OCS 500N6 SERIES
OSCILLATORY WAVE SIMULATOR

FOR TESTS ACCORDING TO ...

- ANSI/IEEE C37.90
- ANSI/IEEE C62.41
- EN 61000-4-10
- EN 61000-4-12
- EN 61000-4-18
- IEC 60255-22-1
- IEC 61000-4-10
- IEC 61000-4-12
- IEC 61000-4-18
- IEC 61850-3

OCS 500N6 - COMPACT TESTER FOR RINGWAVE AND DAMPED OSCILLATORY WAVES

The OCS 500N6 includes test capabilities for ringwave up to 6 kV (as per EN/IEC 61000-4-12) and the damped oscillatory waves at 100 kHz and 1 MHz up to 3 kV (as per EN/IEC 61000-4-18).

The Ringwave is a non-repetitive damped oscillatory transient occurring in low-voltage power, control and signal lines supplied by public and non-public networks. Damped Oscillatory Waves are repetitive transients mainly occurring in power, control and signal cables installed in high voltage and medium voltage stations.

The OCS 500N6 can also be used to perform magnetic field tests as required in EN/IEC 61000-4-10 using a magnetic field coil such as the MS 100N.

HIGHLIGHTS

- Standalone test generator
- Includes Ringwave up to 6 kV
- Includes Damped Oscillator Waves up to 3 kV
- Built-in CDN, single phase or three-phase up to 100 A
- Front panel operation

APPLICATION AREAS

- INDUSTRY
- COMPONENTS
- MEDICAL
- BROADCAST
- RESIDENTIAL
- RENEWABLE ENERGY
### TECHNICAL DETAILS

#### OCS 500N6 SERIES

##### OCS 500N6 MODELS

<table>
<thead>
<tr>
<th>Model Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCS 500N6.5</td>
<td>With built-in CDN 250V / 16 A</td>
</tr>
<tr>
<td>OCS 500N6.6</td>
<td>With built-in CDN 250 V / 32 A</td>
</tr>
<tr>
<td>OCS 500N6.7</td>
<td>With built-in CDN 3x440 V / 16 A</td>
</tr>
<tr>
<td>OCS 500N6.8</td>
<td>With built-in CDN 3x440 V / 32 A</td>
</tr>
<tr>
<td>OCS 500N6.20</td>
<td>With built-in CDN 3x690 V / 100 A</td>
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</tbody>
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##### OCS 500N6 MODELS FOR RCCB TESTING

<table>
<thead>
<tr>
<th>Model Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>OCS 500N6.17</td>
<td>With built-in CDN 3x440 V / 32 A, calibrated acc. IEC 61008-1 and IEC 61009-1</td>
</tr>
</tbody>
</table>

#### SLOW DAMPED OSCILLATORY WAVES AS PER EN/IEC 61000-4-18

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage (o.c. at HV output)</td>
<td>250 V - 3,000 V ± 10 %</td>
</tr>
<tr>
<td>Voltage (o.c. at line output)</td>
<td>250 V - 2,500 V ± 10 %</td>
</tr>
<tr>
<td>Rise time</td>
<td>75 ns ± 20 %</td>
</tr>
<tr>
<td>Oscillation frequency</td>
<td>100 kHz and 1 MHz ± 10 %</td>
</tr>
<tr>
<td>Decaying</td>
<td>Peak 5 to be &gt; 50% of peak 1 value, Peak 10 to be &lt; 50% of peak 1 value</td>
</tr>
<tr>
<td>Source impedance</td>
<td>200 ohm ± 20 %</td>
</tr>
<tr>
<td>Polarity</td>
<td>Positive, negative</td>
</tr>
<tr>
<td>Repetition rate</td>
<td>Max. 50 /s for 100 kHz and Max. 500 /s for 1 MHz</td>
</tr>
<tr>
<td>Burst duration</td>
<td>At least 2 s</td>
</tr>
</tbody>
</table>

