

RCV 1000/7

Switching amplifier for capacitive loads with at least 2 μF capacitance

Concept:

The switching amplifier **RCV1000/7** is special designed for the use with piezoelectric actuators from **piezosystem jena** or other capacitive loads with at least **2 μF** capacitance.

The amplifier **RCV1000/7** operates as an amplifier with energy recovery. This amplifier principle is especially suited to control high power during dynamic operation/loading - unloading occurs of capacitive loads like piezoelectric actuators.

The main power must therefore compensate the active power of the actuator, and the losses in the actuator and the amplifier. In this process electrical energy is transformed into mechanical energy. Hence the oscillating apparent power can be significantly larger than the received active power. On this switching amplifier basis the efficiency of a dynamic-driven actuator system is much better than with the use of an analog amplifier.



Image: RCV 1000/7

Product highlights:

- high dynamic
- output current 7 A
- peak power 7kW
- short-circuit proof

Application examples:

- dynamic control of high volume piezo-actuators
- dynamic control of other loads with a capacitance $\geq 2 \mu\text{F}$

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Technical data

	Unit	Product name
output		
voltage	V	0 ... +1000
DC-offset range	V	0 ... +1000
gain	-	100
max. output current	A	7
signal noise	V _{pp}	≤2 (depends on the capacity of the load)
connector	-	D-Sub 5W1
input		
voltage range	V	0 ... +10
input resistance	kΩ	10
connector	-	BNC
monitor output		
voltage range	V	0 ... +10
connector	-	BNC
voltage supply		
mains voltage	V	230±10% @ 50/60 Hz
power switch	-	trigger switch/front panel
fuse	-	2 micro fuses 5x20 anti-surge fuse means 5 A integrated into main socket
LED's	-	HV: the high voltage output is active IL: automated switching off of the voltage output because of overheat or overload shortage: automated switching off of the voltage output because of short circuit