

Compact / High speed Piezo Driver

PZJ Series

1127-01A-1



FEATURES

- 3ch piezo driving is possible.
- Peak current of 3 times more than rating current can be used.
- High-speed response. 1 μ F piezo device can be driven at sine wave of 1.3kHz (100Vp-p, at each 3ch).
- DC bias can be set.
- Low ripple, high stability
- Closed loop control is possible by using your displacement sensor.

SUMMARY

PZJ is a compact piezo driver. It is possible to drive piezo device with arbitrary waveform by amplification function of input waveform.

1-output type or 3-output type can be chosen depending on the number of axis required. Just one driver can support multiple driving like X·Y·Z. High power is realized for high-speed response in such a compact size. Peak power increase function that allows three times as much as rating enables high-speed displacement even in pulse driving, which will be required for such application as stage positioning. Also it is equipped with bias function thus enabling easy setting of reference point of displacement.

As a basic model of piezo driver that is equipped with easy operability and high output, PZJ series are ideal for diverse piezo applications from research and development to integration to system.

LINEUP

Output voltage (Vdc)	Rated output current Iave *1 (mAave)	Peak output current Ip less than 10ms (mA)	MODEL		Frequency response				Output resistor (Ω)
					Sine wave (-3dB)		Rise time (approx. value with 1 μ F load) *2		
			single output type	3ch output type	RL resistive load	1 μ F load	$\Delta V=100V$	0 to Max V	
0 to +100	300	900	PZJ-0.1P	PZJ-0.1P \times 3	DC to 100kHz	DC to 1.3kHz	0.1ms	0.1ms	10
0 to +150	200	600	PZJ-0.15P	PZJ-0.15P \times 3	DC to 60kHz	DC to 600Hz	0.2ms	0.3ms	20
0 to +300	100	300	PZJ-0.3P	PZJ-0.3P \times 3	DC to 30kHz	DC to 150Hz	0.3ms	1ms	75

* 1 : Output current when DC is 50% of rating current.

* 2 : Calculated from peak output current value (can be output within 10ms) ($Tr=C \cdot Vp-p/Ip$).

Formula of $Tr=Tr \cdot Ip/Iave$ is used when calculated value of Tr exceeds the time for which peak current can be output (10ms).

SPECIFICATIONS

Input voltage·current 115VAC \pm 10%, 50/60Hz single phase, 1.5Atp.

Output voltage control External control voltage $V_{con-in}=0V$ to +10V (Note 1)
(Input impedance more than 10k Ω)

DC bias Can be set from 0% to 100% (each ch is independent)
by 10-turn potentiometer on front panel.

Regulation $\pm 0.05\%$ (for 115V \pm 10% input change) (Note 2)

Ripple Less than 0.01%p-p
(with load of 50nF at maximum output voltage)

Stability Less than 0.02%/H (Note 2)

Temperature coefficient Less than 0.02%/ $^{\circ}C$ (Note 2)

DC output voltage display 3.5 digit digital meter
Displays average output voltage

Protection Output over current protection by cutting-off
when over current, over voltage, blackout protection.

Operation temperature 0 $^{\circ}C$ to +40 $^{\circ}C$

Storage temperature -20 $^{\circ}C$ to +60 $^{\circ}C$

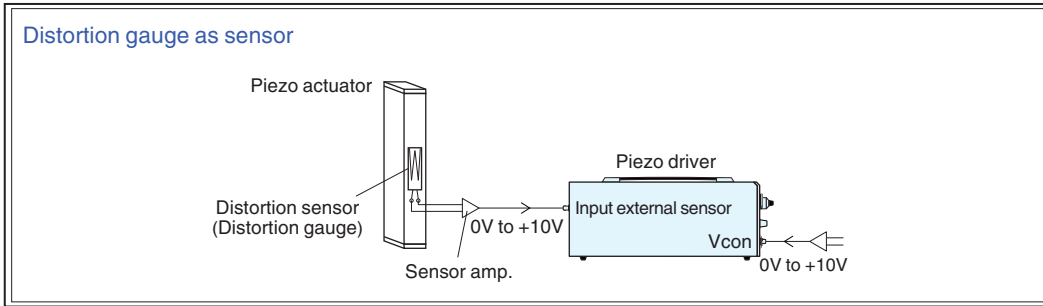
Humidity 20 to 80%RH(no condensation)

