

# ON4X

**ELECTROSTATIC DISCHARGE SIMULATOR**



**ESD**



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 self test 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.





## OVERVIEW

### BENEFITS

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.

Mobility – the most ergonomic 30 kV ESD gun on the market without an external base control unit.


Reliable and economical – A Swiss made product, reliability, service and support in a budget-friendly package.

### FEATURES

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

### 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
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## TECHNICAL SPECIFICATIONS – SCOPE OF SUPPLY

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

ONYX ESD simulator carrying case including:

Test tip air discharge, 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 30            Part no. 2499982  
 ONYX 16           Part no. 2499980



## OPTIONS & ACCESSORIES

### R/C Modules



#### Pulse shape forming modules:

4700531	150 pF / 2'000 $\Omega$	(ISO 10605)
4700532	330 pF / 2'000 $\Omega$	(ISO 10605)
4700618	330 pF / 330 $\Omega$	(ISO 10605)
4700622	100 pF / 1'500 $\Omega$	
4700620	150 pF / 150 $\Omega$	
4700619	500 pF / 500 $\Omega$	
4700621	500 pF / 5'000 $\Omega$	
4700633	50 pF .. 1 nF / 50 $\Omega$ .. 5'000 $\Omega$	(custom)

### 30 kV AD Tip 4700526



Air Discharge tip 30 mm diameter for improved air discharge testing up to 30 kV

### Fast Rise Time Tip 4700527



Reduces the rise time of the ESD-pulse to 0.3 ns for reliability testing

### ONYX Balancer 4700813



Balancing tool with mounting system up to 2.3 kg

The ONYX balancer is an economical choice for a balancing tool weighing up to 2.3 kg. The molded ABS housing has a smooth exterior with rounded edges designed for maximum appeal. The ONYX balancer is the most modern, easiest to adjust and reliable balancing tool for an ESD simulator currently on the market.

### AC Mains Adapter 2490214



Power supply replaces the rechargeable battery pack for continuous testing



**PET 4000**  
4700480



ESD Verification Set according to IEC/EN 61000-4-2 Ed. 2

Attenuator 20 dB  
2ohm Target/ 4 GHz  
Coax cable  
User manual

**HCP**  
2496881

Horizontal coupling plane 1.6 m x 0.8 m for indirect application  
of the ESD. Includes cable with 2 integrated 470 k $\Omega$   
HV-resistors

**VCP**  
2495581

Vertical coupling plane 0.5 m x 0.5 m, for indirect application  
of the ESD. Includes cable with two integrated 470 k $\Omega$   
HV-resistors

**Test Table**

Table 160 x 80 cm, made of wood without any metallic parts,

2496871

as required by IEC 61000-4-2

**Remote Control**  
2490216

Package of fibre optical RS 232 interface and control & report  
software



**Accredited  
Calibration**

Accredited calibration according to ISO/IEC 17025  
requirements

499981

## SOFTWARE

Why to use software to perform EDS tests?

Because it makes your life easier and helps to make tests more reliable and reproducible.

### Benefits

- Windows 7 and Windows 8 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
- Intuitive operation

