

Title: Calibration Of Metrohm PAT D210 / 2 Or Metrotest MPAT / 30 Portable Appliance Tester

Scope

Work Instruction for the internal calibration of Metrohm PAT210 / 2 or Metrotest MPAT / 30 Portable Appliance 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 Test Box.
- 1.2 Constant Voltage Transformer and Variac.
- 1.3 Fluke 8842A DMM.
- 1.4 Clampmeter.
- 1.5 Extension Cable.

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 and 1.2.
- 2.5 Carry out test 3 using a 1.1, 1.2 and 1.5.
- 2.6 Carry out test 4 using item 1.1 and 1.2 and 1.3.
- 2.7 Carry out test 5 using item 1.1 and 1.2.
- 2.8 Carry out test 6 using item 1.4 and 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 Metrohm PAT D210 / 2 or Metrotest MPAT / 30 Portable Appliance Tester

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Appendix A

Calibration Results for Metrohm PAT D210 / 2 or Metrotest MPAT / 30 Portable Appliance 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.

Test 1 Self Earth Test

Plug the PAT tester into mains and connect the earth to appliance lead to the earth of the mains supply. .

Does the PAT tester indicate less than 100 mohm? Pass / Fail

Note: For each of the following, test the supply is taken from the mains via a CVT and Variac, set for an output of 240 volts

Test 2 Insert test box "Plug 1" into PAT tester, 13A socket and connect earth to appliance test lead to TPI on the test box.

Press the continuity push button

Reading =

Actual value of 0.1 ohm load (from history file) =

Does the PAT tester indicate actual value of load resistor $\pm 10\% \pm 1$ digit Pass / Fail

Test 3 Note the test current with 0.1 ohm load.

Is the current $25A \pm 3$ Pass / Fail

Test 4 Insert the test box "plug 5" PAT tester, select the 1000V DC range on the Fluke DMM and connect to the green / black sockets on the test box. Press the Insulation push button.

Is the output voltage between 450V and 550V? Pass / Fail

Test 5 Disconnect the Fluke DMM from test box. Insert test box "plug 2" into PAT tester 13A socket. Press insulation push button. Does PAT tester indicate 2M ohms $\pm 5\% \pm 1$ digit

Pass / Fail

Test 6 Unplug PAT tester from CVT and plug into mains socket outlet. Connect extension cable into PAT tester socket and plug the electric heater into the extension lead socket. Connect the clampmeter around fly lead on extension cable. Press the "run current" push button and note the current readings on clampmeter and PAT tester.

Does the PAT tester indicate within $\pm 10\% \pm 1$ digit of the clampmeter? Pass / Fail