Telituny MS500-4T-2.2G

Telituny Frequency Inverter MS500-4T-2.2G User Manual

Model: MS500-4T-2.2G

1. Introduction

The Telituny MS500-4T-2.2G Frequency Inverter is a robust and efficient device designed for precise motor speed control in various industrial applications. It features high-speed processing, stable performance, and a user-friendly interface with a digital display. This inverter incorporates advanced control algorithms and multiple protection functions to ensure reliable and safe operation of your equipment.

Figure 1.1: Telituny Variable Frequency Drive highlighting its benefits: Protect The Motor, Energy Saving, Frequency control, and Strong Security.

2. Safety Information

Please read this user manual thoroughly before operating the frequency inverter. Failure to follow safety instructions may result in serious injury or equipment damage.

WARNING:

- Risk of electrical shock.
- Wait 10 minutes after removing power before servicing.
- Do not connect AC power to output terminals U/T1, V/T2, and W/T3.

3. Product Specifications

The following table outlines the key technical specifications for the MS500-4T-2.2G Frequency Inverter:

Specification	Value
Model	MS500-4T-2.2G
Material	Flame retardant ABS plastic
Input Rated Voltage	3-Phase AC 380V
Input Rated Frequency	50/60 Hz
Output Rated Voltage	3-Phase AC 380V
Input Rated Current	5.8A
Output Rated Current	5.5A
Applicable Motor Power	2.2 kW
Output Frequency (Low Frequency Mode)	0-320 Hz
Protection Level	IP20
Cooling Method	Fan cooling
Installation Method	Wall-mounted
Dimensions (L x W x H)	11.5 x 7.3 x 14.2 cm (approximate, from description)

Figure 3.1: Rear view of the Telituny Frequency Inverter, showing the integrated cooling fan (radiator) and product label with model number MS500-4T-2.2G, power 2.2KW, input/output specifications, and serial number JLS0022B43GB24030106.

Material: Flame retardant ABS plastic	Applicable motor: 2.2KW
Input rated voltage: single phase 380V	Output frequency: low frequency mode: 0~320Hz
Input rated frequency: 50/60Hz	Installation method: wall-mounted
Output rated voltage: three-phase 380V	Protection level: IP20
Rated output current: 5.5A	Cooling method: cooling fan

Figure 3.2: Diagram illustrating the dimensions of the Telituny Frequency Inverter (140mm height, 70mm width, 115mm depth, 35mm panel depth) and a table of key specifications.

4. Product Overview

The Telituny Frequency Inverter features a compact design with a user-friendly control panel and a clear digital display for real-time data. Its robust construction utilizes flame-retardant ABS plastic, ensuring high impact resistance and heat resistance for enhanced safety and reliability.

Figure 4.1: Front view of the Telituny MS500-4T-2.2G Frequency Inverter, showing the digital display, control buttons (PRG, up/down arrows, ENTER, RUN, STOP/RST), and a warning label at the bottom.

Figure 4.2: Composite image detailing key features: a high-speed cooling fan, the flame-retardant ABS material used in construction, and the compact size of the inverter with its removable panel.

5. Installation

5.1 Mounting

The Telituny Frequency Inverter is designed for wall-mounted installation. Ensure the mounting surface is stable and can support the weight of the inverter. Allow adequate space around the unit for proper ventilation and access for wiring and maintenance.

5.2 Wiring

Proper wiring is crucial for the safe and correct operation of the inverter. Refer to the wiring diagrams below for connection details. All wiring should be performed by a qualified electrician in accordance with local electrical codes.

- **Power Input:** Connect the 3-phase AC 380V power supply to the designated input terminals.

- **Motor Output:** Connect the three-phase motor to the output terminals U/T1, V/T2, and W/T3.
- **Grounding:** Ensure the inverter is properly grounded to prevent electrical hazards.
- **Control Terminals:** Utilize the multi-function input terminals, external keyboard interface, potentiometer, analog output, RS485 communication, and relay output as required for your specific application.

