

## ***Guarantee and service***

Transmille Ltd. guarantees this instrument to be free from defects under normal use and service for a period of 1 year from purchase. This guarantee applies only to the original purchaser and does not cover fuses, or any instrument which, in Transmille's opinion, has been modified, misused or subjected to abnormal handling or operating conditions.

Transmille's obligation under this guarantee is limited to replacement or repair of an instrument which is returned to Transmille within the warranty period. If Transmille determines that the fault has been caused by the purchaser, Transmille will contact the purchaser before proceeding with any repair.

To obtain repair under this guarantee the purchaser must send the instrument **in its original packaging (carriage prepaid)** and a description of the fault to Transmille at the address shown below. The instrument will be repaired at the factory and returned to the purchaser, carriage prepaid.

**Note :**  
**TRANSMILLE ASSUMES NO RESPONSIBILITY FOR DAMAGE IN TRANSIT**

**THIS GUARANTEE IS THE PURCHASER'S SOLE AND EXCLUSIVE GUARANTEE AND IS IN LEIU OF ANY OTHER GUARANTEE, EXPRESSED OR IMPLIED. TRANSMILLE SHALL NOT BE LIABLE FOR ANY INCIDENTAL, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES OR LOSS.**



Transmille Ltd.  
Unit 4, Select Business Centre  
Lodge Road  
Staplehurst  
Kent  
TN12 0QW  
United Kingdom

www.**PATTESTERS**.co.uk



## MODEL 5080 / 6080 PORTABLE APPLIANCE TESTERS

### USER GUIDE



## TABLE OF CONTENTS

<b>Safety and warnings</b>	<b>3</b>
<b>General Description of 5080 &amp; 6080 Portable Appliance Testers</b>	<b>4</b>
Class 1 Appliance Testing	5
Class 2 Appliance Testing	5
<b>Front Panel Controls &amp; Connectors - 5080</b>	<b>6</b>
<b>Front Panel Controls &amp; Connectors - 6080</b>	<b>7</b>
<b>Operating the PATs</b>	<b>8</b>
1: Connecting the appliance	8
2: Select the Earth bond current	8
3: Connect the earth bond clip to the appliance	8
4: Set the mains lead length	8
5: Press the Class 1 or Class 2 test button on the tester.	8
6: Select the Appliance type.	9
7: Visual Check.	9
8: Fuse Test	9
9: Earth Bond Resistance, Insulation Resistance and Leakage Current	9
10: Appliance Label Number	9
11: Viewing Results	9
12: IEC / Extension Lead Testing (Model 6080)	10
13: Self Check Function (Model 6080)	10
14: Fuse Check Function (Model 6080)	10
<b>Recharging</b>	<b>11</b>
<b>Using the PAT Setting Menu</b>	<b>11</b>
New Location Function	11
I.T. Insulation Test Function	11
Appliance List Function	11
<b>5080 Specifications</b>	<b>12</b>
<b>6080 Specifications</b>	<b>14</b>
<b>Guarantee and service</b>	<b>16</b>

## 6080 Specifications (Cont'd)

### Insulation Resistance measurements:

Test Voltage:	Minimum 500V DC.
Measurement points:	From Live/neutral to Earth
Test duration:	5 seconds.
Ranges:	0.1Megohms to 2Megohms & 2Megohms to 100Mohms.
Range selection:	Automatic.
Default Fail Limits:	Automatically selected. Class 1=2Mohms, Class 2=7Mohms.
Accuracy:	3% + 4 digits

### Leakage Current Measurements:

Test Voltage:	230V AC 50Hz.
Measurement points:	From live to 13 Amp socket Earth pin & earth bond clip.
Test Duration:	5 seconds
Range:	0.1mA to 15mA
Resolution:	0.1mA
Default Fail Limits	Automatically selected. Class 1=3.5mA, Class 2=2mA
Accuracy:	3% + 0.2mA
Reference	Reading corrected to 253V (10% high supply)

### Lead Test Limits (20m cable):

100mA Socket (3/6A cable)	: 2.05 Ohms
10A Socket (10/13A Cable)	: 1.23 Ohms
25A Socket (16/25A Cable)	: 0.82 Ohms

### Dimensions:

290mm x 280mm x 110mm. Weight 3.5kgs.

## 6080 Specifications

### Visual Test

Manual Test: Select 'pass/fail' using keys.

