

## Acouto FV-200Hz5V

# Acouto FV-200Hz5V Frequency to Voltage Conversion Module User Manual

Model: FV-200Hz5V

## 1. PRODUCT OVERVIEW

The Acouto FV-200Hz5V is an advanced frequency-to-voltage conversion module designed to transform a frequency pulse signal into a proportional analog voltage output. This module is ideal for applications requiring precise signal conversion, such as PLC interface converters and movement control system integration.

Key features include:

- **Efficient Conversion:** Converts 0-200Hz frequency pulses into a 0-5V analog voltage output.
- **Versatile Input:** Supports direct input of pulse levels at 5V, 12V, and 24V.
- **Quick Response:** Achieves fast conversion with a response time of 0.3-0.5 seconds.
- **Stable Output:** Provides a consistent 5mA output current for reliable voltage levels.

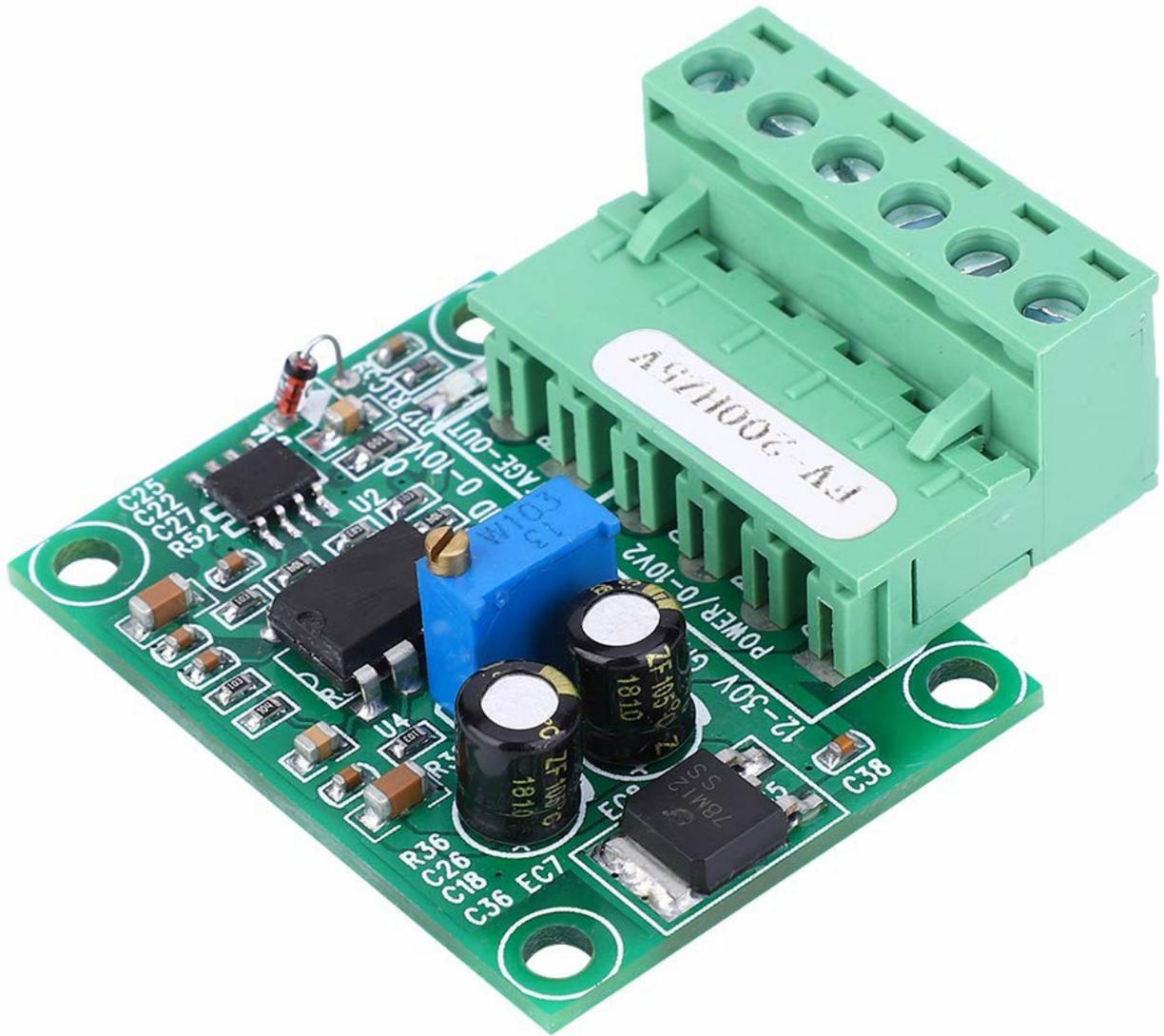


Figure 1: Top-down view of the Acouto FV-200Hz5V module, showing the green terminal block and various electronic components.

