

DPS MY-PS-7.5

DPS MY-PS-7.5 Single-Phase to 3-Phase Converter User Manual

Model: MY-PS-7.5 | Brand: DPS

1. INTRODUCTION

The DPS MY-PS-7.5 Digital Phase Converter is designed to convert single-phase 200V-240V power into balanced 3-phase 200V-240V power, enabling the operation of 3-phase motors in environments where only single-phase power is available. This manual provides essential information for the safe and efficient installation, operation, and maintenance of your DPS converter.

Key Features:

- Converts single-phase to 3-phase power.
- Easy connection between DPS and motor.
- Compact size and lightweight design.
- Maintains 3-phase power supply even after motor startup.
- UL listed (UL-US-2328605-1, UL-CA-2324527-1).
- Digital type phase converter with excellent start-up torque.
- Sealed design protects against dust, moisture, and heat.
- Low failure rate and non-flammable design.
- Low power consumption.
- High efficiency compared to other phase converters.

2. IMPORTANT SAFETY INFORMATION

Please read and understand all safety warnings and instructions before installing or operating the DPS converter. Failure to do so may result in electric shock, fire, serious injury, or property damage.

- **Always disconnect power before installation or maintenance.**
- This MY-PS-7.5 model is specifically designed for a 5HP (3.7kW) 15 amps 3-phase motor. Using an unsuitable DPS

model can cause motor overheating and noise.

- One DPS unit must be used for only one motor. Do not connect multiple motors to a single DPS unit.
- Ensure your motor's wiring is set to 200V-240V.
- The input/output voltages of the DPS are 200V-240V.
- Select wire thickness appropriate for the capacity of the DPS.
- If you are unsure about selecting a DPS model or installation, consult a qualified electrician or the manufacturer.

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3. PRODUCT OVERVIEW

The DPS MY-PS-7.5 is a robust and compact digital phase converter. Below are its key physical characteristics and specifications.

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DPS UNITS SOLD COMPANY ANNIVERSARY

DPS c **UL** **US**
LISTED

DPS(Digital Phase Converter)/Torque Motor/MIB
MYUNG YOUN ELECTRONICS CO., LTD.
Since 1973

Price can be adjusted depending on the global situation

Figure 1: DPS MY-PS-7.5 Digital Phase Converter



CAUTION

CHECK IF A MAGNETIC CONTACTOR IS INSTALLED

Troubleshooting videos available in the DPS Store

- 1 Check whether a magnetic contactor is installed inside your machine.
(*common in air compressors)
- 2 If a magnetic contactor is used
ONLY a 220V-rated magnetic contactor can be used
- 3 The control wires of the magnetic contactor
must be connected to DPS output terminals 'U' and 'W'
- 4 If you can't verify the control wiring, power off first,
then swap the control wires and test again. Repeat as needed until it works.
- 5 If wiring the magnetic contactor is difficult, disconnect it
and connect the DPS directly to the motor first to verify proper operation.

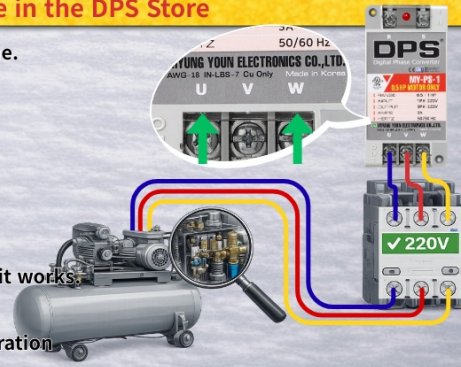


Figure 2: Dimensions and key features of the DPS MY-PS-7.5 model.

Specifications:

- **Product Dimensions:** 4.92 x 3.94 x 7.28 inches
- **Item Weight:** 2.52 pounds
- **Item Model Number:** MY-PS-7.5
- **Manufacturer:** Myung Youn Electronics Co.,Ltd.

4. MODEL SELECTION GUIDE


Selecting the correct DPS model is crucial for optimal performance and to prevent damage to your motor or the converter. Always match the DPS model to your motor's specifications.

