

UCS 500N5V

COMBINATION WAVE (SURGE) GENERATOR UP TO 5KV AS PER IEC/EN 61000-4-5



FOR TESTS ACCORDING TO ...

- > EN 300329
- > EN 300340
- > EN 300342-1
- > EN 300386 V1.3.2
- > EN 301489-1
- > EN 301489-17
- > EN 301489-24
- > EN 301489-7
- > EN 50121
- > EN 55024
- > EN 61000-4-5
- > EN 61000-4-9
- > EN 61000-6-1
- > EN 61000-6-2
- > IEC 61000-4-5
- > IEC 61000-4-9
- > IEC 61326
- > IEC 61850-3
- > ITU-T K.20
- > ITU-T K.21
- > ITU-T K.41
- > ITU-T K.45

UCS 500N5V - THE STAND-ALONE COMBINATION WAVE (SURGE) GENERATOR








The UCS 500N5V is a new dedicated Surge generator based on the successful UCS 500N series of ultra-compact simulators. Offering all the benefits of the well-known UCS 500N5 it is designed as a Surge generator only. This makes it the full performing Surge tester as per IEC/EN 61000-4-5 with the best benefit-to-cost ratio yet upgradeable to include other test abilities such as EFT/Burst and PowerFail.

Apart from its built-in single phase test capability it is extendable for testing three-phase DUTs by means of automatically controlled external coupling networks up to 100A. EM TEST supplies a large range of accessories for various applications.

HIGHLIGHTS

- > Fully compliant to IEC 61000-4-5
- > Surge voltage up to 5kV
- > Surge current up to 2.5kA
- > Built-in single phase coupler 300V/16A
- > Programmable current limiters
- > Monitor outputs for peak voltage and peak current

APPLICATION AREAS

- | | |
|---|--|
|  INDUSTRY |  COMPONENTS |
|  MEDICAL |  BROADCAST |
|  RESIDENTIAL |  RENEWABLE ENERGY |
|  TELECOM | |

TECHNICAL DETAILS

COMBINATION WAVE / SURGE GENERATOR

| UCS 500N5V | |
|--------------------|--|
| | As per EN/IEC 61000-4-5 and EN 61000-6-1, -6-2 |
| Voltage (o.c.) | 160V - 5,000V \pm 10% |
| Pulse front time | 1.2 μ s \pm 30% |
| Time to half value | 50 μ s \pm 20% |
| Current (s.c.) | Max. 2,500A \pm 10% |
| Pulse front time | 8 μ s \pm 20% |
| Time to half value | 20 μ s \pm 20% |
| Polarity | Positive/negative/alternating |
| Event counter | 1 - 30,000 or endless, selectable |

TRIGGER CIRCUIT

| | |
|-------------------|-----------------------------|
| Release of pulses | Automatic, manual, external |
| Synchronization | 0° - 360°, resolution 1° |
| Repetition rate | max. 1Hz (1s - 999s) |

OUTPUTS

| | |
|---------------|--|
| Direct | Via HV connectors for external coupling networks ($Z_i = 20\Omega$ with optional adapter IMN 2) |
| Coupling mode | Line to line Line(s) to ground |
| DUT supply | AC: 300V/16A; 50/60Hz DC: 300V/16A |
| CRO trigger | 5V trigger signal for oscilloscope |

MEASUREMENTS

| | |
|------------------------|---------------------------|
| CRO \hat{U} -monitor | 10Vp at 5,000V |
| CRO \hat{I} -monitor | 10Vp at 2,500A |
| Peak voltage | 5,000V in the LCD display |
| Peak current | 2,500A in the LCD display |

COMBINATION WAVE / SURGE GENERATOR

| TEST ROUTINES | |
|------------------------|--|
| Quick Start | One-line adjustable parameters, easy-to-use |
| Standard Test routines | As per IEC 61000-4-5, Levels 1 - 4 As per EN 61000-6-1, -6-2 Manual Standard Test routine |
| User Test routines | Change polarity after n pulses Change coupling after n pulses Change voltage after n pulses Change phase angle after n pulses |
| Pulsed Magnetic Field | as per IEC 61000-4-9 Test levels 100, 300 and 1,000A/m Test level steplessly adjustable under Quick Start |

TECHNICAL DETAILS

GENERAL DATA

INTERFACES

| | |
|--------------------|--|
| Serial interface | USB |
| Parallel interface | IEEE 488, addresses 1 - 30 |
| CN interface | 15pin SubD connector to control an external coupling network |
| Fail inputs | DUT monitoring via Fail1 and Fail2 input (one each) |

DIMENSIONS

| | |
|------------|--------------|
| Dimensions | 19", 3HU |
| Weight | approx. 15kg |

MAINS

| | |
|----------------|--------------------------------------|
| Supply voltage | 115V/230VAC +10%/-15% |
| Power | approx. 75W |
| Frequency | 50/60Hz |
| Fuses | 2 x T 2AT (230V) or 2 x T 4AT (115V) |

SAFETY

| | |
|------------------|---------------------------------|
| Safety standard | EN/IEC 61010 |
| Security circuit | Control input (24VDC) |
| Warning lamp | Floating contact (max. 230V/6A) |

ACCESSORIES INCLUDED

| | |
|--------------|--|
| Mains supply | Plug depends on the country of use |
| DUT supply | Plug depends on the country of use |
| DUT adapter | Socket depends on the country of use |
| | Operation manual, Calibration certificate, iec.control remote control software |

OPTIONS

OPTIONAL ACCESSORIES

| | |
|--------------------|--|
| CNV504Nx | Coupling network for 4 signal/data lines as per IEC 61000-4-5 |
| CNV508Nx | Coupling network for 8 signal/data lines as per IEC 61000-4-5 |
| CNI 508N1 Assembly | Set of coupling/decoupling and protection networks for testing unshielded and shielded high-speed communication lines (Ethernet lines) |
| CNV 504S1 | Coupling network for 4 telecom lines as per IEC 61000-4-5 |
| CNV 508S1 | Coupling network for 8 telecom lines as per IEC 61000-4-5 |
| IMN 2 | Impedance matching adapter to match direct output to 2ohm source impedance |

OPTIONAL EQUIPMENT

| | |
|---------------|---|
| CNV 503Ax | 3-phase coupling/decoupling networks as per IEC 61000-4-5 up to 100A per phase |
| CNI 503Ax | 3-phase coupling/decoupling networks as per IEC 61000-4-4 and -4-5 up to 100A per phase |
| iec.control 1 | Remote control and documentation software, including standard test routines and reporting capabilities. |

COMPETENCE WHEREVER YOU ARE



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