VSS 500N12.7
VOLTAGE SURGE SIMULATOR FOR TESTING THE ISOLATION (VOLTAGE WITHSTAND) UP TO 12 KV

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.

FOR TESTS ACCORDING TO ...

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

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.

The **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.

![ITU-T Impulse Test Generators Circuit](image-url)
MODEL OVERVIEW

VSS 500N12.7

VSS 500N12.7

12 kV Pulse generator, 1.2/50 us, 13 ohm + 25 ohm impedance

TECHNICAL DETAILS

VOLTAGE SURGE SIMULATOR, PULSE 1.2/50 US

Voltage (o.c.) 500 V - 12,000 V ± 10%

Pulse front time 1.2 us ± 30%

Pulse time to half value 50 us ± 20%

Current (s.c.) max. 315 A ± 10%

Int. components C1: 1 uF, 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 Û-monitor 10 Vp at 12,000 V

CRO Î-monitor 10 Vp 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

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; Zi = 38 ohm as defined in IEC 60065 (13 ohm + 25 ohm)

INTERFACE

Optical interface Opto link, 3 m cable

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

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

[Map Image]

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Information about scope of delivery, visual design and technical data correspond with the state of development at time of release. Subject to change without further notice.

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