

E-650

Piezo Drivers for LVPZT Multilayer Bender Actuators

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- Specifically Designed to Drive Multilayer Bimorph Actuators
- Bench-Top and OEM Versions
- Up to 18 W Peak Power
- LCD Voltage Display
- Output Voltage ± 30 V or 0 to 60 V and Separate Fixed Voltage

E-650.00 is a bench-top piezo driver, especially designed for low-voltage, multilayer PZT bender actuators (bimorphs) such as the PL122 to PL140. It is equipped with a special circuit that can provide one fixed voltage and a variable voltage in the range of 0 to 60 V (± 30 V). The driver can output and sink

a peak current of 300 mA. The E-650.00 can be operated in two ways:

I. Manual Control:

Output voltage can be set by a 10-turn DC-offset potentiometer* in E-650.OE in the range of 0 to 60 V.

Ordering Information

E-650.00

LVPZT Amplifier for Multilayer Bender Actuators, Bench-Top

E-650.OE

LVPZT Amplifier Module for Multilayer Bender Actuators, OEM Version

Ask about custom designs!

II. External Control:

Output voltage is controlled by an analog signal applied to the BNC input, ranging from 0 to 10 V. Multiplying by the gain factor of 6, an output voltage range of 0 to 60 V results. The DC-offset potentiometer* can be used to bias the control input voltage.

A 3 $\frac{1}{2}$ -digit LCD display shows the output voltage.

The E-650.OE is the OEM version of the E-650.00. It provides peak output power of 8 W. All inputs and outputs are via 8 header pins located on the bottom of the module. The E-650.OE is designed to be mounted on a circuit board. The electronics are fully enclosed in a metal case.

* not included in E-650.OE

Technical Data

| Models | E-650.00 | E-650.OE |
|-----------------------------|---|---|
| Function | Power amplifier | Power amplifier |
| Channels | 1 | 1 |
| Maximum output power | 18 W | 8 W |
| Average output power | 6 W | 4 W |
| Peak output current <5 ms | 300 mA | 140 mA |
| Avg. output current >5 ms | 100 mA | 60 mA |
| Current limitation | Short-circuit proof | Short-circuit proof |
| Voltage gain | 6 \pm 0.1 | 6 \pm 0.1 |
| Polarity | positive | positive |
| Control input voltage | 0 to +10 V | 0 to +10 V |
| Display | 3 $\frac{1}{2}$ -digit LCD | - |
| Output voltage | 0 to 60 V or ± 30 V, one additional fixed voltage of 60 V | 0 to 60 V or ± 30 V, one additional fixed voltage of 60 V |
| DC-offset setting | 0 to 60 V at output, with 10-turn pot (E-650.00 only) | 0 to 60 V at output, with 10-turn pot (E-650.00 only) |
| Input impedance | 100 k Ω | 100 k Ω |
| Frequency response | 600 Hz @ 1000 nF load, 6 kHz @ no load | 200 Hz @ 1000 nF load, 3 kHz no load |
| Control input socket | BNC | header pins |
| PZT voltage output socket | 9-pin Sub-D | header pins |
| Dimensions | 160 x 125 x 50 mm | 70 x 42 x 30 mm |
| Weight | 0.7 kg (w/o P/S) | 0.15 kg |
| Operating voltage | 90-240 VAC, 50-60 Hz, (external switching P/S, included) | +/- 15 V, 315 mA max., stabilized |
| Operating temperature range | 0 to +50 °C | 0 to +50 °C |

Piezo Actuators

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