

# PAT4E

## Portable Appliance Testers



- **Fast Testing**
- **Tests 230 V equipment.**
- **Tests I.T. equipment.**
- **Tests Three Phase Equipment**
- **Full European Test capabilities**
- **Tests to VDE NEN etc**
- **Full QWERTY keyboard**
- **10-Year Real Time Clock**
- **Integral Database**
- **Integral Parallel Printer Port**
- **RS232 Communication**

### DESCRIPTION

PAT4E speeds testing by working the way you work. It is quick to start, test, download and upload. Full Appliance and Client details are stored along with test results. New Appliances may be added as and where you find them.

The combination of Quick Boot, Auto Restart, Real Time Clock, Group Test Codes, Quick Check and Instant Certification will save you up to 50% of your time, resulting in increased efficiency, improved productivity and increased profits for your company compared to other testers.

PAT4 is engineered to maintain data integrity and traceability with storage for up to 1000 assets, 1000 sets of current test results, 1000 sets of historical test results, 10 clients, 20 locations and 50 group test codes at the same time.

PAT4 is designed to minimise the time taken to test electrical appliances.

#### **Boots up in 5 seconds!**

Some pats take 30 seconds or more to start up, time that could be used carrying out tests. PAT4 quick boots in only 5 seconds.

#### **Auto restart facility!**

You need to move your pat as you test appliances. PAT4E auto-restart returns you to the point you were at when you switched off, in only 5s.

#### **Clock set for 10 years!**

No need to set the clock every time you restart PAT4E. PAT4's real-time clock has a life expectancy of ten years.

Each test is time and date stamped to provide traceability.

#### **Plain & Simple Operation!**

The PAT4 has a full QWERTY keyboard for rapid data entry.

#### **No complicated test codes!**

Many pats use complicated codes to control test routines. PAT4 uses group test codes in plain English that define test routines, test duration and pass bands.

#### **Direct entry of new details!**

PAT4 allows you to enter new appliance and repair details directly into memory, complete with location, description and group test code. All details may be downloaded with AVO Download Manager software which is included with the PAT4E. Data may be viewed, printed or exported to other Windows™ applications. The optional AVO Form Filling software may be utilised to create professional certificates of test.

#### **Built in Fuse Check!**

If you suspect a blown fuse you no longer need a multimeter. PAT4E has a built in fuse checker.

### QUICK CHECK

When repairs have been completed, PAT4E will carry out a single test to check the effectiveness of the repair.

## USER SELECTABLE TEST DURATION

To prevent test results varying because of different test duration, you can set the test duration for each test.

## OPTIONAL USER DEFINED ACCESS

PAT4E gives you options to restrict access to the operation of the instrument for up to 10 authorised users. Each user can be allocated their own name and password.

## REPAIR CODES

PAT4 can reference up to 99 repair codes allowing you to quickly record repair details against appliance tests.

## DEGRADATION WARNING

PAT4 incorporates a historic data facility, which enables previous test results, uploaded from AVO form filling software, to be viewed at the time of testing. This enables you to identify degradation in the appliance since its last test.

## AUTO OR MANUAL MODE

Pass / Fail decisions can be made manually or you can set limits for each test and let PAT4 make the decision based on the measurement.

## SEARCH ROUTINES

Powerful in-built search routines allow you to search PAT4's database by Asset ID, Retest due date, Test Group Code, by Room within Location and by Location within Client.

## CLIENTS AND LOCATIONS

PAT4 uniquely holds details of Clients and Locations. Unique Appliance Ids and details are held separately for each client. Thus, appliances may be tracked easily if they move between locations.

## ON SITE CERTIFICATION

Parallel printers, bar code readers and PC downloads are all supported by PAT4. Test data may be downloaded to PCs for certification, or printed on site immediately after testing for instant certification. All reports can be personalised to show your company details.

## MULTI LANGUAGE OPERATION

PAT4E can be configured to operate in English, French, German and Dutch.

## SPECIFICATIONS

### Circuit Test

#### Open Circuit Voltage:

12 V. p - p typical

#### Short Circuit Current:

200 mA. a.c. typical

#### Indications:

Open circuit, OK, Short circuit.

