
10 M Ω

Calibr
Suppl
accur

HF vo
Measu
10 m
steps

Measu

Input
Input
V 70
V 50
V 15
V 7
at HI

Input

Maxi

Pow
220/
exte

Pow
Main

Dim
315

Detector

The input signal is detected in RMS values,

Measuring error

20 Hz to 50 Hz — indication

$\pm 3\%$ of the f.s.d. from 50 Hz to 500 kHz

$\pm 5\%$ of the f.s.d. from 500 kHz to 800 kHz

$\pm 5\%$ — 7% from 800 kHz to 1 MHz

error after calibration

Input impedance

10 M Ω with < 50 pF capacitance in parallel

Calibration

Supply 30 mV RMS, rectangular waveform approx. 1 kHz, accuracy $\pm 0.5\%$

HF voltmeter with probe**Measuring range:**

10 mV to 3 V f.s.d. in 6 partial ranges, switched over in 10 dB steps; linear scale

Measuring range: 10 kHz to 1.2 GHz

Input impedance of the probe**Input impedance:**

≥ 70 k Ω at 1 MHz

≥ 50 k Ω at 10 MHz

≥ 15 k Ω at 100 MHz

≥ 7 k Ω at 200 MHz

at HF voltage level 0.5 V

Input capacitance: < 1.5 pF

Maximum input voltage: 12 V RMS 40 V_{pp}

Powering

220/120 V $\pm 10\%$, 50 Hz from the mains; 18 V to 27 V from an external battery

Power consumption

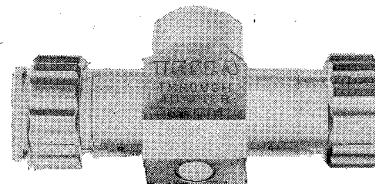
Mains: 10 VA

Dimensions and weight

315 × 210 × 226 mm; 7 kg

BP 5182

FEED-THROUGH ADAPTER



The BP 5182 feed-through adapter is used in HF voltage measurements on coaxial lines in conjunction with a prong-type probe of the BM 518 and BM 495A instruments. This feed-through adapter can be inserted into the coaxial line or attached to its end when the line is terminated with a suitable coaxial load of 75 Ω characteristic impedance. The frequency range is from 0 to 2,000 MHz.

BP 5184

SERIES RESISTOR 1 kV



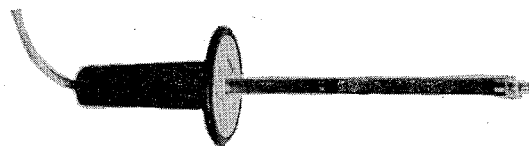
The BP 5184 series resistor serves as an accessory for the BM 518 multimeter, extending its DC voltage range up to 1 kV. However, it can also be used for other types of DC voltmeters, whose input resistance is 100 k Ω $\pm 1\%$. To interconnect the resistor and the multimeter, a cable fitted with banana plugs is used.

Dimensions and weight

$\varnothing 20 \times 121$ mm; 0.1 kg

BP 5185 BP 5186

HIGH-VOLTAGE PROBE



The BP 5185 probe is intended as an accessory for the BM 518 multimeter to extend its DC voltage measuring range from 1 kV up to 10 kV.

The BP 5186 probe is intended as an accessory for the BM 518 multimeter to extend its DC voltage measuring range up to 30 kV. However, it can also be used with other types of DC voltmeters which have 3 V f.s.d. and input resistance of 100 M Ω . The high input resistance of the probe ensures a minimum loading effect on the circuit measured.

The BP 5185 HV probe will find many applications in all branches of electronic engineering where high voltages in light-current equipment are to be measured, particularly in TV service workshops.

Dividing ratio

1 : 10,000

Dimensions and weight

$\varnothing 14$ mm, length 280 mm, protective disc $\varnothing 60$ mm (70 mm); 0.5 kg