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Mollom 2.2KW 3HP 220V G70

MOLLOM VFD 2.2KW 3HP G70 Variable Frequency Drive

Instruction Manual

Model: 2.2KW 3HP 220V G70 | Brand: Mollom

1. Introduction

This manual provides essential information for the safe and efficient operation of your MOLLOM Variable Frequency Drive (VFD) 2.2KW 3HP G70. The VFD is designed to control the speed of AC motors, offering precise control for various applications such as CNC routers, milling machines, pumps, and conveyors. Please read this manual thoroughly before installation and operation.

Important Note:

- This VFD does not support an external resistor unless customized by the seller before purchase.
- For heavy load motors, consider choosing a higher power level VFD or consult sales for model selection.
- The VFD must be directly connected to the motor. Motor start and stop must be controlled by the VFD to prevent damage.
- Avoid operating in humid environments with water mist, water droplets, or where metal objects may fall in, as this can cause short circuits.

2. Safety Information

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

- **Electrical Hazard:** Ensure power is disconnected before performing any wiring or maintenance. Only qualified personnel should perform electrical work.
- **Proper Grounding:** The VFD and motor must be properly grounded to prevent electric shock.
- **Environmental Conditions:** Install the VFD in a clean, dry, and well-ventilated area, away from direct sunlight, corrosive gases, and excessive vibration.
- **Overload Protection:** Do not exceed the rated current or voltage of the VFD or motor.
- **Emergency Stop:** Ensure an accessible emergency stop mechanism is in place and functional.

3. Product Features

- **High Performance:** Power: 2.2kW; Input voltage: AC 220V (±15%); Output voltage: AC 220V; Maximum output current: 9.6A; Input frequency: 50/60 Hz; Output frequency: 0-3000 Hz. Supports both single or three-phase input to

three-phase output.

- **Versatile Control:** Features rich digital and analog control terminals, including an RS485 communication port, adopting standard international MODBUS main circuit control.
- **Anti-Jamming Capability:** Designed with strong anti-jamming capabilities for safe and reliable operation.
- **Smart Digital Display:** User-friendly keyboard design with a clear digital display for intuitive operation. The detachable design allows for convenient remote control.
- **Compact Design:** VFD Dimension: 3.5 x 4.5 x 6.5 inches (L x W x H). Weight: 2.2 LB.

4. Specifications

Parameter	Value
Power	2.2KW (3HP)
Input Voltage	AC 220V (±15%)
Output Voltage	AC 220V
Maximum Output Current	9.6A
Input Frequency	50/60 Hz
Output Frequency	0-3000 Hz
Input Phase	Single or Three Phase
Output Phase	Three-phase
Dimensions (L x W x H)	3.5 x 4.5 x 6.5 inches
Item Weight	2.61 pounds (1.19 Kilograms)
Material	Acrylonitrile Butadiene Styrene (ABS)
Display Type	LCD or LED

5. Setup

5.1 Physical Dimensions

The MOLLOM VFD G70 has a compact design for easy integration into various setups. Refer to the image below for detailed dimensions.



Figure 1: MOLLOM VFD G70 with dimensions: 165mm (6.5in) height, 115mm (4.5in) width, 90mm (3.5in) depth.

5.2 Control Panel Overview

The VFD features a user-friendly control panel with a digital display and various buttons for programming and operation. The panel is detachable for remote control applications.



