

900,-

EM4-K19

PHILIPS

**Electronic Volt-Ohm-Meter
Type GM 6001**



Features

- Direct voltages: 30 mV up to 1000 V; with EHT probe up to 30 kV
- Alternating voltages: 100 mV up to 300 V. Frequency range 20 c/s up to 1000 Mc/s
- Resistances: 1 Ω up to 1000 M Ω
- High accuracy
- High input impedances
- Stabilized HT and heater current
- Floating input
- "Built-in" calibration voltage

Industrial equipment division
Electronic Measuring Apparatus
Electronic volt-ohm-meter
Type GM 6001



Applications

As can be deduced from the specification, this volt-meter combines extreme versatility with accuracy and sensitivity. It is designed to meet very high requirements in most professional fields.

Description

The basic circuit of the GM 6001 is a bridge comprising two triodes and two resistors. The moving coil meter is connected between the cathodes of the triodes.

The DC voltage to be measured is fed via an attenuator and cathode follower to the control grid of one of the bridge triodes. The other triode is also preceded by a cathode follower. By means of these cathode followers a DC negative feedback is possible, which is independent of the meter resistance and the low output impedance of the bridge triode. The applied voltage disturbs the equilibrium of the bridge causing a meter-deflection proportional to the

input signal.

A DC probe is supplied, by which also measurements on oscillator circuits can be effectuated.

To facilitate measurements of discriminator circuits, a special position of the switch is provided, by which the pointer is set to the centre of the scale. In this way no time need be lost adjusting for centre-scale position.

For measuring A.C., voltages are first rectified and then applied to the D.C. measuring system. The detecting diode is fitted in the measuring probe.

Resistors are measured by adapting the constant voltage method.

A special calibration voltage is incorporated which allows the instrument to be checked at any time.

A great deal of attention has been paid to the stabilization of the power supplies ensuring maximum accuracy and stability of the instrument under all conditions. There is in fact no measurable change for a $\pm 10\%$ variation in mains supply input.

Technical data

	Measuring range total	Subdivided into ranges (f.s.d.)	Input impedance	Measuring error max.	Remarks
Direct voltages	30mV...1000V	0.3; 1; 3; 10; 30; 100; 300; 1000 V	range 0.3 V, 10 M Ω . range 1 V, 30 M Ω . other ranges 100 M Ω	2.5 %	
	3...30 kV	300 V 1; 3; 10; 30 kV	1000 M Ω	10 %	with EHT probe GM 6071
Alternating voltages	100mV...300V	1; 3; 10; 30; 100; 300 V	1 Mc/s: 3 M Ω 10 Mc/s: 0.4 M Ω 40 Mc/s: 0.07 M Ω shunted by 3.5 pF	3 % for 40 c/s 100 Mc/s	calibrated in values of sinusoidal voltages
Resistances	1 Ω ...1000 M Ω	10; 100; 1000; 10.000 Ω ; 0.1; 1; 10; 100 M Ω centre scale value		8 % 10 % for range 100 M Ω centre scale	load on the measured resistance amounts to 0.3 mW

Frequency response

1.5 dB. 20 c/s to 1000 Mc/s

FLOATING INPUT

Maximum allowable voltage between "signal low" and chassis: 300 V

CALIBRATION VOLTAGE

0.3 V

CENTRE ZERO FACILITY

The instrument is provided with a special switch-position by which the pointer is set to the centre of the scale to facilitate measurements on discriminator circuits.

SUPPLY

The apparatus is mains-supplied and can be adapted to 110 - 125 - 145 - 200 - 220 and 245 V; frequency 40 ... 100 c/s

Power consumption: 45 W

DIMENSIONS AND WEIGHT

Height: 21.5 cm or approx. 8½"

Width: 30 cm or approx. 11¾"

Depth: 40 cm or approx. 15¾"

Weight: 8 kg or approx. 17.7 lbs

TUBES

E 80 CC	85 A 2
PCC 85	ASZ 18
PCL 82	OC 72
GL 8	EA 52
	OA 210 (2 ×)

FINISH

The apparatus is enclosed in a grey plastic-covered metal housing with leather handle and is tropicalized.

Accessories supplied with the instrument

Mains supply lead

Connection cable

Connection jug

DC testprobe with resistor incorporated for oscillator measurements

2 screw-up condensers of 22 kpF and 125 pF

Optional

HIGH TENSION PROBE TYPE GM 6071

Designed to increase the range of the GM 6001 by extending the DC voltages to 30 kV

Attenuation

100 ×

Maximum error

10 % (including maximum error of the valve voltmeter)

Input resistance

1000 MΩ

Dimensions and weight

Length: 180 mm or approx. 0.7"

Maximum diameter: 42 mm or approx. 0.2"

Weight: 220 grams or approx. 0.5 lbs.

COAXIAL T-PIECE TYPE GM 9250

Frequency range

0.1 ... 1000 Mc/s

Impedance

50 Ω

Execution

Tropicalised

V.S.W.R.

< 1.1 for frequencies up to 1000 Mc/s

Weight

220 grams or approx. 0.5 lbs.