

AXOS 5

Compact

IEC/EN 61000-4-4, IEC/EN 61000-4-5,
IEC/EN 61000-4-11*, IEC/EN 61000-4-9**, a.o.

- **Multifunctional device:**
Many test functions combined in one device!
- Integrated and automated test modes
- Easy operation via touch screen
- Automatic generation of a test report
- Integrated 1-phase CDN, 16 A

**addit. voltage drop transformer "DIP 116" required*

***addit. antenna coil "MSURGE-A" required*



**For economical and
efficient testing.**

Overview

The new AXOS 5 compact test system from HAEFELY combines the advantages of our stand-alone test systems in a single economical solution. This allows fast and fully automated testing according to the most common IEC, EN, ANSI, IEEE and UL standards such as 5kV EFT/Burst, 5 kV Combination Wave (1.2/50 μ s & 8/20 μ s), AC/DC Dips & Interrupts (with DIP 116) and pulsed magnetic fields (with MSURGE-A) and also includes an integrated single-phase coupling/decoupling power supply, 16 A.

The AXOS 5 can be operated either via a touch screen or via optional software on a PC. The simple menu navigation and predefined tests enable efficient testing, even for less experienced users.

Numerous additional functions, such as the external start/stop function, allow easy integration of the test system into customer-specific test environments.

All test parameters can be varied in a range far beyond the requirements of the standards. Together with the ability to change test parameters on the fly, AXOS 5 is the ideal product for compliance and pre-compliance testing, and also for monitoring and debugging functions during the development phase.

A wide range of cost-effective and user-friendly coupling/decoupling networks for power lines as well as for balanced and unbalanced data and signal lines are optionally available.

Key facts

- Software-supported test preparation, predefined test routines and visually supported test setups
- Touchscreen guarantees time and labor savings
- Safe and reliable operation with safety interlock, warning lamp and emergency stop switch
- Voltage and current monitoring of surge pulses and EUT power
- Automatic generation of a test report, including test parameters, test setup and test result
- Application: Compliance, pre-compliance, CE testing, product development and product troubleshooting



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Technical data

Axos 5 General

| | |
|------------------------|--|
| Control power | 85 V – 264 V 50/60 Hz |
| User test storage | unlimited |
| Remote Interface | Ethernet, RJ45 |
| Display | 7" / 800x480 / 24 bit with touchscreen |
| External Trigger input | 5 V TTL |
| Trigger output | 5 V TTL |
| EUT failed input | 5 V TTL |
| Warning lamp output | 2 x 24 V / 1 A DC |
| USB | for USB memory stick |

| | |
|------------------------|--|
| AUX interface | D-Sub 37p for external CDN, transformer |
| Synch input | BNC, 10 V - 264 V AC |
| External start/stop | 5 V TTL, starts/stops predefined tests sequen. |
| Analog output | 0 - 10 V, for use with external options |
| Safety circuit | Stops the test when unlocked |
| Dimensions (W x H x D) | 19" / 4U (45 x 18 x 49 cm) |
| Weight | 25 kg |

IEC / EN 61000-4-4 EFT/Burst

| | | | |
|------------------|--|------------------------|---|
| Output voltage | 0.2 – 5.0 kV $\pm 10\%$ at coaxial output | Spike frequency | 1 Hz - 1 MHz |
| Polarity | pos. / neg. / alternate | Burst duration | 10 μ s - 1 s |
| Output impedance | 50 Ohm | Burst period | 1 ms - 10 s |
| Rise time | 5 ns $\pm 30\%$ | Test time | 1 s – 1,000 min. |
| Impulse duration | 50 ns $\pm 30\%$ at 50 Ohm 50 ns –15 +100 ns at 1,000 Ohm | Trigger | automatic, manual, external trigger input |
| Burst mode | normal, continous, real, random | Integrated 1-phas. CDN | 264 V AC / 16 A 220 V DC / 10 A |

IEC / EN 61000-4-5 Surge combination wave

| | | | |
|----------------------|--|------------------------|---|
| Output voltage | 0.2 – 5.0 kV $\pm 10\%$ | Output current | 0.1 – 2.5 kA $\pm 10\%$ |
| Voltage rise time | 1.2 μ s $\pm 30\%$ | Current rise time | 8 μ s $\pm 20\%$ |
| Voltage duration | 50 μ s $\pm 20\%$ | Current duration | 20 μ s $\pm 20\%$ |
| Polarity | pos. / neg. / alternate | Integrated 1-phas. CDN | 264 V AC / 16 A 220 V DC / 10 A |
| Output impedance | 2 Ohm | Impulse Trigger | automatic 2 s – 100 minutes manual external trigger input |
| Phase sync | 0 - 359° with 1° steps or asynchronous operation | Peak current monitor | BNC output: 1 kA/V display: 3 digits |
| Counter preselected | 1 – 1,000 / infinite | | |
| Counter | 100,000 | | |
| Peak voltage monitor | BNC output: 1000:1 display: 3 digits | | |