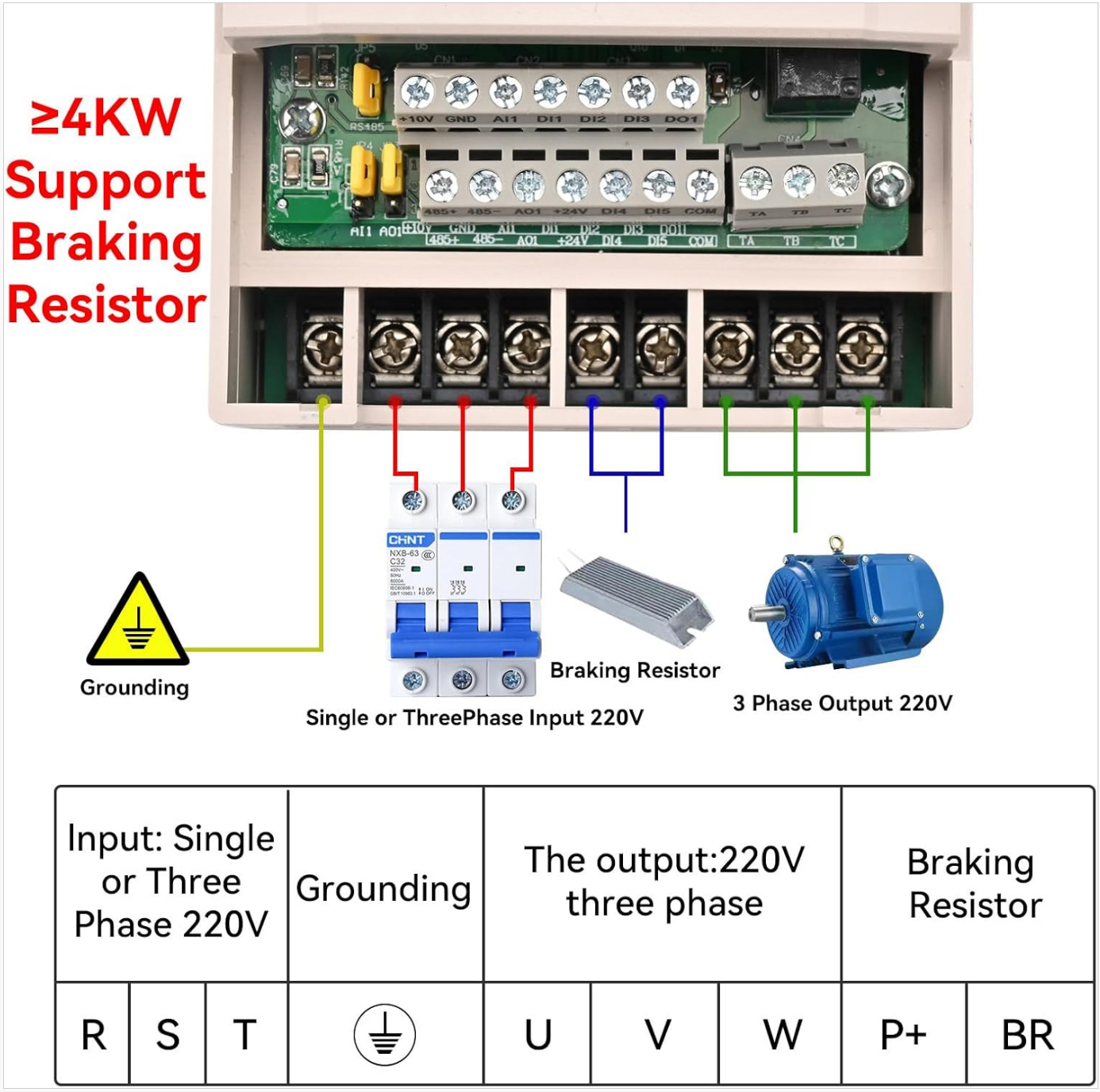
Figure 2: Control Panel Layout with labeled buttons and indicators.



Figure 3: Detachable Control Panel for remote operation.

5.3 Wiring Instructions

Proper wiring is crucial for safe and correct operation. Refer to the diagram and video for detailed connection steps.



Input: Single or Three Phase 220V			Grounding	The output:220V three phase			Braking Resistor	
R	S	T	⏚	U	V	W	P+	BR

Figure 4: VFD Wiring Diagram.

- **Input Power (220V VFD):** Connect any two of R, S, T terminals for single-phase input. For three-phase input, connect R, S, T.
- **Motor Connection:** Connect the motor to the U, V, W output terminals.
- **Grounding:** Ensure the VFD is properly grounded using the designated grounding terminal.
- **Braking Resistor:** For VFDs ≥4KW, connect a braking resistor to P+ and BR terminals if required. This VFD (2.2KW) does not support an external resistor.
- **RS485 Communication:** Connect RS485+ and RS485- for communication. If the control device requires power, connect GND and 24V.