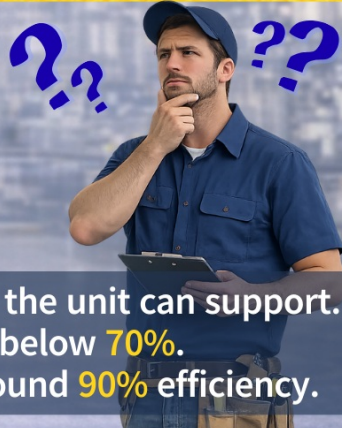
WHY DOES IT SAY 10HP IN THE TITLE BUT RECOMMEND USING IT WITH A 7.5HP MOTOR?

UL US LISTED
E32992

MY-PS-10
7.5HP MOTOR ONLY

RANGE	7.5 - 10 HP
INPUT	1PH 220V
OUTPUT	3PH 220V
AMPS	30A
HERTZ	50/60 Hz





10HP refers to the maximum motor horsepower the unit can support. Using a **10HP** motor, efficiency will be below **70%**. However, using a **7.5HP** motor will give you around **90%** efficiency.

Figure 3: Visual guide on selecting the correct DPS model based on motor HP.



Figure 4: Detailed table for selecting the appropriate DPS model based on motor HP/kW and rated current (AMP).

Important Considerations:

- **Check Motor Nameplate:** Before purchasing, carefully verify the rated HP, kW, Amps, and voltage (200V-240V) on your motor's nameplate.

- **Avoid Oversizing:** Using a DPS model with a significantly higher HP rating than your motor does not increase power and can lead to motor overheating and noise. For example, using a MY-PS-7.5 with a 3HP motor or less will cause overheating due to overcurrent.
- **One DPS per Motor:** Each DPS unit is designed to operate a single motor. Do not attempt to connect multiple motors to one DPS.

IMPORTANT THINGS TO CHECK BEFORE YOU BUY!

Avoid returns - Please carefully check the following before purchasing.

THE RATED SPECIFICATION ON YOUR MOTOR NAMEPLATE

Check if the **motor nameplate voltage supports 200V - 240V**, and verify the rated **HP, kW, and Amps**.

MOTOR	
PHASE	3
HP	7.5
AMPS	23
VOLT	220V

✓

200V - 240V wiring must be supported





Figure 5: Illustration showing that using a higher DPS model does not increase power and can cause issues.

USING A HIGHER DPS MODEL DOES **NOT INCREASE POWER**.

Each DPS model has an optimal motor HP range. Using a higher DPS model does **NOT** provide stranger power.

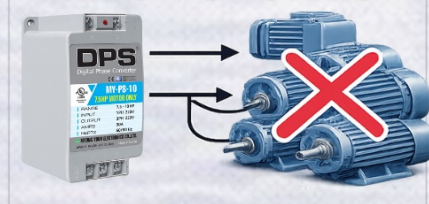
Good!


1 DPS → 1 MOTOR



Bad!

1 DPS → 3 MOTORS





**Input / Output
200V - 240V ONLY**

Did you check if your machine has multiple **motors** you don't know yet?

Figure 6: Clarification on HP ratings and recommended motor sizes for optimal efficiency.

5. SETUP AND INSTALLATION

Proper installation is critical for the safe and effective operation of your DPS converter. Follow these steps carefully.

Wiring Diagram:

