Title: Calibration Of Ferranti Rail Type Multi-range Clip-On Ammeter 0 To 500 A.A.C.

Scope

Work Instruction for the internal calibration of Ferranti Rail Type Multi-range Clip-On Ammeter 0 to 500A A.C. 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 45^0 instrument balance stand.
1.2 B.R. A.C/D.C current source.
1.3 10 turn coil.
1.4 100 turn coil.
1.5 Keithley D.M.M.

Method

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

2.2 Note the lab temp / R.H. and enter on the calibration results sheet.

2.3 Carry out test 1.

2.4 Carry out test 2 using item 1.1.

2.5 Carry out tests 3 to 10 using items 1.2, 1.3 and 1.5.

2.6 Carry out tests 11 to 12 using items 1.2, 1.4 and 1.5.

2.7 Carry out test 13.

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

- All records must be kept for audit purposes

References

Appendix A Calibration Results for Ferranti Rail Type Multirange Clip-On Ammeter 0 to 500A A.C.

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Appendix A

Calibration Results for Ferranti Rail Type Multirange Clip-On Ammeter 0 to 500A A.C.

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

Zero Adjustment
Test 1 Is pointer on zero? Pass / Fail

Instrument Balance
Test 2 Does the pointer remain within ± 1% at 45^0 all planes Pass / Fail

Calibration : Accuracy ± 3% F.S.D.

Test No	UUT Range	UUT Reading Amps	Keithley Reading Amps x 10	Allowed Limits	Result
3	10			1.7 to 2.3	Pass / Fail
4	10			3.7 to 4.3	Pass / Fail
5	10			5.7 to 6.3	Pass / Fail
6	10			7.7 to 8.3	Pass / Fail
7	10			9.7 to 10.3	Pass / Fail
8	25			24.25 to 25.75	Pass / Fail
9	50			48.5 to 51.5	Pass / Fail
10	100			97 to 103	Pass / Fail

Calibration : Accuracy ± 3% F.S.D.

Test No	UUT Range	UUT Setting Amps	Keithley Reading Amps x 100	Allowed Limits	Result
11	250	250		242.5 to 257.5	Pass / Fail
12	500	500		485 to 515	Pass / Fail

Test 13 Did the pointer move freely during the above tests? Pass / Fail

The UUT was calibrated using the following equipment:
1. AC/DC current source S/N _____
2. 10 turn coil S/N _____
3. 100 turn coil S/N _____
4. Keithley Digital Multimeter S/N _____

The uncertainty of measurement is estimated not to exceed:
A.C. Current : ± 2.2%

The uncertainty limits quoted, which are derived from the arithmetic summation of the contributions, refer to the applied values only and do not relate to the stability of the UUT.

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