

## **Title: Calibration Of Robin 3131 Insulation & Continuity Tester**

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### **Scope**

Work Instruction for the internal calibration of Robin 3131 Insulation & 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 45° Instrument Balance Stand.
- 1.2 Keithley DMM Model 136 with Resistors as appropriate.
- 1.3 Megadek High Resistance Box.
- 1.4 Decade Resistance Box.

### **Method**

- 3.2.1 All calibration results must be entered on Appendix A.
  - 3.2.2 Note lab temp / R.H. and enter on the results sheet.
  - 3.2.3 Carry out test 1.
  - 3.2.4 Carry out test 2 using item 1.1.
  - 3.2.5 Carry out test 3.
  - 3.2.6 Carry out tests 4 to 6 using item 1.2 with matching test resistor as appropriate.
  - 3.2.7 Carry out tests 7 to 24 using item 1.3.
  - 3.2.8 Carry out tests 25 to 36 using item 1.4.
  - 3.2.9 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 Tester

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### Appendix A

#### Calibration Results for Robin 3131 Insulation & 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.

#### Movement Check

**Test 1** Is the pointer on zero – instrument horizontal ? Pass / Fail  
**Test 2** Instrument balance  $\pm 0.75\text{mm}$  at  $45^\circ$  all planes Pass / Fail

#### Battery Test

**Test 3** Select "Batt check"; press the test button – does the pointer move to "Batt Good" position? Pass / Fail

#### D.C. Output Volts

| Test No | Voltage Range | Matching Test Resistor | Output Volts Actual | Allowed Limits | Results     |
|---------|---------------|------------------------|---------------------|----------------|-------------|
| 4       | 250           | 250k                   |                     | 250v min       | Pass / Fail |
| 5       | 500           | 500k                   |                     | 500v min       | Pass / Fail |
| 6       | 1000          | 1M                     |                     | 1000v min      | Pass / Fail |

#### Insulation Resistance Test – Range 250v / Mohm $\div 2$

| Test No | Test Resistance Mohm | Allowed Limits       | Result      |
|---------|----------------------|----------------------|-------------|
| 7       | INF                  | $\pm 0.5 \text{ mm}$ | Pass / Fail |
| 8       | 100                  | $\pm 0.5 \text{ mm}$ | Pass / Fail |
| 9       | 10                   | $\pm 0.5 \text{ mm}$ | Pass / Fail |
| 10      | 1                    | $\pm 0.5 \text{ mm}$ | Pass / Fail |
| 11      | 0.1                  | $\pm 0.5 \text{ mm}$ | Pass / Fail |
| 12      | 0                    | $\pm 0.5 \text{ mm}$ | Pass / Fail |

#### Insulation Resistance Test – Range 500v / Mohm $\times 1$

| Test No | Test Resistance Mohm | Allowed Limits       | Result      |
|---------|----------------------|----------------------|-------------|
| 13      | INF                  | $\pm 0.5 \text{ mm}$ | Pass / Fail |
| 14      | 100                  | $\pm 0.5 \text{ mm}$ | Pass / Fail |
| 15      | 10                   | $\pm 0.5 \text{ mm}$ | Pass / Fail |
| 16      | 1                    | $\pm 0.5 \text{ mm}$ | Pass / Fail |
| 17      | 0.1                  | $\pm 0.5 \text{ mm}$ | Pass / Fail |
| 18      | 0                    | $\pm 0.5 \text{ mm}$ | Pass / Fail |