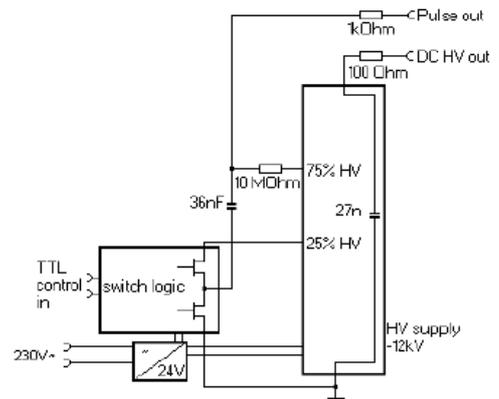


# Specialpuls-9-12

The device Specialpuls-9-12 is developed to generate a negative voltage of -12 kV at one output and a voltage of -9 kV, which can be switched for a short time to -12 kV. The device consists of one ready to operate OEM circuit board.



Principal schematic

## DC output

Delivers a voltage of up to -12.5 kV. The voltage is adjustable by a ten-turn potentiometer on board.

Output voltage is negative.

Maximum output current 0.5 mA.

After connecting mains supply, the output will settle to adjusted voltage within 0.5 – 1 second.

The output voltage is buffered by 27 nF.

For protection, there is a 100 Ohm resistor in series with the output.

stability: better than 1%; ripple 0.2 - 0.4% max.

## Pulse output

Will deliver 75% of DC HV output when not triggered; during pulse there will be the same voltage as DC HV output.

Pulse will be as long as trigger signal (TTL high) is present, but a maximum pulse width of 100µs cannot be exceeded.

The pulse output is designed for a pure capacitive load of not more than 250 pF.

The DC output impedance is 10MOhm; pulse impedance can be described by a capacity of 36 nF in series with a 1 kOhm resistor.

Pulse rise and fall time (10%-90%): < 1 µs for specified load.

Rise and fall time are defined by internal resistor of 1 kOhm and load capacity (for 230 pF, settling time constant then is 230 ns).

If load is pure capacitive, voltage after pulse will return to same level as before pulse, at least within a few volts.

Pulse amplitude may be decreased by ratio of load capacity to series capacity (for 230 pF, this would be

0.6% resp. 20V).

Stability and ripple may be similar to DC output.

Repetition rate: not more than 3 Hz.

## Connectors

Power supply: screw connector

Trigger input: screw connector.

DC HV output: 6.3 mm connector

HV pulse output: 6.3 mm connector.

Ground connector: 6.3 mm connector. Must be connected to ground of device.

## Environment, power supply

power supply 230V AC 16W max.

recommended operating temperature 5-35° C

humidity 0-95%, non condensing.

protection class I, IP 00

## mechanical data, included items

circuit board with connectors

short manual, including circuit description, circuit diagram and component scheme.

## Safety

The device is intended for users with high voltage experience.

The energy stored in the capacitors on the board is dangerous high. High voltage stages on the board and the outputs must not be touched during operation.

The capacities on board may take a few seconds to discharge after switching off. Check for remaining voltages before touching.

31.08.2005