### Fuse Test.

Test Voltage: 230V AC, 50Hz  
 Test Duration: 2 seconds  
 Measurement points: Between live and neutral.  
 Minimum Pass: 300uA typical.  
 Display: Red-fail, Green- Pass LED. + LCD display

### Earth Bond resistance measurements:

Test currents: 100mA (IT), 10Amps, & 25Amps.  
 (Nominal into short circuit)  
 Current Selection: Automatic detection from socket used.  
 Measurement points: From clip end of earth bond lead to earth pin on 13A socket.  
 Test duration: 5 seconds  
 Range: 0 to 10 ohms.  
 Resolution: 0.01 ohms  
 Accuracy: 3% of reading + 4 digits.  
 Default Fail Limits: Automatically selected from bond current used & cable length.

<b>25A :</b>	0.1ohm for 1metre Up to 0.2ohm for 5metre
<b>10A :</b>	0.25ohm for 1metre Up to 0.4ohm for 5metre
<b>100mA :</b>	0.5ohm for 1metre Up to 0.75ohm for 5metre

Display: 3 red fail, 5 green pass LED bar graph + LCD

## Safety and warnings

1: For operator safety please read this manual before using the PAT.



### IMPORTANT NOTE

Even though the PATs are battery powered it must be understood that **dangerous voltages** are present on the mains sockets when testing. Appliances which have damaged cables etc. must be failed on the 'visual test', which will prevent the PAT from proceeding to the tests which apply high voltages.

2: Only a competent person with an understanding of PAT testing should use the Transmille range of PATs.

3: The calibration and servicing of the PATs must only be carried out by an Authorised agent, appointed by Transmille Ltd.  
**Unauthorised servicing will invalidate the warranty.**

4: The 5080 & 6080 comply with the safety standard IEC 1010. When using the PATs the operator must take all necessary safety precautions to ensure that there is no risk of shock when testing an appliance. If in doubt about how to safely perform an electrical safety test then advice must be taken before proceeding.

5: Safety markings on the front Panel.



This warning indicates high voltages may be present on the socket(s) of the tester and suitable precautions should be taken.



This marking indicates that the socket(s) on the PAT should only be used for appliance testing in accordance with manufacturer guidelines.

## **General Description of 5080 & 6080 Portable Appliance Testers**

---

Transmille PAT testers offer an easy to use solution for the testing of electrical safety of both Class 1 and Class 2 appliances.

Both models share the same main features of being both easy to use, very portable and battery powered.

The results are displayed both graphically on an easy to read LED bar graph and digitally on a LCD display. The pass/fail limits are scaled automatically from a stored table in the memory based on the type of test (Class 1 or 2) the earth bond current used & the lead length selected.

The results of the test are then saved to the PATs internal memory under the label ID number along with date, earth bond current used and lead length for download to computer later if required.

Software is also available from Transmille for a PC which allows the test results stored in the PAT memory to be easily downloaded for printing and long term storage. In addition to the results the PAT serial number, calibration date and certificate number etc are also downloaded. This allows several PATs to be used with the same software keeping all the results together.

By recording the first and last Label ID number used at each location the address & location information can easily be recorded back in the office.

Reports for different locations can then be viewed and printed as required

## **5080 Specifications (Cont'd)**

---

### **Insulation Resistance measurements:**

Test Voltage:	Minimum 500V DC.
Measurement points:	From Live/neutral to Earth
Test duration:	5 seconds.
Ranges:	0.1Megohms to 2Megohms & 2Megohms to 100Mohms.
Range selection:	Automatic.
Default Fail Limits:	Automatically selected. Class 1=2Mohms, Class 2=7Mohms.
Accuracy:	3% + 4 digits

### **Leakage Current Measurements:**

Test Voltage:	230V AC 50Hz.
Measurement points:	From live to 13 Amp socket Earth pin & earth bond clip.
Test Duration:	5 seconds
Range:	0.1mA to 15mA
Resolution:	0.1mA
Default Fail Limits	Automatically selected. Class 1=3.5mA, Class 2=2mA
Accuracy:	3% + 0.2mA
Reference	Reading corrected to 253V (10% high supply)

### **Dimensions:**

280mm x 230mm x 80mm. Weight 1.9kgs.

## 5080 Specifications

### Visual Test

Manual Test: Select 'pass/fail' using keys.

### Fuse Test.

Test Voltage: 230V AC, 50Hz

Test Duration: 2 seconds

Measurement points: Between live and neutral.

