

series ENV 40

voltage amplifier 40mA

- ◆ **40mA permanent**
- ◆ **19" casing**
- ◆ **each channel with separate display**
- ◆ **low voltage noise (< 0,3 mV_{RMS})**
- ◆ **optional: integrated measuring electronics and controller electronics**



pic.1: module ENV 40 SG

applications:

- controlling of piezo actuators
- drift compensated controlling of piezo actuators with resistive measurement systems
- laboratory applications
- industrial applications

The voltage amplifier **ENV 40** was designed for low voltage piezo elements a 19" casing version. The **ENV 40** series is suitable for static and low frequency applications.

The actuator's voltage respectively the motion is monitored on the integrated LC-display. This piezo amplifier also provides the opportunity to operate the piezo element via an analog modulation input. With closed loop systems the position of the actuator can be examined via the monitor output. With open loop systems the output voltage can be examined via the monitor output. Due to the very low voltage noise of the output voltage of only 0,3 mV_{RMS} this amplifier system is ideally suited for positioning applications with sub-nm resolution. Special protective circuits prevent voltage spikes when switching the unit on and off.

Optionally the voltage amplifier **ENV 40** can be equipped with measuring electronics for capacitive or strain gauge measuring systems and the adequate controller electronics. With the electronic PID controller this system compensates any drift or hysteresis the piezo element implies.

technical data	ENV 40 E-103-10	ENV 40 SG E-240-100	ENV 40 CAP E-103-60	ENV 40 nanoX E-248-000	ENV 40 nanoX SG E-248-100	ENV 40 nanoX CAP E-248-600
output voltage	-10 ... +150V					
output current (permanent)	40mA			2 x 40mA		
sensor controller	-	strain gauge	capacitive	-	strain gauge	capacitive
voltage noise	0.3mV _{RMS} @500Hz					
modulation input	0 ... 10V BNC					
input resistance modulation input	10kΩ					
DC-offset setting	selectable via potentiometer					
monitor	LCD, 3,5 digit					
connector (piezo)	LEMO 0S.250	LEMO 0S.250	LEMO 0S.302	ODU3pol.	ODU3pol.	ODU3pol.
connector (measuring system)	-	LEMO 0S.304	LEMO 0S.650	-	LEMO 0S.304	LEMO 0S.650
monitor output (BNC)*	-1 to 15V	0 to 10V		-1 to 15V	0 to 10V	
inside resistance monitor output	<100kΩ (open loop) / <35kΩ (closed loop)					
width	14TE	20TE		14TE	20TE	
special features	short circuit proof					

* In open loop systems the output voltage is displayed in a 10:1 (-1 ... 15V) ratio.

In closed loop systems the edited sensor signal is available. The monitor output voltage is 0 ... 10V for 100% motion in closed loop mode.