

**electronic • analog • table top**

**NV 120/1, NV 120/1CLE**

- analog 1-channel piezo amplifier
- permanent 120mA output current
- low noise output signal
- table top casing
- dimmable TFT Display
- USB2.0 and RS232 interface
- analog input and output signals
- position control for strain gage and capacitive sensors

**applications:**

- laboratory applications
- industrial applications
- high resolution positioning
- short rise time of low voltage actuators



fig.: NV 120/1CLE

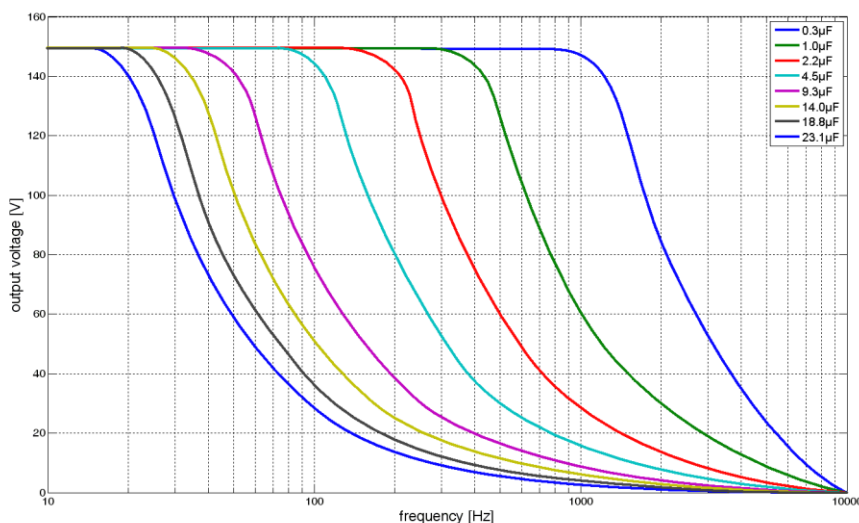
Concept	Specials	Interfaces
<p>The series NV120/1 is engineered to meet the highest standards of accuracy and dynamics for high-resolution piezo-electric actuators. The piezo amplifier series NV120/1 provides a permanent output current of 120mA and has a signal noise of only &lt;0.3mV @ 500Hz. With these excellent signal parameters, it achieves position resolution in the sub-nm in addition to a settling time in the microseconds range. The series of piezo controller units NV120/1 is designed to be compact table top systems in a rugged metal housing. To accommodate use in laboratory conditions, the amplifiers have a dimmable TFT display. To give the user flexibility, various controlling options were included. A manual control as well as an analog and various digital interfaces are available to the user.</p>	<p>The series NV120/ 1 has two types. The amplifier NV120/1 is intended for actuators without integrated measurement system. The amplifier of the type NV120/1 CLE has automatic sensor identification, the integrated ASI-functionality. It is designed for use with piezo-actuators which have an integrated measurement system. It can be either a high-resolution strain gauge sensor or a non-contact capacitive sensor. The display of the NV120/1 CLE can switch to show the applied voltage signal or the measured operating range.</p>	<p>Various control interfaces are available. There is an analog interface that can be controlled by 0 to 10 V, RS 232, and USB 2.0 interface. The digital interfaces have a resolution of 16bit. An analog monitor output shows the control voltage of the piezoelectric actuator in a fixed ratio, completing the technical advantages of the series NV120/1.</p>

**Technical data:**

part no.	unit	NV 120/1 E-101-90	NV 120/1 CLE E-101-93
number of channels	-	1	
display	-	3.5"-TFT-color display; dimmable	
sensor controller**	-	without	strain gage capacitive
output voltage (adjustable by via manual encoder)	V	-20...+130	
output current (continuous)	mA	120	
voltage noise	-	<0.3mV <sub>RMS</sub> @500Hz	
connector output voltage	-	D-SUB 15pin	
modulation input *	V	0...+10	
input impedance	kΩ	10	
monitor output *	V	0...+10	
monitor output impedance typ.	Ω	100	
connector modulation/monitor *	-	D-SUB 25pin	
interface	-	USB2.0, RS232	
command parameter resolution	-	16Bit	
software	-	LabView	
connector sensor	-	-	via D-SUB 15pin output voltage connector
dimensions (l x w x h)	mm	240x210x88	
weight	kg	2.1	
operating temperature range	-	5°C – 35°C (41°F – 95°F)	
main supply	-	24VDC/2.5A (wide range power supply 90 to 264VAC included)	
special features	-	ASI-function, soft start function, overvoltage protection, temperature monitoring, short circuit proof	

