

Fluke 6200-2/6500-2 Portable Appliance Testers

Technical Data



Perform more tests each day

The low weight, small size, one-touch solution.

The Fluke 6200-2 and 6500-2 PAT testers are low weight, small size, one-touch solutions with redesigned auto-test capabilities to help you increase the number of portable appliance tests completed each day. The 6200-2 and 6500-2 are designed to enable you to work faster without compromising safety—yours or your customer's.

Fluke simplifies portable appliance testing

- Dedicated key for each test for 'one-touch' testing
- Pre-set pass/fail levels to save time
- Large backlit display for easy reading
- Single mains socket for appliance connection
- Separate IEC socket for easy mains/extension lead testing
- Detachable test leads for quick field replacement
- Integral carrying handle
- USB port for printing

The Fluke 6500-2 delivers all of this capability, plus:

- Integral QWERTY keyboard for rapid data entry
- USB flash drive capability for storage and transfer to PC
- Large backlit graphic display
- Pre-set, auto-test sequences for user convenience
- Integral site, location and description codes for faster data processing
- Memory review facility for more on-site control



Test specifications

The accuracy specification for the display range is defined as $\pm(\% \text{reading} + \text{digit counts})$ at 23 °C ± 5 °C, ≤ 75 % RH. Between 0 °C and 18 °C and between 28 °C and 40 °C, accuracy specifications may degrade by 0.1 x (accuracy specification) per °C.

The measurement range meets the service operating errors specified in EN61557-1:

1997, EN61557-2: 1997, EN61557-4: 1997, EN61557-6: 1997, DIN VDE0404-2.

Power-on test	The test indicates reversed L-N, missing PE, and measures the mains voltage and frequency. Display range: 90 V to 264 V Accuracy at 50 Hz: $\pm (2\% + 3 \text{ counts})$ Resolution: 0.1 V (1 V - model 6200) Input impedance $> 1 \text{ M}\Omega // 2.2 \text{ nF}$ Maximum input mains voltage: 264 V
Earth bond test (R_{pe})	Display range: 0 to 19.99 Ω Accuracy (after Bond Test zeroing): $\pm (2.5\% + 4 \text{ counts})$ Resolution: 0.01 Ω Test current: 200 mA AC -0 % +40% into 1.99 Ω 25 A AC $\pm 20\%$ into 25 mΩ at 230 V Open circuit voltage: $> 4 \text{ V AC}$, $< 24 \text{ V AC}$ Bond test zeroing: Can subtract up to 1.99 Ω
Insulation test (R_{iso})	Display range: 0 to 299 MΩ Accuracy: $\pm (5\% + 2 \text{ counts})$ from 0.1 to 300 MΩ Resolution: 0.01 MΩ (0 to 19.99 MΩ) 0.1 MΩ (20 to 199.9 MΩ) 1 MΩ (200 to 299 MΩ) Test voltage: 500 V dc -0 % +25 % at 500 kΩ load or (6500-2 only) 250 V dc -0 % +25 % at 250 kΩ load Test current: $> 1 \text{ mA}$ at 500 kΩ load, $< 15 \text{ mA}$ at 0 Ω Auto discharge time: $< 0.5 \text{ s}$ for 1 μF Max. capacitive load: Operational up to 1 μF
Touch current test	Display range: 0 to 1.99 mA AC Accuracy: $\pm (4\% + 2 \text{ counts})$ Resolution: 0.01 mA Internal resistance (via probe): 2 kΩ Measuring method: Probe The appliance under test is energized at mains potential.
Substitute leakage current test	Display range: 0 to 19.99 mA AC Accuracy: $\pm (2.5\% + 3 \text{ counts})$ Resolution: 0.01 mA Test voltage: 100 V AC $\pm 20\%$
Load/Leakage Test: Load current	UK Display range: 0 to 13 A Accuracy: $\pm (4\% + 2 \text{ counts})$ Resolution: 0.1 A The appliance under test is energized at mains potential. AU Display range: 0 A to 10 A Accuracy: $\pm (4\% + 2 \text{ counts})$ Resolution: 0.1 A The appliance under test is energized at mains potential.
Load/Leakage test: Load power	Display range: 230 V mains UK 0.0 VA to 3.2 kVA AU 0.0 VA to 2.4 kVA Accuracy: $\pm (5\% + 3 \text{ counts})$ Resolution: 1 VA (0 to 999 VA), 0.1 kVA ($> 1.0 \text{ kVA}$) The appliance under test is energized at mains potential.
Load/Leakage test: Leakage current	Display range: 0 to 19.99 mA Accuracy: $\pm (4\% + 4 \text{ counts})$ Resolution: 0.01 mA The appliance under test is energized at mains potential.
PELV test	Accuracy at 50 Hz: $\pm (2\% + 3 \text{ counts})$ Overload protection: 300 V rms Warning threshold: 25 V rms

RCD Test: Trip Current (6500-2 only)	Operational error	±10 %
	Nominal	30 mA
	Accuracy	±5 %
RCD Test: Trip Time (6500-2 only)	Standard requirement	61557 Part 6; tolerance of rated test current 0 % to +10 %
	Operational error	±10 %
	RCD type	AC General-Purpose 30 mA
	Display range	310 ms
	Resolution	0.1 ms
	Accuracy	3 ms
	Trip time limit at 100 % (30 mA)	300 ms
	Trip time limit at 500 % (150 mA)	40 ms

Environmental specifications

Operating temperature	0 to 40 °C
Relative humidity	Non condensing < 10 °C 95 % from 10 to 30 °C 75 % from 30 to 40 °C

Safety specifications

Safety rating	Complies with EN61010-1 3rd edition CAT II, 300 V, pol 2 German version only: DIN VDE0404-1 and DIN VDE0404-2 IEC/EN 61557, part 1, 2, 4, 6, 10 CAT II, 300 V, pol 2
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Mechanical and general specifications

Size (LxWxH)	200 mm x 275 mm x 114 mm
Weight	3.13 kg
Power supply	230 V +10 % -15 %, 50 Hz ±2 Hz or (6500-2 only: 110V +10 % -15 %, 50 Hz ±2 Hz)
Power consumption (Tester)	13 W typical (idle) 60 W max. during 25A Bond Test
Storage	Temperature: -10 °C to 60 °C Corrosion: 70 °C @ 95 % RH for 5 days max.
Operating altitude	0 up to 2000 m
Sealing	IP-40 (enclosure), IP-20 (connectors)
EMC	Complies with EN61326-1, Portable
EMI immunity	3 V/m



Kit configuration and contents vary by region.

Ordering information

The Fluke 6200-2 comes with the following:

- 6200-2 PAT
- User's manual on CD
- Quick reference guide
- Hard Carrying Case
- Test Lead
- Test Probe
- Crocodile Clip
- Mains Cord

The Fluke 6500-2 comes with the following:

- 6500-2 PAT
- User's manual on CD
- Quick reference guide
- Hard Carrying Case
- Test Lead
- Test Probe
- Crocodile Clip
- Mains Cord
- USB Stick
- USB Cable

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