# PG 5-200 / PG 10-1000

## High voltage pulse generator

| | |
|---|---|
| **Lightning Surge** | **1.2 / 50 µs** |
| **Switching Voltage** | **10 / 700 µs** |
| **Switching Current** | **5 / 350 µs** |


| According to |
|---|
| **CCITT-K17/K20/K22** |
| **ITU-T/K44** |
| **IEC 61000-4-5** |
| **VDE 0847** |

The high-voltage pulse generator PG 5-200/ 10-1000 creates standard impulse voltages with waveforms 1.2/50 µs and 10/700 µs. It is designed for dielectric testing of components and systems as well as testing of the electromagnetic compatibility of electronic systems and devices acc. to CCITT-K17/K20/K22, ITU-T/K44, IEC 61000-4-5 etc.

Output impulse voltage waveform can be selected:

- Lightning Surge with waveform 1.2/50 µs acc. to IEC 60060
- Switching Voltage with waveform 10/700 µs acc. to IEC 61000-4-5
- Switching Current with waveform 5/320 µs acc. to IEC 61000-4-5

The peak value of the test voltage is continuously adjustable from 0.2kV/ 0.5kV to 5kV/ 10kV. Positive or negative polarity of output voltage can be selected. A built-in voltage divider 1000:1 allows monitoring of the impulse output waveform during testing.

The generator excels by its compact design, simple handling and precise reproducibility of test impulses. The generator uses maintenance-free semiconductor switches. It features a microprocessor controlled user interface and a 7” touch screen unit for ease of use. The microprocessor allows the user to execute either standard test routines or a “user defined” test sequence. A standard USB port provides the ability to print a summary of the test parameters as well as the results to an USB stick.

Moreover, all generator functions may be computer controlled.
The software program PG-REMOTE allows full remote control of the test generator via fiber optic Ethernet interface as well as documentation and evaluation of test results, accordingly to the IEC 17025. To record definite impulses, it is equipped with an Impulse Recording Function (IRF)

External coupling networks designed for testing telecom equipment with up to 8 ports are available.

| **Options** | **PG 5-200** | **PG 10-1000** |
|---|---|---|
| | | |
| **PC software for remote control** | **PG-REMOTE** | |
| PG Remote software test package, running under Microsoft Windows, for the external control of the device | | |
| ( XP, WIN7, WIN10 ) includes 5 m long fibre optic cable and Ethernet PC Interface | | |
| | | |
| **External coupling/ decoupling network** | **CDN** | |
| 4 wire/ 8 wire; 5kV acc. IEC 61000-4-5 | CDN 504/ CDN 508 | |
| 4 * 100 Ω | KN100-4 | |
| | | |
| **PROTECTIVE COVER ON THE EQUIPMENT TOP** | **PA** | |
| With safety interlock switch,<br>connected to the safety interlock loop,<br>red and green warning lamps installed acc. VDE 0104 | | |
| Type PA 503, Dimensions W * H * D | 400 * 140 * 300 mm³ | |
| Type PA 505, Dimensions W * H * D | 400 * 250 * 400 mm³ | |
| Version without protective cover | | |
| | | |
| **TYPE PG 10-1KE** | **PG 10-1ke** | |
| Pulse forming network acc. to IEC 60065 | | |
| Cs = 1 nF, Rs = 1kΩ | | |

Other configurations: PG 5-200-2:

| TECHNICAL SPECIFICATIONS | | PG 5-200 | | PG 10-1000 | |
|---|---|---|---|---|---|
| **Mainframe** | | | | | |
| Microprocessor controlled touch panel | | 7”, capacitive | | | |
| Optical Ethernet Interface for remote control of the generator | | optional | | | |
| Interface for saving reports | | USB | | | |
| External Trigger input / output | | Switch / 10 V | | | |
| Connector for external safety interlock loop | | 24 V = | | | |
| and external red and green warning lamps acc. to VDE 0104 | | 24 V=, 40mA | | | |
| Mains power | | 90V - 264V, 50/60 Hz | | 230V, 50/60 Hz | |
| Dimensions: desk top case W * H * D | | 450 * 180 * 500 mm³ | | 450 * 330 * 500 mm³ | |
| Weight | | 22 kg | | 35kg | |
| **High- Voltage Pulse Generator:** | | | | | |
| Impulse output voltage, adjustable ± 10% | | 0.2 - 5 kV | | 0.5 – 10 kV | |
| Waveform of impulse output voltage | | Selectable (acc. to IEC 60600) Tol. ± 30/±20%: | | | |
| Surge waveform, acc. IEC60600-1 | | 1.2/50µs | 10/700µs | 1.2/50µs | 10/700µs |
| Energy storage capacitor | $C_S$ | 1.0 µF | 20 µF | 1.0 µF | 20 µF |
| Max. stored energy | $W_E$ | 13 J | 250 J | 50 J | 1000 J |
| Discharging resistor | $R_E$ | 76 Ω | 50 Ω | 76 Ω | 50 Ω |
| Damping Resistor | $R_D$ | 13 Ω | 15 Ω | 13 Ω | 15 Ω |
| Load capacitance | $C_B$ | 0.03 µF | 0.2 µF | 0.03 µF | 0.2 µF |
| Waveform of impulse output current, front time/tail time | | 5/320 µs | | Tol. ± 20% | |
| Resistor in series to the output | $R_S$ | 0 Ω<br>$R_{Ges}=R_D+R_s = 13\Omega$ | 2 * 25 Ω<br>$R_{Ges}=R_D+R_s = 40\Omega$ | 0 Ω / 25 Ω / 25 Ω | |
| Output polarity, selectable | | pos / neg /alt | | | |
| Trigger: a) manual | | push button | | | |
| b) external Trigger input | | switch | | | |
| c) internal | | automatic | | | |
| Repetition time, selectable | | 5-1000 s | 20-1000 s | 5-1000 s | 20-1000 s |
| Impulse voltage divider, built-in | | v= 1000:1 ± 2 %, 50 W | | | |
| **Current Sense:** | | | | | |
| Threshold value, selectable | | 1-500 µAs | 1-2500 µAs | - | - |
| Current sense working range | | 0.2 kV - 5kV | | - | |
| Impulse voltage divider, built-in | | ratio 1000:1 ± 5% | | - | |
| HV output, HV-OUT | | HV connector | | - | |
| Mains synchronous triggering, phase shifting | | 0 - 360 °, step 1° | | - | |
| **Accessories** | | | | | |
| Mains cable, key, operation instructions | | | | | |


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