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LGIB CPS-5HP

LGIB CPS-5HP Single Phase to 3 Phase Converter Instruction Manual

Model: CPS-5HP

Introduction

This manual provides comprehensive instructions for the safe and efficient installation, operation, and maintenance of your LGIB CPS-5HP Single Phase to 3 Phase Converter. This device is designed to convert 220V single-phase power into 220-240V three-phase power, suitable for operating 5HP three-phase motors.
The converter features easy installation, safety and efficiency protections, wide compatibility with various motors, and a compact, lightweight design.



Image: LGIB CPS-5HP Single Phase to 3 Phase Converter in a workshop setting, illustrating its key features.

Safety Guidelines

- Always pair the phase converter with an air switch on the power input side (not the motor side) to ensure safety for both the motor and individuals.
- Verify that the wire specifications and motor power are properly matched to ensure optimal performance and prevent insufficient voltage or unstable operation.
- The phase converter can only be connected to one motor at a time. Do not connect it to other equipment.
- If the motor power exceeds the rated power of the phase converter, it may be difficult or impossible to start, and the motor could overheat seriously.
- If the wire gauge does not meet the required cross-sectional area, it will lead to startup failure. Increase the wire diameter when the cable length exceeds 50 meters.
- After the phase converter starts successfully, the voltage at the connection terminals may vary with different power motors. This is due to the working characteristics of the phase converter.
- The smaller the motor power is relative to the phase converter power, the higher the voltage between U-V and V-W.

Installation

The LGIB CPS-5HP converter is designed for easy and quick installation with direct wiring connections and no complex setup or programming required. For stable operation, use one motor per phase converter.

Wiring Connection Steps:

1. **Step 1: Input 220V Single-Phase.** Connect the single-phase power supply to the input terminals (L/N) of the converter.
2. **Step 2: Wires Connect to Digital Phase Shifter.** Ensure secure connections at the converter's input terminals.
3. **Step 3: Wires Connect to Motor.** Connect the three-phase motor to the output terminals (U/V/W) of the converter.
4. **Step 4: Output 220V-240V 3-Phase.** Verify all connections are secure before powering on.

Important: For safety, it is advisable to connect an air switch between the power supply and the phase shifter. Ensure the wire gauge meets standards to prevent insufficient voltage and unstable operation.

