

Title: Calibration Of Edgcumbe 33kv Live Conductor Tester OHMS

Scope

Work Instruction for the internal calibration of Edgcumbe 33kV live conductor testers. To be used in the absence of a manufacturers calibration instruction

Preparation

Calibration must be carried out using the HV test enclosure and its associated instruments and equipment.

Voltage reading must be taken referenced to the HV test enclosure digital kV meter, adjusted for FSD setting of 60kV.

Current readings must be taken referenced to Digital Multi Meter, set to ranges as specified below.

Method

- 1.1.1 All calibration results must be entered on the results sheets (see appendix A).
 - 1.1.2 Carry out tests 1 and 2.
 - 1.1.3 Carry out tests 3 and 4 using the live conductor testers dedicated proving unit (if supplied) or proving unit.
 - 1.1.4 Carry out test 5 using DMM set on 200 ohm range and note result.
 - 1.1.5 Select 20mA AC range on DMM and carry out tests 6 – 8, as applicable, using HV test enclosure instruments and equipment and note results.
 - 1.1.6 Select 2mA AC range on DMM and carry out tests 9 – 11, as applicable, using HV test enclosure instruments and equipment and note the results.
 - 1.1.7 Carry out tests 12 to 19 using HV test enclosure instruments and equipment and note the results.
 - 1.1.8 Carry out test 20 and 21 as applicable, calculate impedance and note result.
 - 1.1.9 If phasing stick is included with the tester carry out test 21 and note the result.
 - 1.1.10 Complete the result sheet header and enter Pass / Fail.
- All records must be kept for audit purposes

References

Appendix A Calibration Results for Edgcumbe 33kV Live Conductor Tester

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Appendix A

Calibration Results for Edgcumbe 33kV Live Conductor Tester

Model Serial No
Date Result
Lab Temp / RH Operator
User Location Certificate No

Accuracies quoted are from manufacturer's specifications or relevant British Standard. Safety tests numbers 5 to 11 and tests 20 and 21 are to manufacturer's recommendations as prescribed in EMP204.

Test 1	Is pointer on zero?	Pass / Fail
Test 2	Instrument balance	
	Does pointer remain within $\pm 1\%$ FSD at 45° all planes?	Pass / Fail
Test 3	Using proving unit check free movement of pointer both up and down scale.	Pass / Fail
Test 4	Using the proving unit check instrument deflects to approximately 5kV using HV test output.	Pass / Fail
Test 5	Is continuity of each lead, handle and extension rod bent end adaptor less than 1.5 ohm?	Pass / Fail

Note: Visually check for breakdown of the insulation after each test numbers 6 – 11

Test 6	Radial voltage test – tester resistor pole Apply 39.6kV for one minute. Leakage current =	
	Is leakage current less than 4mA?	Pass / Fail
Test 7	Radial voltage test – phasing rod Apply 39.6 kV for one minute Leakage current =	
	Is leakage current less than 4mA?	Pass / Fail
Test 8	Radial voltage test – extension rod Apply 39.6 kV for one minute Leakage current =	
	Is leakage current less than 4mA?	Pass / Fail
Test 9	Radial voltage test – bent end adaptor Apply 39.6 kV for one minute Leakage current =	
	Is leakage current less than 600uA?	Pass / Fail
Test 10	Leakage current at handle – earth lead connected Apply 39.6 kV for one minute Leakage current =	
	Is leakage current less than 500uA?	Pass / Fail
Test 11	Leakage current at handle – earth lead disconnected Apply 39.6 kV for one minute Leakage current =	
	Is leakage current less than 500uA?	Pass / Fail