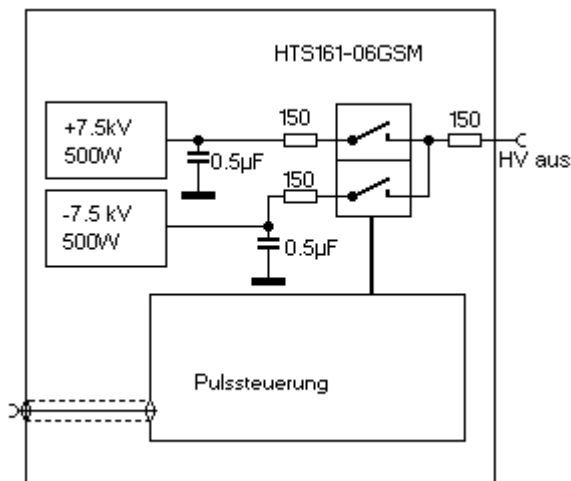


RUP3-7bip

High voltage pulse generator for bipolar pulses

The pulse generator RUP3-7bip is designed for applications which demand fast and high frequent switching between two settable input voltages. It offers very fast rise and fall times (active switching off), a voltage difference up to 15kV, average current up to 2*66mA and frequency up to 10 kHz. The pulse generator is mainly designed for capacitive loads in the range 50pF....1nF.

Technical data



principal schematic RUP3-7bip

Voltage and current

- power supply 1: voltage 0.... -7.5 kV, adjustable
- power supply 2: voltage 0.... +7.5 kV, adjustable
- average current each supply 66 mA
- maximum power of each supply 500W
- current surveillance: If a free adjustable current limit is exceeded, pulse generator and high voltage is switched off.
- output impedance 300 Ω
- peak current up to 50A in short circuit, practical useful currents up to 5A
- The pulse generator is designed such that the whole possible output power can be absorbed internally.

Waveform and frequency

- square wave, rise and fall time without load 100-200 ns, otherwise depending on load capacity and can be calculated as $t_r = C \cdot 660 \text{ ns/nF}$
- minimum pulse width 0.2 µs
- maximum pulse width only limited for resistive loads by internal pulse capacity of 500nF.
- duty cycle up to 100% (DC operation) possible.

- maximum frequency 10 kHz, if not limited by power for larger capacitive loads.
- internal signal generation with 50% duty cycle, adjustable in the range 100 Hz – 10 kHz, alternatively the generator can be also controlled by TTL signal (0V: output connected to negative HV; 5V: output connected to positive HV).

Mechanical, included

- 19" rack, 780*550*860mm (D*W*H).
- display voltage and average current for each power supply.
- 2* 10-turn potentiometer to adjust the power supply voltages.
- TTL control input.
- operation hour counter for high voltage on with reset.
- voltage monitor output 1:1000.
- HV output: HS21-socket. 3m HV cable with corresponding plug are included.

Environmental

- environmental temperature 5-35 °C
- humidity 0-80%, the pulse generator is intended to operate in dry laboratory rooms.
- protection class I, IP20
- supply 220V-240V~, 1200W max.

Safety

- External interlock
- Output resistors protect the pulse generator from damage by short circuits or arcs.
- Maximum short circuit current 50 A or 25A to ground.
- The pulse generator is compatible to regulations about electromagnetic compatibility (EMC).

optional

- Switch for alternative analog remote control and two BNC plugs to control the power supply voltages by 0...10V signals.

not included, but recommended

- digital scope.

3.2.2014 Dr. Jörg Brutscher