

Title: Calibration Of Robin 3131 Insulation And Continuity Tester

Scope

Work Instruction for the internal calibration of Robin 3131 Insulation and Continuity Tester. 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 Keithley DMM Model 136.
- 1.3 Resistors.
- 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 test 1.
- 2.4 Carry out test 2 using item 1.1.
- 2.5 Carry out test 3 using a 240V 50Hz supply.
- 2.6 Carry out tests 4 to 6 using item 1.2 and 1.3.
- 2.7 Carry out tests 7 to 12 using item 1.4.
- 2.8 Carry out tests 13 to 19 using item 1.5.
- 2.9 Complete the results sheet header and enter Pass / Fail.

- All records must be kept for audit purposes

References

Appendix A Calibration Results for Robin 3131 Insulation and Continuity

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Appendix A

Calibration Results for Robin 3131 Insulation and Continuity Tester

ModelSerial No
DateResult
Lab Temp / RHOperator
User LocationCertificate No

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

Movement Check

Test 1 Is pointer on zero – instrument horizontal? Pass / Fail
Test 2 Instrument balance : $\pm 1.6\text{mm}$ at 45° all planes Pass / Fail
Test 3 **Do not operate test button**
Apply 240V to 50Hz to UUT. Does the buzzer and neon operate? Pass / Fail

Insulation Range : DC Output Voltage. Accuracy – 0, + 10%

Test No	Specified Output Voltage	Specified Accuracy	Load Resistor	Output Voltage	Result
4	250V	- 0V to + 25V	0.25M Ω		Pass / Fail
5	500V	- 0V to + 50V	0.5M Ω		Pass / Fail
6	1000V	- 0V to + 100V	1M Ω		Pass / Fail

Insulation Tests : Accuracy $\pm 5\%$ of reading

Test No	Resistor Value	Allowed Limits			Result
		250V Range	500V Range	1000V Range	
7	INF	$\pm 1.6\text{mm}$	$\pm 1.6\text{mm}$	$\pm 1.6\text{mm}$	Pass / Fail
8	100 M Ω	95 to 105	95 to 105	95 to 105	Pass / Fail
9	10 M Ω	9.5 to 10.5	9.5 to 10.5	9.5 to 10.5	Pass / Fail
10	1 M Ω	0.95 to 1.05	0.95 to 1.05	0.95 to 1.05	Pass / Fail
11	0.1 M Ω	0.095 to 0.105	0.095 to 0.105	0.095 to 0.105	Pass / Fail
12	0	$\pm 1.6\text{mm}$	$\pm 1.6\text{mm}$	$\pm 1.6\text{mm}$	Pass / Fail

Continuity Test : Accuracy $\pm 3\%$ of scale length

Test No	Range	Resistor Value	UUT Indication	Allowed Limits	Result
13	X1	0		$\pm 1.6\text{mm}$	Pass / Fail
14	X1	0.5 Ω		0.44 to 0.56	Pass / Fail
15	X1	1.0 Ω		0.94 to 1.06	Pass / Fail
16	X1	1.5 Ω		1.44 to 1.56	Pass / Fail
17	X1	2.0 Ω		1.94 to 2.06	Pass / Fail
18	X10	10 Ω		9.4 to 10.6	Pass / Fail
19	X10	20 Ω		19.4 to 20.6	Pass / Fail