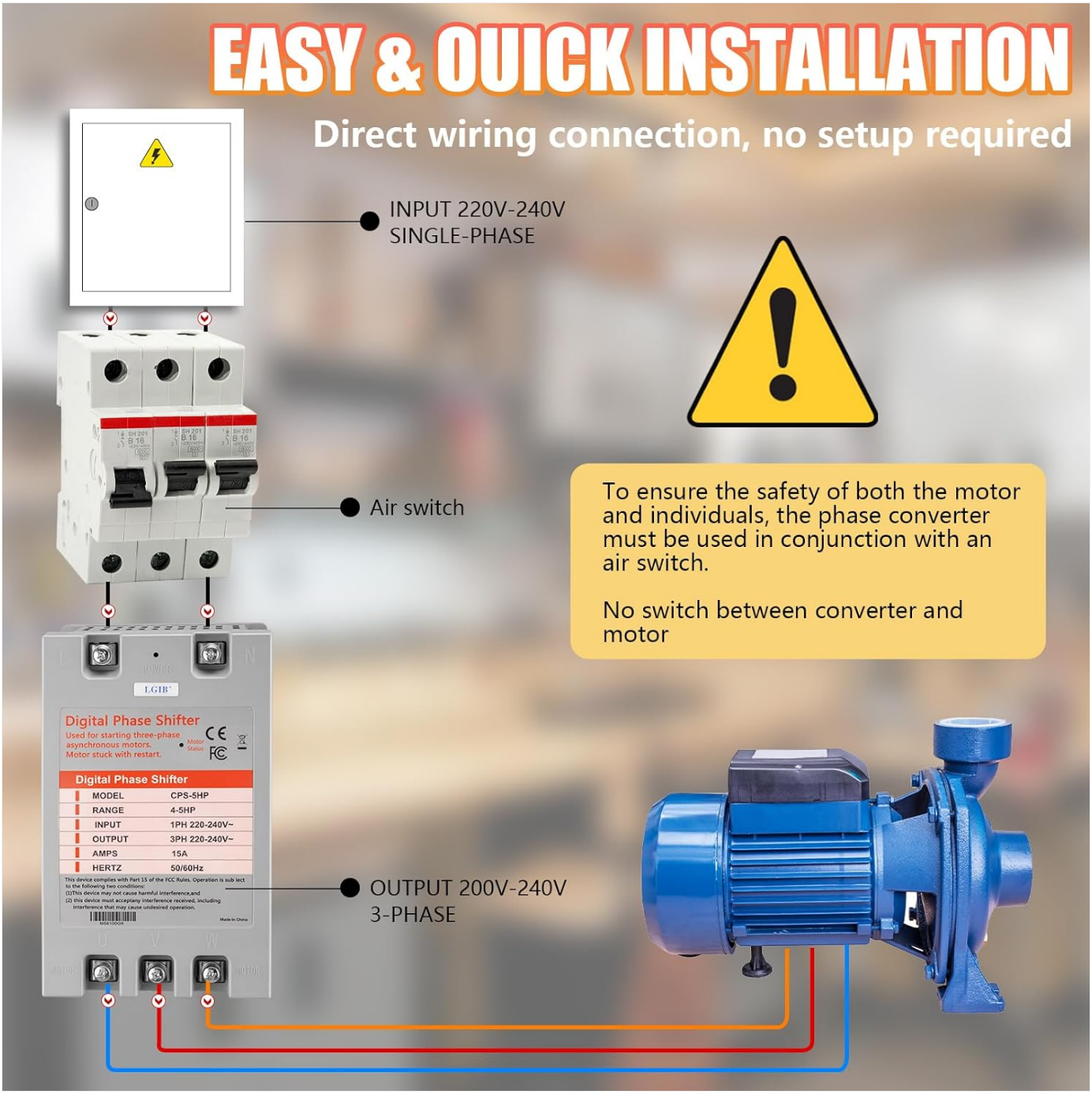


Image: Easy and quick installation diagram for the phase converter, showing input from a single-phase source via an air switch to the converter, and then to a 3-phase motor.



Image: Visual guide for connecting input and output wires to the phase converter.

Installation Video:

Your browser does not support the video tag.

Video: Detailed connection instructions for the LGIB CPS-5HP Single Phase to 3 Phase Converter. This video demonstrates the wiring process and safety considerations, including the use of an air switch and proper wire gauge selection.

Operation

Once properly installed, the LGIB CPS-5HP converter provides a stable and reliable three-phase power supply for your three-phase motor. The digital phase shifter maximizes efficiency.

Motor Power Matching Guide:

Refer to the table below for recommended motor power and load types for optimal performance with the CPS-5HP model.