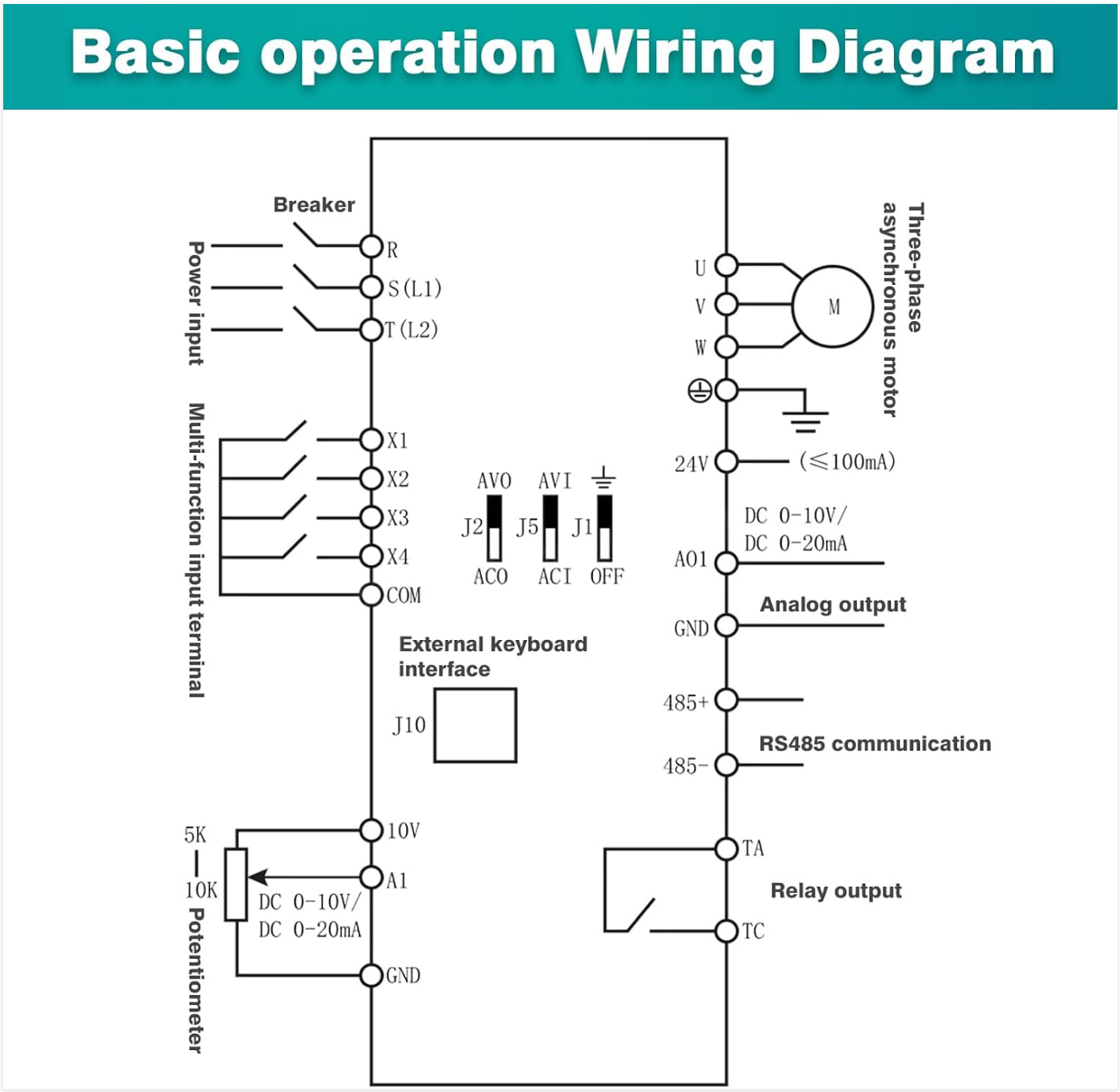

Figure 5.1: Basic operation wiring diagram for the frequency inverter, showing connections for power input, multi-function input terminal, external keyboard interface, potentiometer, analog output, RS485 communication, and relay output to a three-phase asynchronous motor.

