

Title: Calibration Of Elliott D.C. Portable Ammeter 1000A/75mv And Shunt

Scope

Work Instruction for the internal calibration of Elliott D.C. Portable Ammeter 1000A/75mV and shunt. To be used in the absence of a manufacturers calibration instruction.

Preparation

Calibration must be carried out using Category A Master instruments as required.

Equipment required;-

- 1.1 Datron 9100 calibrator.
- 1.2 Solartron Model 7065 Microprocessor Voltmeter.

Method

- 2.1 All calibration results must be entered on the results sheets (see appendix A).
 - 2.2 Note the lab. temperature / R.H. and enter onto the results sheet.
 - 2.3 Carry out test 1.
 - 2.4 Carry out test 2 using item 3.1.1.
 - 2.5 Carry out tests 3 to 7 using item 3.1.1. with the 50ohm override on.
 - 2.6 Carry out test 8 using item 3.1.1. to provide 10A and item 3.1.2 to measure the volt drop. Note: Remove the link between guard terminal and negative terminal of item 3.1.2.
 - 2.7 Complete the results sheet header and enter Pass / Fail.
- All records must be kept for audit purposes

References

Appendix A Calibration of an Elliott D.C. Portable Ammeter 1000A/75mV and Shunt

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Appendix A

Calibration of an Elliott D.C. Portable Ammeter 1000A/75mV and Shunt

Model Serial No
 Date Result
 Lab Temp / RH Operator
 User Location Certificate No

Accuracies quoted are from manufacturer's specifications or relevant British Standard.

Movement Check

Test 1 Is pointer on zero? – instrument horizontal Pass / Fail

Test 2 Instrument balance $\pm 1\%$ of F.S.D. at 45° all planes Pass / Fail

Instrument Calibration

UUT Accuracy: $\pm 1\%$ F.S.D.

Note: Calibration must be carried out using the instruments dedicated leads or equivalent external resistance

Test No	UUT Reading A/mV	Calibrator Reading mV	Allowed Limits	Result
3	200 / 15		14.25 to 15.75	Pass / Fail
4	400 / 30		29.25 to 30.75	Pass / Fail
5	600 / 45		44.25 to 45.75	Pass / Fail
6	800 / 60		59.25 to 60.75	Pass / Fail
7	1000 / 75		74.25 to 75.75	Pass / Fail

Shunt Calibration

UUT Accuracy $\pm 1\%$

Test No	Calibrator Setting Amp	Solartron Reading mV	Allowed Limits	Result
8	10		0.742 to 0.758	Pass / Fail

The UUT was calibrated using the following equipment:

1. Datron 91000 Calibrator S/N _____
2. Solartron Model 6065 Microprocessor Voltmeter S/N _____

The uncertainty in the applied value is estimated not to exceed:

D.C. Millivolts: $\pm 0.14\%$
 D.C. Current: $\pm 0.06\%$

The uncertainty limits quoted refer to the applied values only and do not relate to the stability of the UUT.