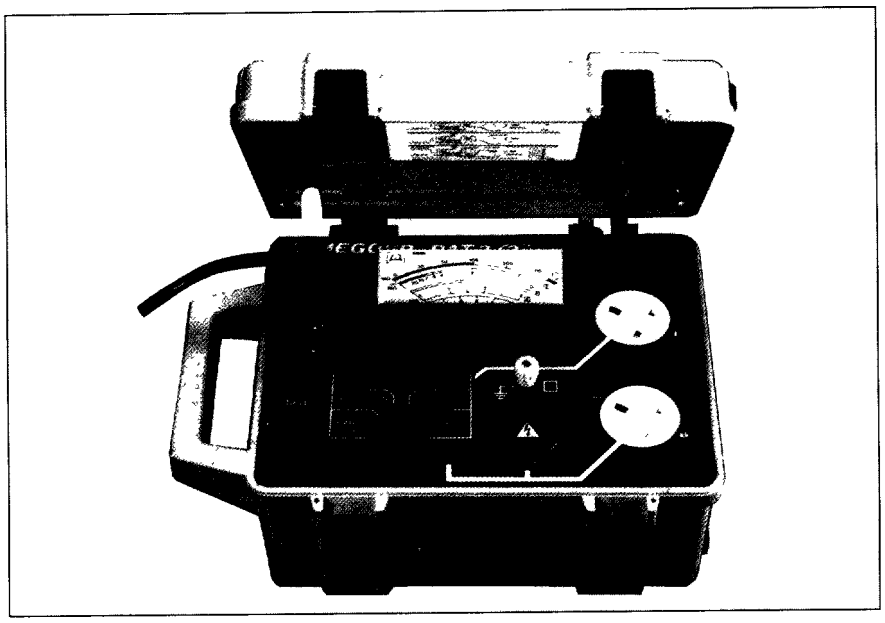
253-108



MEGGER®
PAT2/2

- **Periodic safety testing of appliances in the place where they are used**
- **Regular safety testing of appliances for hire, repair and resale**
- **Designed for easy use by nonspecialist personnel**

Portable Appliance Tester

DESCRIPTION

The MEGGER® PAT2/2 Portable Appliance Tester is used worldwide for checking the electrical safety of portable appliances. The tests are simple to carry out, and the instrument is easy to operate It performs five tests on an appliance

- Earth Bond test (1)
- Insulation test (2)
- Load test (3)
- Operation test (4)
- Flash test (5)

The appliance to be checked simply plugs into a standard socket on the instrument's front panel. The tests are applied via the socket, with additional connections being made for earth bond, insulation and flash tests as required, using a clip or probe provided with the instrument

The tests, which are clearly numbered in order, are made simply by pressing the TEST switch. The readings from the five tests are shown on an analogue meter, the scales of which are marked with green areas as well as the calibration. This gives a quick indication of a test pass or failure and allows proper records of the test results to be kept These records are necessary as part of an appliance's safety monitoring programme

The PAT2/2 is a very robust, reliable appliance tester constructed in a strong plastic case with a moulded carrying handle and a hinged, detachable lid. Fitted to the lid is an accessory pouch containing the test clip and probes A simple diagrammatic instruction card is attached to the inside of the lid for quick reference.

Test Sequence

The rotary switch selected tests should be performed in order, starting with EARTH BOND 1 for earthed appliances For appliances with double insulation, the earth bond test is omitted and the sequence starts with INSULATION 2.

EARTH BOND 1 — This is for testing the earth lead continuity and earth connection to the metal casing of an appliance. The voltage (6 V a.c r.m.s on open circuit) is established between the appliance mains plug earth pin and the appliance case by the earth bond clip supplied. The required test current flows when the TEST switch is pressed. This test is only required for earthed appliances (Class I).

INSULATION 2 — The insulation test voltage of 500 to 600 V d.c. is established either between the appliance mains plug pins or between these pins and the insulation/flash probe socket. This is the first test required for double insulated appliances (Class II).

LOAD 3 — The appliance is supplied with power in the normal way, but at a reduced voltage of 6 V a c This is essentially a pretest of the appliance operation, designed to assess performance without the problems of high current being drawn, which may cause damage to the appliance or the tester.

OPERATION 4 — This simply tests the appliance under normal running conditions and measures the kVA being consumed for comparison against the intended rating This test allows the functioning of the appliance to be checked before it is returned into service A 6 A resettable circuit breaker gives protection to the appliance and tester if overload conditions occur.

FLASH 5 — The high flash test voltage for earthed appliances is applied in the same way as for the insulation test. The higher voltage of 3 kV is applied via the probe and is for flash-testing double insulated appliances The short circuit current is limited to 5 mA in all cases for operator safety

APPLICATIONS

The PAT2/2 will check the safety of earthed appliances (i e., BS and IEC Safety Class I) and double insulated appliances (i.e., BS and IEC Safety Class II), symbol mark ☐ These include domestic electrical appliances, portable electrically powered tools, office equipment, etc

Spheres of use for the PAT2/2 are:

- Periodic tests of equipment used in factories, local education authorities, local authorities, hospitals, etc.
- Routine tests before and after hiring electrical equipment
- Basic tests following equipment repair
- Tests prior to dispatch of equipment by manufacturers or distributors

The instrument may be used to test equipment originally designed to the following specifications: BS 415, BS 2769, BS 3456/IEC 335-1, BS 4533 and BS 7002.

