

Mollom G75-220V

MOLLOM VFD 220V 5.5KW 7.5HP Variable Frequency Drive User Manual

Model: G75-220V

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your MOLLOM 220V 5.5KW 7.5HP Variable Frequency Drive (VFD). Please read this manual thoroughly before installation, operation, or maintenance to ensure proper usage and prevent potential hazards.

The MOLLOM VFD is designed to control the speed of three-phase AC motors, offering precise control for various applications such as CNC routers, milling machines, and pumps. It supports both single-phase and three-phase 220V input.

2. SAFETY PRECAUTIONS

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

- **Electrical Hazard:** Ensure power is disconnected before wiring or performing maintenance. Only qualified personnel should perform electrical work.
- **Grounding:** The VFD must be properly grounded to prevent electric shock.
- **Motor Connection:** The frequency converter must be directly connected to the motor. Control motor start/stop exclusively through the VFD to avoid damage.
- **Environment:** Avoid operating the VFD in humid environments, or where water mist, water droplets, or metal objects may fall into the unit, as this can cause short circuits.
- **External Resistor:** If your motor operates under heavy load, consider using an external braking resistor.

3. SPECIFICATIONS

Feature	Specification
Power	5.5KW (7.5HP)
Input Voltage	AC 220V ($\pm 15\%$)

Feature	Specification
---------	---------------

Output Voltage	AC 220V
Maximum Output Current	25A
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)	5.9 x 7.3 x 10.2 inches (150 x 185 x 260 mm)
Model Number	G75-220V
Display Type	Digital
Material	Acrylonitrile Butadiene Styrene (ABS)

4. PRODUCT COMPONENTS AND DIMENSIONS

The MOLLOM VFD unit includes the main inverter and a detachable control panel. Below are images illustrating the unit's appearance and dimensions.



Figure 4.1: Front view of the MOLLUM VFD 5.5KW 7.5HP unit. This image shows the main body of the Variable Frequency Drive with its control panel integrated, displaying the brand logo and warning symbols.



Figure 4.2: Dimensions of the MOLLOM VFD. This image provides a side view of the VFD unit with measurements indicating its length (10.2 inches), width (7.3 inches), and depth (5.9 inches).

