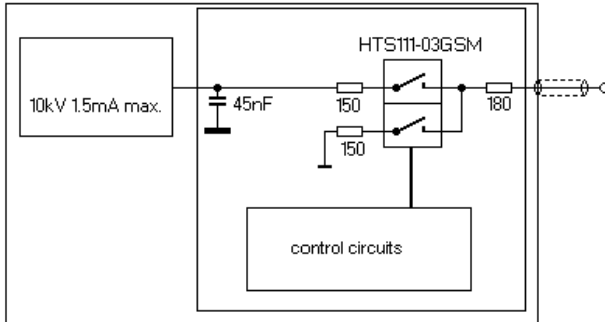


# Pulse Generator RUP3-10a/001

Fast high voltage pulse generator for electrostatical loads

## Technical Specification



Principal scheme for RUP3-10a/001

## Current and Voltage

- output impedance about 360 Ohm
- internal output capacity (mostly from cable) around 200 pF.
- Short circuit current at maximum voltage may be as high as 30A, the useful pulse current should stay below 0.5A.
- Internal storage capacity 45 nF.
- output voltage adjustable in the range 0... +10 kV for static loads, in case of pulse currents subtract drop on internal 360 Ohm resistance
- maximum output power 15 W.
- The pulse generator is designed such that it is short circuit proof and can absorb all generated power internally.

## Wave Form and Frequency

- square wave with variable pulse width and variable frequency
- rise time (10%-90%) and fall times (90%-10%) are approximately equal and depend on the capacity of the load. For a 150pF load, it may be in the order of 0.3  $\mu$ s.
- pulse width 0.2  $\mu$ s - infinite.
- Duty cycle can be chosen nearly arbitrarily (0-100%), as long as other limitations (average current) are not violated.

- maximum frequency at maximum voltage for 150pF load is at least 200 Hz, for lower voltages higher. The theoretical switching frequency limit of the employed switch module is in the order of 1 kHz.
- Control of voltage by 10-turn potentiometer on the front.
- Pulse control is done by external TTL signal at the control input at the front.

## Mechanical, included items

- 19" insert housing, 5 HE, 483\*222mm, 460mm deep
- output 2 m high voltage cable with HS21 connector
- grid supply 230V, 30VA max.
- analog meter for voltage
- control input (TTL, BNC connector)
- monitor output (BNC) 1:1000 for output voltage.
- monitor output (BNC) 1V/1A for output current.
- documentation including circuit diagrams.

## Safety

- short circuit currents are limited to 30A, stored energy is limited to around 2.2 Joule, average current is <2mA.
- The pulse generator is compatible to regulations about electromagnetic compatibility (EMV).

## To be provided by customer

- Digital Oscilloscope and TTL signal

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