



**ONYX**



**ELECTROSTATIC DISCHARGE  
SIMULATOR**



**HAEFELY**

Current and voltage – our passion



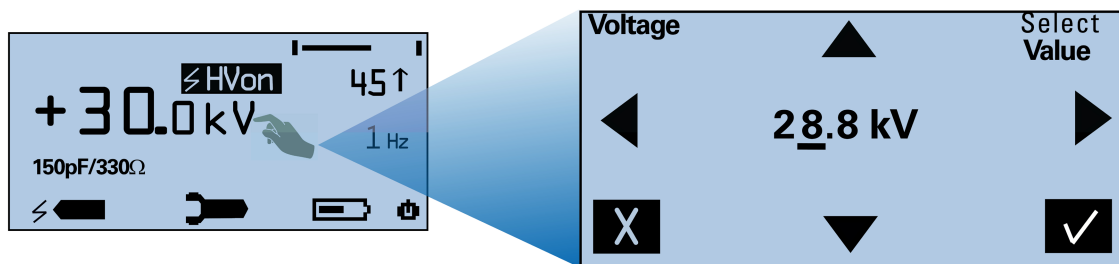
## SUMMARY

The ONYX is a state of the art electrostatic discharge simulator available in 16 kV or 30 kV versions. It is the most ergonomic ESD simulator without any additional base control unit that can be battery or mains operated. The easy to use touch screen, ergonomic design, modular RC units, multilingual interface, remote control software, built-in LED light and temperature & humidity display allows for trouble-free use of the ONYX in all types of test sites. The ONYX also includes a bleeder resistor which is connected in parallel with the output of the high-voltage power

supply circuit. This ensures that the high voltage power supply is completely discharged after each injected pulse to an EUT or if the ESD simulator itself will be turned-off by the user (bleed-off).

The smart key button, integrated into the trigger button has various functions that can be defined by the user including polarity switching, LED light, counter reset, voltage stepping up/down and others.

The ONYX also features a unique selftest which verifies all of the main components of the unit are working correctly. This ensures that accurate and reliable tests are performed every time the gun is used.



## FEATURES

- User defined 'smart key' function
- Touch screen interface
- Predefined tests according to standards
- Multilingual
- Define, store and load tests
- Ergonomic all-in-one design (no base unit) and ONYX balancer (optional)
- Automatic polarity switching
- User changeable RC networks
- Remote control software
- Battery or mains operation, long battery life



## ADVANTAGES

- ✓ Flexibility enables users to meet many different test specifications with maximum cost effectiveness.
- ✓ Quick and simple one touch operation and simple on screen menu structure.
- ✓ the most ergonomic 30kV ESD gun on the market without an external base control unit. The balancer (optional) reduces operator fatigue and repetitive motion injuries
- ✓ Tests according diferente standards, or specific requiremenst, can be done with one single ONYX.
- ✓ Computer can be connected and used to control the ONYX, doing reports and collect measurement is done in seconds.
- ✓ Tests are posible even if no mains is available, no need to wait ti battery charging to continue.

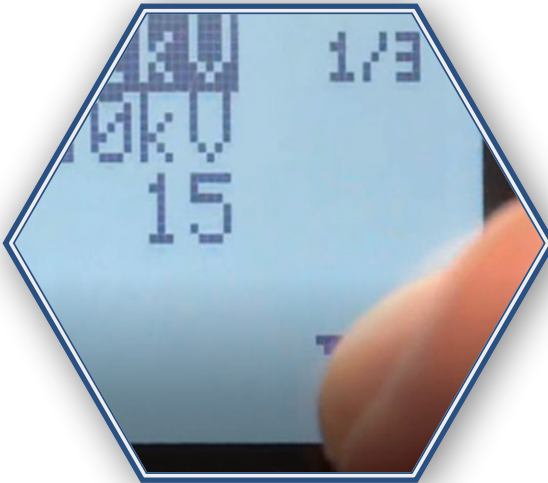
## APPLICATIONS

Full-compliance and pre-compliance testing to a wide variety of standards:

- IEC/EN 61000-4-2 Edition 2 (2009)
- IEC/EN 61326
- IEC/EN 61000-6-1 & -6-2
- IEC 61340-3-1
- IEC/EN 60601-1
- ISO 10605
- GMW 3097
- Ford AB/AC
- ANSI C63.16
- PSA B21 7110
- ISO 14304
- ITU-T K.20
- MIL-STD-331 / -464 / -883 / -1512 /-1514 / -1541 / -1542
- RTCA/DO-160
- JEDEC 22-A114
- GR-78-CORE
- GR-1089-CORE
- and others



