

# VSS 500N12.7

## VOLTAGE SURGE SIMULATOR FOR TESTING THE ISOLATION (VOLTAGE WITHSTAND) UP TO 12 KV



### FOR TESTS ACCORDING TO ...

- > EN 60065
- > EN 60950-1
- > IEC 60065
- > IEC 60950-1
- > ITU-T K.44

### VOLTAGE SURGE SIMULATION

The voltage surge simulator VSS 500N12.7 generates high voltage transients as required for Information technology equipment by the IEC 60950-1, IEC 60065 and ITU-T K.44 standards . The voltage surge pulses are used to test the isolation (voltage withstand) capability of components, sockets, connectors, cables and many other items. Spark over detection and voltage/current measuring functions are included in the generator.

### HIGHLIGHTS

- > Surge voltage up to 12 kV
- > ITU-T test generator N.1, Wave form 1.2/50 us
- > Built-in source impedance 13 ohm +25 ohm
- > USB (optical link) and GPIB interface
- > Interlock
- > Voltage/current measurement
- > Warning lamp control
- > Manual operation
- > Spark-over detection

### APPLICATION AREAS

-  COMPONENTS
-  TELECOM

**TECHNICAL DETAILS**

**BENEFITS**

**VSS 500N12.7 - 12KV VOLTAGE SURGE SIMULATOR**

The VSS 500N12.7 is a surge voltage simulator specifically designed to test insulation material, components, sockets, connectors, cables and many more items to their voltage withstand capability. Testing the voltage withstand capability by means of a transient test pulse is the most common alternative to tests using a.c. or d.c. voltages.

By means of the built-in voltage and current monitors and the Spark Over Detection you are offered detailed test results to judge the quality of the EUT.

Safety precautions are taken to assure safe operation at this high voltage level. The VSS 500N12.7 provides interlock and warning lamp control. By means of an optional test box the operator can be further protected to avoid direct contact with high voltage and to avoid harm from exploding components or fragments of them when failing.

iec.control software for remote control and documentation allows fully automated testing.

**OPERATION**

**EASY TO OPERATE**

Front panel menu and function keys enable the user to program his test routines quickly and accurately. The cursor allows fast control of all test parameters of the programmed routine, thus test procedures are simplified and confidence is generated that every step is carried out correctly.



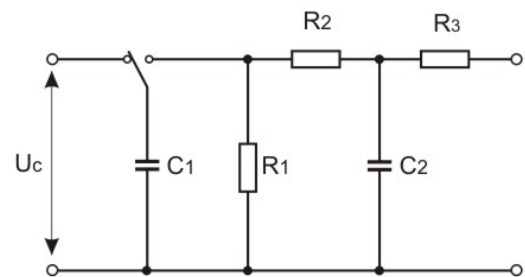
**STANDARD INFORMATION**

**ITU-T IMPULSE TEST GENERATORS**

The circuit in the figure below using component values in reference of Table K1 of the normative Annex K of the IEC 60065 standard.

The circuit reference 2 of Table K.1 generates 1,2/50 us impulses (1,2 us virtual front time, 50 us virtual time to half value) as specified in IEC 60950-1 and ITU-T Recommendation K.44 to simulate transients in power distribution systems.

The impulse wave shapes are under open-circuit conditions and can be different under load conditions.



## TECHNICAL DETAILS

## MODEL OVERVIEW

## VSS 500N12.7

VSS 500N12.7	12 kV Pulse generator, 1.2/50 $\mu$ s, 13 ohm + 25 ohm impedance
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## TECHNICAL DETAILS

VOLTAGE SURGE SIMULATOR, PULSE 1.2/50  $\mu$ S

Voltage (o.c.)	500 V - 12,000 V $\pm$ 10%
Pulse front time	1.2 $\mu$ s $\pm$ 30%
Pulse time to half value	50 $\mu$ s $\pm$ 20%
Current (s.c.)	max. 315 A $\pm$ 10%
Int. components	C1: 1 $\mu$ F C2: 30 nF R1: 76 ohm R2: 13 ohm R3: 25 ohm
Polarity	Positive/negative/alternating
Event counter	1 - 30,000 or endless

## TRIGGER

Automatic	Automatic pulse release
Manual	Single pulse release
External	External pulse release
CRO trigger	5 V trigger signal for oscilloscope
Synchronisation	0° - 360°, resolution 1°
Repetition rate	max. 1 Hz (1 s - 999 s)

## MEASUREMENTS

CRO $\hat{U}$ -monitor	10 V <sub>p</sub> at 12,000 V
CRO $\hat{I}$ -monitor	10 V <sub>p</sub> at 315 A
Peak voltage	12,000 V in the LCD display
Peak current	400 A in the LCD display
Current limiter	for Spark over detection Max. 400 A Resolution 1.0 A

## TECHNICAL DETAILS

## TEST ROUTINES

Quick Start	Immediate start; easy-to-use and fast
User Test routines	Change Polarity after n pulses Change voltage after n pulses
Service	Service, setup, self test

## OUTPUT

Direct	Via HV connector; Z <sub>i</sub> = 38 ohm as defined in IEC 60065 (13 ohm + 25 ohm)
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## INTERFACE

Optical interface	Opto link, 3 m cable USB A connector
Parallel interface	IEEE 488, addresses 1 - 30

## GENERAL DATA

Dimensions, weight	19"/3 HU, 450 x 500 x 155 mm approx. 15.5 kg
Supply voltage	115/230 V +10/-15%
Fuses	2 x 2 AT (230 V) or 2 x 4 AT (115 V)
Temperature	10° C to 35° C
Rel. humidity	Max. 85 %, non condensing
Atmospheric pressure	86 kPa (860 mbar) to 106 kPa (1,060 mbar)
Operating	max. 2000 m over Sea level

## OPTIONS

## OPTIONS

HV Contacts	Pair of gun-type HV contacts for safe application of the HV pulses to the EUT
iec.control	Remote control and documentation software, including standard test routines and reporting capabilities.

# COMPETENCE WHEREVER YOU ARE



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