

OPERATING INSTRUCTIONS

energised by two magnetised and aged Hycomax blocks associated with mild steel pole pieces. Two phosphor bronze hair springs are fitted for the purpose of carrying current to the moving coil, and to provide controlling torque. A knife edge type of pointer is fitted enabling very fine readings to be taken, whilst the whole movement is balanced and damped so that the pointer quickly comes to rest.

SCALING

The scale plate has three main sets of markings, each of approximately 5 in. (127 mm.) length, the one being for resistance measurement and is marked 0–200,000 ohms. The second is for current and voltage (both a.c. and d.c.) and is marked 0–100 with divisions approximately $1\frac{1}{4}$ mm. apart. The third scale, calibrated 0–250 has 50 divisions, is used for current and voltage measurements.

In addition there is a decibel scale which can be used with any of the a.c. voltage ranges.

MOVEMENT REVERSE CONTROL

It sometimes happens that d.c. voltages may be required both positive and negative to a reference point, or the direction of flow may be reversed. In order to simplify the matter of lead alteration, a movement reverse press button (REV. M.C.) is provided. It should be noted that the polarity marked on the terminals is for normal use and does not apply when the button is pressed.

OVERLOAD PROTECTION

Apart from the ability to do its job, one of the most attractive features of the instrument is the provision of an automatic cut-out which gives a very high degree of overload protection to the whole of the instrument. The incorporation of this device will be found to be of particular value when conducting experimental work, for it imparts to the user the feeling of mental ease and confidence. When conducting experimental work with conventional moving coil meters, these can be easily ruined by inadvertently applied overloads, whereas the Avometer is so well protected that it can withstand considerable mishandling.

If an overload is applied to the meter, the cut-out knob springs from its normal position in the panel, thus breaking the main circuit, and this knob has only to be depressed to render the instrument again ready for use. It is important to note that the cut-out should never be reset when the instrument is connected to an external circuit, whilst the fault which caused the overload should be rectified before the meter is reconnected.

The mechanism is brought into operation by the moving coil coming into contact with a trigger just beyond its full-scale position. There is, in addition, a second release at the zero end, so that the cut-out is tripped if the meter is overloaded in reverse. Although the overload mechanism gives