The type of approval tests required by British Standards vary to some extent, but they generally specify both an environmental and an electrical stress of the appliance. The PAT2/2 is designed to allow electrical safety tests to be reapplied to an appliance at regular intervals. The tests involve stressing the electrical protection of the appliance, and the degree of stress that should be given depends on how frequently the test is done

SPECIFICATIONS

Tests Available

EARTH BOND [1] INSULATION [2]
LOAD [3] OPERATION [4] FLASH [5]

Earth Bond Test

Meter Reading Range 0 to 500 mΩ

Pass Band Limit: 100 mΩ

Open Circuit Voltage: 6 V a.c r.m s (nominal)

Short Circuit Current: 38 A (nominal) (At 100 mΩ, current is 25 A nominal.)

Insulation Test

Meter Reading Range: 0,75 to 20 MΩ and ∞

Pass Band Limits: 2,4 and 7 MΩ

Open Circuit Voltage: 630 V d.c. (nominal) (At 2 MΩ, voltage is 500 V d c. nominal.)

Short Circuit Current: 1.3 mA (nominal)

Load Test

Meter Reading Range: Shaded green/green outline/black outline

Open Circuit Voltage: 6 Va c r.m s. (nominal)

Short Circuit Current
330 mA (nominal for 220 to 240 V supply)
700 mA (nominal for 110 to 120 V supply)

Operation Test

Meter Reading Range: 0 to 3 kVA

Output Voltage: Supply voltage

Output Current: Limited by protective trip to 6 A and by fuse to 12,5 A

Flash Test

Meter Reading Range: 0 to 5 mA

Output Voltages
1,5 kVa c r m.s. (nominal) for Class I
3 kVa.c. r.m.s. (nominal) for Class II

Short Circuit Output Current: Limited to 5 mA max. for Class I and Class II

Supply Voltage

Mains power supply, dependent on model Voltages, currents and meter deflections are affected in direct proportion to supply voltage variations. Supply voltage variations ±6% in the United Kingdom

Temperature Range

Operation: –5 to +50° C

Storage: –40 to +70° C

Humidity Range

Operation: 90% RH at 25° C

Safety

The instrument will, in general, meet the requirements of BS 4743 (1979), IEC 348 (1978) and IEC 1010-1 (1990).

Fuse

12,5 A ceramic HBC, 32 x 6 mm

Dimensions

245 H x 344 W x 192 D mm
9,6 H x 13,25 W x 7,25 D in approx

Weight

6 kg (13,25 lb approx)

This instrument is manufactured in the United Kingdom The Company reserves the right to change the specification or design without prior notice AVO and MEGGER are registered Trade Marks of AVO MEGGER INSTRUMENTS LIMITED This data uses the comma as the decimal marker to align with general European usage

ADDITIONAL SPECIFICATIONS

CAT. NO.	Territory of Use	Nominal Mains Supply Voltage	Appliance-Connecting Socket Fitted	Graphics Language
PAT2/2 UK240	United Kingdom	240 V, 50 Hz	BS 1363 13 Amp	English
PAT2/2 UK110	United Kingdom	110 V, 50 Hz	BS 4343/CEE17	English
PAT2/2 NA120	Canada and USA	120 V, 60 Hz	ANSI	English
PAT2/2 EUR220	Finland, Netherlands, Portugal, Spain, Sweden	220 V, 50 Hz	CEE7 Sheet IV	English
PAT2/2 UK220	Republic of Ireland	220 V, 50 Hz	BS 1363 13 Amp	English
PAT2/2 F220	France and Belgium	220 V, 50 Hz	CEE7 Sheet VI	French
PAT2/2 NZ230	New Zealand	230 V, 50 Hz	AS C 112 10 Amp	English
PAT2/2 UK230	Nigeria, India, Bahrain, Abu Dhabi, Singapore, Pakistan	230 V, 50 Hz	BS 13 Amp (Flat Pin)	English
PAT2/2 SA230	South Africa	230 V, 50 Hz	BS 15 Amp	English
PAT2/2 AUS240	Australia	240 V, 50 Hz	AS C 112 10 Amp	English

ORDERING INFORMATION

Item (Qty)	Cat. No.
Portable Appliance Tester	PAT2/2*
Included Accessories	
Earth bond test lead with crocodile clip	6231-043
Flash test lead with retractable tip probe	6420-061
Accessory pouch, PVC	6420-035
Operating instruction book	6171-505
Optional Accessories	
Safebloc adaptor lead	6331-230
Earth bond probe, EP1	6320-225

Item (Qty)	Cat. No.
Accessory pouch, leather	6430-193
Appliance safety log book, complete	6131-813
Test sheets for log book (pk of 30)	6171-417
Test stickers for log book (pk of 72)	6171-418
Opening learning course, "Electricity in the Workplace and Portable Appliance Testing"	6131-883
Video on portable appliance testing	6131-983

*For specific tester ordering information, refer to Additional Specifications table.

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