Ultraminiature piezoelectric PZT drive module

(0 to +150V ±5m)

Product Description

This is an ultra-compact and lightweight piezoelectric voltage driver, capable of outputting up to +150V. Applications include PZT voltage driving (PZT lasers, PZT modulators), MEMS voltage driving (MEMS lasers, MEMS filters), and control systems for piezoelectric motors. It features protection against short circuits, current overloads, and high temperatures.

Product features

Small Size (mm): 75W x 20H x 50D 、 Low Noise：＜ 1mv（ rms）

Part Number

MP-PZT-150

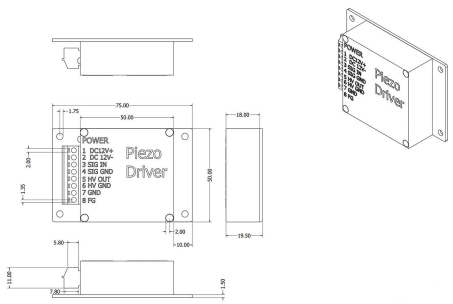
Application area

PZT Voltage Driving (PZT Lasers, PZT Modulators) 、 MEMEMS Voltage Driving (MEMS Lasers, MEMS Filters) 、 PZT Motor Micro-Nano Control

Core parameters

Output Voltage	Output Current
0~+150V	±5mA(AC)max ±5mA(DC)max

Dimension Drawing



General Parameters

Output Voltage	0~+150V
Output Current	±5mA(AC)max ±5mA(DC)max
Output Resistance	220Ω
Gain	30x (fixed), within ±1%
Frequency Characteristics	Above 1kHz (no load, -3dB point)
Nonlinearity	Below ±0.5%
Noise	Noise < 1mVrms (under 1μF load) ※1
Temperature Drift	±5mVPC(typical value)
Input Voltage	0-+5V
Signal Input	Non-inverting input (relative to output)
Input Resistance	100KΩ
Input/Output Connectors	8-pin terminal connection wire: AWG28-16, L = 7mm ± 1mm
Grounding	Input and output grounds are at the same potential and insulated from the housing. Can be grounded to the housing for input/output.
Power Supply Voltage	DC +11-+14V
Operating Environment	Temperature and humidity: 0 ~ +40°C, 85% RH or below, indoor environment close to 1 atmosphere, free from corrosive gases.
Power Consumption at Rated Output	Approx. 250mA (Power supply: DC+12V)
No Load Loss	Approx. 150mA (Power supply: DC+12V)

Instantaneous Current	Approx. 4A for 100μs (Power supply: DC+12V at rated output)
Dimensions (mm)	75Wx20Hx50D
Weight	Approx. 70g
Accessories	Short rod (for connecting terminal block 7-8)
AC Adapter (sold separately)	Model: AD-K120P100 (I/P: 100-240V, 50/60Hz, 0.35A; O/P: DC12V, 1A) 2V1A，）※This adapter is for this product only; other adapters should not be used.

During measurement, the 7-8 terminals are connected to the short rod.

Operating Instructions

3-1. Power Supply for the Mini Voltage Driver

The power supply voltage is DC: 11～14V. When powered on, the green LED will light up.

[DC12V +] • Connect to the positive voltage

[DC12V -] • Connect to OV (ground)

★ When using the dedicated AC adapter (AD-K120P100), the red wire at the front end of the cable is the positive voltage.

3-2. Input Signal

The device can handle an input voltage range of 0～+5V. The GND terminal side is the ground level for single-ended input. For an input signal of +5V, the output

voltage will be +150V.

3-3. Output Current

The output current is limited to approximately 5mA by the current limiter. In case of overload, if the temperature of the device rises, the thermal switch (SW) will cut off the output at around 60°C. (The thermal switch will automatically reset when the temperature decreases.)

3-4. Insulation

The external housing of the device, FG (8-pin) and the input/output GND (pins 2, 4, 6, 7) are electrically isolated and not connected. When connecting the box to GND, please use the included short rod between terminals 7-8. (A short rod is pre-connected when shipped.)