Minimum Pass: 300uA typical.

Display: Red-fail, Green- Pass LED. + LCD display

### Earth Bond resistance measurements:

Test currents: 100mA (IT), 10Amps, & 25Amps.  
(Nominal into short circuit)

Current Selection: Automatic detection from socket used.

Measurement points: From clip end of earth bond lead to earth pin on 13A socket.

Test duration: 5 seconds

Range: 0 to 10 ohms.

Resolution: 0.01 ohms

Accuracy: 3% of reading + 4 digits.

Default Fail Limits: Automatically selected from bond current used & cable length.

<b>25A :</b>	0.1ohm for 1metre Up to 0.2ohm for 5metre
<b>10A :</b>	0.25ohm for 1metre Up to 0.4ohm for 5metre
<b>100mA :</b>	0.5ohm for 1metre Up to 0.75ohm for 5metre

Display: 3 red fail, 5 green pass LED bar graph + LCD

## Tests performed and saved to memory

### Class 1 Appliance Testing

1: Appliance type

2: Visual test

3: Fuse test

4: Earth bond test at either 100mA (IT equipment), 10A or 25A.

5: Insulation resistance test at minimum 500V (option for IT equipment)

6: Leakage test at 230V nominal.

After the tests are completed the label ID number for that appliance is displayed. The results of the test are then saved to the internal memory under the appliance test number along with date, earth bond current used and lead length for download later.

### Class 2 Appliance Testing

1: Appliance type

2: Visual test

3: Fuse test

5: Insulation resistance test at minimum 500V (option for IT equipment)

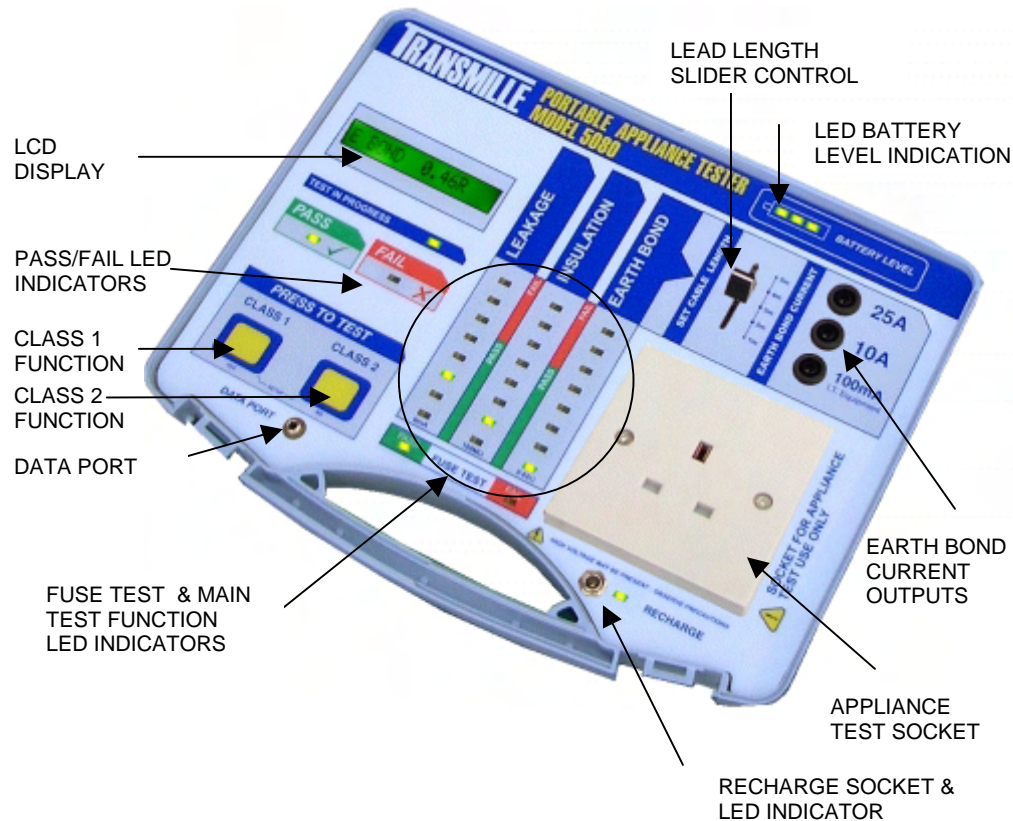
6: Leakage test at 230V nominal.

