# AHZJB-1200

Relay test equipment




Six voltages and six 30 A currents, up to 180 A in parallel, with built-in computer and display

# AHZJB-1200

6-phase relay protection test set

amperis

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Six voltage and six current channels, combinable for any protection test.

# Product description



AHZJB-1200: voltage and current outputs, binary inputs/outputs, display, trackball and keyboard



Supplied accessories: test leads, clips, terminals and fuses

## Twelve outputs in a single unit

The AHZJB-1200 generates six voltages and six currents that can be freely combined: four currents plus three, six voltages, six currents or all twelve outputs at once. It thus performs conventional three-phase tests and tests three-phase transformer differential protection with the currents of both windings.

## High-fidelity signal

The outputs use modular linear amplifiers, not switch-mode ones: the waveform is clean from the smallest current up to the maximum, with no high-frequency noise to disturb the test. A digital signal processor with 32-bit computation and high-resolution D/A conversion generates each phase with low distortion and good linearity.

## Main features

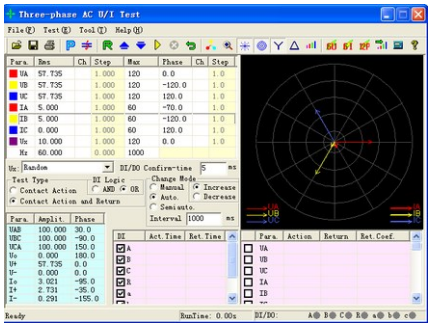
- Built-in Windows computer, display, trackball and keyboard: no external PC needed.
- USB port for connecting a PC or exchanging data.
- 8 binary inputs (dry contact or voltage up to 250 V) and 4 binary outputs.
- 110 V or 220 V auxiliary DC supply, adjustable from 80 to 110 %.
- Soft start, self-diagnostics and protection against overtemperature, overcurrent, overvoltage and short circuit.

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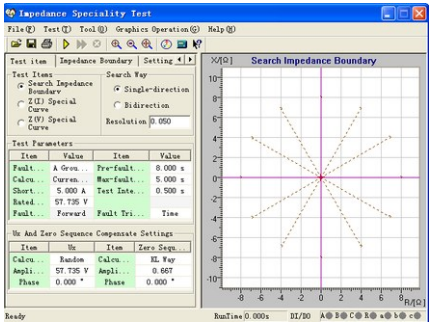
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# Test software



Three-phase AC voltage and current test with vector diagram



Impedance characteristic search in the R-X plane

## Test modules

AC and DC test, state sequence I and II, harmonic superposition, high and low frequency, power direction and impedance, synchronization, complete-set test I and II, distance and zero-sequence protection, impedance characteristic, differential protection, differential harmonics, integrated 6-35 kV line protection test and fault playback.

## Tools

Short-circuit calculation, online vector diagram, symmetrical-component output, six-voltage interface, real-time logging of test data and reports that can be printed immediately.

## Fault triggering

The transition from pre-fault to fault is triggered by time, by a key, by binary input c or by the pulse of an external GPS clock, so two test sets can test both ends of a line simultaneously.

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# Applications and use

### Relays

Signalling, time, auxiliary, current, overvoltage and undervoltage, sequence, synchronism-check, inverse-time, differential, directional power, impedance, synchronizing and frequency relays.

### Protection

Line protection and auto-reclosing, distance and zero-sequence, voltage-blocked overcurrent, under-frequency and under-voltage load shedding, generator and transformer differential, loss of excitation, automatic synchronizer, busbar differential and fibre-optic line differential.

### Binary inputs and outputs

The 8 inputs accept dry or wet contacts: 0-6 V is read as a closed contact and 11-250 V as an open contact. They are isolated from the analogue outputs and, with wet contacts, the positive pole goes to the +KM common. The 4 outputs are voltage-free relay contacts rated 220 V DC / 0.2 A and 220 V AC / 0.5 A.

### Continuous current and thermal protection

Up to 10 A per phase the output can be held indefinitely; above that, the software limits its duration, the more so the higher the current, and cuts it off with an alarm. With all six currents in parallel, 180 A is held for up to 10 s.

### Scope of supply

Test set, power cable, 10 A and 2 A fuses (5 of each), 4 four-wire cables, short and long test leads, crocodile clips in three sizes, plugs and pin terminals.

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## AHZJB-1200 — TECHNICAL SPECIFICATIONS (1/2)

| | |
|---|---|
| **Output channels** | 6 voltage and 6 current; combinable as 4 + 3 currents, 6 voltages, 6 currents or 12 outputs |
| **AC current per phase** | 6 × 0-30 A, class 0.2 |
| **Grouped AC current** | 3 × 0-60 A; 1 × 0-180 A with all 6 phases in parallel |
| **Continuous current** | 10 A per phase |
| **Current output power** | 450 VA per phase; 1000 VA with 6 phases in parallel (10 s at max. output) |
| **DC current** | 0-±10 A per phase, class 0.2; max. load voltage 20 V |
| **AC voltage** | 6 × 0-120 V phase-neutral, class 0.2; 0-240 V phase-phase |
| **AC voltage output power** | 80 VA per phase; 100 VA phase-phase |
| **DC voltage** | 0-±160 V per phase, class 0.2; 0-±320 V phase-phase |
| **DC voltage output power** | 70 VA per phase; 140 VA phase-phase |
| **Frequency and harmonics** | 0-1000 Hz (fundamental); harmonics up to 20th order |

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## AHZJB-1200 — TECHNICAL SPECIFICATIONS (2/2)

| | |
|---|---|
| **Binary inputs** | 8; dry contact (1-20 mA, 24 V) or wet contact (“0”: 0-6 V; “1”: 11-250 V) |
| **Binary outputs** | 4 dry contacts; 220 V DC / 0.2 A; 220 V AC / 0.5 A |
| **Time measurement** | 0.1 ms-9999 s; accuracy < 0.1 ms |
| **Auxiliary DC supply** | 110 V or 220 V, adjustable from 80 to 110 %; 1.5 A; 2 A / 250 V fuse |
| **Signal generation** | Digital signal processor, 32-bit computation, high-resolution D/A conversion and linear amplifiers |
| **Control** | Built-in Windows computer, display, trackball and keyboard; USB for PC |
| **Fault triggering** | By time, key, binary input or external GPS pulse |
| **Protection** | Soft start, self-diagnostics and output blocking; overtemperature, overcurrent, overvoltage and short circuit |
| **Power supply** | 220 V AC |
| **Scope of supply** | Test set, power cable, fuses, test leads, clips, plugs and pin terminals |

Specifications subject to change without notice.

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