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| IEC / EN 61000-4-11 + IEC / EN 61000-4-29 Dips und Interrupts (Attention: exter. DIP 116) | | | |
|---|--|---------------------|---|
| Max. voltage | 264 V AC/DC | Interrupt time | 0.5 period - 800 periods 100 µs – 1,000 minutes |
| Max. current | 16 A AC/DC contin. 20 A für 5 s 23 A for 3 s 40 A für 3 s > 500 A inrush current | Interval time | 1 period - 800 periods synchron 1 ms – 1,000 minutes asynchron |
| Trigger | automatic manual external trigger input | Test time | 1 s – 1,000 min. infinite |
| Interrupt dip level | 0% 0% - 99% with external voltage source | Phase sync | 0 - 359° 16 / 40 / 50 / 60 Hz asynchronous mode |
| RMS voltage monitor | BNC output: 100:1 display: 4 digits | RMS current monitor | BNC output: 10 A/V display: 4 digits |

Norms

- IEC/EN 61000-4-4 EFT / Burst
- IEC/EN 61000-4-5 Surge
- IEC/EN 61000-4-9 Magnetic Field
(+MSurge-A required)
- IEC/EN 61000-4-11 / -29
AC/DC Dips and
Interrupts
(+DIP 116 required)

Indoor and outdoor applications

Home appliances:

Household, lighting appliances, portable appliances, home automation

Industry:

Robotics, welding machines, packaging machines, production lines, laboratory equipment

Medical technology:

Monitoring, scanning, analyzing, pumps, implants

IT:

Computers, printers, modems, hubs, phones, servers

Renewable energies:

Solar panels, windmills, turbines, inverters, infrastructure

Telecommunications:

Ground-mounted equipment, amplifiers, switchgear, data concentrators, telecom centers

Transportation:

Automotive industry, motorcycles, trucks, electric vehicles, charging stations

Defense:

Component testing, communications, vehicles, aircraft, satellites



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Options – Accessories

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|---|---|
| FP-EFT 32M | 3-phase CDN EFT/Burst 32 A / 690 V AC / 110 V DC |
| FP-EFT 100M2 | 3-phase CDN EFT/Burst 100 A / 690 V AC / 110 V DC |
| FP-COMB 32 | 3-phase CDN für Surge, Ring wave, EFT/Burst 32 A / 480 V AC/DC |
| FP-COMB 63 / 690-1 | Auto. 3-phase CDN for Surge, Ring wave, EFT/Burst 63 A / 690 V AC/DC, also available in 125 A and 200 A |
| FP-COMB 63 / 1500-1 | Auto. 3-phase CDN for Surge, Ring Wave, EFT/Burst, 63 A / up to 1000 V AC/1500 V DC, also available in 125 A and 200 A |
| FP-SURGE 100M2 | 3-phase CDN for Surge, 100 A (690 V AC / 110 V DC) |
| DEC 5 | Decoupling network for testing symmetrically operated lines with Surge, Ring Wave 100 kHz and Telecom Wave 10/700 μ s |
| DEC 6 | Decoupling network for testing symmetrically operated lines with Surge, Ring Wave 100 kHz and Telecom Wave 10/700 μ s |
| DEC 7 | Decoupling network for testing asymmetrically operated lines with Surge, Ring Wave 100 kHz |
| PCD 121 | Coupling network for 1.2/50 μ s – 8/20 μ s |
| PCD 126A | Coupling network for 1.2/50 μ s – 8/20 μ s and 100 kHz Ring wave |
| DIP 116 | Automatic Dips transformer 16 A 40/70/80% voltage (for IEC / EN 61000-4-11 required) |
| MSURGE-A | Induction coil (for IEC / EN 61000-4-9 Magnetic Field Tests required) |
| Verification Adapter FP-EFT 100 M2 | |
| Verification Adapter AXOS | |
| Remote Control Option for AXOS 5 and AXOS 8 | |
| Reporting Software for AXOS 5 and AXOS 8 | |

Scope of delivery

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|-------------------------|
| AXOS 5 |
| User manual |
| Mains cable |
| Calibration certificate |

All information regarding appearance and technical data correspond to the current state of development at the time of release of this data sheet. Errors and technical changes excepted. 162603

