

WATTIVE OEOIICAEB-LESGS98727-02

WATTIVE 2.2kW Single-Phase Motor Inverter User Manual

Model: OEOIICAEB-LESGS98727-02

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your WATTIVE 2.2kW Single-Phase Motor Inverter. This Variable Frequency Drive (VFD) is designed for precise speed control of single-phase motors, offering stable performance, intelligent protection, and high efficiency. Please read this manual thoroughly before installation, operation, or maintenance to ensure proper usage and prevent potential hazards.

2. SAFETY INFORMATION

WARNING: Read the user manual before operation. Risk of electrical shock. Wait 10 minutes after removing power before servicing.

- Always ensure the power supply is disconnected before performing any wiring, maintenance, or inspection.
- Only qualified personnel should install, operate, and maintain this device.
- Ensure proper grounding to prevent electrical shock.
- Do not touch the terminals immediately after power disconnection, as residual voltage may be present.
- Protect the inverter from moisture, dust, corrosive gases, and direct sunlight.
- Verify that the input voltage matches the inverter's specifications (Single-phase 220V).
- Do not operate the inverter with damaged cables or components.

3. PRODUCT OVERVIEW

The WATTIVE 2.2kW Single-Phase Motor Inverter is a high-performance device designed for precise motor speed control. It features a robust design with advanced protection mechanisms and efficient heat dissipation.



Figure 3.1: WATTIVE 2.2kW Single-Phase Motor Inverter with a conceptual motor graphic, highlighting its function.

Key Features:

- **Stable Performance:** Utilizes an exclusive control method and a high-performance dual-layer design (power board + main board) for high power, high torque, high precision, and a wide speed control range.
- **Intelligent Protection:** Nine-level protection including overvoltage, undervoltage, overcurrent, overload, overtemperature, power module protection, ground fault, short circuit, and stall protection.
- **High Efficiency Heat Dissipation:** Equipped with high-power heat sinks and DC heat sinks, ensuring quiet operation and effective heat reduction. Features intelligent start/stop control.
- **High Quality Construction:** Integrated stabilizer provides square wave output. Designed with IPM and IGBT modules for increased efficiency, high power, low heat generation, and automatic protection.
- **Robust Housing:** Made from ABS plastic, offering high impact resistance, heat resistance, and fireproofing, suitable for demanding environments.

AREA AD ALTE PRESTAZIONI

Dispone di 485 porte di comunicazione, offrendo elevata durata e prestazioni più stabili.



La regolazione della velocità è semplice come una rotazione.



Ventola di grandi dimensioni per una rapida dissipazione del calore.



Circuiti di alta qualità



Scocca in ABS ignifugo



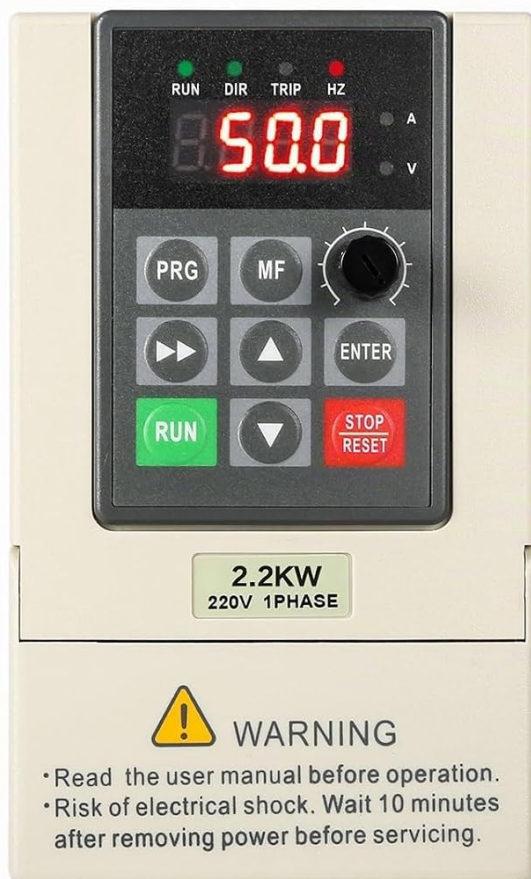
WARNING

- Read the user manual before operation.
- Risk of electrical shock. Wait 10 minutes after removing power before servicing.