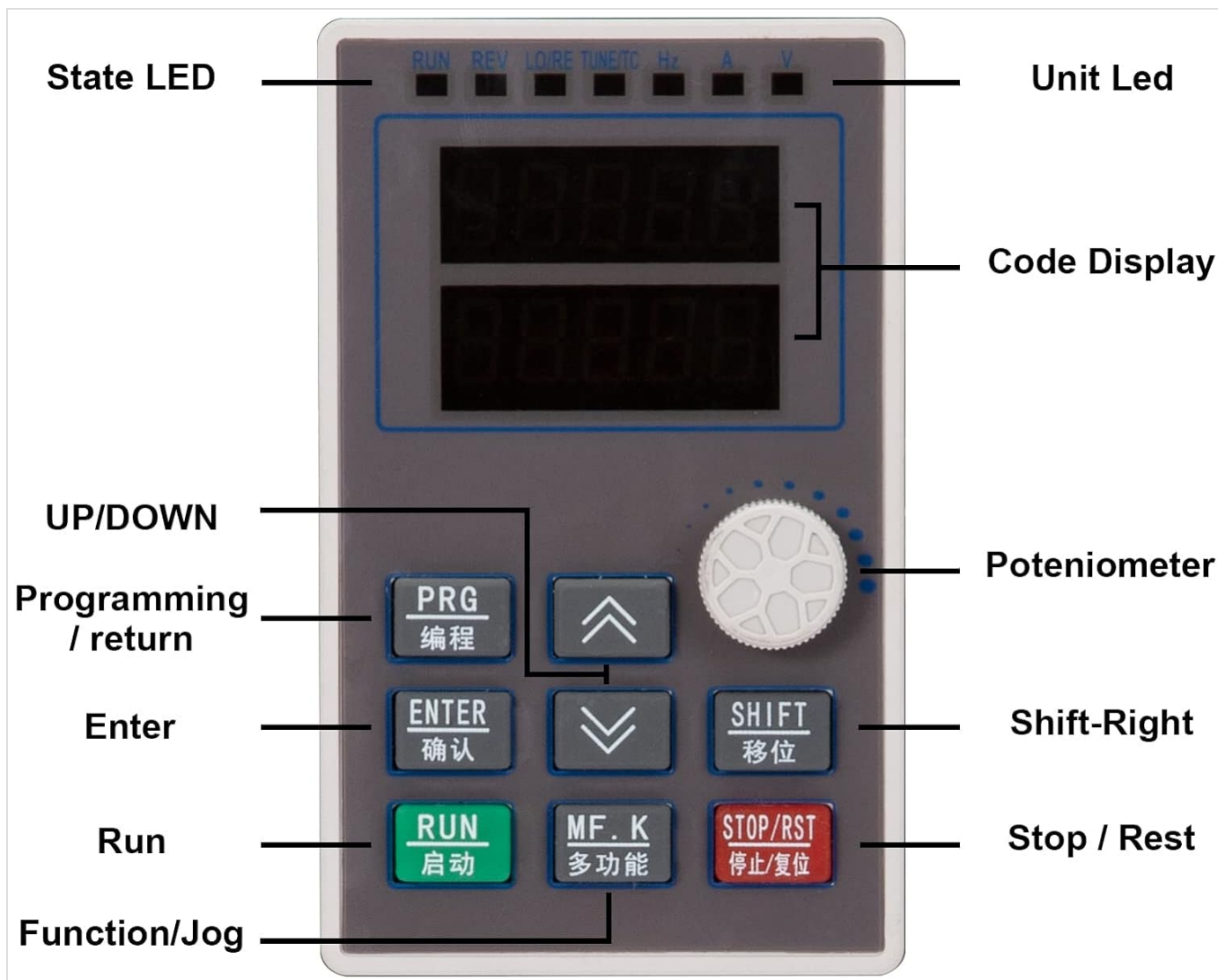


Figure 4.3: Detailed view of the VFD control panel. This image highlights the various buttons and indicators on the control panel, including the State LED, Unit LED, Code Display, UP/DOWN buttons, Potentiometer, PRG (Programming/Return), ENTER, SHIFT-Right, RUN, MF.K (Function/Jog), and STOP/RST (Stop/Reset) buttons.



Figure 4.4: MOLLUM VFD with its detachable control panel. This image shows the main VFD unit alongside its separated control panel, illustrating the remote control capability.

5. SETUP AND WIRING

Proper wiring is crucial for the safe and correct operation of the VFD. Refer to the wiring diagram below and follow these instructions carefully.