## 2. SPECIFICATIONS

Parameter	Value
Model	FV-200Hz5V
Input Frequency Range	0-200Hz
Output Voltage Range	0-5V
Output Current	5mA (maximum)
Response Time	0.3-0.5 seconds
Input Pulse Levels Supported	5V, 12V, 24V
Minimum Frequency Hold Time	0.5 seconds

Parameter	Value
Dimensions	Approx. 4.5 x 4.7 x 1.7 cm (1.8 x 1.9 x 0.7 inches)
Item Weight	Approx. 20 grams (0.705 ounces)

### 3. SETUP AND WIRING

Proper wiring is crucial for the correct operation of the FV-200Hz5V module. Refer to the pinout diagram below for connections.

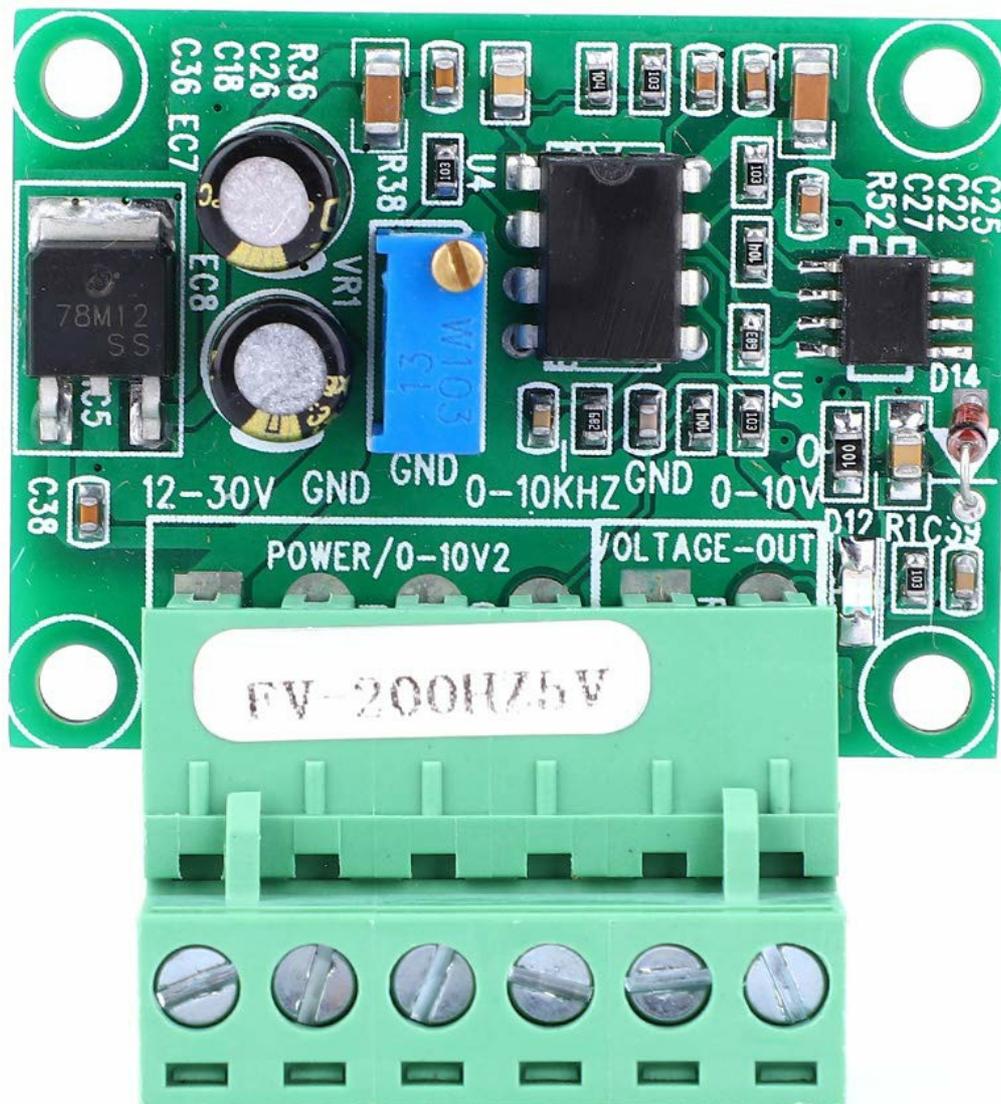


Figure 2: Top view of the module showing terminal labels for power input (12-30V), ground (GND), frequency input (0-10KHz), and voltage output (0-10V).  
 Note: This module is FV-200Hz5V, so the actual input frequency range is 0-200Hz and the output voltage range is 0-5V, despite the generic labels on the board in this image.

#### 3.1 Power Supply Connection

- Connect the positive terminal of a 12-30V DC power supply to the **POWER/+** terminal.
- Connect the negative terminal (ground) of the power supply to the **GND** terminal.

- Ensure the power supply is stable and within the specified voltage range to prevent damage to the module.

### 3.2 Frequency Input Connection

- Connect the frequency pulse signal source (e.g., from a PLC or sensor) to the **0-10KHz** input terminal.
- The module supports pulse levels of 5V, 12V, and 24V. Ensure your input signal matches one of these levels.
- The input frequency range for this specific model is 0-200Hz.

### 3.3 Voltage Output Connection

- Connect the device requiring the analog voltage input (e.g., PLC analog input, motor controller) to the **VOLTAGE-OUT** terminal.
- The output voltage range will be 0-5V, proportional to the input frequency.
- Ensure the receiving device's input impedance is compatible with the module's 5mA output current.

## 4. OPERATING INSTRUCTIONS

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Once properly wired and powered, the FV-200Hz5V module operates automatically to convert the input frequency to a corresponding voltage.

### 4.1 Frequency to Voltage Conversion

- The module converts an input frequency of 0-200Hz linearly to an output voltage of 0-5V.
- For example, an input frequency of 100Hz will result in an output voltage of 2.5V.
- The conversion process has a fast response time of 0.3-0.5 seconds.

### 4.2 Output Adjustment (If Applicable)

The module may include a potentiometer (labeled VR1 in some images) for fine-tuning the output voltage range or calibration. Consult the specific model's documentation or test with a multimeter for precise adjustment.