**Modular**  
Exchangeable RC's for  
different standards

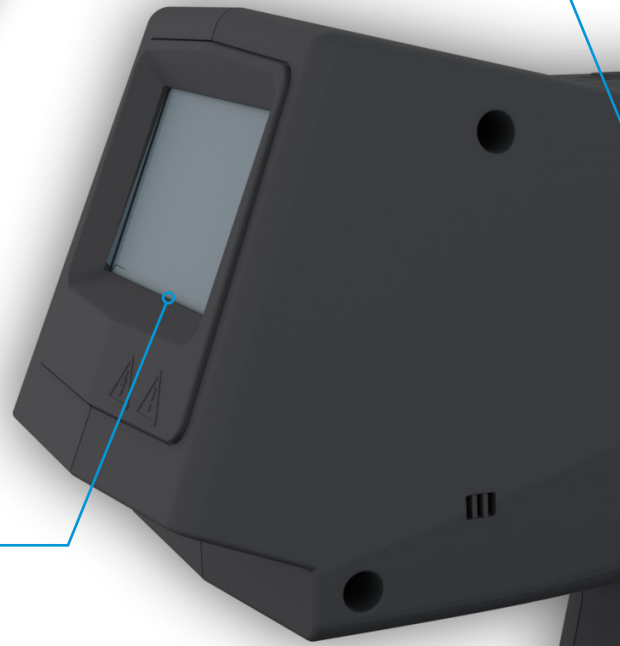


**Touch pannel**  
Self explain operation

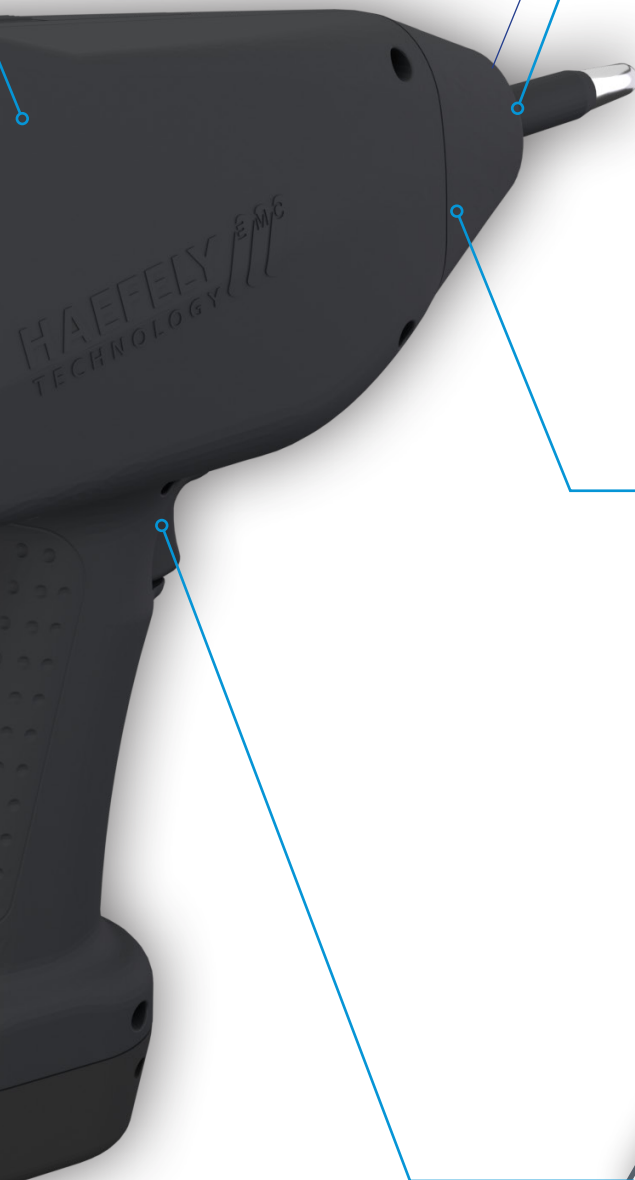


**Ergonomic**  
Light and easy to handle,  
no base unit or cables.

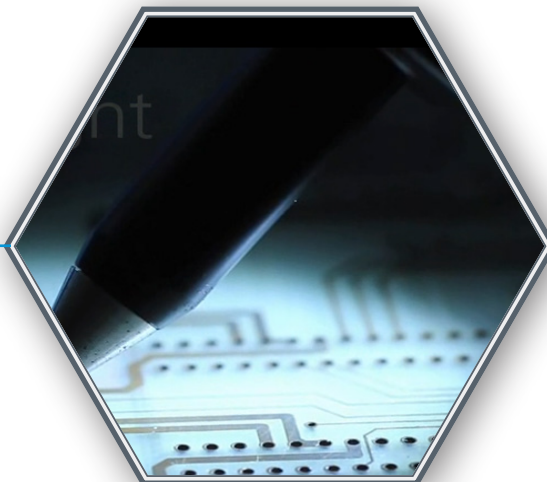
**DI**



# 74X



**Interchangeable tips**  
For better impulse



**Led light**  
Perform the test in the exact point



**Smart Key**  
To be configure for actions

SAFETY

REPORT

FILTER

AUTOMATIC

IEEE

EASE OF USE

IEC

ONYX

EMC

APPROVED

## STANDARD PACKAGE

### ONYX

ONYX 16	ESD Simulator 16 kV	No. 2499980
ONYX 30	ESD Simulator 30 kV	No. 2499982

### Included accessories

- Carrying case
- test tip contact discharge
- 2 rechargeable battery packs
- ground cable
- battery charger unit incl. country-specific mains plugs
- R/C module 150 pF/330  $\Omega$  according to IEC 61000-4-2
- quick start guide, manual on CD, calibration certificate



