Jectse 5V 60MM Hand Wheel Pulse Encoder

Jectse 5V 60MM Hand Wheel Pulse Encoder User Manual

Model: 5V 60MM Hand Wheel Pulse Encoder

1. Introduction

This manual provides essential information for the safe and effective use of the Jectse 5V 60MM Hand Wheel Pulse Encoder. This device is designed for manual pulse input in various CNC (Computer Numerical Control) systems, including lathes, grinding machines, milling machines, and engraving machines. Please read this manual thoroughly before installation and operation.

2. Safety Information

Observe the following safety precautions to prevent injury and damage to the equipment:

- Ensure the power supply matches the specified voltage (5V) before connecting the encoder.
- Do not expose the encoder to excessive moisture, dust, or extreme temperatures.
- Avoid applying excessive force to the hand wheel or terminals.
- All electrical connections should be performed by qualified personnel.
- Disconnect power to the CNC system before installing or removing the encoder.

3. Product Overview

The Jectse 5V 60MM Hand Wheel Pulse Encoder is a robust and precise input device. It features a 60mm diameter hand wheel with 100 distinct stop positions, providing tactile feedback for accurate manual control. The encoder is constructed from high-grade aviation aluminum for durability.

Figure 3.1: Front view of the Hand Wheel Pulse Encoder, showing the numbered dial and rotating knob.

The encoder is designed for smooth rotation without sticking points, ensuring reliable operation. Its compact and lightweight design facilitates easy integration into various control panels.

4. Specifications

Feature	Specification
Brand	Jectse
Diameter	60mm / 2.36 inches
Power Source	Corded Electric
Voltage	5 Volts
Consumption Current	≤100mA
Response Frequency	0-20 KHz
Empty Ratio	0.5 T ± 0.1 T
Mechanical Revolution	500 rpm (maximum)

Feature	Specification
Terminal Type	6mm Terminal Connection
Stop Positions	100
Material	Aviation Aluminum

5. Setup and Installation

Follow these steps to properly install your hand wheel pulse encoder:

1. **Prepare the Mounting Location:** Choose a stable and accessible location on your CNC control panel. Ensure there is enough space for the encoder and its wiring.
2. **Secure the Encoder:** Mount the encoder using the provided fasteners. Ensure it is firmly attached to prevent movement during operation.
3. **Connect Wiring:** The encoder uses a 6mm terminal connection. Refer to the wiring diagram below and your CNC system's documentation for correct connections. Typically, the terminals are labeled for power (VCC, 0V) and signal outputs (A, B).

Figure 5.1: Rear view of the Hand Wheel Pulse Encoder, illustrating the 6mm terminal block for electrical connections (VCC, 0V, A, B).

- **VCC:** Connect to the 5V DC power supply.
- **0V:** Connect to the ground (GND) of the power supply.
- **A:** Connect to the A-phase input of your CNC controller.
- **B:** Connect to the B-phase input of your CNC controller.

Ensure all connections are secure and correctly polarized to avoid damage to the encoder or the CNC system.

6. Operating Instructions

Once installed and powered, the hand wheel pulse encoder provides manual control input to your CNC system:

- **Axis Selection:** Depending on your CNC controller, you may need to select the desired axis (X, Y, Z, etc.) before using the hand wheel. Refer to your CNC system's manual for axis selection procedures.
- **Movement Control:** Rotate the hand wheel clockwise or counter-clockwise to generate pulses. These pulses are interpreted by the CNC controller to move the selected axis. The 100 stop positions provide precise, incremental

movement control.

- **Speed/Increment Adjustment:** Some CNC systems allow adjustment of the movement increment per pulse (e.g., 0.001mm, 0.01mm, 0.1mm). Adjust this setting on your CNC controller as needed for fine or coarse adjustments.
- **Smooth Operation:** The encoder is designed for smooth rotation. If you experience any resistance or sticking, refer to the Troubleshooting section.

7. Maintenance

The Jectse Hand Wheel Pulse Encoder requires minimal maintenance:

- **Cleaning:** Periodically wipe the exterior of the encoder with a soft, dry cloth to remove dust and debris. Do not use abrasive cleaners or solvents.
- **Inspection:** Regularly check the wiring connections for looseness or damage. Ensure the mounting is secure.
- **Environmental Protection:** Keep the encoder in a clean, dry environment, free from excessive vibrations and electromagnetic interference.

8. Troubleshooting

Problem: Encoder does not respond.

Solution:

- Check all wiring connections to ensure they are secure and correctly connected to the CNC controller.
- Verify that the encoder is receiving the correct 5V power supply.
- Ensure the CNC controller is configured to accept input from the external hand wheel.

Problem: Movement is erratic or inconsistent.

Solution:

- Inspect wiring for any loose connections or damaged insulation that could cause signal interference.
- Check for any physical obstructions preventing smooth rotation of the hand wheel.
- Ensure the encoder is securely mounted and not vibrating.

Problem: Hand wheel feels stiff or sticky.

Solution:

- Clean the exterior of the encoder to remove any accumulated dust or debris that might impede rotation.
- Ensure no foreign objects have entered the mechanism. Do not attempt to lubricate internal components unless specifically instructed by the manufacturer.

9. Warranty and Support

Jectse products are manufactured to high-quality standards. For warranty information or technical support, please refer to the documentation provided with your purchase or contact your vendor. Keep your purchase receipt for warranty claims.