Figure 3.2: High Performance Area, showing internal components, communication ports, and heat dissipation fan.

4. SPECIFICATIONS

INFORMAZIONI SUL PRODOTTO



Materiale:	Craft Flale ABS Plastic
Colore:	White
Tensione di ingresso nominale:	Single phase 220V
Tensione di uscita nominale:	Single phase 220V
Corrente di uscita:	10A
Frequenza di fabbrica:	50/60Hz
Frequenza di uscita:	0 ~ 999Hz
Metodo di controllo:	V/F closed loop
Metodo di regolazione della tensione di uscita:	PAM control
Potenza nominale:	2.2kW
Metodo di installazione:	wall -mounted, cabinet type

Figure 4.1: Product Information Table.

Table 4.1: Technical Specifications

Feature	Specification
Brand	WATTIVE
Model Name	OEOICAEB-LESGS98727-02
Material	Craft Flale ABS Plastic
Color	White
Rated Input Voltage	Single phase 220V (AC)
Rated Output Voltage	Single phase 220V (AC)
Output Current	10A
Rated Power Output	2.2kW (2200 Watts)
Peak Power	4400 Watts

Feature	Specification
Factory Frequency	50/60Hz
Output Frequency Range	0 ~ 999Hz
Control Method	V/F closed loop
Output Waveform	Square Wave
Installation Method	Wall-mounted, cabinet type
Dimensions (L x W x H)	23L x 17W x 16H cm
Recommended Uses	Domestic, Industrial Site
Origin	China

