

Piezo Charge amplifier

Highly Linear, 30 W Continuous Power, 1 Channel



E-506

- Highly linear amplifier module
- For dynamic applications
- Output voltage range -30 to 130 V
- Peak current 2 A, continuous current 215 mA

Low noise 1-channel piezo amplifier module

Plug-in module for E-500 system, up to three channels in the 19" rack. Evaluation of temperature sensor protects the piezo actuator against overheating. Recommended for electrical capacitances greater than 0.3 μF .

Charge control for high linearity

The amplifier controls the amount of charge being transmitted to the piezo actuator. The piezo displacement hysteresis is therefore reduced to 2% of the travel range compared to 10 to 15% in voltage-controlled operation. This allows linear open-loop operation with fast response times and very high resolution at maximum bandwidth. The amplifier switches internally to voltage control when holding a position.

Fields of application

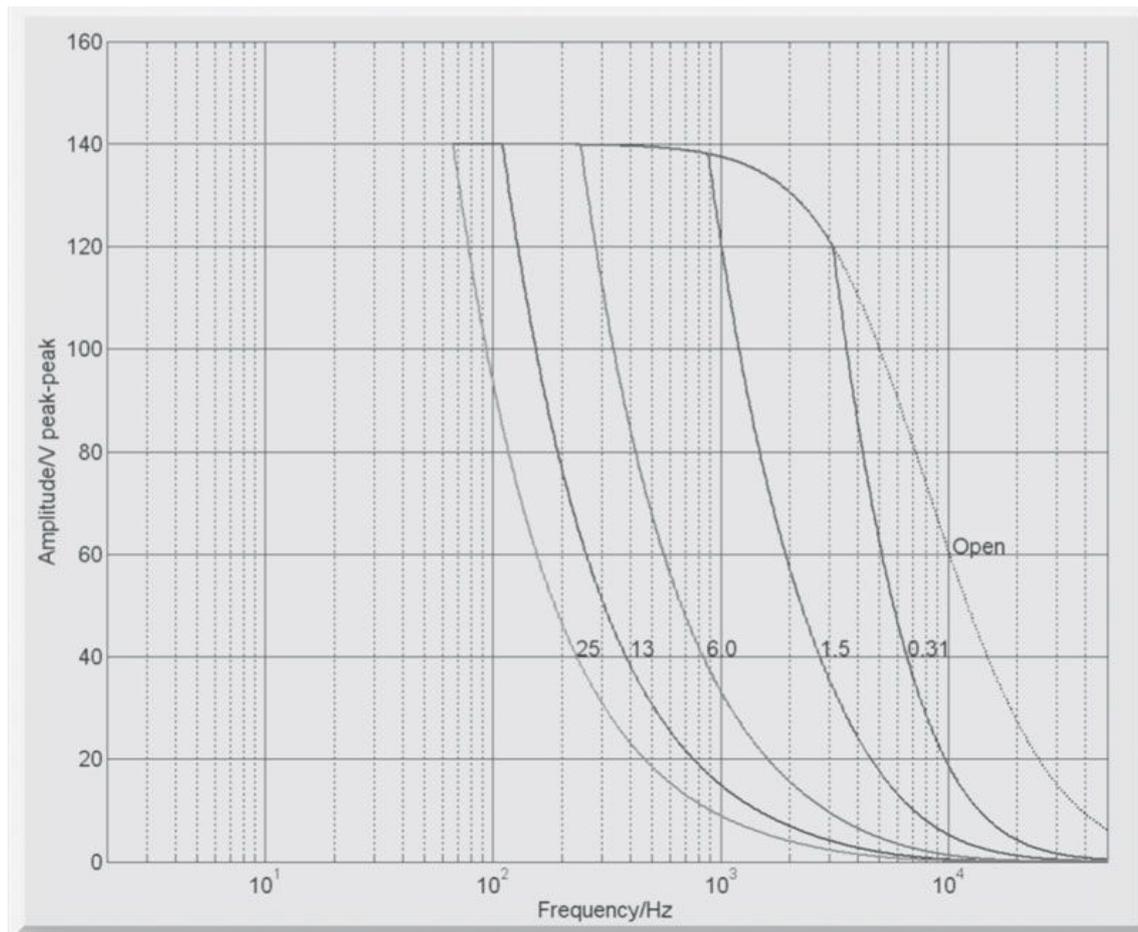
Active vibration absorber, adaptive systems technology, fast mechanical switches, valve control

Specifications

	E-506.10
Function	Linearized amplifier module, charge controlled
Channels	1
Amplifier	E-506.10
Input voltage range	-2 to 12 V
Output voltage*	-30 to 130 V
Peak current, < 2.5 ms	2 A
Average output current	215 mA
Current limitation	Short-circuit proof
Noise	<0.6 mV _{rms}
Reference capacitance (adjustable)	1 to 280 μF
Suggested capacitive load	>0.3 μF
Input impedance	1 MΩ / 1 nF
Interfaces and operation	E-506.10
Piezo connection (voltage socket)	LEMO 2-pin EGG.0B.302.CLL
Analog input / control input socket	BNC
DC offset setting	10-turn potentiometer, adds 0 to 10 V to the input voltage
Piezo temperature sensor (input)	PT 1000; LEMO socket; automatic deactivation of high voltage output at max. 150 °C
Miscellaneous	E-506.10
Operating temperature range	5 to 50 °C
Dimensions	14 HP / 3 RU
Mass	0.9 kg
Operating voltage	E-500 system
Power consumption	55 W

* Deactivation of the voltage output at 85 °C internally (overheat protection)

Drawings / Images



E-506.10: Operating limits with various piezo loads (open loop), capacitance values in μF . The minimum capacitive load is $0.3 \mu\text{F}$

Ordering Information

E-506.10

Highly linear piezo amplifier module, 30 W continuous power, -30 to 130 V, 1 channel