\* Adapter cable D-SUB/BNC is included in the shipment

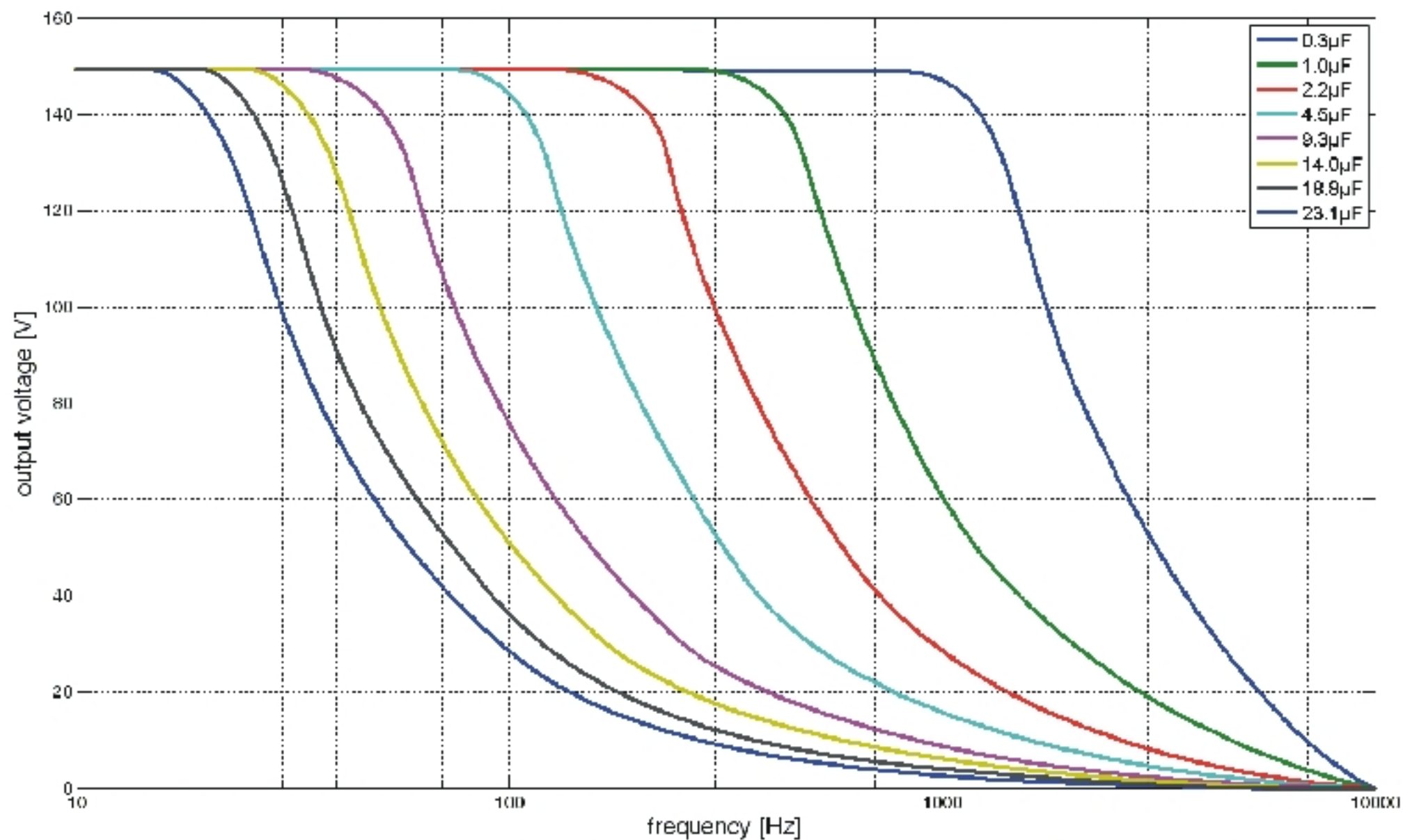
\*\* The ASI function allows you to exchange the same type of actuator and use it with the same amplifier. Actuators for an ASI compatible amplifier are equipped with an external pre amplifier. New calibration is no longer necessary (valid only for standard calibration).



The diagram shows the typical frequency which can be reached as a function of the capacitance of the piezoelectric actuator and the driving voltage by an output current of 120mA.

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phone: +49 (3641) 66880 • fax: +49 (3641) 668866 • info@piezोजना.com • http://www.piezोजना.com



The diagram shows the typical frequency which can be reached with a NV 120/1 amplifier unit as a function of the capacitance of the piezoelectric actuator and the driving voltage by an output current of 120mA.