

## **Title: Calibration Of D.C. Ammeter / Mv Range 0–5000A / 83–3mv**

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**Scope** Work Instruction for the internal calibration of D.C. Ammeter / mV Range 0-5000A / 83-3mV. 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 45° instrument balance stand.
- 1.2 D.C. millivolt source.
- 1.3 Datron 9100 calibrator.

### **Method**

2.1 All calibration results must be entered on the results sheets (see appendix A).

2.2 Note the lab temp / relative humidity and enter on calibration results sheet.

2.3 Carry out test 1.

2.4 Carry out test 2 using the instrument balance.

2.5 Carry out test 3 using equipment listed in 1.2.

2.6 Carry out test 4 to 8 using equipment listed in 1.3 using 50 ohm override.

2.7 Complete the results sheet header and enter Pass / Fail.

- All records must be kept for audit purposes

### **References**

Appendix A Calibration Results for D.C. ammeter / mV meter range 0-5000A / 83-3mV

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### Appendix A

#### Calibration Results for D.C. Ammeter / mV Meter Range 0-5000A / 83-3mV

Model ..... Serial No .....

Date ..... Result .....

Lab Temp / RH ..... Operator .....

User Location ..... Certificate No .....

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

#### Movement Check

|        |                                                                                      |             |
|--------|--------------------------------------------------------------------------------------|-------------|
| Test 1 | Is the pointer on zero? – instrument horizontal                                      | Pass / Fail |
| Test 2 | Instrument balance:<br>± F.S.D. at 45° in all planes                                 | Pass / Fail |
| Test 3 | Using the D.C. millivolt source - Does the pointer<br>move freely and return to zero | Pass / Fail |

#### Calibration accuracy ± 0.5% F.S.D.

Calibration must be carried out using the instrument dedicated test leads or equivalent series resistance

| Test No | UUT Reading Amps / mV | Calibrator mV | Allowed Limits | Result      |
|---------|-----------------------|---------------|----------------|-------------|
| 4       | 1000 / 16.7           |               | 16.3 to 17.1   | Pass / Fail |
| 5       | 2000 / 33.3           |               | 32.9 to 33.7   | Pass / Fail |
| 6       | 3000 / 50.0           |               | 49.6 to 50.4   | Pass / Fail |
| 7       | 4000 / 66.6           |               | 66.2 to 67.0   | Pass / Fail |
| 8       | 5000 / 83.3           |               | 82.9 to 83.7   | Pass / Fail |

The UUT was calibrated using the following equipment:

1. Datron 9100 Calibrator S/N \_\_\_\_\_
2. D.C. Millivolt source S/N \_\_\_\_\_

The uncertainty of measurement is estimated not to exceed:  
 D.C. Millivolts: ± 0.12%

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