

AHZJQ-X1

Insulating oil testers



Fully automatic 80 kV BDV test to IEC 60156 with built-in printer

AHZJQ-X1

Transformer oil breakdown voltage tester

amperis

www.amperis.com

 C/ María Barbeito, 14
27003, Lugo, Spain

 **Contact**

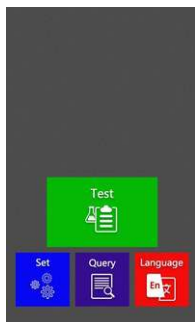
T [+34] 982 20 99 20
info@amperis.com | www.amperis.com

Dielectric strength of insulating oil, measured automatically from one cup of sample.

Product overview



AHZJQ-X1 with the oil cup in the test chamber



Main touch-screen menu

A complete BDV test with a single key

The AHZJQ-X1 measures the breakdown voltage of transformer and insulating oils up to 80 kV. Once the cup is filled and the standard selected, it runs the whole sequence by itself: standing, stirring, voltage rise at a constant rate, breakdown detection, rest and repetition, up to 10 breakdowns per cup, and calculates and prints the result.

Accurate and repeatable

A microcontroller drives the voltage rise at an even rate from 0.5 to 5.0 kV/s at 50 Hz, with distortion below 3 % and ± 3 % accuracy, from a 1.5 kVA step-up transformer.

Main features

- Colour touch-screen LCD with English and Chinese menus.
- Built-in thermal printer for each breakdown value and the mean.
- 100 results stored without power; export to a USB stick; RS-232 optional.
- Over-voltage, over-current and limit protection for the operator.
- Compact and portable: 460 × 280 × 320 mm, 230 V AC supply.



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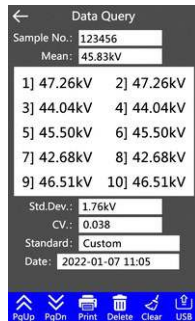
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Test standards and data



Selection of the test standard



Stored results with mean, standard deviation and coefficient of variation

Standard or custom sequences

The test sequence is chosen on screen: IEC 60156:2018, BS EN 60156, CEI EN 60156, VDE 0370-5, GB/T 507, DL/T 429.9 or DL/T 846.7, each with its own rise rate, standing and stirring times and number of breakdowns. In custom mode every parameter can be set: stop voltage 10-80 kV, stirring 0-120 s or continuous, standing 0-15 min, interval 0-5 min, 1-10 breakdowns and a rise rate of 0.5-5.0 kV/s.

During the test

The screen shows the countdown of each phase and the rising voltage in real time; the operator can hold, raise or lower the voltage manually, or skip the standing time and start at once.

Results and traceability

At the end of the series the instrument shows every breakdown value with the mean, the standard deviation and the coefficient of variation, together with the sample number, the standard and the date. Results are printed automatically, stored in memory and can be exported to a USB stick for the test report.



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Applications and maintenance

Applications

- Acceptance testing of new insulating oil.
- Periodic condition testing of oil from power and distribution transformers, reactors and tap changers.
- Checking oil after filtration, drying or regeneration.
- Oil laboratories of utilities, railways, petrochemical plants and industry.

Safe operation

The high voltage is only applied with the lid closed. The unit must be earthed through its ground terminal before switching on, and over-voltage, over-current and limit protections cut the test if anything goes wrong.

Care of the oil cup

The electrode gap is checked with the supplied feeler gauge before each test. The cup, the electrodes and the stirrers are cleaned with petroleum ether and rinsed with the oil to be tested; between tests the cup is kept filled with clean insulating oil.



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AHZJQ-X1 – TECHNICAL SPECIFICATIONS (1/2)

Test voltage	0-80 kV AC, 50 Hz
Voltage distortion	< 3 %
Step-up transformer capacity	1.5 kVA
Measurement accuracy	± 3 %
Rate of voltage rise	0.5-5.0 kV/s, adjustable
Stop voltage (custom mode)	10-80 kV, adjustable
Stirring time	0-120 s, adjustable, or continuous stirring
Standing time before the first test	0-15 min, adjustable
Interval between breakdowns	0-5 min, adjustable
Number of breakdowns per cup	1-10, adjustable
Test standards (selectable)	IEC 60156:2018, BS EN 60156, CEI EN 60156, VDE 0370-5:1996, GB/T 507-2002, DL/T 429.9-1991, DL/T 846.7-2016 and custom sequence
Electrodes	Spherical or mushroom, gap set with the supplied feeler gauge (2.5 mm in the standard sequence)
Results	Each breakdown value and the mean; standard deviation and coefficient of variation



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AHZJQ-X1 – TECHNICAL SPECIFICATIONS (2/2)

Display and operation	Colour touch-screen LCD; English and Chinese menus
Memory	100 test results, retained without power; search, print and delete
Printer	Built-in thermal printer: each breakdown value and the mean
Data interfaces	USB (export of all stored results to a USB stick); RS-232 optional
Other functions	Real-time clock, temperature display, sample number entry, automatic printing on/off
Protections	Over-voltage, over-current and limit protection; high-voltage interlock on the lid
Power supply	230 V AC, 50/60 Hz
Power consumption	200 W
Operating conditions	0 °C to +45 °C; < 75 % RH
Dimensions	460 × 280 × 320 mm
Supplied with	Main unit, oil cup, 2 elbows, 2 stirrers, feeler gauge, tweezers, power cord, 2 fuses, 2 rolls of printer paper, Allen key

Specifications subject to change without notice.



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