

SURGE GENERATOR

PG 6 - 500

Surge voltage
 2 / 10 μ s
 0.2 - 5.0 kV

Surge current
 2 / 10 μ s
 100 / 500 A



acc. to GR-1089-CORE

The surge generator PG 6-500 is a combined impulse-current-/impulse-voltage generator (combination wave generator) which, for high-impedance loads, $R_L > 100\Omega$, delivers a standard impulse voltage with waveform 2 / 10 μ s and, for short-circuited output, a standard impulse current with waveform 2 / 10 μ s.

The generator is designed for testing 2-wire and 4-wire telecom ports according to Fig. 4.2 of GR-1089-CORE standard.

Following test levels can be selected:

First-Level Lightning Surge	± 2500 V	500 A	2/10 μ s	max. 4 wires
Second-Level Lightning Surge	± 5000 V	500 A	2/10 μ s	max. 4 wires
Intra-Building Lightning Surge	± 800 V	100 A	2/10 μ s	max. 4 wires
Intra-Building Lightning Surge	± 1500 V	100 A	2/10 μ s	max. 4 wires

Moreover, the connections to the test object and the ground connections of unused inputs can be selected from the front panel of the generator:

Test Mode: T \Rightarrow GND	TIP to generator	RING, T1 and R1 grounded
R \Rightarrow GND	RING to generator	TIP, T1 and R1 grounded
T1 \Rightarrow GND	T1 to generator	RING, TIP and R1 grounded
R1 \Rightarrow GND	R1 to generator	RING, TIP and T1 grounded
T&R \Rightarrow GND	TIP & RING to generator	T1 and R1 grounded
T1&R1 \Rightarrow GND	T1 & R1 to generator	TIP and RING grounded
ALL \Rightarrow GND	T, R, T1 & R1 to generator	

PG 6-500 features a microprocessor controlled user interface and display unit for ease of use. The microprocessor allows the user to either execute standard test routines, or a 'user defined' test sequence. The test parameters are easily adjusted by means of the rotary encoder. A standard parallel interface provides the ability to print a summary of the test parameters whilst testing is being carried out.

The PG 6-500 excels by its compact design, simple handling and precise reproducibility of test impulses. The output current- and voltage waveforms, due to built-in sensors, can be recorded via separate signal outputs for current and voltage.

Technical specification

PG 6-500

Mainframe:

Microprocessor controlled LCD module	8*40 characters
Parallel printer interface for on-line documentation	25-way 'D' connector
Optical-interface for remote control of the generator	built-in
External Trigger input	10 V at 1 k Ω
External Trigger output	10 V at 1 k Ω
Diagnostic input for monitoring of the test device	4 channels, 5 V - Level
Connector for external safety interlock loop	24 V =
and external red and green warning lamps acc. to VDE 0104	230 V, 60W
Mains power	230 V, 50/60 Hz
Dimensions: desk top case W * H * D	453*320*580 mm ³
Weight	35 kg

SURGE according to GR-1089-CORE

Impulse voltage, adjustable (open loop output)	0.2 - 5 kV, +15%/-0%
Impulse current (output short circuited with 1m cable)	100 / 500 A, +15%/-0%
Front-time, of open loop output voltage	2 μ s +0%/-50%
Time to half value, of open loop output voltage	10 μ s +50%/-0%
Front-time, of short circuit output current, 4 wires	2 μ s +0%/-10%
Time to half value, of short circuit output current, 4 wires	10 μ s +10%/-0%
Front-time, of short circuit output current, 2 wires	2 μ s + 0%/-20%
Time to half value, of short circuit output current, 2 wires	10 μ s +20%/-0%

Following test levels can be selected:

First-Level Lightning Surge	\pm 2500 V, 4*500 A
Second-Level Lightning Surge	\pm 5000 V, 4*500 A
Intra-Building Lightning Surge	\pm 800 V, 4*100 A
Intra-Building Lightning Surge	\pm 1500 V, 4*100 A

Test mode selectable:

Test Mode: T \Rightarrow GND	TIP to generator, RING, T1 and R1 grounded
R \Rightarrow GND	RING to generator, TIP, T1 and R1 grounded
T1 \Rightarrow GND	T1 to generator, RING, TIP and R1 grounded
R1 \Rightarrow GND	R1 to generator, RING, TIP and T1 grounded
T&R \Rightarrow GND	TIP & RING to generator, T1 and R1 grounded
T1&R1 \Rightarrow GND	T1 & R1 to generator, TIP and RING grounded
ALL \Rightarrow GND	T, R, T1 & R1 to generator

Polarity of pulse output voltage/current, selectable	pos/neg
max. stored energy	500 Joule
Charging time for max. charging voltage	< 20s
Display of peak values of output voltage / current	built-in
Monitor output for impulse output voltage	ratio = 500 : 1 \pm 5%
Monitor output for impulse output current	5V \equiv 500 A \pm 5%