

BD-05T01PZ09 Piezoelectric Micro Air Pump User Guide

1. Two Driver Options

① Integrated Round Driver Board



- Driver board is mounted directly on the pump
- Powered by 3.7V DC
- Red wire: Positive (+)
- Black wire: Negative (-)
- Built-in auto frequency tracking
- No frequency adjustment required

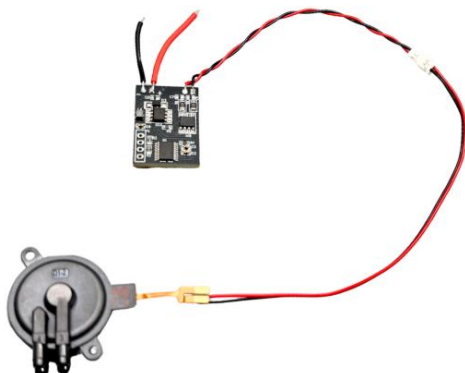
Suitable for:

- Portable devices
- Battery-powered products
- Compact integrated systems

② Separated External Driver Module

- Driver board is separated from the pump
- Adjustable driving frequency
- Suitable for testing and performance optimization

2. External Driver Module Wiring



Power Input

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

Pump Output

- Two output wires
- No polarity
- Can be directly connected to the pump

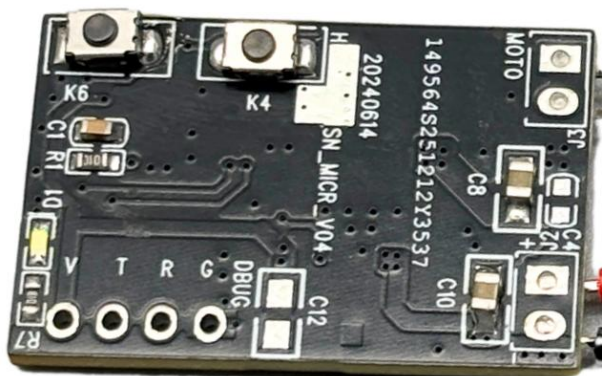
3. Voltage Recommendation

Item	Parameter
Recommended Voltage	18–20V
Best Performance Voltage	Around 20V
Driving Voltage Range	18–25V

Note

- Higher voltage increases heat and power consumption
- Continuous operation at high voltage is not recommended
- Exceeding the driving voltage range may damage the driver module

4. Frequency Adjustment



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

Button	Function
K4	Increase Frequency
K6	Decrease Frequency

When the frequency approaches the resonance point:

- Higher airflow
- Higher pressure
- Best working performance

Oscilloscope adjustment is recommended.

5. Important Notes

- Avoid liquid entering the pump
- Avoid dust and corrosive gases
- Additional heat dissipation is recommended for continuous operation
- Recommended surface temperature: below 60°C