

AXOS 8

Compact

IEC/EN 61000-4-4, IEC/EN 61000-4-5,
IEC/EN 61000-4-5 & ITU (Telekom Wave)*,
IEC/EN 61000-4-12 / IEEE C62.41 (Ring Wave),
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
- Voltage and current monitoring of surge pulses and EUT performance
- Integrated 1-phase CDN, 16 A

* additionally TW 8 required

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

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

 HAEFELY

For economical and efficient testing.

Overview

The new AXOS 8 - Compact from HAEFELY combines all the advantages of our stand-alone test systems in a single device. This allows EMC tests for 5 kV EFT/Burst, 7 kV Combination Wave (1.2/50 μ s & 8/20 μ s), 7 kV Ring Wave, AC/DC Dips & Interrupts, Pulsed Magnetic Field and Telecom Wave. For fast and fully automated testing according to the most common IEC, EN, ANSI, IEEE and UL standards. The AXOS 8 also includes an integrated single-phase coupling/decoupling network, 16 A.

The AXOS 8 can be operated either from the front panel via the touch screen or via the PC using optional software. The simple menu navigation and pre-defined 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 8 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
- 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, telecom and wireless product testing



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Technical data

Axos 8 General

Control power	85 V – 264 V, 50/60 Hz
User test storage	unlimited
Remote Interface	Ethernet, RJ45
Display	7" / 800 x 480 / 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 input	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)	22" / 6U 45 x 27 x 50 cm
Weight	appr. 30 kg

IEC / EN 61000-4-4 EFT/Burst

Output voltage	0.2 – 5.0 kV $\pm 10\%$ at coaxial output
Polarity	pos. / neg. / alternate
Output impedance	50 Ohm
Rise time	5 ns $\pm 30\%$
Impulse duration	50 ns $\pm 30\%$ at 50 Ohm 50 ns –15 +100 ns at 1,000 Ohm
Burst mode	normal, continous, real, random

Spike frequency	1 Hz - 1 MHz
Burst duration	10 μ s - 1 s
Burst period	1 ms - 10 s
Test time	1 s – 1,000 min.
Trigger	automatic, manual, external trigger input
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 – 7.0 kV $\pm 10\%$
Voltage rise time	1.2 μ s $\pm 30\%$
Voltage duration	50 μ s $\pm 20\%$
Polarity	pos. / neg. / alternate
Output impedance	2 Ohm
Phase sync	0 - 359° with 1° steps or asynchronous operation
Counter preselected	1 – 1,000 / infinite
Counter	100,000
Peak voltage monitor	BNC output: 1000:1 display: 3 digits

Output current	0.1 – 3.5 kA $\pm 10\%$
Current rise time	8 μ s $\pm 20\%$
Impulse duration	20 μ s $\pm 20\%$
Integrated 1-phas. CDN	264 V AC / 16 A up to 220 V DC / 10 A
Impulse Trigger	automatic 2 s – 100 minutes manual external trigger input
Peak current monitor	BNC output: 1 kA/V display: 3 digits



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IEC / EN 61000-4-12 & ANSI / IEEE C 62.41 Ring Wave			
Max. voltage	0.2 – 7.0 kV ±10%	Polarity	pos. / neg. / alternate
Frequency	100 kHz	Floating output	max. 460 V/AC
Rise time OCV	0.5 µs ±30%	Phase sync accuracy	± 1°
Rise time SCC	0.2 – 1.0 µs	Damping rate	0.4 ≤ peak2/peak1 ≤ 1.1 0.4 ≤ peak3/peak2 ≤ 0.8 0.4 ≤ peak4/peak3 ≤ 0.8
Impedance	12 Ohm, 30 Ohm	Peak current monitor	BNC output: 1 kA/V display: 3 digits
Peak voltage monitor	BNC output: 1000:1 display: 3 digits		
Impulse trigger	up to 30 pulses / min		

IEC / EN 61000-4-5 Telekom Wave/ITU K.20, K.21, K.44, K.45 (Attention: external TW 8 module)			
Output Voltage	0.2 – 7.0 kV ±10%	Source impedance / coupling	15 Ohm x 1 40 Ohm x 4 40 Ohm gas arresters x 4
Front time OCV	10 µs ±30%	Weight	10 kg
Decay time OCV	700 µs ±20%	Dimensions (W x H x D)	19" / 4U (45 x 18 x 49 cm)
Front time SCC	5 µs ±20%	Outputs	4 mm banana socket
Decay time SCC	320 µs ±20%		
Polarity	pos. / neg. / altern.		

IEC / EN 61000-4-11 + IEC 61000-4-29 Dips and Interrupts (Attention: external 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. 40 A for 3 s 20 A for 5 s 23 A for 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		
<ul style="list-style-type: none"> ▪ IEC/EN 61000-4-4 EFT / Burst ▪ IEC/EN 61000-4-5 Surge (1.2/50 µs ... 8/20 µs) ▪ IEC/EN 61000-4-5 Surge Telekom Wave (10/700 µs) & ITU K.20, K.21, K.44, K.45 (+TW8 required) 	<ul style="list-style-type: none"> ▪ IEC/EN 61000-4-9 Magnetic Field (+MSurge-A required) ▪ IEC/EN 61000-4-11* / -29** AC / DC Voltage Dips / Interrupts *+DIP 116 erforderlich **DC: addit. DC source required ▪ IEC/EN 61000-4-12, IEEE C62.41 Ring Wave 	<ul style="list-style-type: none"> ▪ IEC/EN 61000-6-1 / -2 Generic Residential / Industrial ▪ IEC/EN 60335-1 Household ▪ IEC/EN 60601-1 Medical ▪ IEC/EN 60950 ▪ EN 55024



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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, turbines, inverters, infrastructure

Telecommunications: Ground-mounted equipment, amplifiers, switchgear, data concentrators

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

Defense: Component testing, vehicles, aircraft, satellites

Options – Accessories

FP-EFT 32M	Manual 3-phase CDN EFT/Burst 32 A / 690 V AC / 110 V DC
FP-EFT 100M2	Manual 3-phase CDN EFT/Burst 100 A / 690 V AC / 110 V DC
FP-COMB 32	Auto. 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 32A	Auto. 3-phase CDN for Surge 32 A / 690 V AC/DC
FP-SURGE 100M2	Manual 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 µs
DEC 6	Decoupling network for testing symmetrically operated lines with Surge, Ring Wave 100 kHz and Telecom Wave 10/700 µs
DEC 7	Decoupling network for testing asymmetrically operated lines with Surge, Ring Wave 100 kHz
PCD 121	Coupling network for 1.2/50 µs – 8/20 µs
PCD 126A	Coupling network for 1.2/50 µs – 8/20 µs 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)
TW 8	Telekom Wave Modul 10/700 µs (for IEC / EN 61000-4-5 & ITU, TW)
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

AXOS 8, mains cable, user manual, 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. We reserve the right to make technical changes. 172511