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Video 1: MOLLOM VFD G75 and G70 Introduction and Setup Process. This video demonstrates the wiring and initial setup steps for the VFD, including connecting input power and the motor.

6. Operating Instructions

6.1 Basic Operation (Start/Stop)

After completing the wiring, ensure all connections are secure. To start the motor, press the green RUN button on the control panel. To stop, press the red STOP/RST button.

6.2 Speed Control

The motor speed can be adjusted using the potentiometer knob on the control panel. Turn the knob clockwise to increase speed and counter-clockwise to decrease speed. The current frequency will be displayed on the screen.

6.3 Setting Reverse Function

To set the reverse function, follow these steps:

1. Press the PRG button to display F0.00.
2. Use the UP/DOWN arrows to navigate to F8.00.
3. Press ENTER. The display will show a value (0 to 3).
4. Adjust the value to '3' for reverse operation.
5. Press ENTER to confirm.
6. Press PRG to exit.

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Video 2: MOLLOM VFD G75 and G70 Introduction and Setup Process. This video also demonstrates how to set the reverse function and adjust speed.

6.4 Parameter Setting

The VFD allows for detailed parameter configuration to match your motor's specifications. Refer to your motor's nameplate for accurate values. The following are common parameters:



Figure 5: Example Motor Parameters and VFD Settings.

- **F1-01 (Power):** Set according to your motor's rated power (e.g., 2.2 for 2.2KW).
- **F1-02 (Voltage):** Set according to your motor's rated voltage (e.g., 380 for 380V, or 220 for 220V).
- **F1-03 (Amp):** Set according to your motor's rated current (e.g., 7 for 7A).
- **F1-04 (Hz):** Set according to your motor's rated frequency (e.g., 60 for 60Hz).
- **F1-05 (RPM):** Set according to your motor's rated RPM (e.g., 3450 for 3450 RPM).

To change a parameter:

1. Press the PRG button to display F0.00.
2. Use the UP/DOWN arrows to navigate to the desired parameter (e.g., F1-01).
3. Press ENTER.
4. Use the UP/DOWN arrows to adjust the value. Use the SHIFT button to move between digits.
5. Press ENTER to save the new value.
6. Press PRG to exit.

7. Maintenance

Regular maintenance ensures the longevity and optimal performance of your VFD:

- **Cleaning:** Periodically clean the VFD's exterior and cooling fan vents to prevent dust accumulation, which can hinder heat dissipation. Ensure power is off before cleaning.
- **Inspection:** Regularly inspect all wiring connections for tightness and signs of wear or damage. Check for any unusual noises or odors during operation.
- **Environmental Check:** Verify that the operating environment remains within the specified temperature and humidity ranges.



Figure 6: VFD Cooling System.

8. Troubleshooting

If you encounter issues with your VFD, refer to the following common troubleshooting steps:

- **No Power:** Check input power connections, circuit breakers, and fuses.
- **Motor Not Running:** Verify motor wiring, ensure the RUN command is active, and check VFD parameters (e.g., frequency setting, motor power).
- **Overcurrent/Overvoltage Fault:** Check for motor overload, short circuits in motor wiring, or unstable input power. Reduce acceleration/deceleration times if necessary.
- **Overheat Fault:** Ensure proper ventilation, clean cooling fins, and check ambient temperature.
- **Display Errors:** Consult the VFD manual for specific error codes and their remedies.

If the problem persists after attempting these steps, contact Mollom technical support.

9. Warranty and Support

Mollom is committed to providing quality products and support. For technical assistance, parameter setting guidance, or any product-related inquiries, please contact Mollom customer service. When contacting support, please provide specific details about your motor (e.g., nameplate photo) and the VFD's current parameters for efficient assistance.



Figure 7: Mollom Technical Support Information.

For information regarding product warranty, please refer to the purchase documentation or contact Mollom directly.

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