Title: Calibration Of Megger ET3 And ET3/2 Earth Testers

Scope

Work Instruction for the internal calibration of Megger ET3 and ET3/2 Earth Testers. 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. Keithley Digital Multimeter Model 136.
2. J J Instruments Decade Resistance Box.
3. 45^0 instrument balance stand.

Method

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

1.1.2 Note the lab temperature and R.H. and enter on results sheet.

1.1.3 Carry out test 2 using 1.1.3.

1.1.4 Carry out test 3 using 1.1.1 connected to terminals C1 and C2 (i.e. P1 and P2 open circuit).

1.1.5 Operate UUT decade range switches several times before commencing tests 4 – 16.

1.1.6 Carry out tests 4 – 16 using the items listed in 3.1.2. Make a four-wire connection from terminals C1, P1, P2 and C2 to the Decade Resistance Box, ensuring that P1 and P2 are the inner connections.

1.1.7 Complete results header and enter Pass / Fail.

- All records must be kept for audit purposes

References

Appendix A Calibration of Megger ET3 and ET3/2 Earth Testers

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Appendix A

Calibration of Megger ET3 and ET3/2 Earth Testers

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 ± 1mm at 45^0 all planes Pass / Fail

Output Volts

Test 3 Is output voltage less than 350 volt A.C. Pass / Fail

Short Circuit Test

Test 4 Plug shorting link into leads at standard resistance box, select all zero galvanometer decades and range x 0.01 on UUT. Does galvanometer indicate balance? Pass / Fail

Resistance Calibration

UUT accuracy: ± 1% range

Test No	Decade Resistance Box (ohms)	UUT		Allowed Limits	Results
		Range Switch	Decade Switch		
5		x 1	111	101 to 121	Pass / Fail
6		x 1	222	212 to 232	Pass / Fail
7		x 1	333	323 to 343	Pass / Fail
8		x 1	444	434 to 454	Pass / Fail
9		x 1	555	545 to 565	Pass / Fail
10		x 1	666	656 to 676	Pass / Fail
11		x 1	777	767 to 787	Pass / Fail
12		x 1	888	878 to 898	Pass / Fail
13		x 1	999	989 to 1009	Pass / Fail
14	8.82	x .01		8.72 to 8.92	Pass / Fail
15	88.8	x .1		87.8 to 89.8	Pass / Fail
16	8880	x 10		8780 to 8980	Pass / Fail

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