

The 'Touch Leakage' facility is another feature which needs calibrating on Pat's, but is never that obvious how to actually test this function using the 2100 or 3200.

The 'Touch Leakage' is used mainly when checking Class 2 appliances, where normally, if the UUT were a Class 1 appliance, the 'Touch Leakage' test would be replaced by the Earth Leakage test. In other words, the PAT, will measure the current flowing back down the earth lead from the incoming supply

With most Portable Appliance Testers, they will measure the mains voltage at the time of the test and will then calculate what the Earth Leakage/Touch Leakage would be if the mains voltage were at it's maximum. This would be a maximum of 254.4V in the UK (230V +10%)

With Class 2 appliances, there is no conductive earth used on the appliance (as with an electric drill, the mains lead will normally only contain 2 conductors, Line & Neutral)

To carry out the Touch Test with the PAT, the earth bond lead is used whilst connected to the PAT Bond terminal. The mains lead of the UUT is plugged into the PAT and the bond lead is 'Touched' onto various parts of the UUT.

In order to calibrate the PAT on Touch Leakage, using the 2100/3200, we need to be able to introduce a resistance between Line & the Bond lead of the PAT.

A modified mains lead, for the connection of the PAT to the 2100/3200 is needed – to keep things safe!

Taking a standard IEC mains lead, cut the sheath back on the cable and then break the earth conductor only. The PAT 'earthy' end – tape up as this will not be used. The 2100/3200 connection end of the cut earth lead, bare back the insulation – this is where the earth bond probe from the PAT will connect.

The PAT may now be calibrated on Touch Leakage. The 2100/3200 should be set either manually to the leakage current range or automatically using Pro-Cal.

Follow the manufactures instructions as to the exact method for carrying out the Touch Leakage test.

The picture below explains the connections between the 2100 or 3200 PAT Test socket and the UUT. Remembering that the earth lead from the UUT does not want to be connected to the earth pin of the PAT Test socket on the calibrator.