## ONYX SPECIFICATIONS

	ONYX 16	ONYX 30
Air discharge voltage	1 .. 16 kV	1 .. 30 kV
Cont. discharge voltage	1 .. 16 kV	1 .. 30 kV
Discharge repetition	single/0.1/0.2/0.5/1/2/5/10/20 Hz	
Discharge counter	1 .. 9999	
Default R/C – network	150 pF / 330 $\Omega$	
Dimensions W x H x D	290 x 270 x 110 mm	
Voltage resolution	100 V steps	
Discharge polarity	positive & negative	
Operating modes	single & continuous	
Battery life	> 16 hrs	
Power consumption	17 VA	
Weight	1.7 kg	

## OPTIONS AND ACCESORIES

### RC Modules for Pulse shape forming

150 pF / 2'000 Ω (ISO 10605)	No. 4700531
330 pF / 2'000 Ω (ISO 10605)	No. 4700532
330 pF / 330 Ω (ISO 10605)	No. 4700618
100 pF / 1'500 Ω	No. 4700622
150 pF / 150 Ω	No. 4700620
500 pF / 500 Ω	No. 4700619
500 pF / 5'000 Ω	No. 4700621
50 pF .. 1 nF / 50 Ω .. 5'000 Ω (custom)	No. 4700633

### Tips

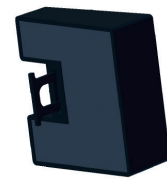
30kV AD Tip	Discharge tip 30 mm diameter for improved air discharge testing up to 30 kV	No. 4700526
Fast Rise Time Tip	Fast rise Tip Reduces the rise time of the ESD-pulse to 0.3 ns for reliability	No. 4700527

### Software

Package of fibre optical RS 232 interface and control & report 2490216 software	No. 2490214
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### Others

ONYX Balancer	Balancing tool with mounting system up to 2.3 kg	No. 4781300
ESD Verification Set	For wave shape verification according to IEC/EN 61000-4-2	No. 4700480
HCP	Horizontal coupling plane 1.6 m x 0.8 m for indirect application of the ESD. Includes cable with 2 integrated 470 kΩ HV-resistors	No. 4700480
VCP	Vertical coupling plane 0.5 m x 0.5 m, for indirect application of the ESD. Includes cable with 2 integrated 470 kΩ HV-Resistors	No. 4700480
Test Table	Table 160 x 80 cm, made of wood without any metallic parts, as required by IEC 61000-4-2	No. 2495581
Remote Control IAC	Package of fibre optical RS 232 interface and control & report software	No. 2496871
AC Mains Adapter	Power supply replaces the rechargeable battery pack for 2490214 continuous testing	No. 2490214
Acc. Calibration	Accredited calibration according to ISO/IEC 17025 Calibration requirements	No. 2499981

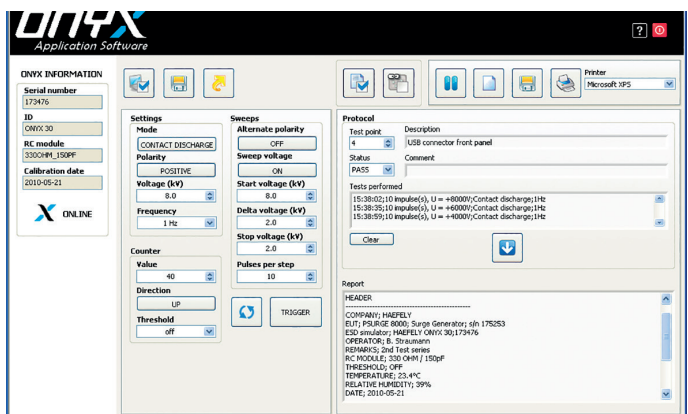


## SOFTWARE

Windows based software optional to help making tests more reliable and reproducible.

### Benefits:

- Windows XP, Windows Vista and Windows 7 compatibility
- Support of USB and optical USB interfaces
- Easy-to-use and intuitive creator for test plans and test procedures
- Enhanced and highly flexible reporting capabilities
- Up-to-date design and navigation





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This document has been drawn up with the utmost care. We cannot, however, guarantee that it is entirely complete, correct or up-to-date. Subject to change without notice.

V20.03



**HAEFELY**

Current and voltage – our passion

HV

HIGH VOLTAGE

IN

INSTRUMENT

EM

EMC

precision.  
**swiss made.**