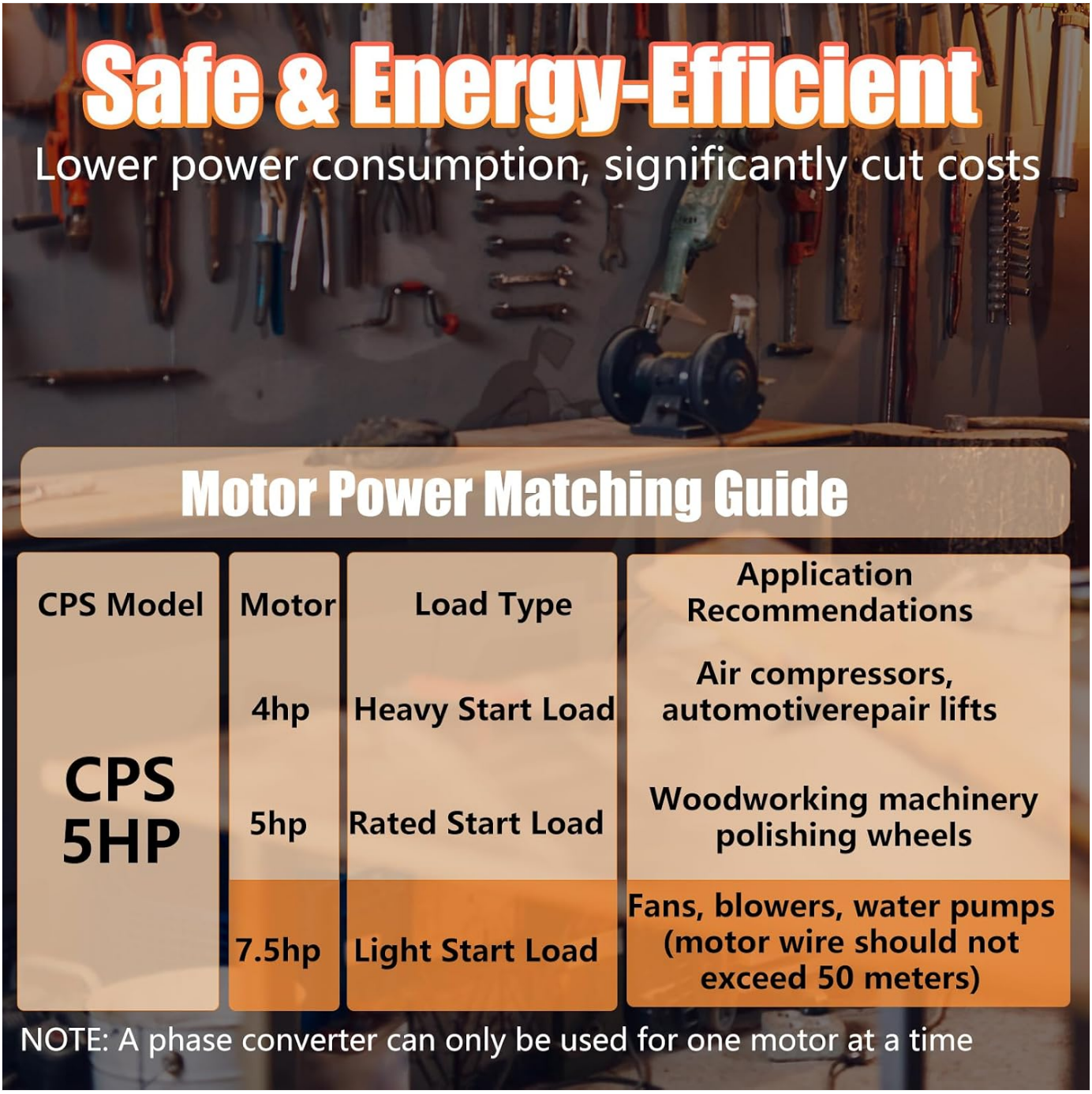


Image: Motor Power Matching Guide for the CPS-5HP, detailing suitable motor horsepower for various load types and applications.

Voltage Detection:

The three-phase output of the CPS can be checked while the motor is running. If the motor is not running, the voltage of "V" and "W" will be zero.