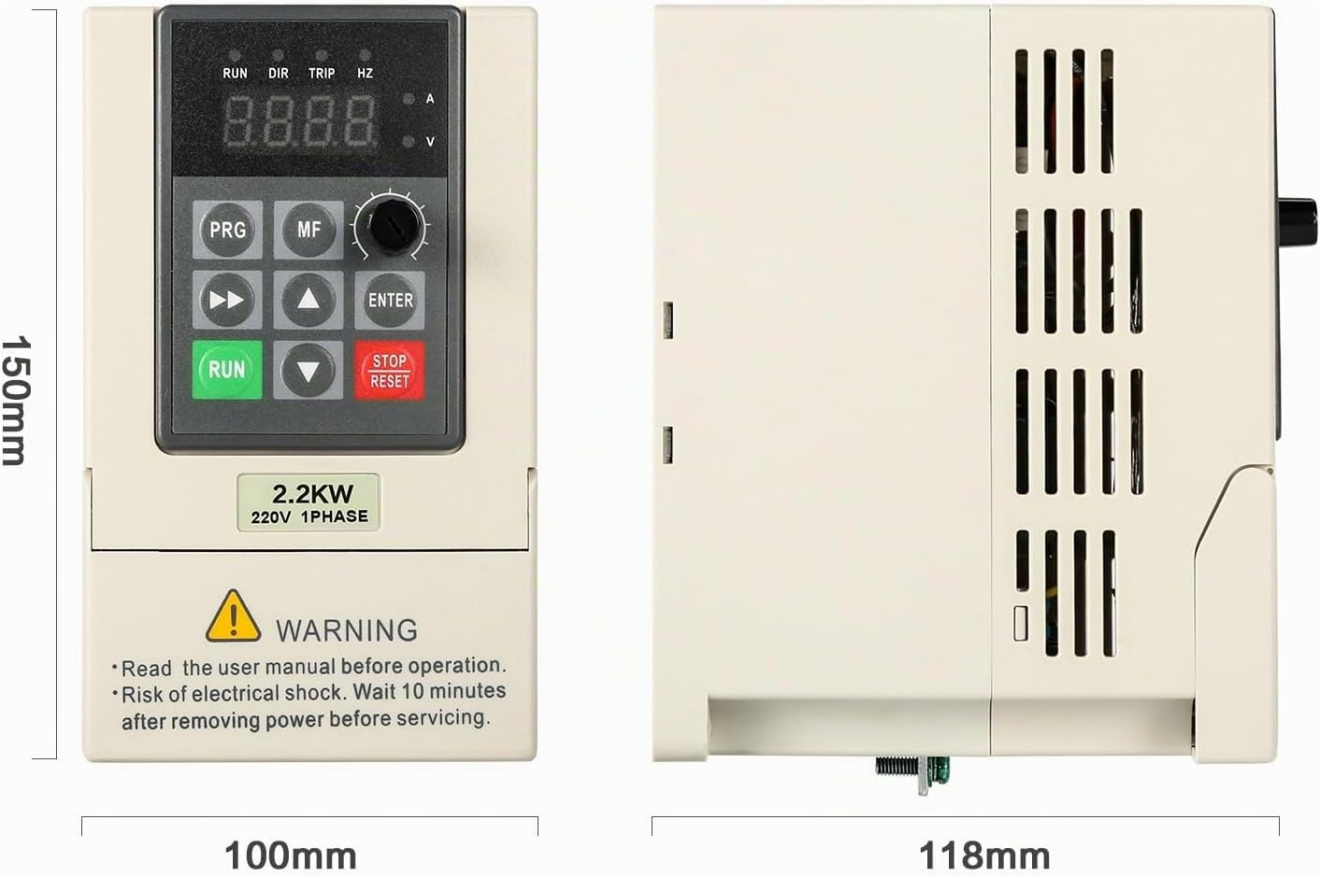


Figure 4.2: Inverter Dimensions (Height: 150mm, Width: 100mm, Depth: 118mm).

5. SETUP AND WIRING

Careful wiring is crucial for the safe and correct operation of the inverter. Ensure all connections are secure and follow local electrical codes.