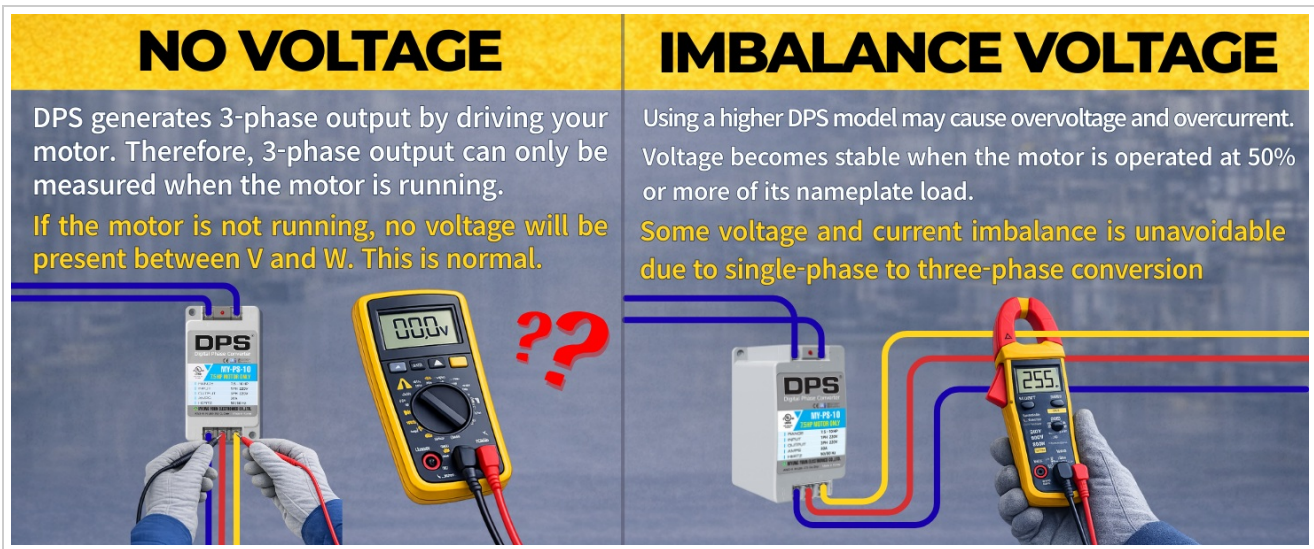


Figure 7: Wiring diagram showing single-phase input to DPS and 3-phase output to a 5HP motor.

Installation Steps:

1. Ensure the motor is wired for 200V-240V 3-phase operation.
2. Connect the single-phase 200V-240V power supply to the 'R' and 'S' input terminals of the DPS.
3. Connect the 'U', 'V', and 'W' output terminals of the DPS to the corresponding 3-phase input terminals of your motor.
4. If using a magnetic contactor, ensure its control wires are connected to the DPS output terminals 'U' and 'W' as per the instruction manual. If the motor does not start, try swapping the positions of the control wires connected to 'U-V-W' at least three times.
5. For direct connection without a magnetic contactor, connect the DPS output directly to the motor.



Figure 8: Important caution regarding magnetic contactor installation and wiring.

Installation Videos:

Video 1: Detailed guide on how to install the DPS to a motor and a magnetic contactor. This video demonstrates the wiring process and troubleshooting steps if the motor does not start correctly.

Video 2: Step-by-step instructions on how to install the DPS phase converter for your motor, including motor wiring for 220V operation.

6. OPERATING INSTRUCTIONS

Once properly installed, operating the DPS converter is straightforward.

1. Ensure all connections are secure and correct.
2. Turn on the single-phase power supply to the DPS.
3. Activate your motor's start switch. The DPS will convert the single-phase input to 3-phase power, allowing the motor to run.

4. To stop the motor, turn off its switch or disconnect the power supply.

7. TROUBLESHOOTING

If you encounter issues with your DPS converter, refer to the following common problems and solutions:

Common Issues and Solutions:

- **Motor runs hot or noisy:** Ensure the DPS model matches your motor's specifications. Using an oversized DPS can cause these issues.
- **No voltage on one phase from DPS output:** The DPS generates 3-phase output by driving the motor. Therefore, 3-phase voltage can only be measured when the motor is running. If the motor is not running, no voltage will be present between V and W. This is normal.
- **Motor does not work after connection:** Try swapping the position of the wires connected to 'U-V-W' of the DPS output at least three times. This can resolve phase rotation issues.
- **DPS input current and voltage are unbalanced:** When there is little load on the motor, current and voltage imbalance may occur. However, when the motor is loaded more than 50%, the current and voltage typically become balanced.



Figure 9: Visual explanation of voltage readings and potential imbalances during DPS operation.

8. MAINTENANCE

The DPS converter is designed for durability and low maintenance.

- The sealed type design helps keep out dust, moisture, and heat, contributing to a longer lifespan and lower failure rate.
- Regularly inspect wiring connections for tightness and signs of wear or damage.
- Keep the unit clean and free from obstructions to ensure proper ventilation.
- No user-serviceable parts inside. Refer all servicing to qualified personnel.

9. SPECIFICATIONS

Feature	Detail
Model Number	MY-PS-7.5
Applicable Motor Capacity	5HP (3.7kW) 15 Amps 3-Phase motor
Input Voltage	200V-240V Single-Phase
Output Voltage	200V-240V 3-Phase
Frequency	50/60Hz

Feature	Detail
Product Dimensions	4.92 x 3.94 x 7.28 inches
Item Weight	2.52 pounds
Manufacturer	Myung Youn Electronics Co.,Ltd.

10. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact your retailer or the manufacturer directly. Keep your purchase receipt as proof of purchase.