Accessories 2.5m(8.2ft) input AC cable (1)
1.5m(5ft) output cable (terminal open) (3)
Instruction manual (1)

Note 1) Off set voltage in $V_{con-in}=0V$ is $\pm 0.5\%$ or within $\pm 1V$ of rating output.
Note 2) Value at max rating voltage with resistive load in DC operation.

OPTIONS

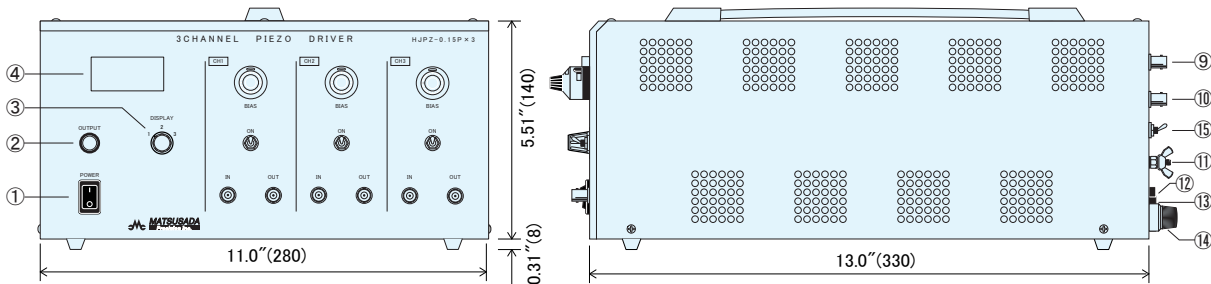
- L2 Output voltage monitor: 0V to +10V (output impedance 1kΩ, accuracy: ±1% F.S.)
- LC Current limit: Output current is limited by dropping down the output voltage.
- LS Remote switch ON/OFF: Output voltage can be turned ON/OFF by remote signal (each ch is done at the same time. Short=ON, Open=OFF).
- LVs External sensor input terminal: Closed loop control can be done using signal of displacement sensor (0 to 10V).



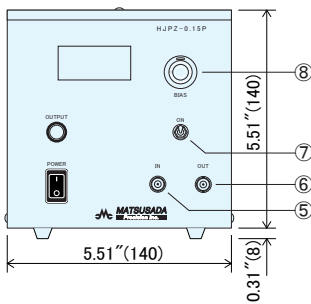
Add above options to the model number when ordering {e.g} PZJ-0.1P×3-LCSVs2 alphabetical, numerical order

DIMENSIONS inch(mm)

[3ch output type] Weight: approx.15lb(7kg)



[single output type]
Weight: approx. 9.9lb(4.5kg)



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| ① POWER ON/OFF switch | This has priority over all operations for safety reason. |
| ② OUTPUT ON/OFF switch | Used for resetting output cut-off status by OVP, OCP, and blackout protection as well as output ON/OFF. Also, optional LS (remote switch) operation is possible only when OUTPUT switch is ON. |
| ③ Meter switching switch | 3ch output type only |
| ④ Output voltage meter | |
| ⑤ External control voltage (Vcon-in) input connector | BNC receptacle |
| ⑥ Output connector | BNC receptacle |
| ⑦ Bias ON/OFF switch | |
| ⑧ Bias adjusting dial | 10-turn potentiometer. |
| ⑨ External sensor terminal (option) | Each ch is independent. BNC receptacle |
| ⑩ Output voltage monitor terminal (option) | Each ch is independent. BNC receptacle |
| ⑪ Ground terminal | M6 |
| ⑫ LS terminal (option) | 2-pin terminal platform |
| ⑬ AC inlet | |
| ⑭ FUSE | |
| ⑮ External sensor ON/OFF switch (option) | |