HEASEN GT5-DR31-JS2616

HEASEN CNC Pulse Generator 6 Axis MPG Pendant Handwheel User Manual

Model: GT5-DR31-JS2616

1. Introduction

The HEASEN CNC Pulse Generator 6 Axis MPG (Manual Pulse Generator) Pendant Handwheel is a precision control device designed for use with various CNC (Computer Numerical Control) systems, including FAGOR, GSK, Siemens, Mitsubishi, and FANUC. This 5V manual pulse generator provides operators with tactile control over machine axes, enabling precise positioning and movement during setup, calibration, and manual operations. This manual provides detailed instructions for the safe and effective use of your MPG pendant.

2. Safety Information

Always observe the following safety precautions to prevent injury and damage to the equipment:

- Ensure the MPG is connected to a compatible CNC system with the correct voltage (5V) and pin configuration. Incorrect wiring can damage the unit or the CNC controller.
- Do not operate the MPG with wet hands or in damp environments to avoid electrical shock.
- Verify that the emergency stop button functions correctly before each use.
- Keep the MPG away from strong magnetic fields, excessive vibration, and extreme temperatures.
- Only qualified personnel should perform installation and maintenance.

3. Product Overview

The MPG pendant features a robust design with intuitive controls for precise machine manipulation.

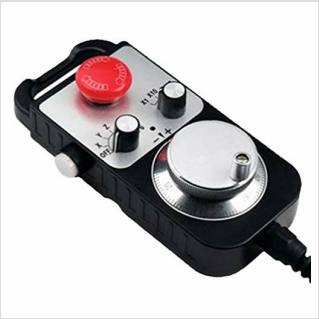

Figure 3.1: Overall view of the MPG pendant, showing its compact and ergonomic design with a handle for portability.

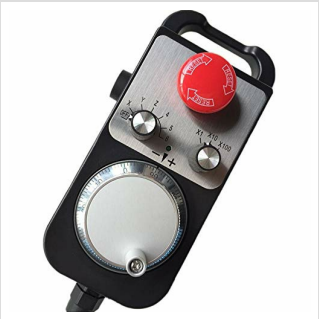

Figure 3.2: Top view of the MPG, highlighting the emergency stop button, axis selector, and magnification selector.

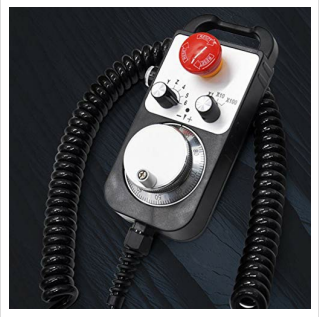

Figure 3.3: Side view of the MPG pendant, illustrating the durable coiled cable connection for flexible operation.

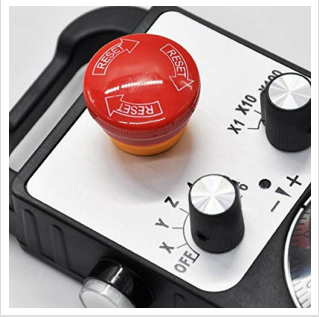

Figure 3.4: Close-up of the control panel, showing the large red emergency stop/reset button, axis selection dial (X, Y, Z, 4, 5, 6, OFF), and magnification selection dial (X1, X10, X100).

Key Components:

- **Emergency Stop Button:** Large red button for immediate machine halt. Also functions as a reset button.
- **Axis Selector:** Rotary switch to select the desired axis (X, Y, Z, 4th, 5th, 6th) for movement. Includes an OFF position.
- **Magnification Selector:** Rotary switch to set the pulse resolution (X1, X10, X100).
- **Handwheel:** The main rotary encoder for generating precise pulses for axis movement.
- **Cable:** Coiled cable for connection to the CNC system.

4. Setup

1. **Verify Compatibility:** Ensure your CNC system supports a 5V MPG pendant and has the correct input port (e.g., 6-pin, 8-pin, or 10-pin connector, depending on the specific model and system).
2. **Power Off CNC:** Before connecting, always power off the CNC machine and controller to prevent damage.
3. **Connect Cable:** Carefully plug the MPG pendant's cable into the designated MPG input port on your CNC controller. Ensure the connector is securely fastened.
4. **Power On CNC:** Once connected, power on your CNC machine. The system should recognize the MPG pendant.
5. **Test Functionality:** Before beginning any work, perform a basic test of all controls (axis selection, magnification, handwheel movement, and emergency stop) to ensure proper operation.

5. Operating Instructions

The MPG pendant allows for precise manual control of CNC machine axes.

1. **Select Axis:** Rotate the **Axis Selector** dial to choose the desired axis (X, Y, Z, 4, 5, or 6) you wish to control. Ensure the dial clicks firmly into place. For safety, set to OFF when not in use.
2. **Select Magnification:** Rotate the **Magnification Selector** dial to choose the desired pulse resolution:
    - **X1:** Fine movement (e.g., 0.001mm per pulse).
    - **X10:** Medium movement (e.g., 0.01mm per pulse).
    - **X100:** Coarse movement (e.g., 0.1mm per pulse).

    The exact movement per pulse depends on your CNC system's configuration.
3. **Generate Pulses:** Gently rotate the **Handwheel** clockwise or counter-clockwise. The selected axis will move according to the chosen magnification. Rotate slowly for precise adjustments and faster for larger movements.
4. **Emergency Stop:** In case of an emergency or unexpected machine behavior, press the large red **Emergency Stop Button** immediately. This will halt all machine motion. To reset, twist the button clockwise to release it.

6. Maintenance

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the MPG pendant. Do not use abrasive cleaners or solvents.
- **Cable Inspection:** Regularly inspect the coiled cable for any signs of wear, cuts, or damage. Replace if necessary.

- **Storage:** Store the MPG in a clean, dry environment, away from direct sunlight and extreme temperatures, when not in use.
- **Avoid Drops:** Protect the unit from drops or impacts, which can damage internal components.

7. Troubleshooting

Problem	Possible Cause	Solution
MPG not responding	Incorrect connection; CNC system not configured for MPG; Damaged cable.	Check cable connection; Verify CNC system settings; Inspect cable for damage.
Axis movement is erratic	Loose connection; Interference; Faulty handwheel.	Ensure secure connection; Check for nearby electrical interference; Contact support if handwheel is faulty.
Emergency stop not working	Button stuck; Wiring issue.	Ensure button is not physically stuck; Check wiring to CNC controller. Do not operate machine if E-stop is non-functional.

8. Specifications

Feature	Detail
Manufacturer	HEASEN
Model Reference	GT5-DR31-JS2616
ASIN	B08LBRB1M6
Compatible Systems	FAGOR, GSK, Siemens, Mitsubishi, FANUC
Voltage	5V
Axes Supported	6 (X, Y, Z, 4th, 5th, 6th)
Magnification Options	X1, X10, X100
Date First Available	Oct. 17 2020

9. Warranty and Support

Specific warranty information for this product is not provided in the available documentation. For warranty claims, technical support, or service inquiries, please contact your original point of purchase or the manufacturer, HEASEN, directly. Keep your purchase receipt as proof of purchase.