

# EFT 500N5 SERIES

## ELECTRICAL FAST TRANSIENT GENERATOR



### FOR TESTS ACCORDING TO ...

- > ANSI/IEEE C62.41
- > EN 61000-4-4
- > EN 61000-6-1
- > EN 61000-6-2
- > IEC 60601-1-2
- > IEC 61000-4-4
- > IEC 61326
- > IEC 61850-3

### EFT 500N5 SERIES - EFT/BURST TESTER

The EFT 500N5 series are the state-of-the-art EFT/Burst testers with a built-in coupling/decoupling network for single phase or three-phase mains supply lines and a HV terminal to connect a capacitive coupling clamp.







The spike frequency can be varied from as low as 100Hz up to 1,000kHz. The EFT 500N5 is capable to generate 10,000 spikes per second or up to 1,000 spikes per burst.

Its performance fully complies with IEC 61000-4-4 Ed.3:2012. Pre-programmed Standard Test routines and a number of selected User Test routines make the EFT 500N5 an optimum standalone solution for both testing during development and final testing of products and sub-assemblies.

### HIGHLIGHTS

- > **10,000 pulses/sec.**
- > **4.8kV Burst voltage**
- > **Spike frequency up to 1MHz**
- > **Built-in 1ph or 3ph coupler up to 50A**
- > **Pulse verification acc. to Ed.3 on each coupling path**

### APPLICATION AREAS

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

## TECHNICAL DETAILS

## TECHNICAL DATA

## EFT 500N5 MODELS

|                           |  |
|---------------------------|--|
| EFT 500N5.1               | With 3-ph coupler,<br>AC: 3x 440V/ 32A,<br>DC: 270V/ 32A |
| EFT 500N5.2               | With 3-ph coupler,<br>AC: 3x 440V/ 50A,<br>DC: 270V/ 50A |
| EFT 500N5.5               | With 1-ph coupler,<br>AC: 250V/ 32A,<br>DC: 270V/ 32A    |
| EFT 500N5.8               | With 3-ph coupler,<br>AC: 3x 690V/ 32A,<br>DC: 270V/ 32A |
| Other couplers on request |  |

## TEST LEVEL

|                  |                    |
|------------------|--------------------|
| Voltage range    | 200V - 4,800V      |
| Into 50ohm       | 100V - 2,400V      |
| Pulse shape      | Into 50ohm load    |
| Rise time tr     | 5ns ± 30%          |
| Pulse width td   | 50ns ± 30%         |
| Pulse shape      | Into 1,000ohm load |
| Rise time tr     | 5ns ± 30%          |
| Pulse width td   | 35ns to 150ns      |
| Source impedance | 50 Ohm ± 20%       |
| Polarity         | Positive/negative  |

## TRIGGER

|                       |   |
|-----------------------|---|
| Release of Burst      | Automatic, manual, external                         |
| Burst duration        | Td = 0.10ms - 999.9ms                               |
| Burst repetition rate | Tr = 10ms - 9,999ms                                 |
| Spike frequency       | f = 0.1kHz - 1,000kHz                               |
| Test duration         | T = 0:01 min - 99:59 min<br>T > 99:59 min - endless |

## TECHNICAL DATA

## OUTPUT

|                          |  |
|--------------------------|--|
| Direct                   | Via HV coax connector  |
| Coupler                  | L, N and PE, all combinations  |
| DUT supply AC<br>50/60Hz | single phase: 250V/ 32A,<br>three-phases: 3x440V/ 32A or 50A,                                |
| DUT supply DC            | 270V/ 32A or 50A   |
| DUT supply               | Other DUT supply voltages on request   |
| CRO Trigger              | 15V trigger signal for oscilloscope;<br>burst duration and pulse frequency<br>can be checked |

## TEST ROUTINES

|                        |  |
|------------------------|--|
| Quick Start            | Immediate start; easy to use and fast  |
| User Test routines     | Custom made test routine<br>Change voltage after T<br>Change frequency after T<br>Frequency sweep within a burst<br>Change burst duration after T<br>Random release of bursts<br>Synchronous burst mode<br>Change polarity after T |
| Standard Test routines | As per IEC 61000-4-4,<br>Automatic test Level X - Y  |
| Service                | Service, set-up, self test   |

## INTERFACES

|                    |                             |
|--------------------|-----------------------------|
| Serial interface   | USB                         |
| Parallel interface | IEEE 488, address 1 - 30    |
| CN interface       | To control external CNI 503 |

## GENERAL DATA

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|                    |  |
|--------------------|--|
| Dimensions, weight | EFT 500N5.1: 19"/6HU, 22kg<br>EFT 500N5.2: 19"/6HU, 40kg<br>EFT 500N5.5: 19"/3HU, 20kg<br>EFT 500N5.8: 19"/3HU, 23kg |
| Supply voltage     | 115/230V, +10/-15%   |
| Fuses              | 2x 2 AT (230V),<br>2x 4 AT (115V)  |

## TECHNICAL DETAILS

| ENVIRONMENT          |   |
|----------------------|---|
| Temperature          | 10 °C to 35 °C                            |
| Humidity             | 25 % to 75 %, non condensing              |
| Atmospheric pressure | 86 kPa (860 mbar) to 106 kPa (1 060 mbar) |

## OPTIONS

| OPTIONS     |  |
|-------------|--|
| HFK         | Coupling Clamp as per IEC 61000-4-4  |
| KW 50       | 50ohm matching resistor for verification   |
| KW 1000     | 1,000ohm matching resistor for verification  |
| CA EFT kit  | Kit for burst pulse verification consisting of KW50, KW1000 and adapter for DUT port with plastic case for storage   |
| CA HFK kit  | Adapter set for capacitive coupling clamp calibration included:<br>- Transducer plate as per IEC/EN 61000-4-4 Ed 3.0<br>- Support for positioning the KW 50 adapter on 100mm height as the capacitive coupling clamp |
| A6dB        | 6dB attenuator   |
| CNI 503     | Coupling/decoupling networks, 3x440V/ 32A-63A-100A   |
| iec.control | Software to control the test, including standard library, test report facility and data conversion generator   |

# 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. Subject to change without further notice.