How to connect VFD to the motor

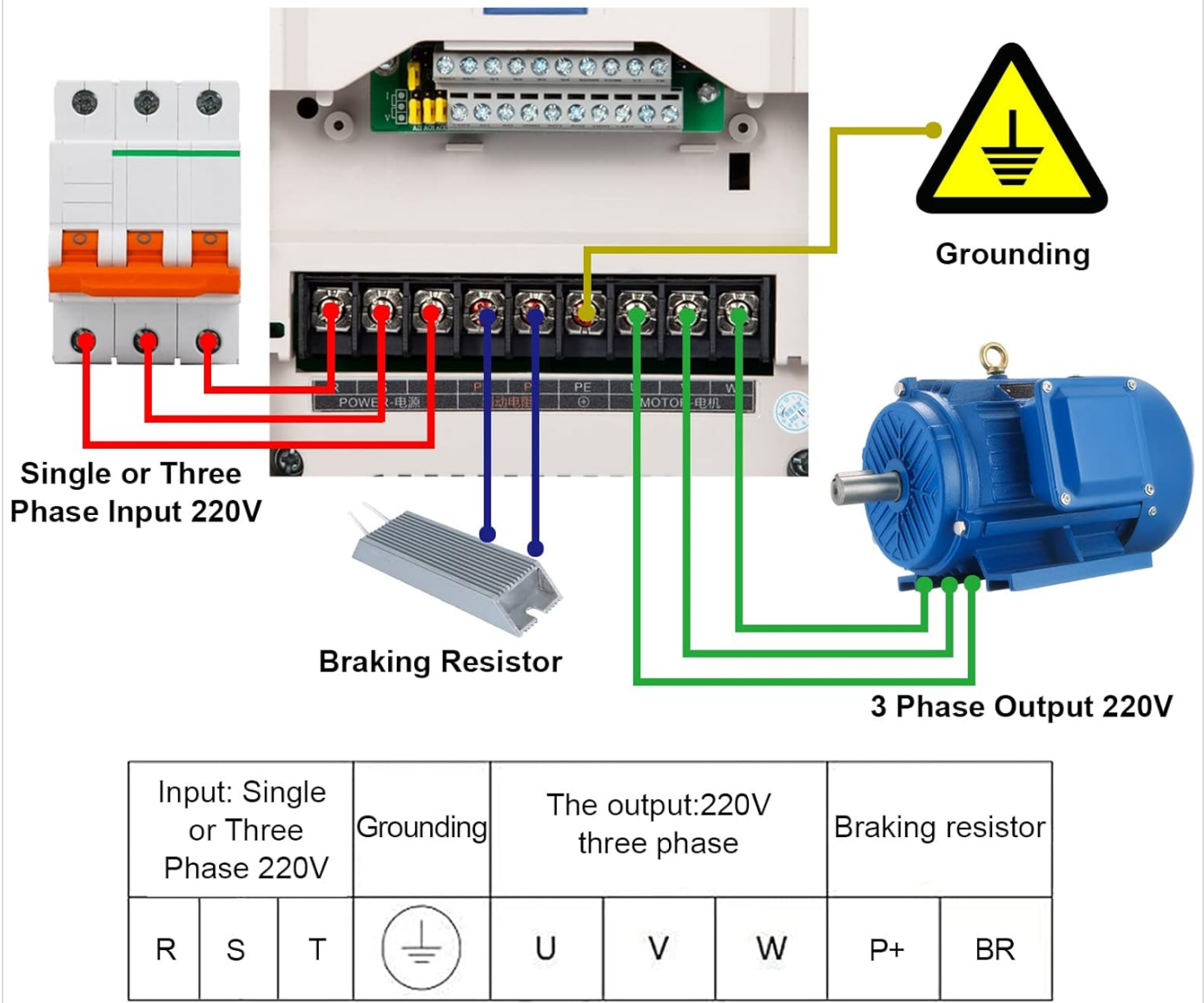


Figure 5.1: Wiring diagram for connecting the VFD to a motor. This diagram illustrates the connections for single or three-phase 220V input (R, S, T terminals), grounding (PE terminal), three-phase 220V output to the motor (U, V, W terminals), and optional braking resistor connections (P+, BR terminals).

5.1 Input Power Connection

- Connect the AC 220V input power to the terminals labeled **R**, **S**, and **T**.
- For single-phase 220V input, connect the live wire to **R** and the neutral wire to **T** (or **L** and **N** if labeled differently).
- For three-phase 220V input, connect each phase to **R**, **S**, and **T** respectively.
- Ensure proper circuit breakers are installed upstream for protection.

5.2 Motor Connection

- Connect the three-phase motor wires to the VFD output terminals labeled **U**, **V**, and **W**.
- Refer to your motor's wiring diagram to ensure it is configured for 220V operation (typically Delta connection for 220V).
- If the motor rotates in the wrong direction, you can swap any two of the U, V, W output wires, or adjust the rotation direction in the VFD's parameters.

- **Important:** The motor must be directly connected to the VFD. Do not place any switches or contactors between the VFD and the motor.

5.3 Grounding

- Connect the ground wire from your power supply and the motor frame to the VFD's **PE** (Protective Earth) terminal.
- Ensure a solid, low-impedance ground connection.

5.4 Braking Resistor (Optional)

- For applications requiring rapid deceleration or operating with high inertia loads, an external braking resistor can be connected to terminals **P+** and **BR**.
- Consult the VFD specifications and your application requirements to select an appropriate braking resistor.

6. OPERATION

This section covers basic operation and parameter settings for the MOLLOM VFD.

6.1 Control Panel Functions

- **PRG (Programming/Return):** Enters/exits parameter setting mode, or returns to the previous menu.
- **ENTER:** Confirms parameter changes or enters sub-menus.
- **UP/DOWN Arrows:** Navigate through parameters or adjust values.
- **SHIFT-Right:** Shifts the cursor during parameter value entry.
- **RUN:** Starts the motor.
- **STOP/RST:** Stops the motor or resets fault conditions.
- **MF.K (Function/Jog):** Activates special functions or jog mode.
- **Potentiometer:** Adjusts the output frequency (speed) in manual mode.

6.2 Basic Parameter Setting

The VFD comes with default settings. You may need to adjust certain parameters for your specific motor and application. Common parameters include:

- **P0.03:** Control mode selection (e.g., V/F control, vector control).
- **P0.04:** Maximum output frequency (e.g., 60Hz for standard motors).
- **P0.10:** Accelerating time.
- **P0.11:** Decelerating time.
- **F0.02:** Factory reset.