The results are saved as for a class 1 test.

### 230V / 110V Selection (Model 6080 Only)

The model 6080 PAT allows tests to be performed at either 110V or 230V, depending on the mode selected (see section 'operating the PAT' for details)

## Front Panel Controls & Connectors - 5080



## Recharging

Connect the supplied charger to the recharge socket of the PAT and connect to the mains. A full recharge requires a minimum of 6 hours - it is acceptable to leave the PAT on charge for up to 12 hours (e.g. overnight). The PAT may also be used while connected to the charger.

## Using the PAT Setting Menu

The PAT settings menu can be accessed by pressing both the **Class 1 and Class 2 buttons together** when the PAT is switched off.

The PAT settings menu comprises of the following items :

### SET NEW LOCATION Y/N

This function allows the PAT to store an electronic 'marker' which then allows tests to be displayed in the correct start and end number groups when downloaded to the PC. This useful function removes the need for manual group selection using the download software after downloading data.



If **Y** is selected for the NEW LOCATION function, the PAT will switch off for convenience, ready for testing at the new site.

### INSULATION FOR I.T. Y/N

This function allows the PAT 100mA range (I.T. equipment) to be configured to perform an insulation test. Select **Y** or **N** as required.

### APP. LIST Y/N

This function allows the appliance list displayed at the beginning of each test to be turned on or off – this list is only of use if the PAT tests are to be downloaded to the PC\* and can be turned off if not required.



Pressing both buttons **together** when the PAT is switched **on** will switch the PAT off.

\*Optional PAT download software required

**12: IEC / Ext. Lead Test Function (Model 6080)**

Connect the plug end of the IEC lead into the appropriate 230V / 110V test socket and the IEC connector into the IEC inlet.

Plug earth bond lead into earth bond socket according to cable size (it is not necessary to connect the croc clip end). PAT will default to the 10A range if the earth bond lead is not plugged in.

Set the IEC / Extension lead slider to the length of the lead connected.



For extension leads, use a short IEC mains lead plugged into the extension socket to allow connection to the IEC inlet on the PAT. Ensure the IEC / Ext. lead slider is set to the **length of the extension lead PLUS the mains lead plugged into it.**

Press the test button in the IEC / Ext. Lead test section to proceed with testing the lead.

**13: Self Check Function (Model 6080)**

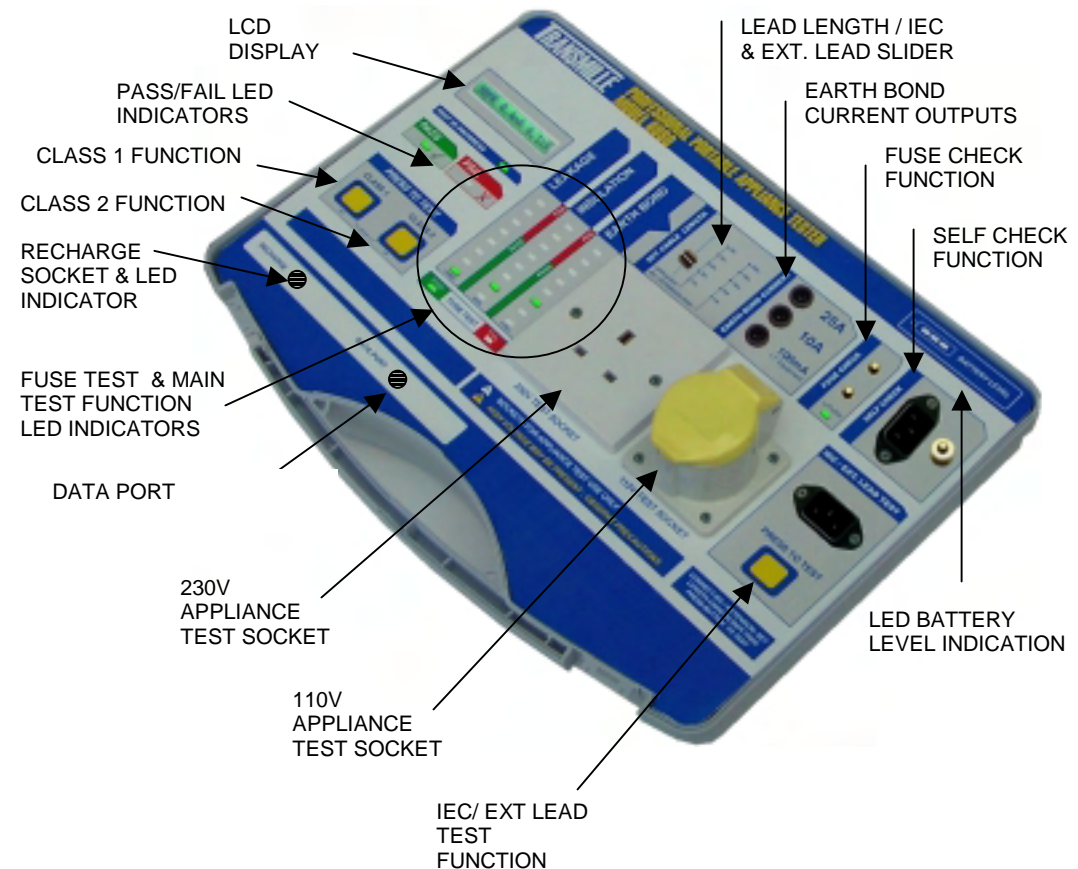
Plug earth bond lead into the 10A socket and clip the opposite end onto the stud terminal in the self check section. Set lead length slider to 1m.

