PAT300 series
Portable appliance testers



- **Simple manual or automatic testing**
- **230 V and 110 V operation**
- **Bond testing at 25 A,10 A and 200 mA**
- **Differential, touch and substitute leakage testing**
- **Full colour display**
- **Tests portable RCDs and extension leads**

DESCRIPTION

An easily portable desktop appliance tester for testing the safety of portable electrical equipment to meet health and safety regulations. The PAT300 series are fully featured testers with dedicated test buttons for direct access to tests. They are designed for customers who do not require the complexity of fully configurable data-based client/results facilities within the tester, but do need a complete range of functions to allow automatic or manual testing of the widest range of electrical assets. There are two products in the range – the PAT320 and the PAT350. The PAT350 is identical to the PAT320, with the addition of flash-test capability for use in environments such as manufacturing/production or tool-hire shops.

Simple push-button operation make the PAT300s fast and intuitive in use. All regulatory test requirements are supported, including Class I and Class II; IEC power leads; extension leads and full tests for portable RCDs. An automatic mode is available for Class I and Class II testing. In automatic mode, the tests proceed sequentially through bond, insulation and operation, indicating a pass or fail at each test. If a fail occurs, testing is stopped. When manual testing, each test is preceded by a selection screen where the test parameters are selected, such as bond test current, insulation test voltage or leakage test type. These diagnostic buttons provide direct access to any test individually, allowing single tests to be performed following repair or a suspect result.

Accessories supplied with all models include extension lead adaptors to allow testing of IEC power leads and extension leads, and a carry-case for convenient product and lead storage.

APPLICATIONS

There is a legal requirement for any landlord, employer or owner of a place of work or public place, to ensure that all electrical equipment accessible by tenants, employees or the public is maintained in a safe condition, and an acceptable method of ensuring this is by routine electrical testing. This can be performed by electrical contractors, specialist PAT testing organisations, maintenance departments, or facilities management companies.

The PAT300 range is suitable for performing portable appliance testing in locations such as hotels, public houses, schools, colleges, nurseries, shops, offices, theatres, banks, restaurants, cafés, sports and leisure facilities, cinemas, factories and hair salons etc. The PAT350 is suitable for use in tool-hire shops where equipment is routinely tested prior to hire, and will perform a flash test in addition to standard PAT tests.



SPECIFICATIONS

Electrical supply range

230 V a.c. 230 V a.c. ± 10%
110 V a.c. 110 V a.c. ± 10%

Supply measurement
Voltage: ± 2% ± 1 V
Frequency: ± 1% ± 0.1Hz

Bond test

Open circuit voltage: 9 V a.c. ± 10% ± 0.1 V (Supply: 230 V 50Hz)
10 A Bond test current:
10 A rms ±5% ± 0.5A into 0.1 Ω
25 A Bond test current:
25 A rms ± 5% ± 0.5 A into 0.1 Ω
Earth bond resistance accuracy:
±5% ±3 digits (0 to 0.49 Ω)
±5% ±5 digits 0.5 to .99 Ω)
Earth bond resistance resolution:
10 mΩ (0 to 1.99 Ω)
Display range: 0 to 1.99 Ω
Bond test nulling: Up to 1.00 Ω
Adjustable test duration:
User selectable from 1 sec to 20 sec

Continuity test

Note:
The continuity test is a DC test performed automatically in both positive and negative directions. The average of the two results is shown.
Continuity test voltage:
4.0 V d.c. -0% +10% (open circuit)
Continuity test current:
200 mA -0% +10% ±5 mA (into 2 Ω load)
Continuity resistance accuracy:
±5% ±3 digits (0 to 0.49 Ω)
±5% ±5 digits 0.5 to .99 Ω)
Continuity resistance resolution:
10 mΩ (1 to 19.99 Ω)
Display range: 0 to 19.99 Ω
Continuity test nulling:
up to 9.99 Ω
Test duration: User selectable from 1 sec to 20 sec

Insulation test

Insulation test voltage:
250 V d.c. –0%/+25% open circuit
500 V d.c. –0%/+25% open circuit
(500 V d.c. across 0.5MΩ)
Insulation resistance accuracy:
±2% ±5 digits (0 to 19.99 MΩ)
±5% ±10 digits (20 to 99.99 MΩ)
Insulation resistance resolution:
0.01 MΩ (0.10 to 99.99 MΩ)
Display range: 0 to 99.99 MΩ
Test duration: User selectable from 1 sec to 1 minute

Substitute leakage test

Test voltage: 40 V a.c. ±10%
Test frequency: Nominal mains 50/60Hz
Leakage current accuracy: ±5% ±5 digits
Leakage current resolution: 0.01 mA
Display range: 0 to 19.99 mA
Test duration: User selectable from 1 sec to 1 minute
Reading corrected to 230 V + 10% or 110 V + 10% a.c.

