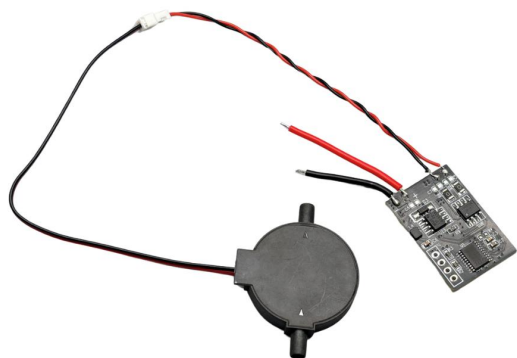


BD-05T01PZ08 Micro Piezoelectric Air Pump User Guide



1. External Driver Module

The BD-05T01PZ08 is driven by an external driver module with adjustable frequency for performance optimization.

Features

- Adjustable driving frequency
- Low noise and low power consumption
- Compact and lightweight design
- Suitable for testing and product integration

2. Driver Module Wiring

Power Input

Wire Color	Description
Red	Power Positive (+)
Black	Power Negative (-)

Pump Output

- Two output wires
- No polarity requirement
- Connect directly to the pump electrodes.

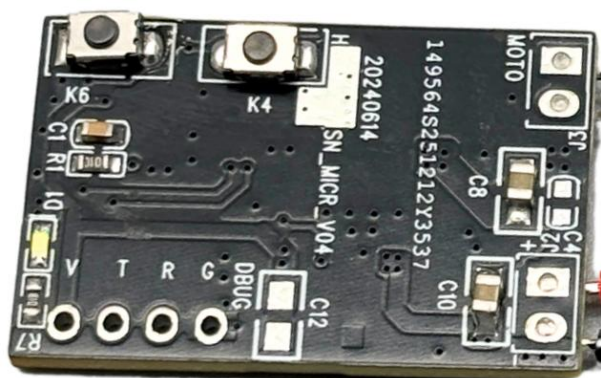
3. Voltage Recommendation

Item	Parameter
Recommended Operating Voltage	28V DC
Driving Voltage Range	18–30V DC

Notes

- The pump is driven by an AC square wave.
- The driver should provide 18–30VDC with current limited below 100mA.
- Performance data are measured at an ambient temperature of 20–28°C and atmospheric pressure of 950–1020hPa.
- Flow rate and vacuum pressure may vary with temperature and test conditions.
- Continuous operation at elevated voltage levels may increase heat generation and shorten service life.
- The pump surface temperature should remain below 60°C during operation.

4. Frequency Adjustment



There are two buttons on the back of the driver board:

Button	Function
K4	Increase Frequency
K6	Decrease Frequency

The typical resonant frequency is approximately 19.5 kHz.

As the driving frequency approaches the resonant point:

- Higher airflow
- Better vacuum performance
- Improved efficiency

Oscilloscope adjustment is recommended for optimum performance.

5. Pump Connection

- The pump electrodes are non-polarized.
- Airflow direction is indicated by the arrow on the pump body.
- Reverse airflow is not recommended.

6. Important Notes

- This pump is designed for air transfer only and is not waterproof.
- Do not expose the pump to liquids, condensation, or excessive humidity.
- Operate the pump in filtered or clean-air environments. Dust and airborne particles may affect performance and service life.
- Avoid smoke, oil mist, and corrosive gases.
- Do not pull, bend, or apply excessive force to the air nozzles or wires.
- Do not press on the pump body.
- Do not disassemble or modify the pump.