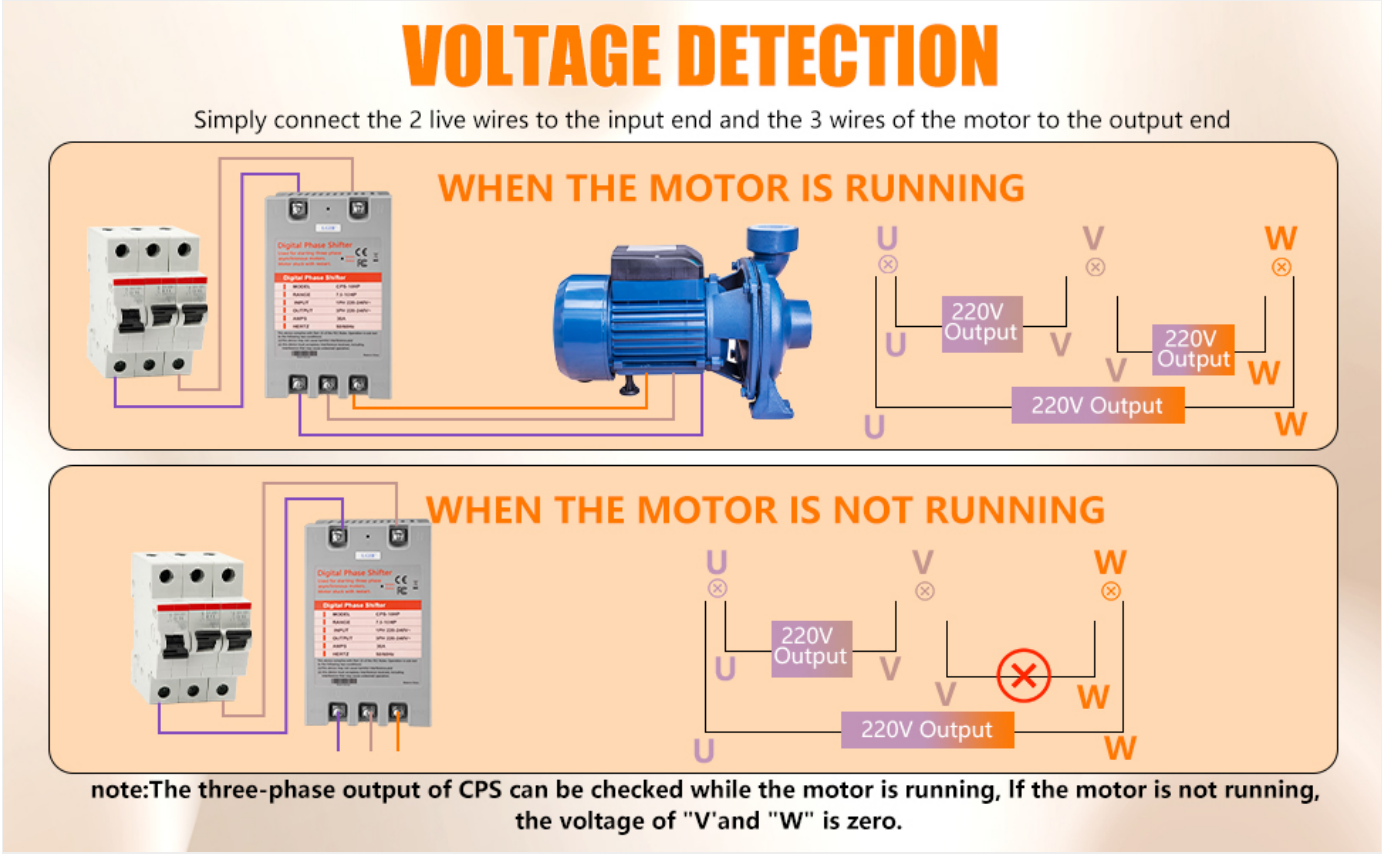


Image: Voltage detection diagram, showing expected output voltages when the motor is running versus when it is idle.

Wide Compatibility:

This converter powers 5HP motors for various applications, including air compressors, pumps, grinders, saws, and fans. It is suitable for residential and light commercial use, such as garage workshops, woodworking workshops, small workspaces, and home garages.



Image: Examples of wide compatibility for the phase converter in different workshop and home garage environments.

