

# SurgeCurrent

## Generators PG \*\*\_\*\*\*\*

Waveform:

- 10/50  $\mu$ s
- 10/350  $\mu$ s
- 10/700  $\mu$ s
- 10/1000  $\mu$ s

Surge current:

- 10 kA
- 500 A
- 1000 A

The surge current generators PG \*\*\_\*\*\*\* generate impulse currents with wave form 10/50  $\mu$ s - 10/1000  $\mu$ s acc. to IEC, VDE etc.. Pulse current output amplitude is controlled by preset charging voltage and can be adjusted up to the maximum value of the special type of generator. The generator is designed for testing electrical components, over-voltage protectors and electronic circuits. It possesses an electronically regulated high-voltage power supply, which allows an excellent reproducibility of the pulse output amplitude.

The pulse-forming network contains a pulse-fidelity current viewing resistor for monitoring the output waveform. The impulse current output is located at the top of the equipment and provides high-current connectors for a plug-in test adapter.

All generators feature 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, which are shown on the built-in display, 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.



## Technical specification:

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### Mainframe:

Microprocessor controlled LCD display	8*40 characters
Remote control via optically isolated computer interface	5 m fibre optic cable
Parallel printer interface for on-line documentation	25-way 'D' connector
External Trigger input	10 V at 1 k $\Omega$
External Trigger output	10 V at 1 k $\Omega$
Connector for external safety interlock loop and external red and green warning lamps acc. to VDE 0104	24 V = 230 V, 60W
Mains power	230 V , 50/60 Hz

**OPTION 1:** Remote control PC Software  
Incl. 5 m long fibre optic cable and USB-PC Interface.

**OPTION 2:** Test chamber on top, build in 19" rack, with security glass door, safety interlock protects the high-voltage output terminals. Upon opening of the door, switching-off of the generator or mains blackout a built-in high-voltage grounding switch, discharges the test object and the internal energy storage capacitor. Test space ca. W\*H\*D 470\*530\*490 mm<sup>3</sup>

**OPTION 3:** Current impulse triggering synchronization 0-360° to the zero crossing of the sinusoidal mains voltage, phase angle in steps of 1°.  
Mains power (E.U.T. power supply) 400V<sub>eff</sub> / 50Hz  
Without decoupling from HV – power supply.

**OPTION 4:** Galvanic isolated measurement of current impulse with a Pierson coil.

**OPTION 5:** Polycarbonate security door with solid hinges and fasteners made of stainless steel.

**Various types with different waveforms are available:**

## Technical specification

# Surge Current Generator

## PG 10-2500

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Peak value of charging voltage, adjustable  
Max. stored energy  
Charging time for max. charging voltage

0.2 - 10 000 V,  $\pm 2\%$   
2500 Ws  
< 40 sec

Waveform of impulse output current  
Impulse output current, adjustable via charging voltage  
Output pulse polarity, switchable  
Current viewing resistor, built-in  
Max. pulse repetition rate

**10 / 700  $\mu\text{s}$**   $\pm 20\%$   
**10 - 500 A**  $\pm 10\%$   
POS/NEG  
0.05  $\Omega$ , 2 MHz  
1/60 sec

Dimensions : 19"-cabinet            W \* H \* D  
Weight

ca. 553\*600\*600 mm<sup>3</sup>  
65 kg

## Surge Current Generator

## PG 10-4000

Peak value of charging voltage, adjustable	0.2 - 10 000 V, $\pm 2\%$
Energy storage capacitor	75 $\mu\text{F}$ / 10 kV
Charging time for max. charging voltage	60 sec
Impulse output current, adjustable via charging voltage	<b>10 - 500 A <math>\pm 5\%</math></b>
Waveform of impulse output current	<b>10 / 1000 <math>\mu\text{s}</math> <math>\pm 20\%</math></b>
Current viewing resistor, built-in	20 m $\Omega$ , 20 MHz
Max. pulse repetition rate	1/60 sec
Dimensions: 19"-cabinet                      W * H * D	ca. 553*1600*600 mm <sup>3</sup>
Weight	125 kg