Press Class 1 to begin self check –  
Select any appliance description (if appliance list is displayed)  
Select Y for visual check

Proceed through tests as normal and once testing is complete choose Y to display results - values displayed should be as follows :  
EARTH BOND = **0.10R** • INS RES = **10MR** • LEAKAGE = **<0.01mA**

**14: Fuse Check Function (Model 6080)**

Press a fuse across the studs in the fuse test section.  
The LED will illuminate if fuse continuity is OK

**Front Panel Controls & Connectors - 6080**

## Operating the PAT

### 1: Connecting the appliance

Plug in the appliance to be tested and make sure it is switched on. For the model 6080 plug into appropriate 230V or 110V socket as required (see below for 230V/110V selection).

### 2: Select the Earth bond current

Plug the earth bond lead into the appropriate earth bond current socket on the PAT for the type of appliance to be tested. Note this should be done even for Class 2 appliances.

For example use the 100mA socket for IT , office , audio & video equipment etc typically fitted with 2A fuses, use 10 Amps for appliances with 5A fuses, lights, Power tools etc, and use the 25Amps for appliances fitted with 13A fuses like heaters, kettles etc.

### 3: Connect the earth bond clip to the appliance

Clip the earth bond lead to any metal part of the appliance. For a class 2 appliances with some parts of the case being conductive the appliance could be wrapped in tin foil with the earth bond clip to the foil. Although an earth bond test is not performed on a class 2 appliance, the insulation & leakage test will still detect a fault if there is any connection from live to any part of the outer casing of the appliance.

### 4: Set the mains lead length

Set the slider control on the PAT to the length of the appliance mains lead.

### 5: Press the Class 1 or Class 2 test button on the tester.

For the model 6080 **press and release for 230V** test or **press and hold for 1 second to select 110V**. Check battery indicator (recharge if necessary).

### 6: Select the Appliance type.

The LCD displays a list of appliance types; use the 'NO' (class 2) key to scroll round the list. Use the 'YES' (class 1) key to select when the correct type is displayed.

### 7: Visual Check.

VISUAL CHECK OK Y/N

The LCD display prompts for either a 'PASS' – select with the 'YES' (class1) Key or 'FAIL' using the 'NO' (Class 2) key.

### 8: Fuse Test

FUSE TEST - PASS

The fuse test checks for continuity between the live and neutral lines.

If the fuse test fails check the appliance is switched on and the fuse is OK, then use the retry option.

RE-TEST Y/N

Note : Some appliances will always fail this check, in which case select Y to the ignore fuse check.

IGNORE FAIL Y/N

### 9: Earth Bond Resistance, Insulation Resistance and Leakage Current

These tests will run automatically in sequence displaying the results on the LED indicators.

EARTH BOND PASS

INS RES PASS

LEAKAGE PASS

### 10: Appliance Label Number

APP. NUMBER XXXXXXXX

On completion of the tests, the PAT displays the label number to attach to the appliance. The results for this test will be stored against this label number.

### 11: Viewing Results

VIEW RESULTS (Y/N)

To see the measured values on the LCD display, choose YES when the Show Results message is displayed. Note : this message is only displayed for 2 seconds.