For detailed parameter descriptions and advanced settings, refer to the comprehensive user manual PDF available for download or contact technical support.

Technical Support

If you are confused about the parameter setting, please reply to us with the specific parameters of the motor or take a photo of the parameters and we will give you a suggestion of the parameter setting.

Parameter--Spindle Solutions

*NOTE: here is all the possible setting reference for spindle control system, the actual setting may different depend on your real application. Please check the table or ask your local professional.

Parameter	Setting Range	Instruction
F8.03	1	Factory setting , All parameter reset to factory
F0.02	1	Command source selection: Terminal I/O control
F0.03	3	AVI Analog reference (0~10V voltage input)
F0.03	5	ACI Analog reference (0~20mA input)
F0.04	400	Set maximum out frequency 【400Hz】
F0.05	400	Set upper limit of the running Frequency 【400Hz】
F0.10	10s	Accelerating time
F0.11	10s	Decelerating time
F0.14	00	Torque boost control
F1.17	0.00HZ Multi-step 1(f1)	Terminal-X3 (same below)
F1.18	100HZ Multi-step 2(f2)	X4
F1.19	150HZ Multi-step 3(f3)	X3+X4
F1.20	200HZ Multi-step 4(f4)	X5
F1.21	250HZ Multi-step 5(f5)	X3+X5
F1.22	300HZ Multi-step 6(f6)	X4+X5
F1.23	400HZ Multi-step 7(f7)	X3+X4+X5
	X1 Forward	No Change
	X2 Reward	No Change
F2.15	13	Multi-step speed terminal S1
F2.16	14	Multi-step speed terminal S2
F2.17	15	Multi-step speed terminal S3
F2.19	1	Terminal valid
F4.00	220V	Rated voltage of motor
F4.01	13	Rated current of motor
F4.02	2.400	Rated speed of motor (tens KRPM)
F4.03	400	Rated frequency of motor (Hz)
F5.03	0	Factor of voltage limit when decelerating
F5.04	220V	Threshold voltage (V)

Wiring



Figure 6.1: Example of VFD parameter settings for spindle control. This image displays a table of various parameters (e.g., P0.03, P0.04, P0.10, F0.02) with their setting ranges and instructions, useful for configuring the VFD for specific applications like CNC spindle motors.

6.3 Starting and Stopping the Motor

- **Start:** Press the **RUN** button on the control panel.
- **Stop:** Press the **STOP/RED** button on the control panel.
- Adjust motor speed using the potentiometer or programmed external controls.

7. MAINTENANCE

Regular maintenance ensures the longevity and reliable operation of your VFD.

- **Cleaning:** Keep the VFD clean and free from dust and debris. Use a soft, dry cloth for cleaning. Do not use liquid cleaners.
- **Ventilation:** Ensure adequate airflow around the VFD. Regularly check that cooling fans and vents are not obstructed.

- **Connections:** Periodically check all electrical connections for tightness. Loose connections can cause overheating or intermittent operation.
- **Environmental Check:** Verify that the operating environment remains within specified temperature and humidity ranges.

