# SURGE CURRENT GENERATOR PG 6 - 432

**Surge current**
**2 * 5 - 100 A**

**10/700 µs**
**10/1000 µs**

**Impulse Life Test /**
**Hold-over Test**
**acc. to CCITT, K12**

The Surge Test Generator PG 6-432 produces impulse currents with standard waveforms 10/700 µs or 10/1000 µs. Testing two-gap over-voltage protectors the generator delivers simultaneous at two outputs impulse currents adjustable up to 100 A each. The pulse-forming network contains a high pulse-fidelity current viewing resistor for measurement of the output current amplitude and waveform with a scope.

For IMPULSE LIFE TEST of overvoltage protectors according to CCITT-K12, impulse currents up to 200 A can by generated by connecting the two output terminals in parallel.
A presetable pulse counter allows generation of 1 - 1000 pulses with the same specification. Up to five devices can be tested successively with pulse repetition rate adjustable, 10 -1000 sec. Pulse polarity may be selected positive, negative or alternating.

Moreover, the generator contains all additional wiring, adjustable power supplies PS1 and PS2, relays for polarity reversal and monitor outputs to execute HOLD OVER TEST of two-gap over-voltage protectors according to CCITT K12.

Test devices are connected to a plug-in test adapter. The impulse current output connectors are located at the top of the equipment and are protected by a dielectric cover with safety interlock. Upon lifting of the cover, switching-off of the generator or mains blackout the test object and the internal energy storage capacitor are discharged by a built-in high-voltage grounding switch.

The surge current generator PG 6-432 features a microprocessor controlled user interface and display unit for ease of use. The microprocessor allows the user to operate the generator manually or to generate, save and execute a ´user defined´ test sequence. The test parameters, charging voltage, polarity number of pulses, pulse repetition time, and the output voltage of the power supplies PS1 and PS2, 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. Moreover, all generator functions may be computer controlled via the isolated optical interface. The generator excels by it’s compact design, simple handling and precise reproducibility of test pulses. The generator uses maintenance-free semiconductor switches for surge current generation.

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**Technical specification:** **PG 6-432**

**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 kΩ |
| External Trigger output | | | 10 V at 1 kΩ |
| 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*520 $mm^3$ |
| Weight | | | 25 kg |

| | | |
|---|---|---|
| **Pulse forming network:** | **surge current** | **10/700µs, 10/1000µs** |

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|---|---|
| Charging voltage, adjustable | 0.2 - 6.3 kV |
| Surge current output amplitude, adjustable via charging voltage (by connecting the two output terminals in parallel a total output current of 200A is available) | 5 - 100 A ± 5 % |
| Polarity of output current, selectable | pos/neg/alternating |
| Waveform: | selectable |
| PFN 1: front time / time to half value | 10/700 µs ± 20% |
| PFN 2: front time / time to half value | 10/1000 µs ± 20% |
| Max. stored energy | 432 Joule |
| Charging time for max. charging voltage | < 8 sec |
| Pulse current output terminals: 3 terminals for 5 test devices | 4 mm Ø, connector |
| Monitor output for pulse output current | 10V ≡ 200 A ± 1% |
| Pulse counter, digitally preset able | 1 - 1000 |
| Pulse repetition rate, selectable | 10 - 1000 sec |
| Successive changeover switching of 5 devices | built-in |

Additional parallel impedances acc. to CCITT-K12:

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|---|---|
| R2 + C1 | 150 Ω+100 nF, 272 Ω+ 43 nF |
| R3, two pieces each | 260 Ω, 330 Ω, 750 Ω, 1300 Ω |
| R4 + C2, two pieces each | 136 Ω / 145 Ω + 83 nF |
| Serial diode with switchover relays, 2 pieces | built-in |
| Switchover relays for polarity reversal of PS1 and PS2 | built-in |
| Power supplies PS1 and PS2, built-in | 30 - 150V, 1A |

**Safety test cover:**

mounted on the top of the equipment, safety interlock loop connected to the limit switch, red an green warning lamps installed, plug-in test adapter for 5 test samples.

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|---|---|---|
| Dimensions: | W * H * D | 400*150*250 $mm^3$ |



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