

# DPS

(Digital Phase Converter)

## SPECIFICATION

MODEL NAME: MY-PS-5



MYUNG YOUN ELECTRONICS CO., LTD.



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Tel: +82 32 330 1510 Fax: +82 32 330 1514

# 1. Features

- 1) **DPS can run 3-phase motor with single-phase**
- 2) **Very easy to connect DPS and motor**
- 3) **Small size & light weight**
- 4) **Digital Type Phase Converter**
- 5) **Keeps out dust, moisture, and heat due to the sealed type**
- 6) **Excellent start-up torque**
- 7) **Efficiency is excellent versus others phase converters**
- 8) **Low failure rate**
- 9) **Designed to be non-flammable**
- 10) **Does not generate any high frequency**
- 11) **Lower power consumption**

**\* Country of origin: Made in Korea**

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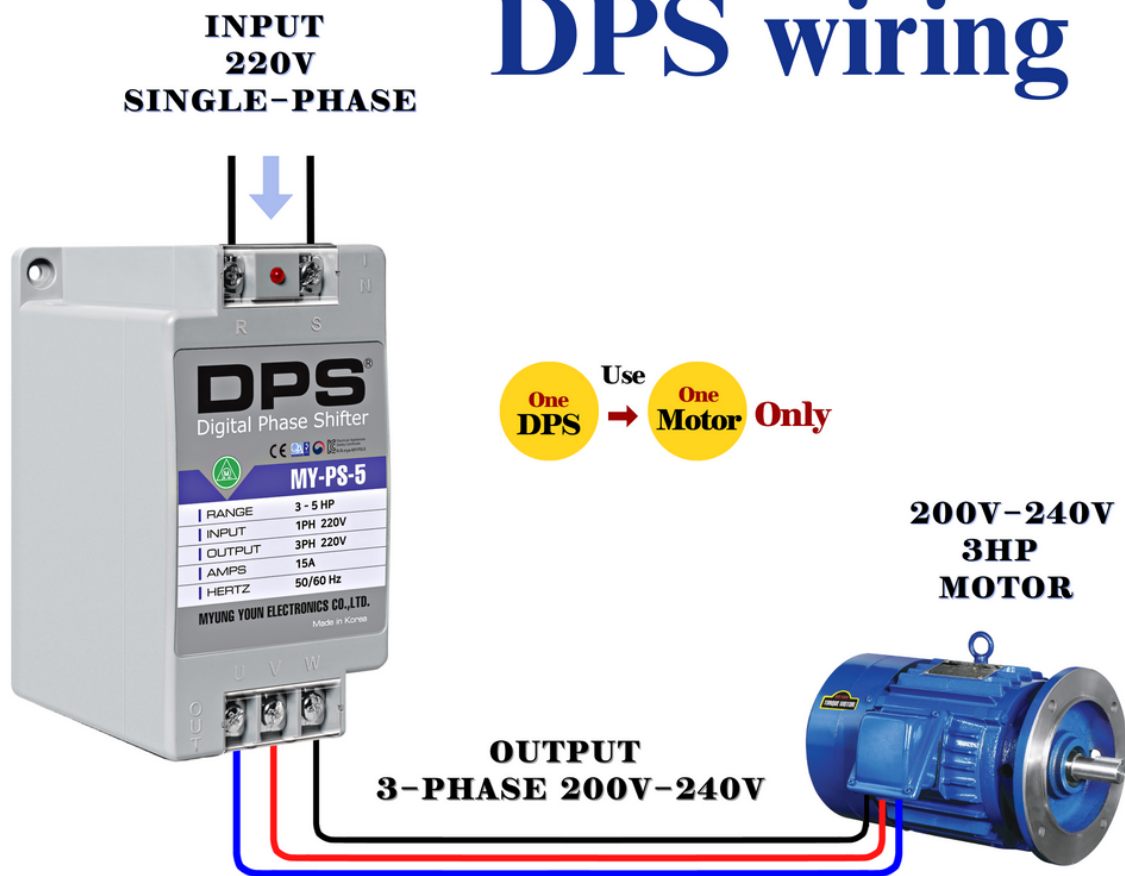
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## 2. DPS install diagram