## Surge Current Generator

## PG 10-6000

Peak value of charging voltage, adjustable	0.2 - 10 000 V, $\pm 2\%$
Energy storage capacitor	120 $\mu\text{F}$ / 10 kV
Charging time for max. charging voltage	90 sec
Impulse output current, adjustable via charging voltage	<b>0.1 - 10 kA <math>\pm 5\%</math></b>
Waveform of impulse output current	<b>10 / 50 <math>\mu\text{s}</math> <math>\pm 20\%</math></b>
Current viewing resistor, built-in	1.0 m $\Omega$ , B>1.0 MHz
Max. pulse repetition rate	1/100 sec
Dimensions: 19"-cabinet                      W * H * D	ca. 553*1600*600 mm <sup>3</sup>
Weight	175 kg

## Surge Current Generator

## PG 10-8000

Peak value of charging voltage, adjustable	0.2 - 10 000 V, $\pm 2\%$
Energy storage capacitor	150 $\mu\text{F}$ / 10 kV
Charging time for max. charging voltage	120 sec
Impulse output current, adjustable via charging voltage	<b>10 - 1000 A <math>\pm 5\%</math></b>
Waveform of impulse output current	<b>10 / 1000 <math>\mu\text{s}</math> <math>\pm 20\%</math></b>
Current viewing resistor, built-in	10 m $\Omega$ , 20 MHz
Dimensions: 19"-cabinet                      W * H * D	ca. 553*1600*600 mm <sup>3</sup>
Weight	195 kg

## Surge Current Generator

## PG 10-12 500

The surge current generator PG 10-12500 generates impulse currents with waveform 10/350  $\mu$ s and is designed for testing over-voltage protectors. Pulse current output amplitude is controlled by preset charging voltage and can be set to (0.5 - 5) kA respectively.

Peak value of charging voltage, adjustable	0.2 - 10 000 V, $\pm$ 2%
Max. stored energy	12 500 Ws
Charging time for max. charging voltage	100 sec

Impulse output current, adjustable via charging voltage	<b>0.5 - 5.0 kA <math>\pm</math> 5 %</b>
Waveform of impulse output current acc. to IEC 60-2	<b>10 / 350 <math>\mu</math>s <math>\pm</math> 20 %</b>
Output pulse polarity, switch able	POS/NEG/ALT

HV output: high current terminals	
Current viewing resistor, built-in	0.5 m $\Omega$ , 2.0 MHz

Dimensions: 19"-cabinet	W * H * D	ca. 600*2000*800 mm <sup>3</sup>
Weight		265 kg

## Surge Current Generator

## PG 10-25 000

The surge current generator PG 10-25000 generates impulse currents with waveform 10/350  $\mu$ s and is designed for testing two-gap over-voltage protectors. The Generator has two outputs, which can be connected together. Pulse current output amplitude is controlled by preset charging voltage and can be set to (1 - 10) kA or 2 \* (0.5-5) kA respectively.

Peak value of charging voltage, adjustable	0.2 - 10 000 V, $\pm$ 2%
Max. stored energy	25 000 Ws
Charging time for max. charging voltage	300 sec

Impulse output current, adjustable via charging voltage	<b>1.0 - 10.0 kA <math>\pm</math> 5 %</b>
Waveform of impulse output current acc. to IEC 60-2	<b>10 / 350 <math>\mu</math>s <math>\pm</math> 20 %</b>
Output pulse polarity, switchable	POS/NEG/ALT

HV output: high current terminals	
Current viewing resistor, built-in	0.5 m $\Omega$ , 2.0 MHz

Dimensions: 19"-cabinet	W * H * D	ca. 1200*2000*800 mm <sup>3</sup>
Weight		425 kg