#### RINGWAVE AS PER EN/IEC 61000-4-12 AND ANSI/IEEE C62.41

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage (o.c.)</td>
<td>250 V - 6,000 V ± 10 %</td>
</tr>
<tr>
<td>Rise time</td>
<td>0.5 us ± 30 %</td>
</tr>
<tr>
<td>Oscillation frequency</td>
<td>100 kHz ± 10 %</td>
</tr>
</tbody>
</table>
| Decaying | Ratio of peak 2 to peak 1: 0.4 - 1.1  
Ratio of peak 3 to peak 2: 0.4 - 0.8  
Ratio of peak 4 to peak 3: 0.4 - 0.8 |
| Source impedance | 12 ohm and 30 ohm ± 20 % |
| Peak current (s.c.) | Max. 500 A @ 12 ohm or Max. 200 A @ 30 ohm internally; |
| Rise time | 0.2 us to 1.0 us |
| Oscillation frequency | 100 kHz ± 10 % |
| Polarity | Positive, negative |
| Repetition rate | 1 / min or faster |
### GENERAL DATA

#### TRIGGER CIRCUIT
- **Release of pulses**: Automatic, manual, external
- **Synchronization**: 0° - 360°, resolution 1°

#### OUTPUT
- **Direct**: Via HV-safety lab connectors
- **Coupling mode**: Line to line, Line(s) to ground (PE)
- **DUT supply**
  - **1ph-16 A**: AC: 250 V/16 A; 50/60 Hz
    - DC: 250 V/16 A
  - **1ph-32 A**: AC: 250 V/32 A; 50/60 Hz
    - DC: 250 V/32 A
  - **3ph-16 A**: AC: 3x440 V/16 A; 50/60 Hz
    - DC: 250 V/16 A
  - **3ph-32 A**: AC: 3x440 V/32 A; 50/60 Hz
    - DC: 250 V/32 A
  - **3ph-100 A**: AC: 3x690 V/100 A; 50/60 Hz
    - DC: 250 V/100 A
- **CRO trigger**: 5 V trigger signal for oscilloscope

#### MEASUREMENTS
- **Ring wave**: Peak voltage and peak current in LCD

#### TEST ROUTINES
- **Quick Start**: Immediate start; easy-to-use and fast
- **Standard Test routines**
  - As per IEC 61000-4-12, Level 1 - 4
  - Manual Standard Test routine
  - As per ANSI/IEEE C62.41
  - As per IEC 61000-4-10, Level 1 - 5
- **User Test routines**: Change polarity after n pulses
  - Change coupling after n pulses
  - Change voltage after n pulses
  - Change phase angle after n pulses

#### INTERFACE
- **Serial interface**: USB
- **Parallel interface**: IEEE 488, addresses 1 - 30

### GENERAL DATA

#### Dimensions, weight
- **19"/6 HU, approx. 28 kg (1-phase)**
- **19"/6 HU, approx. 41 kg (3-phase)**

#### OCS 500N6.20
- **19"/25 HU, approx. 210 kg, 550 mm x 800 mm x 1320 mm**

#### Supply voltage
- **115/230 V +10/-15%**

#### Fuses
- 2 x T 2 AT (230 V);
- 2 x T 4 AT (115 V)

#### ENVIRONMENT
- **Temperature**: 10 °C to 35 °C
- **Humidity**: 25 % to 75 %, non condensing
- **Atmospheric pressure**: 86 kPa (860 mbar) to 106 kPa (1060 mbar)

### OPTIONS
- **CNV 504N5.1**: Coupler for 4 signal/datalines for damped oscillatory waves 100 kHz and 1 MHz as per IEC 61000-4-18, 50 V/4 A
- **CNV 504N5.3**: Coupler for 4 signal/datalines for damped oscillatory waves 100 kHz and 1 MHz as per IEC 61000-4-18, 250 V/4 A
- **CNV 508N4**: Coupler for 4 pairs (8 wires) as per IEC 60255-26, 250 V/4 A
- **CNV 508N4.1**: Coupler for 4 pairs (8 wires) as per IEC 60255-26, 250 V/16 A
- **MS 100N**: Magnetic Field coil for EN/IEC 61000-4-10 application
- **iec.control**: Remote control and documentation software with library of standards

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COMPETENCE WHEREVER YOU ARE

CONTACT EM TEST DIRECTLY

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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.