5.1 Basic Wiring Diagram

Cablaggio invertitore 220V

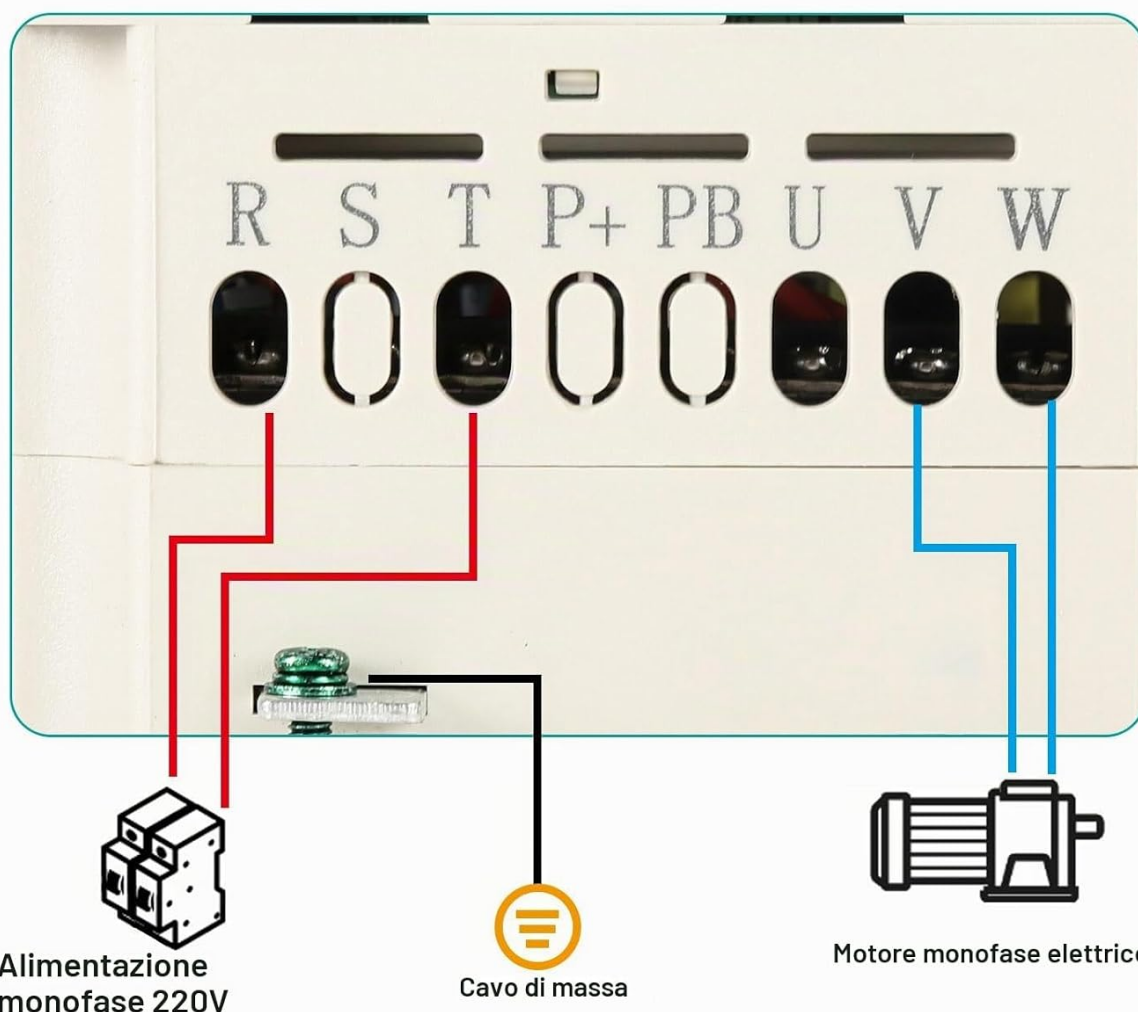


Figure 5.1: Basic 220V Inverter Wiring. Connect single-phase 220V power to R and S terminals, ground cable to the ground terminal, and the single-phase electric motor to U, V, W terminals.

5.2 Wiring for Single-Phase Asynchronous Motors

The inverter supports various wiring configurations for single-phase asynchronous motors. Parameter P4.13 needs to be set according to the motor type and wiring method.

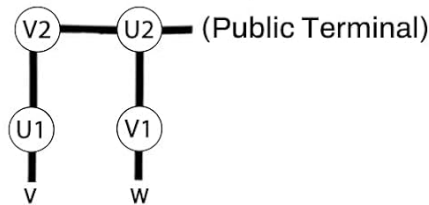
User Manual For Single Phase Asynchronous Motor

1: Change the parameter P4.13 to

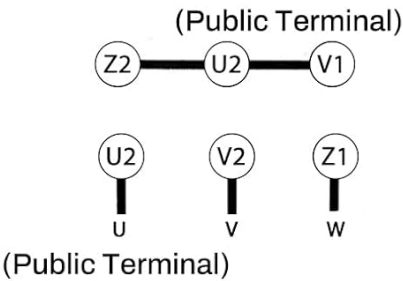
P4.13	PWM Mode	0: Full Frequency seven period 1: Full Frequency five period 2: Seven period to five period 3: Single-phase asynchronous motor	0~3	0
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2: Wiring method

A: With start capacitor in motor, connect the common terminal(V2 and U2 motor) to U phase of inverter, and connect the other terminal(U1,V1 of motor) to W, V phase of inverter; and set P4.13=3, P5.18=0.00



B: Without start capacitor in motor, connect the common terminal of the three wires of the motor to the U terminal, and connect the other two to tl V and W terminals arbitrarily, P4.13=3, P5.18=0.00.



B: Without start capacitor in motor, connect two wires of the motor to the W terminal, P4.13=0.

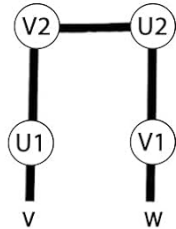


Figure 5.2: Wiring Methods for Single-Phase Asynchronous Motors.

- A. **With Start Capacitor in Motor:** Connect the common terminal (V2 and U2 motor) to the U phase of the inverter, and connect the other terminal (U1, V1 of motor) to the W phase of the inverter. Set P4.13=3, P5.18=0.00.
- B. **Without Start Capacitor in Motor (Three Wires):** Connect the common terminal of the three wires of the motor to the U terminal, and connect the other two to the V and W terminals arbitrarily. Set P4.13=3, P5.18=0.00.
- C. **Without Start Capacitor in Motor (Two Wires):** Connect two wires of the motor to the W terminal. Set P4.13=0.