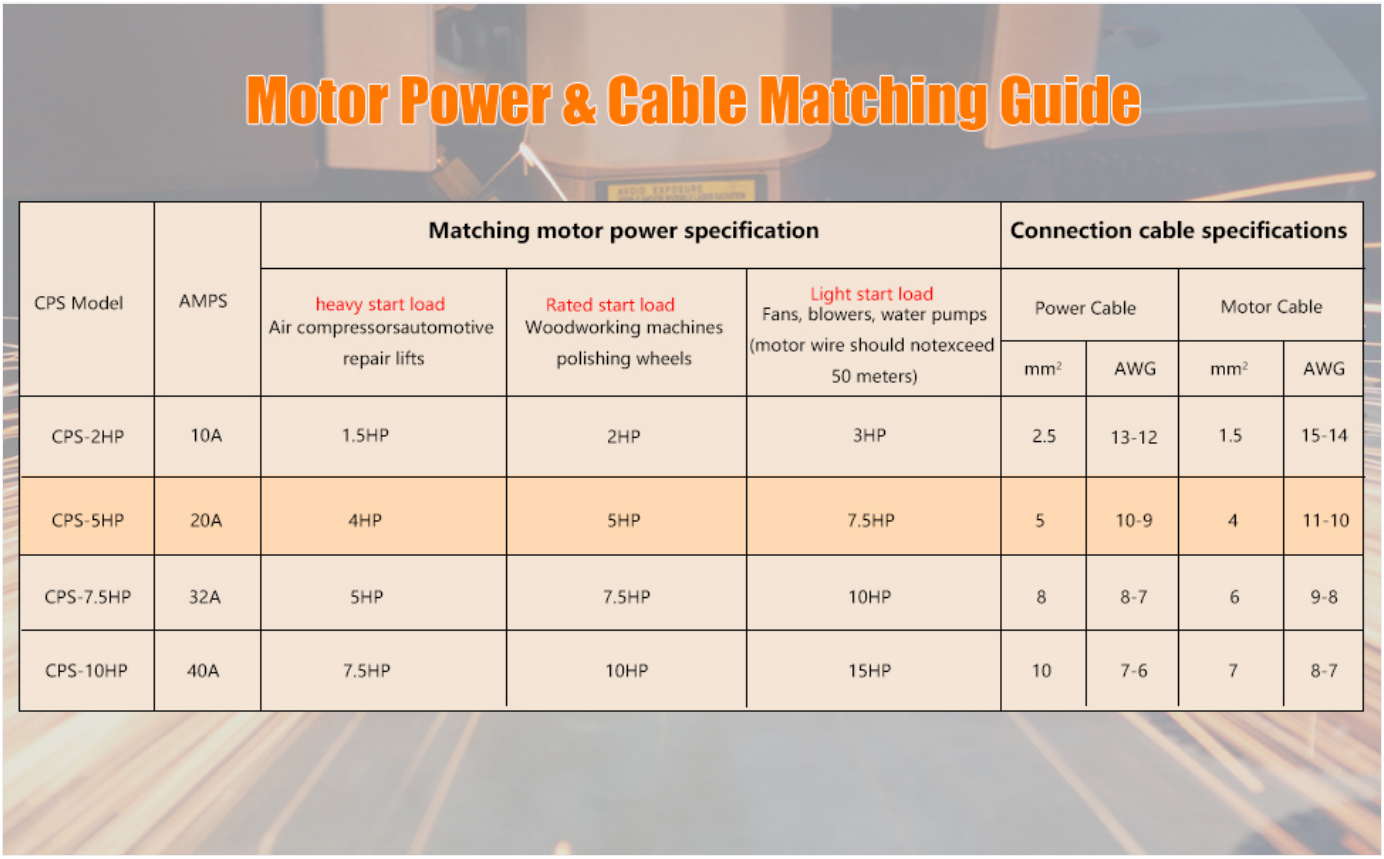
Maintenance

No specific routine maintenance is required for the LGIB CPS-5HP converter beyond ensuring clean connections and proper ventilation. Regularly inspect wiring for any signs of wear or damage.

Troubleshooting

- **Motor Fails to Start or Overheats:**
  - Check if the motor power exceeds the rated power of the phase converter.
  - Ensure the wire gauge meets the required cross-sectional area. Insufficient wire gauge can lead to startup failure, low voltage, and unstable motor speed. Increase wire diameter if cable length exceeds 50 meters.
- **Unstable Motor Speed:** This can be caused by an insufficient wire gauge. Verify wire specifications.
- **No Voltage on V and W Terminals:** This is normal if the motor is not connected or not running. The three-phase output can only be checked when the motor is actively running.

- **Lockout after 5 Consecutive Restart Failures:** The unit has user-friendly protections including motor overload and automatic restart. Normal operation can be restored by power cycling the unit.



CPS Model	AMPS	Matching motor power specification			Connection cable specifications			
		heavy start load Air compressorsautomotive repair lifts	Rated start load Woodworking machines polishing wheels	Light start load Fans, blowers, water pumps (motor wire should notexceed 50 meters)	Power Cable		Motor Cable	
					mm²	AWG	mm²	AWG
CPS-2HP	10A	1.5HP	2HP	3HP	2.5	13-12	1.5	15-14
CPS-5HP	20A	4HP	5HP	7.5HP	5	10-9	4	11-10
CPS-7.5HP	32A	5HP	7.5HP	10HP	8	8-7	6	9-8
CPS-10HP	40A	7.5HP	10HP	15HP	10	7-6	7	8-7

Image: Motor Power & Cable Matching Guide, providing recommendations for wire specifications based on motor horsepower and load type.

Specifications

Feature	Detail
Model Name	CPS-5HP
Brand	LGIB
Horsepower Range	4-5HP (4 KW)
Input Voltage	Single-phase 220-240V
Output Voltage	Three-phase 220-240V
Frequency	50/60Hz
Maximum Current	15A
Product Weight	5.29 lbs / 2.4 kg
Product Dimensions	9.8 x 5.9 x 5.3 inches / 250x150x135 mm
Main Material	Plastic
Protections	Motor Overload, Automatic Restart, Lockout after 5 consecutive restart failures
Recommended Uses	Home, Workshop

Energy Specifications Met	UL



Image: Detailed specifications and dimensions of the LGIB CPS-5HP converter.

Warranty

The LGIB CPS-5HP Single Phase to 3 Phase Converter comes with a 1-year warranty. Please retain your proof of purchase for warranty claims.

Support

For any questions or professional assistance regarding your LGIB CPS-5HP converter, please contact the seller, ArtPro Tools, through the Amazon platform or refer to the contact information provided with your purchase.

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