Differential leakage current

Test voltage: Nominal mains 110/230 V a.c.
Test frequency: Nominal mains 50/60Hz
Differential leakage current accuracy:
±5% ±5 digits
Differential leakage current resolution:
0.01 mA
Display range: 0 to 19.99 mA

Reading corrected to 230 V + 10% or 110 V + 10% a.c.

Touch current test

Test voltage: Nominal mains 115/230 V a.c.
Test frequency: Nominal mains 50/60Hz
Touch current accuracy: ±5% ±5 digits
Touch current resolution: 0.01 mA
Display range: 0 to 10 mA
Test duration: User selectable from 1 sec to 5 sec

Reading corrected to 230 V + 10% or 110 V + 10% a.c.

Operational test

Test voltage: Nominal mains 110/230 V a.c.
Accuracy: ±5% ± 10 digits (0 to 99 VA)
±5% ±50 digits (100 VA - 999 VA)
±5% ±100 digits (1000 VA - 3700 VA)
Resolution: 1 VA (0 to 3700 VA)
Display range: 0 to 3.99 KVA
Reading corrected to 230 V or 110 V a.c.
Results show load VA

Extension lead test

Test includes insulation and bond tests.
Polarity test voltage: 12 V
Polarity: Lead OK
Live neutral S/C
Live neutral reversed
Live/neutral O/C

Flash test

Flash test voltage: 1500 V a.c nominal for Class 1
3000 V a.c nominal for Class 2
Flash test current: < 3.5 mA short circuit @ 253 V primary supply voltage

Flash test breakdown current accuracy: ±5% ±5 digits
Flash test breakdown current resolution: 0.01 mA
Display range: 0 to 3.0 mA
Test duration: User controlled

Portable RCD test

RCD test voltage: Nominal mains 110/230 V
RCD test frequency: 50Hz
Test current accuracy: -8% to –2% (½ x I)
+2% to +8% (1 x I, 5 x I)
Trip time accuracy: ±1% ±5 digits
Trip time resolution: 0.1 ms
Display range: 0 to 1999 ms (½ x I)
0 to 300 ms (1 x I)
0 to 40 ms (5 x I)

Fuse test

Test voltage: 3.3 V
Warning: Audible beep if fuse is OK

Safety

PAT300 series meet the requirements of IEC 61010-1: 2001
Test leads meet the requirements of IEC 61010-031: 2002
Creepage and clearances for 300 volts to Earth Category II

ORDERING INFORMATION

Product	Order Code
PAT320-UK 110 V and 230 V	1000-740
PAT350-UK 110 V and 230 V and Flash Test	1000-743
Included accessories for PAT320	
Carry case	
Continuity/earth bond lead	2000-870
Extension lead adaptor BS1363	2000-881
Included accessories for PAT350	
Carry case	
Continuity/earth bond lead	2000-870
Extension lead adaptor BS1363	2000-881
Flash test lead	5310-401

Product	Order Code
Optional accessories	
110 V mains lead adaptor	1000-766
Plug adaptor IEC C6 - C13	2000-551
110 V Extension lead adaptor	6220-639
415 V adaptor lead (4-pin) to BS1363 (16 A)	1000-767
415 V adaptor lead (5 pin) to BS1363 (16 A)	1000-770

UK
Archcliffe Road Dover
CT17 9EN England
T +44 (0) 1304 502101
F +44 (0) 1304 207342
UKsales@megger.com

UNITED STATES
4271 Bronze Way
Dallas TX 75237-1019 USA
T 800 723 2861 (USA only)
T +1 214 333 3201
F +1 214 331 7399
USsales@megger.com

OTHER TECHNICAL SALES OFFICES
Valley Forge USA, College Station USA, Sydney AUSTRALIA, Täby SWEDEN, Ontario CANADA, Trappes FRANCE, Oberursel GERMANY, Aargau SWITZERLAND, Kingdom of BAHRAIN, Mumbai INDIA, Johannesburg SOUTH AFRICA, Chonburi THAILAND

CERTIFICATION ISO
Registered to ISO 9001:2000 Cert. no. Q 09290
Registered to ISO 14001-1996 Cert. no. EMS 61597

PAT300_DS_EN_V01
www.megger.com
Megger is a registered trademark