### Insulation Test

#### Range:

0 - 50 M $\Omega$

#### Accuracy:

5.0%  $\pm$  100 k $\Omega$

#### Compliance:

500 V. d.c. at 0.5 M $\Omega$

#### Pass Band Options:

0.25 M $\Omega$ , 0.3 M $\Omega$ , 0.5 M $\Omega$ , 1.0 M $\Omega$ , 2.0 M $\Omega$ , 7.0 M $\Omega$ , 10 M $\Omega$ , 20 M $\Omega$

### Earth Continuity Test

#### Range:

0 m $\Omega$ - 999 m $\Omega$	Resolution 1 m $\Omega$
1.00 $\Omega$ - 9.99 $\Omega$	Resolution 10 m $\Omega$

#### Accuracy:

5.0%  $\pm$  10 m $\Omega$

#### Test Voltage:

4 V d.c. typical

#### Test Current:

200 mA short circuit (typical)

#### Pass Band Options:

100 m $\Omega$ , 300 m $\Omega$ , 500 m $\Omega$ , 750 m $\Omega$ , 1.0  $\Omega$ , 1.5  $\Omega$ , 2.0  $\Omega$ , 5  $\Omega$

### Operation Test

#### Range:

0 - 3.0 kVA

#### Accuracy:

0 <VA >99 VA	5.0% $\pm$ 5 VA
100 <VA >999 VA	5.0% $\pm$ 10 VA
1.0 <kVA >3.0 kVA	5.0% $\pm$ 100 VA

#### Reference:

Reading corrected to 230 V

#### Pass Band Options:

50 VA, 200 VA, 500 VA, 1000 VA, 1500VA, 2000 VA, 2500 VA, 3000 VA.

### Differential Earth Leakage Test (IDIFF)

#### Range:

0 - 15 mA

#### Accuracy:

5.0%  $\pm$  100  $\mu$ A

#### Reference:

Reading corrected to 253 V

**Pass Band Options:**

0.25 mA, 0.5 mA, 0.75 mA, 1.0 mA, 3.5mA,  
7.0 mA, 10 mA, 15 mA, 1.5, 2.0, 2.5,  
3.0 mA

**Earth Leakage by Substitute Discharge method (IPE)**

**Range:**

0 - 15 V mA

**Test Voltage:**

40 V rms (50Hz) (Typical)

**Accuracy:**

5.0% ±100 µA

**Reference:**

Reading corrected 253 V

**Pass Band Options:**

0.25 mA, 0.5 mA, 0.75 mA, 1.0 mA,  
3.5 mA, 7.0 mA, 10 mA, 15 mA

**Earth Leakage Test Absence of potential method (IF)**

**Range:**

0 - 2.5 V

**Accuracy:**

5.0% ±100 µA

**Pass Band Options:**

0.1 mA, 0.25 mA, 0.5 mA, 0.75 mA,  
1.0 mA, 1.5 mA, 2.0 mA, 2.5 mA

**Fuse Test**

**Test Voltage:**

5 V d.c. typical

**Test Current:**

500 µA short circuit typical

**Indication:**

Audible using internal bleeper

**Extension Lead test**

**Test Voltage:**

5V d.c. typical

**Test Current:**

1 mA short circuit typical

**Indication:**

Lead short circuit (Phase to Phase)

Lead open circuit (Phase to Phase)

Live / Neutral transposed

Lead OK

RPE test and RISO test follow OK condition

**On Board Database Specifications**

Clients 10

Locations 20

Test Groups 50

Users 10

Appliances

1000 with the following data fields:

ID, description, group, serial no, room, VA rating, last and next test dates, retest frequency and fuse rating

**Supply Voltage**

**Mains Supply:**

207 - 253 V 50 Hz

**Communications**

9 way male 'D' RS232 connector: Interface to PC and optional Bar Code Scanner

**25 way female 'D' connector:**

Connection to parallel printer

**Safety Specifications**

The PAT4 complies with BSEN 61010-1:1990

**Electromagnetic Compatibility**

In accordance with IEC 61325 including amendment No.1

**Physical Specifications**

**Weight**

(unpackaged inc. std. accessories):

5.0 kg

**Width (Including Handle and Lid)**

375 mm

**Depth** 330 mm

**Height** 200 mm

**ORDERING INFORMATION**

Item	Order Code	Item	Order Code
Portable Appliance Tester	PAT4 E	<b>Optional Accessories</b>	
<b>Included Accessories</b>		Bar Code Scanner 72mm	6231-623
User Guide	6172-442	PAT Testing Labels	6171-418
Mains Lead (230 V. 16 A.)	6121-282	Results Printer	25995-017
Crocodile Clip (Red)	6280-283	Self Adhesive Label roll for 6220-665	25995-016
Crocodile Clip (Black)	6280-284	Plain Paper rolls for 6220-665	10005-265
Test Probe (Red)	6220-529	Parallel Printer Lead	25970-024
Test Probe (Black)	6220-530	Certification Software	
Test Lead (Red)	6220-569		
Test Lead (Black)	6220-570		
Test Probe Hook (Red)	6220-582		
Test Probe Hook (Black)	6220-573		
Serial PC Download Lead	25955-025		

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**PAT4E\_DS\_en\_V10**

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