

Automated testing, designed around your engineers.

ALFA-TESTER is a universal system for automated testing of electrical and electronic equipment in aviation and other high-reliability industries. Engineers write the test program. The tester generates the harness wiring diagram, then applies the signals, switches, measures and writes the test report on its own.



No adapters

Each new unit needs a test program and a cable harness, nothing more.

No programmer

Engineers and technicians write and change the test programs.

Up to 300 pins

Six 50-pin interfaces with built-in stimulus, switching and measurement.

Talk to Marat Fridman

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Stand 1003

Write a test program, not a new adapter.

The usual way

Traditional automated test systems often need a dedicated adapter for each unit, so every change to a unit turns into a costly, time-consuming adapter change.



With ALFA-TESTER

No switching or interface adapters. Testing a new device comes down to writing the test program and making a cable harness, and the harness wiring diagram is generated while the program is written.

Test programs that read like a technical document.

The author picks a command from a menu and completes it with a name, the tolerances and the connector and pin designations. Commands are named after what they physically do, so engineers write test programs themselves, with no programmer involved.

Two commands from a test program

Apply input voltage $U_{in} = (6.2 \pm 0.05) \text{ V}$ to connector 2C, pin 14 and connector 2C, pin 22

Measure bias current = $(12 \pm 0.25) \text{ mA}$ on connector 2V, pin 17 and connector 2V, pin 18

During a test the program runs on screen with the current command highlighted, so the operator can follow every step and act quickly when something fails.

Signals, switching and measurement in one unit.

One 640 × 740 × 300 mm monobloc, with six 50-pin connectors on the rear panel for the unit under test.

Stimulus signals

Fixed DC: 28 V, 12 V, 5 V

Fixed AC: 36 V, 115 V, 200 V at 400 Hz

Adjustable DC and AC (50 Hz, 400 Hz) voltage and current sources

Resistances

Pulse signals, sine and triangle waveforms

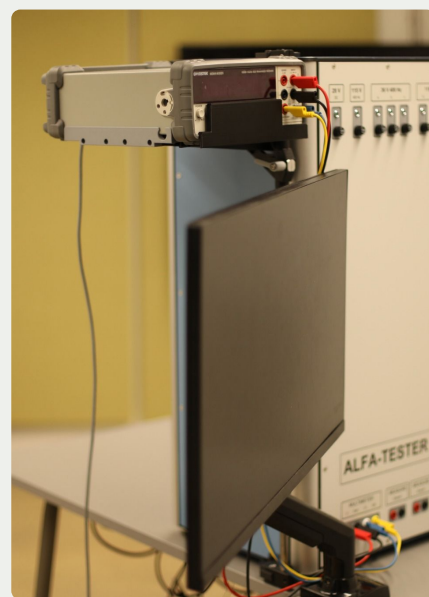
Angle signals

Measurement

A high-precision GW Instek meter sits on a platform that swivels and slides on a post, keeping the display in view and its controls locked during a test. Pulse amplitude, duty cycle and angle are measured automatically too.

Switching

Up to three external signal sources and two measuring instruments can be connected to any pins of the unit under test at the same time.



Tests other automated systems rarely handle.

ALFA-TESTER runs any test that applies and measures voltage, current, resistance or pulse signals. It also automates these:

Relay and contact assemblies

Pick-up and drop-out voltages, contact condition at low-level and rated currents, insulation resistance.

Onboard control panels

Controls switched on and off in sequence from on-screen prompts, with a check of the circuits behind them.

Logic and timing units

Logic units, including those that run on time programs.

Non-stationary signals

Visual monitoring of periodic, non-stationary signals.

Supply-voltage variation

Operation at raised and lowered supply voltage, varied over time by the program.

Wiring harnesses

Up to 300 pins, with circuit checks and insulation resistance testing.

How a test runs

01

Define

The engineer defines the unit's connections and the test sequence.

02

Program

The procedure is written with ALFA-TESTER's commands.

03

Connect

A harness, wired from the generated diagram, links the unit to the tester.

04

Test

The tester applies the signals and takes the measurements.

05

Evaluate

Results are compared with the defined values and tolerances.

06

Document

Results and deviations go into the test report automatically.

Documented and maintained automatically.

Test reports

The report is generated during the test. It records the steps marked in the program and every step where a deviation from the norm was found.

Maintenance

The daily 5-minute check, scheduled checks and metrological verification all run automatically. The verification unit and fixtures come with the tester.

Used across the test lifecycle

Manufacturing	Operation	Maintenance	Repair	Modernization
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Technical data

System

Format	Monobloc, 640 × 740 × 300 mm
Interfaces	Six 50-pin connectors, rear panel
Harness testing	Up to 300 pins
Fixed DC outputs	28 V, 12 V, 5 V
Fixed AC outputs	36 V, 115 V, 200 V at 400 Hz
Adjustable sources	DC and AC (50 Hz, 400 Hz) voltage and current
Switching	Up to 3 external sources and 2 meters to any pin
Maintenance	Automatic daily, scheduled and metrological checks

Setting accuracy

AC voltage up to 5 V ($I < 150$ mA)	1.5%
AC voltage up to 20 V ($I < 150$ mA)	1.5%
AC current up to 150 mA	2%
Resistance, 0–400 Ω	1%
Resistance, 0–4,000 Ω	1%
Resistance, 0–40,000 Ω	1%
Pulse frequency up to 10,000 Hz	0.01%
Pulse frequency up to 100,000 Hz	0.25%
Pulse amplitude up to 10 V	5%
Pulse duty cycle	5%

Measurement

GW Instek meter	Its accuracy class, with automatic corrections
Pulse amplitude and duty cycle	Within 5%
Insulation test voltage	100 V and 500 V

Talk to Marat Fridman.

Find us at stand 1003 in Toulouse on 29–30 September, or write any time.

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Alfa Tester GmbH is a Germany-based engineering company developing universal automated test systems for aviation and other high-reliability industries.

Stand 1003

Aerospace Test & Development Show 2026
29–30 September, Hall 7, MEETT, Toulouse
Open 10am to 5pm