

# FRONT-CHOPPED-WAVE GENERATOR

## IPG 506 SYM

**Measurement of  
DC spark-over voltage and  
impulse spark-over voltage  
for 3-Pole Gas Discharge Tubes**

**Rise of output voltage, selectable:  
600 V = : 100 V/s  
5 kV impulse: 100V/μs - 5000 V/μs**

**Insulation resistance 0.5kΩ - 3 GΩ**

**Acc. to CCITT / ITU-T, K12**



The front-chopped-wave generator IPG 506 is used for measuring dc spark-over voltage and impulse spark-over voltage of over-voltage protectors according to CCITT / ITU-T, K12.

### **DC spark-over voltage:**

A linearly rising voltage, rate of rise 100 V/s up to 640 V, simultaneous plus and minus, is connected to the device under test. The spark-over voltage of these two simultaneous impulses are measured and shown in the display.

### **Impulse spark-over voltage:**

A linearly rising impulse voltage, simultaneous plus and minus, rate of rise 100 V/μs up to 5000 V/μs, open loop amplitude 5000 V, is connected to the device under test. The spark-over voltage is measured by use of a peak detector.

The results of these two simultaneous impulses are shown on the display.

Two built-in impulse voltage dividers allows measurement of the spark-over voltage, plus and minus, by use of an externally connected scope.

Moreover, the **insulation resistance** of the test device can be measured in the range of 0.5 kΩ - 3 GΩ. Test voltage selectable: 50 / 100 V.

The high-voltage output terminals are located on the top of the generator. They are protected by a dielectric cover with safety interlock.

The front-chopped-wave generator IPG 506 feature 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, which are shown on the built-in display, are easily adjusted on the 5" touch screen.

A standard USB interface provides the ability to print a summary of the test parameters and measured values of spark-over voltage whilst testing is being carried out on an USB stick.

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TECHNICAL SPECIFICATIONS	IPG 506 SIM
<b>Mainframe</b>	
Microprocessor controlled touch panel	5", 800x480, 24 bit
Optical Ethernet Interface for remote control of the generator	optional
Interface for saving reports	USB
Connector for external safety interlock loop	24 V =
External red and green warning lamps	230 V, 60W
Mains power	230 V, 50/60 Hz
Dimensions of desk top case W * H * D	450*310*500 mm <sup>3</sup>
Weight	30 kg
<b>Generator section</b>	
Output terminals	4 mm Ø, connector
<b>DC spark-over voltage, plus and minus simultaneous:</b>	
Test voltage, controlled by a 8 bit DAC	637.5 V
Rate of rise	100 V/sec
Measurement of spark-over voltage, accuracy	12 bit ± 2 digit
<b>Impulse spark-over voltage, plus and minus simultaneous:</b>	
Test voltage, amplitude of the open loop impulse voltage	5 kV ± 10%
Rate of rise, selectable	100/200/500 V/µs 1000/2000/5000 V/µs
Repetition time, selectable	3 - 1000 sec
Number of pulses, selectable	1 - 1000
Polarity of output voltage	one pos. / one neg.
Max. stored energy	6 Joule
Measurement of spark-over voltage	500 - 1500 V +5%/-15%
Monitor output for impulse output voltage	ratio 1000:1 ± 3%
<b>Measurement of insulation resistance:</b>	
Measuring range of insulation resistance	0.5 kΩ - 3 GΩ
Test voltage selectable	50 V / 100 V
<b>Safety test cover:</b>	
Mounted on the top of the equipment, type PA 503,	
Safety interlock loop connected to the limit switch	
Dimensions: W * H * D	400*150*400 mm <sup>3</sup>
<b>Acc.:</b> power cable, turn-key, instruction manual	