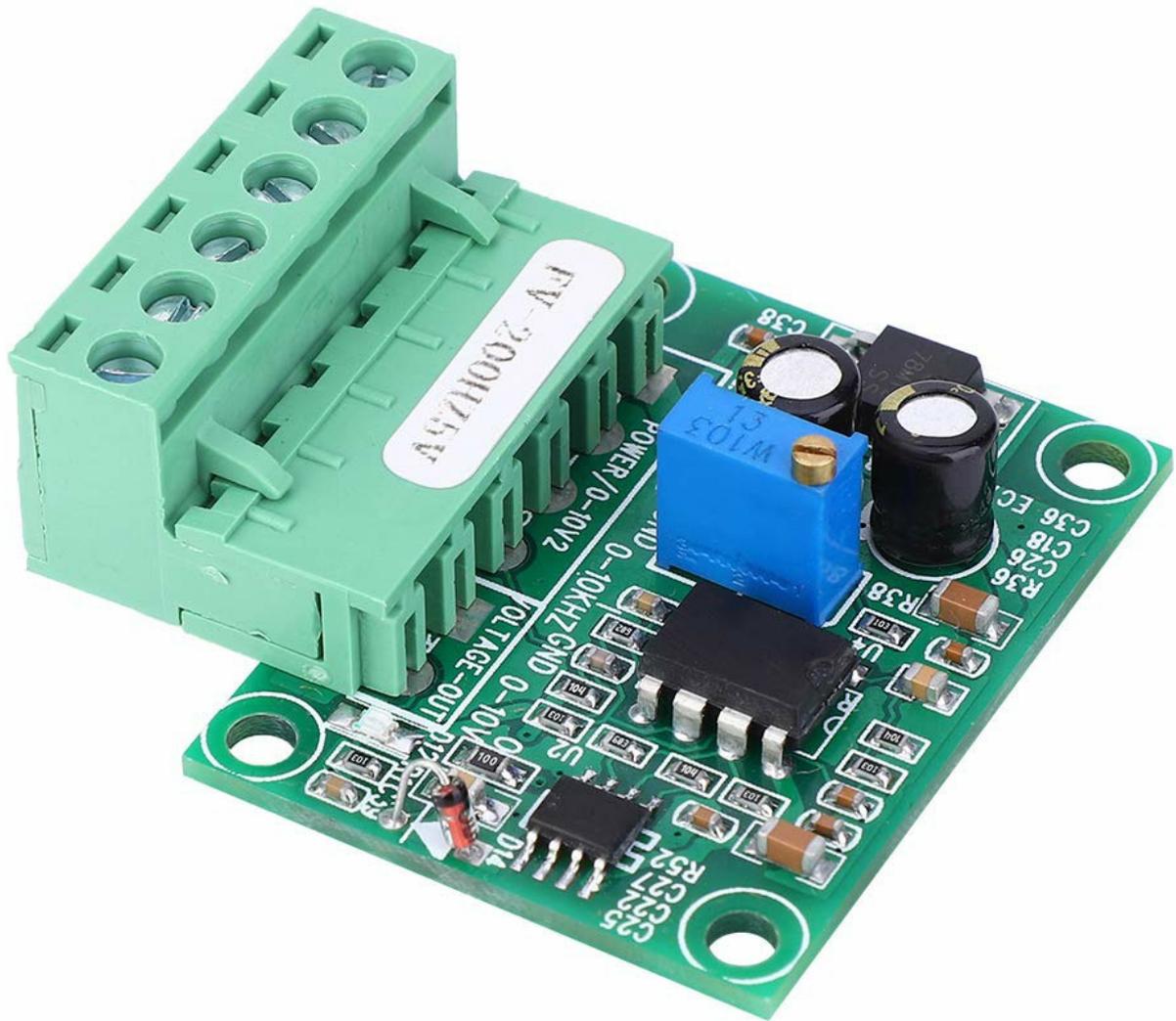


Figure 3: Angled view of the module highlighting the blue potentiometer (VR1) which can be used for calibration or fine-tuning the output.

## 5. MAINTENANCE

The Acouto FV-200Hz5V module is designed for reliable operation with minimal maintenance. Follow these guidelines to ensure longevity:

- **Environment:** Operate the module in a clean, dry environment, free from excessive dust, moisture, and corrosive gases.
- **Temperature:** Avoid exposing the module to extreme temperatures outside its specified operating range.
- **Cleaning:** If cleaning is necessary, gently wipe the module with a soft, dry cloth. Do not use liquid cleaners or solvents.
- **Connections:** Periodically check all wiring connections to ensure they are secure and free from corrosion.
- **Handling:** Handle the module with care to avoid physical damage to components or solder joints.

## 6. TROUBLESHOOTING

If you encounter issues with the FV-200Hz5V module, consider the following troubleshooting steps:

- **No Output Voltage:**

- Verify that the power supply is connected correctly (12-30V DC) and is providing power.
- Check all wiring connections for looseness or incorrect polarity.
- Ensure a valid frequency pulse signal is being supplied to the input.
- Confirm the input frequency is within the 0-200Hz range.

- **Incorrect Output Voltage:**

- Measure the input frequency with an oscilloscope or frequency meter to confirm its accuracy.
- Measure the output voltage with a multimeter to verify the module's output.
- If the module has a calibration potentiometer (VR1), adjust it carefully while monitoring the output.
- Ensure the input pulse level (5V, 12V, or 24V) is stable and correct.

- **Intermittent Operation:**

- Check for loose connections or damaged wiring.
- Ensure the power supply is stable and free from voltage fluctuations.
- Verify that the operating environment is within specified conditions (temperature, humidity).

If problems persist after following these steps, contact Acouto customer support for further assistance.

## 7. WARRANTY AND SUPPORT

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This Acouto product is covered by a standard manufacturer's warranty. Please refer to the product packaging or the official Acouto website for specific warranty terms and conditions.