5.3 Detailed Wiring Instructions

Wiring instructions

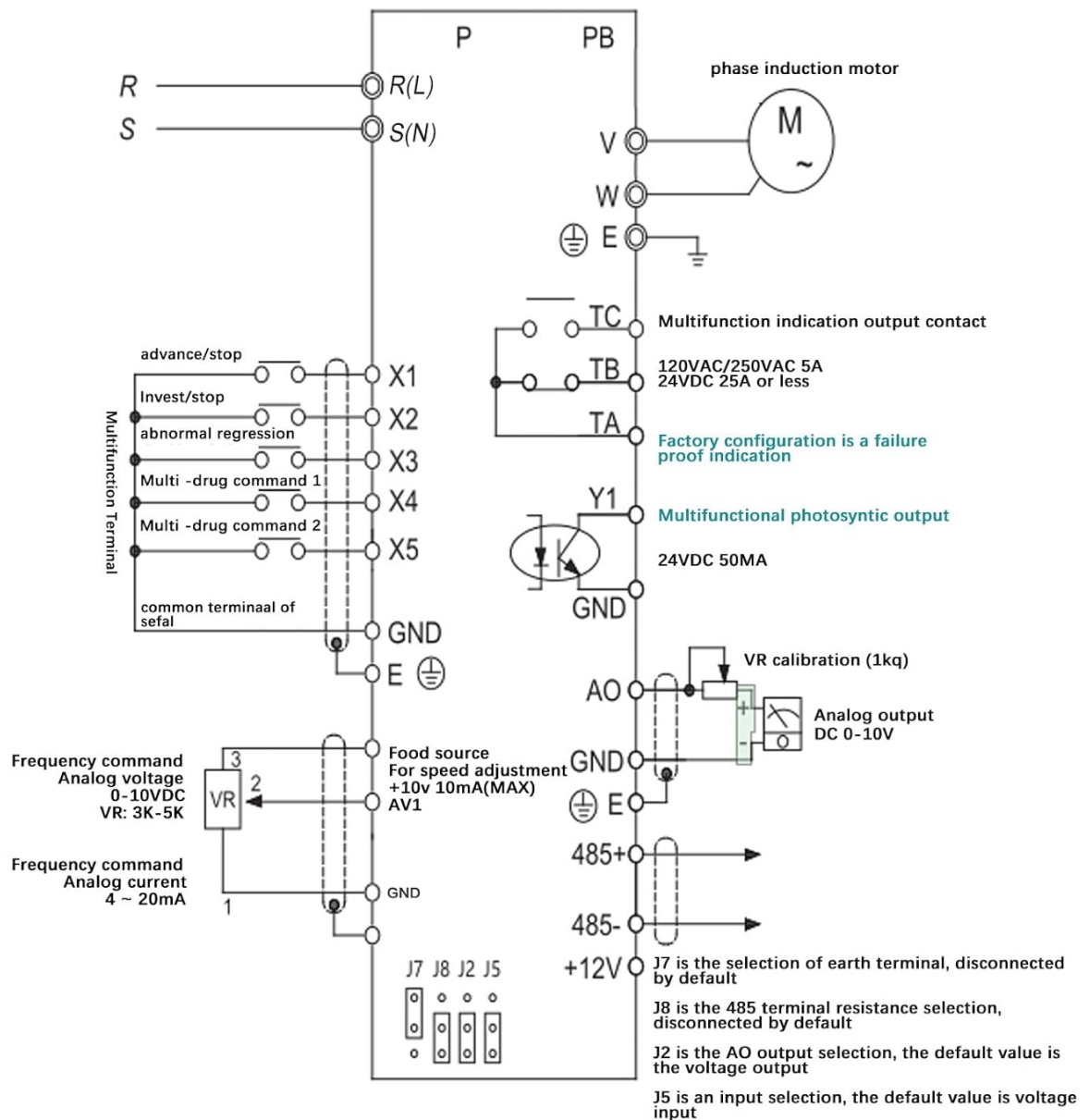


Figure 5.3: Detailed Wiring Schematic. This diagram illustrates connections for power, motor, and control signals, including multifunction input/output and analog inputs.

6. OPERATING INSTRUCTIONS

The inverter features a user-friendly control panel for easy operation and parameter adjustment.

6.1 Control Panel Interface

INTERFACCIA UTENTE



Figure 6.1: User Interface. The control panel includes a digital display, speed knob, and various function buttons.

