hpower
high power actuators by piezosystem jena

ABOUT HPOWER

hpower actuators combine fastest response times in µs, superior kHz dynamics, high force generation in the range of tens of kN and nanometer precision in a way that is unmatched by any other linear driving system. The actuation can be obtained without any mechanical wear, making the actuators extremely durable. hpower products include ring and stack type actuators, as well as shakers, shock generators and high power amplifiers. hpower is the result of the collaboration between piezosystem jena and Piezomechanik GmbH and therefore combines centuries of piezo expertise with new innovations.

HPOWER AMPLIFIER LE 150/100 EBW

Analog power amplifier with enhanced bandwidth (EBW)

analog amplifier LE 150/100 EBW

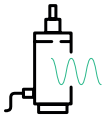
Concept

The power amplifier **LE 150/100 EBW** has an idle bandwidth of 70,000 Hz and 1 A output current. This amplifier is specially designed to be used with hpower actuators at highest working frequencies. The high bandwidth, high current and low noise features make it perfect for high-frequency vibration excitation testing and modal analysis.

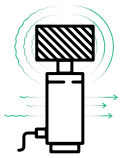
Product highlights

- extreme high bandwidth amplifier
- high power for dynamic operations
- perfect for hpower shakers
- output current: 1 A
- output voltage: 0 ... 150 V
- noise ≈ 15 mVpp
- bandwidth: 70,000 Hz

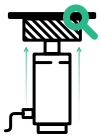
Applications:



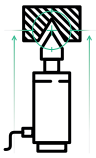
MODAL ANALYSIS



VIBRATION CONTROL



MATERIAL TESTING



MECHANICAL ENGINEERING

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Technical data of LE 150/100 EBW

	unit	LE 150/100 EBW
output		
voltage range	V	0 ... +150
DC-offset range	V	0 ... +150
gain	-	max. 30
max. output current	A	1
signal noise	mVpp	≈ 15 (depends on the capacity of the load)
plug	-	BNC
input		
voltage range	V	0 ... +10
plug	-	BNC
monitor output		
voltage range	mV	0 ... +150
plug	-	BNC
voltage supply		
mains voltage	V AC	115/230 ± 10% @ 50/60 Hz (factory preset)
power switch	-	trigger switch/rear panel
fuse	-	4 A, medium time-lag
dimensions (w × d × h)	mm / ”	260 × 270 ×210 / 10 ×12.5 × 6.5
weight	kg / lbs	6.1 / 13.5

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HPOWER AMPLIFIER HVP 1000/200

Voltage amplifier for pulse generation

Voltage pulser HVP 1000/200

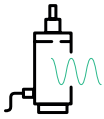
Concept

The power amplifier **HVP 1000/200** has been designed to drive hpower actuators or other suitable loads with high charging currents for pulse-wise operation in “on-off” square-wave mode. In operation, a current of **200A** flows for a short time. The voltage at the hpower actuator increases in a few µs. The rising time and discharging time can be modified based on customers’ requirement.

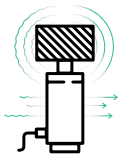
Product highlights

- fast charging amplifier for pulse operation and shock wave generation
- output current: 200 A
- output voltage: +40 ... 1000 V
- designed for hpower shock actuators
- alternative ohmic resistor to adjust the rise time

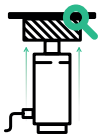
Applications:



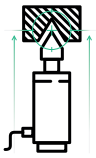
MODAL ANALYSIS



VIBRATION CONTROL



MATERIAL TESTING



MECHANICAL ENGINEERING

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Technical data of HVP 1000/200

	unit	HVP 1000/200
output		
voltage range	V	+40 ... +1000
max. output current	A	200
charging resistor	Ω	5
plug	-	LEMO, SLS200 \ D-SUB 5W1
input		
voltage range	V	0 ... +5
voltage range “MOD.IN”	V	LOW = 0; HIGH =5
input resistance	kΩ	1
plug	-	BNC
monitor output		
voltage range	V	0 ... +10
plug	-	BNC
voltage supply		
mains voltage	V AC	230 ± 10% @ 50/60 Hz
power switch	-	trigger switch / front panel
fuse	-	2 micro fuses 5 × 20 anti-surge fuse means 2A integrated into main socket
dimensions (w × d × h)	mm / inch	260 × 160 ×270 / 10.2 ×6.3 × 10.6
LED'S	-	HV: the ligh voltage output is activated IL: automated switching off of the voltage output because of overheating or overload

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HPOWER AMPLIFIER POSICON 1000/3

Voltage amplifier with integrated position control

voltage amplifier Posicon 1000/3

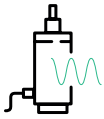
Concept

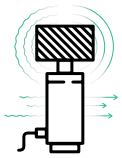
The voltage amplifier **POSICON 1000/3** is specially designed to be used with hpower actuators or other capacitive loads with a closed loop control. In this operating mode, the actuators can generate ≈ 30% more elongation because of the voltage range from -200 to +1000V. Coupling with **POSICON 1000/3**, hpower actuator can achive precise motion and high power at the same time.

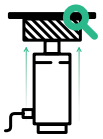
Product highlights

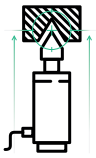
- closed loop amplifier for feedback control
- for high stroke, high force and precision applicatoins
- three channel amplifier
- output current: 8 mA
- output voltage: -200 ... 1000 V
- Noise ≈ 1mVpp

Applications:


MODAL ANALYSIS


VIBRATION CONTROL


MATERIAL TESTING


MECHANICAL ENGINEERING

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Technical data of PosiCon 1000/3

	unit	PosiCon 1000/3
output		
voltage range	V	-200 ... +1000
DC-offset range	V	-200 ... +1000
gain	-	100 @ “att“=”0.5/200 @ “att”=”1”
max. output current	mA	8
signal noise	mVpp	≈ 1 (with capacitive loads ≥100 nF)
plug	-	D-SUB 5W1
input		
voltage range	V	-2 ... +10 @ “att” =”0.5”/-1...+5 @ “att”=”1”
input resistance	kΩ	10
plug	-	BNC
monitor output		
voltage range	V	0...+5 (sensor: front panel); -2 ... +10 (piezo voltage:rear panel)
plug	-	BNC
voltage supply		
mains voltage	V AC	230/115 ± 10% @ 50/60 Hz
power switch	-	trigger switch / rear panel
fuse	-	800 @230V (long time lag) / 800 @ 115V (slow blow)
dimensions (w × d × h)	mm / ’’	260 ×320 ×160 / 10.3 ×22.6 × 6.3