For technical support, troubleshooting assistance, or warranty claims, please contact Acouto customer service through their official channels. Provide your product model (FV-200Hz5V) and purchase details when seeking support.

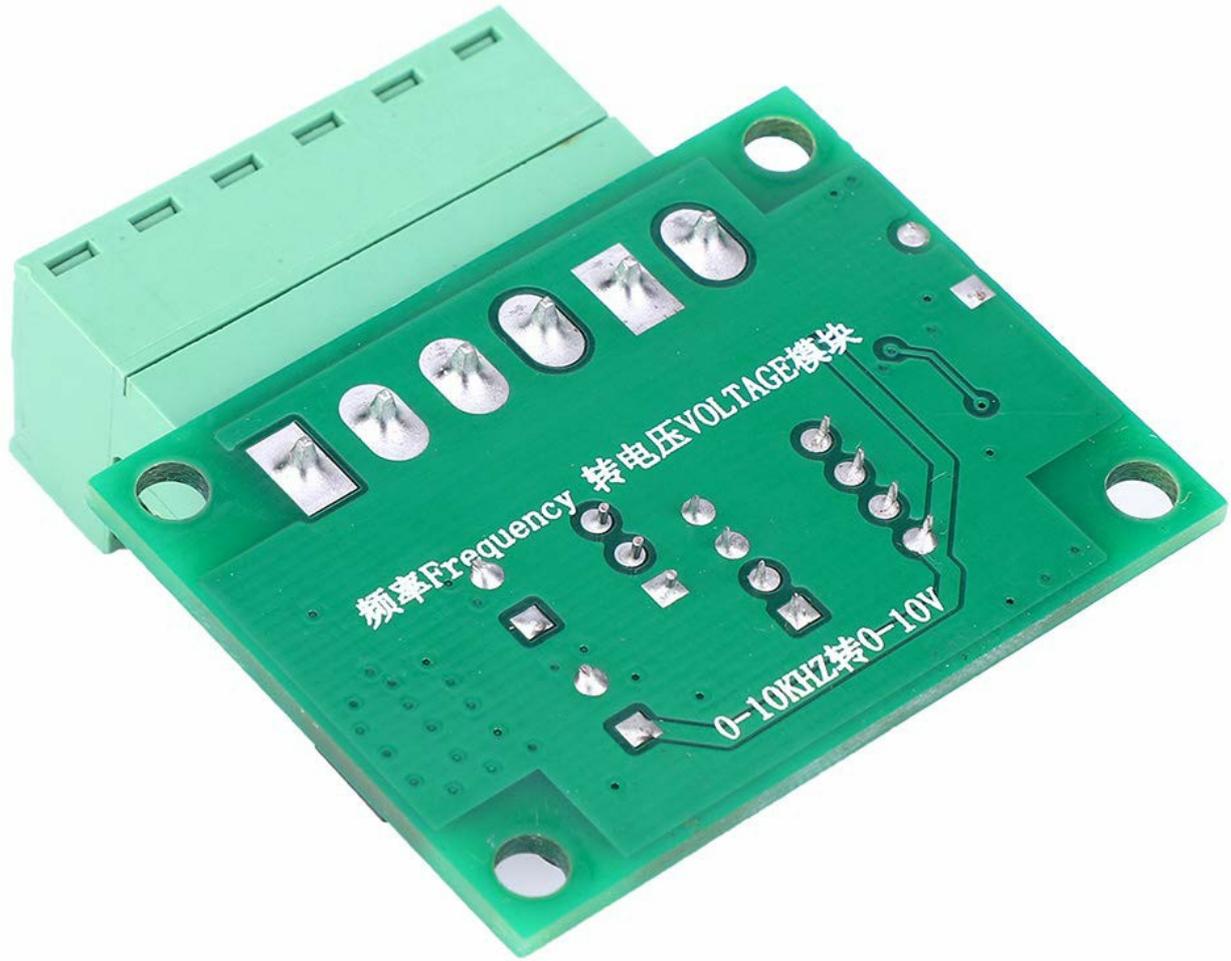


Figure 4: Back view of the Acouto FV-200Hz5V module, showing solder points and mounting holes for installation.