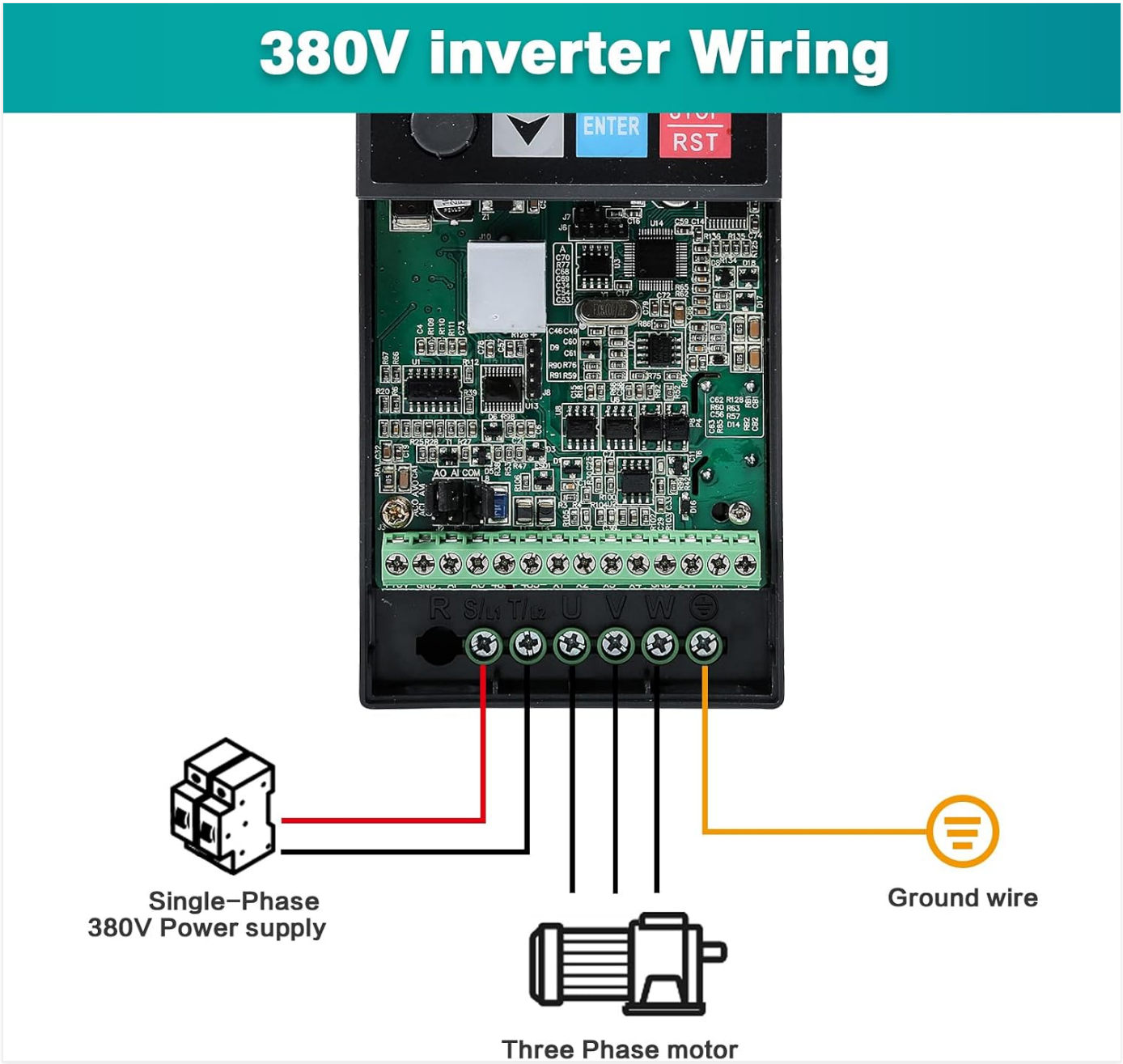

Figure 5.2: Simplified wiring diagram for the 380V inverter, illustrating connections from a single-phase 380V power supply to the inverter, and from the inverter to a three-phase motor, including the ground wire.

6. Operation

6.1 Control Panel

The inverter features a large button design for easy operation and a digital display that shows real-time data. The main control buttons include:

- **PRG:** Program button, used to enter or exit parameter setting mode.
- **Up/Down Arrows:** Used to navigate menus and adjust parameter values.
- **ENTER:** Confirms selections and saves parameter settings.
- **RUN:** Starts the motor operation.
- **STOP/RST:** Stops the motor operation or resets alarms.

6.2 Control Algorithms and Functions

The inverter supports various control algorithms to optimize motor performance:

- **VF Control:** For asynchronous motors.
- **Open-Loop Current Vector Control:** Provides high torque and precision.
- **Open-Loop Permanent Magnet Synchronous Motor Vector Control:** Offers a wide RPM range and high power.

It can provide a starting torque of 150% at 0.5 Hz (sensorless vector mode), ensuring powerful and precise motor control.

7. Maintenance

Regular maintenance ensures the longevity and optimal performance of your frequency inverter. The unit features an independent cooling air duct and a high-speed fan for efficient heat dissipation, which is crucial for long-term stable operation.

- **Cleaning:** Periodically clean the cooling fan and air vents to prevent dust accumulation, which can impede airflow and lead to overheating.
- **Inspection:** Regularly inspect all wiring connections for tightness and signs of wear or damage.
- **Environment:** Ensure the operating environment is within the specified temperature and humidity ranges to prevent damage to internal components.

8. Troubleshooting and Protection Features

The Telituny Frequency Inverter is equipped with advanced protection features to prevent common issues and ensure equipment safety:

- **Rapid Current Limiting Function:** This feature quickly limits the current within the protection point if it exceeds the set threshold. This prevents frequent overcurrent alarms and protects the equipment from sudden loads or faults.
- **Torque Limitation Protection:** If the torque command exceeds the maximum torque the machine can handle, the inverter limits the torque to the preset maximum. This protects the equipment while maximizing machine efficiency.

In case of an alarm or malfunction, refer to the digital display for error codes. Consult the full user manual (if provided separately) for a detailed list of error codes and corresponding troubleshooting steps. For persistent issues, contact customer support.

9. Applications

The Telituny Frequency Inverter is widely applicable across various industrial sectors due to its versatile control capabilities. Common applications include:

- Fans
- Water Pumps
- Oil Pumping Presses
- Compressors
- Conveyor Belts
- Injection Molding Machines
- Crushers
- Mixers
- Ball Mills
- Other industrial equipment requiring precise motor speed control.

Figure 9.1: Examples of applications for the Telituny Frequency Inverter, including motors, water pumps, fans, blenders, air compressors, and conveyors.

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Example: How do I reset this device or fix this error?

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Model number, symptoms, what you tried, or the section of the manual you are using.

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How do I adjust the motor speed (RPM) on the Telituny MS500-2S-1.5G Frequency Inverter?

To adjust the motor speed (revolutions) on the Telituny MS500-2S-1.5G Frequency Inverter, you can use the following methods based on the device's control panel:Using the Control Panel: Use the Up and Down Arrow buttons...

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