

INSTRUCTIONS FOR USE.

To ensure accurate readings the "UNIVERSAL AVO-MINOR" should be used face upwards.

If necessary, set the pointer to instrument zero by means of "Z."

Testing leads (enclosed in the rear of instrument) should be inserted in appropriate sockets, the black in common or negative (com-neg) and the red at required range.

Set switch either to "A.C. voltage" (volts only) or "D.C. and ohms" (D.C. volts, milliamps and ohms) according to type of measurement.

All current and voltage ranges except the 5 volt A.C. range are indicated on the middle scale.

As a voltmeter, the instrument consumes 2.5 m.a. at full scale and proportionately less current on smaller deflections. The total resistance of the instrument is 200,000 ohms. Anode and screen voltages are often best measured on a higher range than absolutely necessary.

Current ranges can be extended by using the 25 m.a range (75 m.v. drop) in conjunction with suitable external shunts.

Before making resistance tests on the 20,000 ohms range, check, and if necessary, adjust for battery voltage, by joining the leads together and rotating ohms adjusting knob until pointer indicates zero ohms. When the $1\frac{1}{2}$ v. cell housed in compartment at rear is exhausted beyond the limits of compensation, it should be replaced by a similar one inserted in the same direction.

Ranges up to 10 megohms are obtained by using an external source of voltage, giving full scale deflection on the range in use. If this voltage is unobtainable, an excess voltage (up to 30%) may be used, and adjustments carried out as follows.

First connect the special lead between ohms adjuster and 2.5 m.a. socket; apply voltage to meter on a suitable range, and finally adjust to zero ohms. The resistance is then connected in series with source of voltage and meter, and its value is that shown on the ohms scale multiplied by value of voltage range employed.

2.5 m.a. divide by 20	5 v. divide by 10	20,000 ohms. multiply by 1
5 m.a. " " 10	25 v. " " 2	100,000 " " " 5
25 m.a. " " 2	100 v. multiply " 2	500,000 " " " 25
100 m.a. multiply " 2	250 v. " " 5	2 megohms " " 100
500 m.a. " " 10	500 v. " " 10	5 megohms " " 250
		10 megohms " " 500

Important Warning To prevent damage to the instrument, see that the switch and the red wander plug are at suitable positions before connecting.

THE AUTOMATIC COIL WINDER AND ELECTRICAL EQUIPMENT COMPANY, LIMITED

WINDER HOUSE, DOUGLAS STREET, S.W.1. Ned. Ver. v. Histo

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