# DPS wiring



### 3. Technical data

| <b>MODEL NAME: MY-PS-5</b>                  |                   |                     |
|---|-------------------|---------------------|
| <b>Applied Motor: AC 220V 3HP(2.2kW) 9A</b> |                   |                     |
| <b>INPUT</b>                                | <b>Voltage</b>    | <b>AC 200V-240V</b> |
|   | <b>Phase</b>      | <b>Single-Phase</b> |
|   | <b>Frequency</b>  | <b>50Hz/60Hz</b>    |
| <b>OUTPUT</b>                               | <b>Voltage</b>    | <b>AC 220V</b>      |
|   | <b>Phase</b>      | <b>Three-Phase</b>  |
|   | <b>Current</b>    | <b>9A</b>           |
|   | <b>Frequency</b>  | <b>50Hz/60Hz</b>    |
|   | <b>Efficiency</b> | <b>90-95%</b>       |

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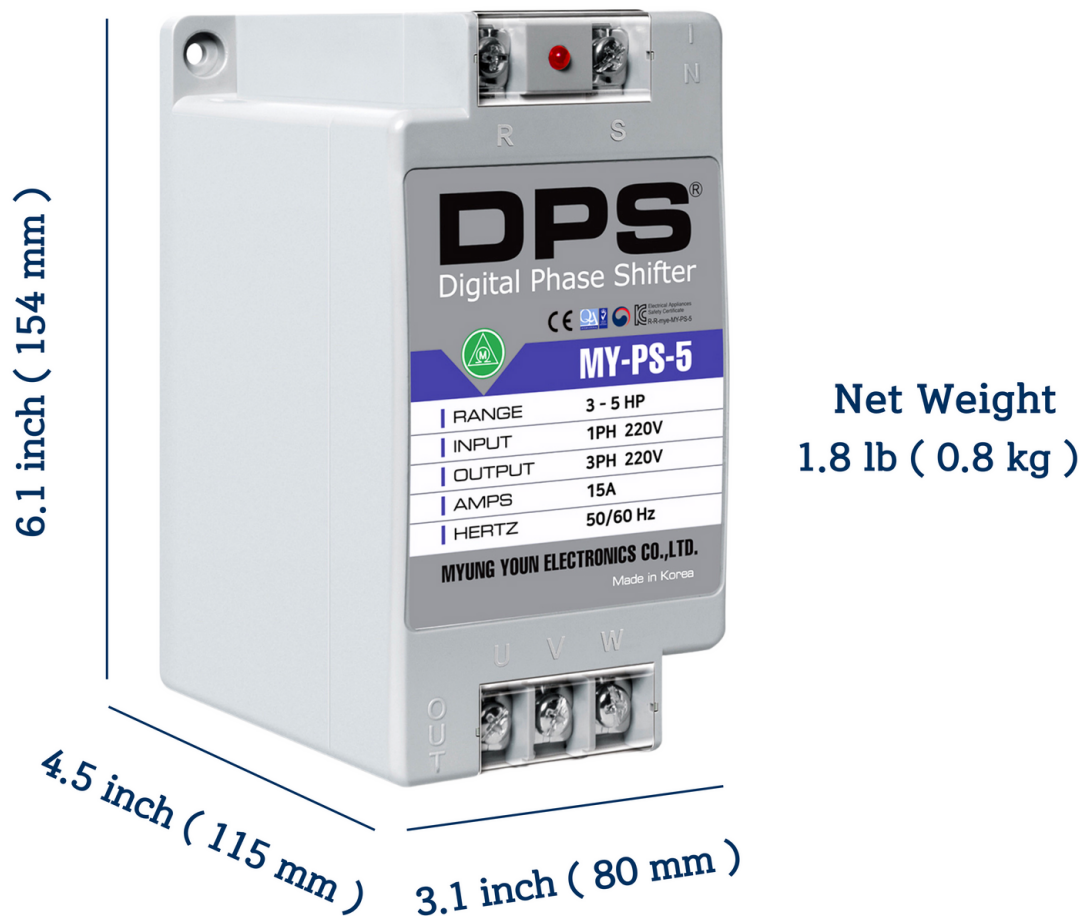


