

series ENV 40

voltage amplifier 40mA

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 piezoamplifier 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 $0.3 \text{ mV}_{\text{RMS}}$ 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.



image: series ENV 40

product highlights:

- 40mA permanent
- 19" casing
- each channel with separate display
- low voltage noise ($<0.3 \text{ mV}_{\text{RMS}}$)
- optional: integrated measuring electronics and controller electronics

applications:

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

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technical data

	unit	ENV 40	ENV 40 SG	ENV 40 CAP	ENV 40 nanoX	ENV 40 nanoX SG	ENV 40nanoX CAP
part. no.		E-103-10	E-240-100	E-103-60	E-248-000	E-248-100	E-248-600
output voltage	V	-10 ... +150					
output current (permanent)	mA	40			2 x 40		
sensor controller	-	-	strain gauge	capacitive	-	strain gauge	capacitive
voltage noise	-	0.3mV _{RMS} @500Hz					
modulation input	V	0 to 10 BNC					
Input resistance modulation input	kΩ	10					
DC-offset setting	-	selectable via potentiometer					
monitor	-	LCD, 3.5 digit					
connector (piezo)	-	LEMO 0S.302			ODU 3pol. series L		
connector (measuring system)	-	-	LEMO 0S.304	LEMO 0S.650	-	LEMO 0S.304	LEMO 0S.650
monitor output (BNC)*	V	-1 to 15	0 to 10		-1 to 15	0 to 10	
Inside resistance monitor output	kΩ	100 (open loop) / <35 (closed loop)					
Width	TE	14	20		14	20	

* In open loop systems the output voltage is displayed in a 10:1 (-1 to 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.