

Title: Calibration Of Metrohm 16D Series Digital Insulation And Continuity Testers

Scope

Work Instruction for the internal calibration of Metrohm 16D Series Digital Insulation and Continuity 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:-

- 1.1 Datron 9100 Calibration
- 1.2 Keithley DMM Model 136
- 1.3 Load Resistors 500k Ω S/N BR614; 1M Ω
- 1.4 Megadek High Resistance Box
- 1.5 J.J. Instruments Decade Resistance Box

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 tests 1 to 3 using item 1.1.
- 2.4 Carry out tests 4 and 5 using items 1.2 and 1.3.
- 2.5 Carry out tests 6 to 9 using item 1.4.
- 2.6 Carry out tests 10 to 13 using item 1.5.
- 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 Metrohm 16D Series Digital Insulation and Continuity Tester

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Appendix A

Calibration Results for Metrohm 16D Series Digital Insulation and Continuity Tester

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.

A.C. Voltage Range

Accuracy $\pm 2\%$ of FSD

Test No	Metrohm Indication Volts 50Hz	Calibrator Reading	Allowed Limits	Result
1	240V		230V to 250V	Pass / Fail
2	500V		Pass / Fail	
3	NEON	Does neon indicator light on above tests		Pass / Fail

Insulation Range DC Output Voltage

Accuracy – 0, +20%

Test No	Specified Output Voltage	Load Resistor	Output Voltage	Allowed Limits	Results
4	500	500k Ω		500V to 600V	Pass / Fail
5	1000	1M Ω		1000V to 1200V	Pass / Fail

Insulation Test

UUT accuracy; $\pm 2\% \pm 1$ digit up to 20M Ω
 $\pm 3\% \pm 1$ digit up to 100M Ω

Test No	Voltage Range	Resistor Value M Ω	UUT Indication	Allowed Limits	Results
6	500V	10		9.79 to 10.21	Pass / Fail
7	500V	100		96.7 to 103.1	Pass / Fail
8	1000V	10		9.79 to 10.21	Pass / Fail
9	1000V	100		96.9 to 103.1	Pass / Fail

Continuity Test – Operation of Buzzer

Test No	Resistor Value Ω	Operation of Buzzer	Result
10	1	Buzzer must operate	Pass / Fail
11	3	Buzzer must not operate	Pass / Fail