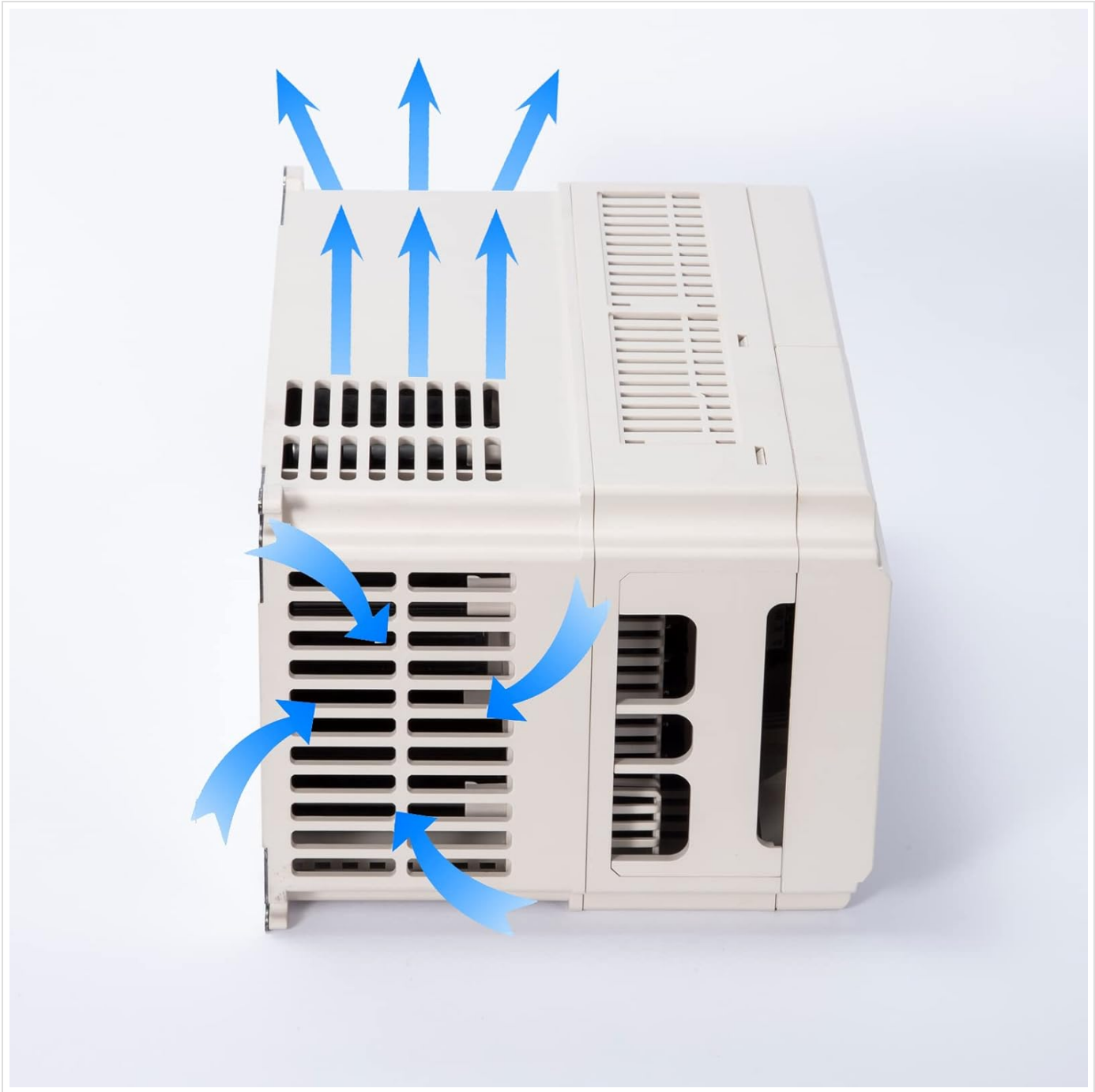


Figure 7.1: Illustration of the VFD's cooling airflow. This image shows blue arrows indicating the path of air entering through the side vents and exiting through the top, demonstrating the cooling mechanism of the unit.

8. TROUBLESHOOTING

This section provides guidance for common issues. For complex problems, contact technical support.

Problem	Possible Cause	Solution
VFD does not power on	No input power; Blown fuse/breaker; Incorrect wiring	Check power supply; Inspect fuses/breakers; Verify input wiring (R, S, T).

Problem	Possible Cause	Solution
Motor does not start	Incorrect parameters; Emergency stop active; Motor wiring error	Check motor parameters (e.g., frequency, voltage); Ensure no emergency stop is engaged; Verify motor connections (U, V, W).
Motor runs in wrong direction	Motor phase sequence incorrect	Swap any two of the U, V, W output wires, or change direction parameter in VFD settings.
Overcurrent/Overload fault	Motor overload; Short circuit; Acceleration time too short	Reduce motor load; Check motor and wiring for shorts; Increase acceleration time parameter.
Overvoltage fault	Deceleration time too short; High inertia load without braking resistor	Increase deceleration time; Install or check braking resistor.

9. TECHNICAL SUPPORT AND WARRANTY

For further assistance with parameter settings, troubleshooting, or any other technical inquiries, please contact MOLLUM customer support.

When contacting support, please provide your VFD model number (G75-220V) and a detailed description of your issue, including any error codes displayed on the VFD.

A comprehensive user manual in PDF format is also available for download:[MOLLUM VFD User Manual \(PDF\)](#).

Warranty Information: Please refer to the warranty card included with your product or contact MOLLUM customer service for details regarding warranty coverage and terms.



Figure 9.1: Illustration representing technical support. This image shows a stylized figure interacting with a parameter setting screen, symbolizing the availability of assistance for VFD configuration.

