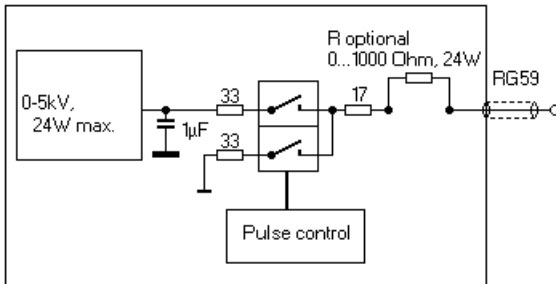


RUP3-5AS

Fast high voltage pulse generator for electrostatical loads

The pulse generator RUP3-5A is a small scale high voltage pulse generator for electrostatical applications. It includes pulse active switching off, a voltage up to 5kV and very fast and adjustable switching times due to exchangeable output resistor.

Technical data



Principal scheme of RUP3-5AS

Voltage and Current

- Voltage 0...5 kV, adjustable
- average current >10 mA max.
- output power limited to 24W
- min. output impedance 50 Ohm, may be increased to >1kOhm by optional additional internal output resistor.
- peak current around 100A with short circuit or during switching.
- Accuracy of voltage monitor output signal will be better 1%, ripple on the voltage will be smaller than 0.5%.

Pulse shape and frequency

- square wave, rise and fall time depending on load capacity and output resistor. Without any load, switching time may be in the order of 50-100ns.
With capacitive load, switching time can be calculated as $t=2.2 \cdot R \cdot C$. Include the output cable capacity of 180pF within C.
- pulse width 0.2 µs - ∞ (useful maximum pulse width with currents > 10 mA is determined by the discharge of the internal pulse capacitor of 1µF)
- duty cycle up to 100% possible.
- maximum frequency 500-1000 Hz, exact value still to be determined due to switch losses.
Maximum switching frequency may be lower if

load capacity exceeds 500 pF.

mechanical, included items

- 19" insert housing, 5 HE
- display for voltage (3 digit) and average current
- 10-turn potentiometer on front plate for adjustment of voltage.
- control input 5V signal at 1kΩ (standard TTL suggested)
- voltage monitor output 1:1000
- current monitor output 100mV/A
- output with SHV connector, 1.5m output cable RG59 included.
- spare optional output resistor modules: 0 / 100 / 150 / 220 / 330 / 470 / 680 Ohm / 1kOhm + 2 empty resistor module boards for customer self configuration.
- manual

environmental

- environmental temperature 5-35°C
- humidity 0-80%, the pulse generator is intended for the use in dry rooms.
- protection class I, IP20
- supply voltage 220V-240V~, 200W max.

Safety

- external interlock
- the pulse generator is protected by resistors from damage by arcs or short circuits.
- short circuit currents are limited to 100 A (worst case).
- The pulse generator is conformal to regulations about electromagnetic compatibility (EMC).

Required but not included

- Arbitrary signal generator or similar TTL pulse generator for control
- digital oscilloscope

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