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## 4. Dimension and weight



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## 5. DPS model selection table

| <b>How to Choose DPS Model (Electric Motor)</b> |                  |                                       |                            |
|---|------------------|---------------------------------------|----------------------------|
| <b>NO</b>                                       | <b>DPS Model</b> | <b>3 - Phase Motor Specifications</b> |                            |
|   |                  | <b>Rated HP / kW</b>                  | <b>Rated Current (AMP)</b> |
| 1   | MY-PS-0.5        | 0.25 HP / 0.2kW                       | 0.75 AMP                   |
| 2   | MY-PS-1          | 0.5 HP / 0.4kW                        | 1.5 AMP                    |
| 3   | MY-PS-2          | 1 HP / 0.75kW                         | 3 AMP                      |
| 4   | MY-PS-3          | 2 HP / 1.5kW                          | 6 AMP                      |
| 5   | MY-PS-5          | 3 HP / 2.2kW                          | 9 AMP                      |
| 6   | MY-PS-7.5        | 5 HP / 3.7kW                          | 15 AMP                     |
| 7   | MY-PS-10         | 7.5 HP / 5.5kW                        | 23 AMP                     |
| 8   | MY-PS-15         | 10 HP / 7.5kW                         | 30 AMP                     |
| 9   | MY-PS-20         | 15 HP / 11kW                          | 45 AMP                     |
| 10  | MY-PS-25         | 20 HP / 15kW                          | 60 AMP                     |
| 11  | MY-PS-30         | 25 HP / 18.7kW                        | 75 AMP                     |
| 12  | MY-PS-40         | 30 HP / 22.5kW                        | 90 AMP                     |
| 13  | MY-PS-50         | 40 HP / 30kW                          | 120 AMP                    |

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## 6. CAUTION

- 1) **DPS must be appropriately selected and used according to the motor specifications. Check the motor's rated current (A), horsepower (HP), and voltage (V) and select the DPS model.**
- 2) **DPS must be used for only one motor. One DPS should never be used on multiple motors.**
- 3) **DPS can make 200V-240V 3-phase from 200V-240V single-phase.**
- 4) **The voltage of the motor must be set to 200V-240V(delta wiring).**
- 5) **The efficiency is around 90% when using a DPS model that matches the electric motor specifications.**
- 6) **The thickness of wires should be suitable for motor rated current.**
- 7) **DPS does not operate on 3-phase motor installed with 3-phase brake.**
- 8) **DPS creates induced three phases by running a motor. Therefore, three phases can be measured at the DPS output when the motor is running. If the motor is not running, you cannot measure any three phases at the DPS output.**
- 9) **If a magnet contactor is connected to the motor and DPS, you must connect two control wires which are from the magnetic contactor to 'U' and 'W' of the DPS output. If the motor does not work even though the power is turned on after connecting the DPS and the motor, please switch the wires positions of “U”, “V” and “W” for DPS's output at least 3 times. If the motor operates in reverse rotation and the positions of the 'U' and 'W' wires of the DPS output are swapped, the motor operates in forward rotation.**

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## 6. CAUTION

10) If your machine has a magnetic contactor, it must be 220V only. DPS cannot work for a 380V or 440V magnetic contactor.

11) When the motor initially starts and there is not much load on the motor, the current on the 'U' and 'W' phases of the DPS output may become imbalanced.

However, when more than 50% load is applied to the motor, the 'U' and 'W' current values are balanced. The 'V' phase is approximately equal to the motor's rated current value.

12) If the current is imbalanced even when the load on the motor is more than 50%, check whether the DPS model settings are correct. DPS has a set of available models depending on the specifications of each motor.

If you use a DPS higher than the motor specifications, the motor may generate heat or noise. Also, please check whether the motor is overloaded. DPS efficiency is around 90%. In general, the three phases supplied by power companies and the three phases produced by DPS are different. This is because DPS converts from single-phase to three-phase. Therefore, please use the motor with an efficiency of 90% or less.

13) In general, the 'V' phase of DPS 'U-V-W' has a current value lower than the motor's rated current. And, U and W change depending on the load of the motor.

For example, when the motor rated current is 15A and the 'V' phase of the 'U-V-W' of the DPS output exceeds 15A, there is a high possibility that the motor is overloaded or used incorrect DPS model or problem in the environment around the motor.

If the current in the 'V' phase is higher than the motor rated current, heat may be generated in the motor.

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