- **Digital Display:** Shows status indication, electric current, voltage, and real-time frequency.
- **Speed Knob:** Allows continuous speed adjustment from 0 to 999 Hz by simple rotation.
- **PRG (Program) Key:** Enters/exits parameter setting mode.
- **MF (Multifunction) Key:** Used for various functions depending on the mode.
- **Up/Down Keys:** Used for selecting parameters or adjusting values.
- **Shift Key:** Used to move the cursor during parameter editing.
- **ENTER Key:** Confirms selections or parameter changes.
- **RUN Key:** Starts the motor.
- **STOP/RESET Key:** Stops the motor or resets errors.

6.2 Basic Operation

1. **Power On:** Connect the inverter to the power supply. The display will light up.
2. **Set Parameters:** Press the PRG key to enter parameter setting mode. Use the Up/Down keys to navigate through parameters and the Shift key to select digits. Use the ENTER key to confirm. Refer to the detailed parameter table (not included in this manual, refer to the full product documentation) for specific settings like P4.13 for motor type.
3. **Adjust Speed:** Rotate the Speed Knob to set the desired output frequency (motor speed).
4. **Start Motor:** Press the RUN key. The motor will accelerate to the set speed.
5. **Stop Motor:** Press the STOP/RESET key. The motor will decelerate and stop.
6. **Reset Error:** If an error occurs, address the cause and then press the STOP/RESET key to clear the error.

7. MAINTENANCE

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

- **Cleaning:** Periodically clean the inverter's exterior and ventilation openings to prevent dust accumulation, which can hinder heat dissipation. Use a soft, dry cloth. Do not use liquid cleaners.
- **Inspection:** Regularly check for loose connections, damaged cables, or unusual noises/smells during operation.
- **Environment:** Ensure the operating environment remains within specified temperature and humidity ranges.
- **Cooling Fan:** Check the cooling fan for proper operation and ensure it is free from obstructions.
- **Storage:** If storing the inverter for an extended period, keep it in a dry, dust-free environment.

8. TROUBLESHOOTING

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

Table 8.1: Common Troubleshooting Guide

Problem	Possible Cause	Solution
Inverter does not power on	No power supply; Blown fuse; Incorrect wiring.	Check power connection; Replace fuse; Verify wiring according to manual.
Motor does not start	Incorrect parameter settings (e.g., P4.13); Motor wiring error; Overload condition.	Check and adjust P4.13; Verify motor wiring; Reduce load or check motor capacity.
Motor runs erratically or at wrong speed	Speed knob setting incorrect; Parameter settings incorrect; Motor or load issues.	Adjust speed knob; Review and correct relevant parameters; Inspect motor and load.
Overcurrent/Overload error displayed	Motor overloaded; Short circuit in motor or wiring; Acceleration time too short.	Reduce load; Check motor and wiring for shorts; Increase acceleration time parameter.
Overvoltage/Undervoltage error displayed	Input voltage outside acceptable range; Deceleration time too short (overvoltage).	Check input power supply; Increase deceleration time parameter.

If the problem persists after attempting these solutions, please consult a qualified technician.

9. APPLICATIONS

The WATTIVE 2.2kW Single-Phase Motor Inverter is versatile and suitable for a wide range of industrial and domestic applications requiring precise motor speed control.

AMPIA GAMMA DI APPLICAZIONI

Adatto per ventilatori, pompe idrauliche, macchine utensili CNC, mulini a sfere, macchine per stampaggio a iniezione, frantoi, nastri trasportatori, compressori, miscelatori, macchine per la formatura di ioni, macchinari tessili, ecc.



Motori



Pompe idrauliche



Ventilatori



Miscelatori



Compressori d'aria



Nastri trasportatori

Figure 9.1: Wide Range of Applications. The inverter can be used with various industrial and domestic machinery.

Common applications include:

- Fans
- Hydraulic Pumps
- CNC Machine Tools
- Ball Mills
- Injection Molding Machines
- Crushers
- Conveyor Belts
- Compressors
- Mixers
- Textile Machinery
- Ion Forming Machines

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For technical support, please refer to the contact information provided with your purchase.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

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

Details

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

Submit question