

# Stepper Drive Y2SD1R5

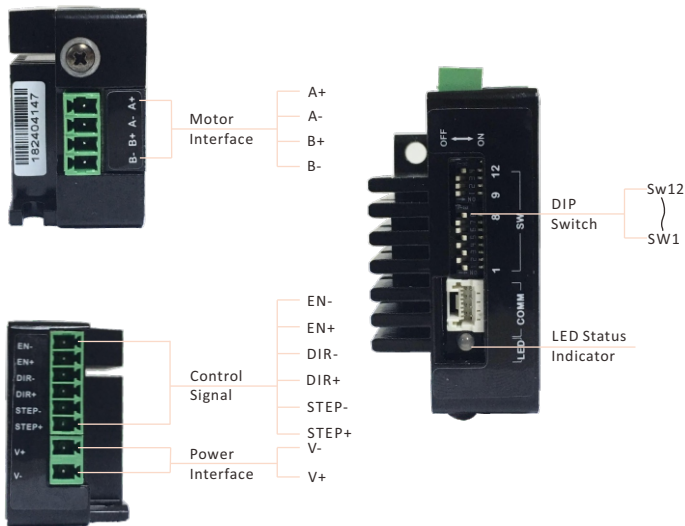
Open loop, DC Input 2-phase

## Technical Features

| Item                   | Description   |
|------------------------|---|
| Input Voltage          | 12 to 48VDC   |
| Output Current         | 0.4 to 3.0A (Peak)  |
| Control Mode           | Pulse and Direction, CW & CCW   |
| Control Signal         | 5VDC and 24VDC Compatible   |
| Micro Step Range       | 16 Types, 1-128 Micro Step Settings, From 200 to 25600 Pules/Round  |
| Idle Current           | 50% or 90% by Setting Jumpers   |
| Special Functions      | Auto Tuning, Self Test, Micro Step Interpolation, Load Inertia Selection                                      |
| Input signal Filtering | 150KHz Digital Filtering for Low Micro Step Scenarios<br>2MHz Digital Filtering for High Micro Step Scenarios |
| Protection             | Metal, High EMC Performance, Multi-Level Electrical Protection  |
| Matching Motors        | Adaptive to Stepper Motors of Nema11 to Nema23  |



## Driver Interfaces



## LED Status Indicator

| Display | Color | Description  |
|---------|-------|--|
| Power   | Green | Flashing indicates drive working normally                                    |
| Error   | Red   | Green and red LEDs flashing alternatively indicates drive working abnormally |

| Status                   | Failure                          | Reason                                     |
|--------------------------|----------------------------------|--|
| Green flicker            | Drive normal                     | ---  |
| green light is always on | Drive not enabled                | EN Port has high level input               |
| 3 red and 1 green        | Drive temperature is too high    | Need to strengthen the heat                |
| 4 red and 1 green        | Driver power input over voltage  | Power supply voltage is greater than 48VDC |
| 5 red and 1 green        | Drive over current               | Motor wiring fault or poor contact         |
| 6 red and 1 green        | Motor winding open circuit       | The motor is not connected well            |
| 3 red and 2 green        | Drive internal voltage error     | Power is too small                         |
| 4 red and 2 green        | Driver power input under voltage | Power supply voltage is less than 12VDC    |

## Advantages

**High Power Grid Compatibility,  
High Reliability,  
High Performance,  
Rich Industrial Applications**

## DIP Switch Settings

### Output Current Settings

| Switch Settings |     |     | Peak Current /A |
|-----------------|-----|-----|-----------------|
| SW1             | SW2 | SW3 |                 |
| Off             | Off | Off | 3.0             |
| On              | Off | Off | 2.7             |
| Off             | On  | Off | 2.4             |
| On              | On  | Off | 2.0             |
| Off             | Off | On  | 1.6             |
| On              | Off | On  | 1.2             |
| Off             | On  | On  | 0.8             |
| On              | On  | On  | 0.4             |

### Idle Current Settings

| DIP | Status | Function                 |
|-----|--------|--------------------------|
| SW4 | On     | 50% of operation current |
|     | Off    | 90% of operation current |

### Micro Step Settings

| Switch Settings |     |     |     | Micro Step | Pulse/Round |
|-----------------|-----|-----|-----|------------|-------------|
| SW5             | SW6 | SW7 | SW8 |            |             |
| Off             | Off | Off | Off | 125        | 25000       |
| On              | Off | Off | Off | 100        | 20000       |
| Off             | On  | Off | Off | 50         | 10000       |
| On              | On  | Off | Off | 40         | 8000        |
| Off             | Off | On  | Off | 25         | 5000        |
| On              | Off | On  | Off | 20         | 4000        |
| Off             | On  | On  | Off | 10         | 2000        |
| On              | On  | On  | Off | 5          | 1000        |
| Off             | Off | Off | On  | 128        | 25600       |
| On              | Off | Off | On  | 64         | 12800       |
| Off             | On  | Off | On  | 32         | 6400        |
| On              | On  | Off | On  | 16         | 3200        |
| Off             | Off | On  | On  | 8          | 1600        |
| On              | Off | On  | On  | 4          | 800         |
| Off             | On  | On  | On  | 2          | 400         |
| On              | On  | On  | On  | 1          | 200         |

Self Test

| DIP | Function  | Description   |
|-----|-----------|---|
| SW9 | Self Test | On: motor will rotate at 1rpm/s for 1 round clockwise and 1 round back. |

Micro Step Interpolation

| DIP  | Function                 | Description   |
|------|--------------------------|---|
| SW10 | Micro Step Interpolation | On: Micro Step Interpolation enabled, suggest to use when micro step is less then 8.<br>Off: Function disenabled. |

Pulse Mode Selection

| DIP  | Function             | Description                                |
|------|----------------------|--|
| SW11 | Pulse Mode Selection | On: CW and CCW<br>Off: Pulse and Direction |

Input Signal Digital Filtering

| DIP  | Function                       | Description  |
|------|--------------------------------|--|
| SW12 | Input Signal Digital Filtering | On: 150kHz, suitable for low micro step settings<br>Off: 2MHz, suitable for high micro step settings |

Note: 150kHz filtering recommended for better anti-interference effect.

Power Interface

| PIN | Description  |
|-----|--------------|
| L   | Live wire    |
| N   | Neutral wire |

Motor Interface

Motor connection, please refer to motor connection information

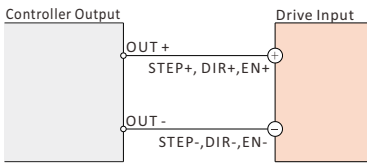
Control Interface

Input Signals

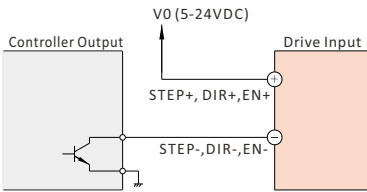
| PIN  | Name             | Description   |
|------|------------------|---|
| STEP | Pulse Signal     | Pulse signal from controllers, 5 to 24V, Differential, PNP, NPN supported.      |
| DIR  | Direction Signal | Direction signal from controllers, 5 to 24V, Differential, PNP, NPN supported.  |
| EN   | Enable Signal    | Enable disconnected, motor enabled, 5 to 24V, Differential, PNP, NPN supported. |

Input Connect

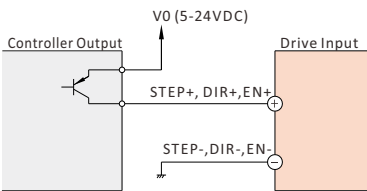
Differential Type



NPN Type



PNP Type



Pulse Mode Setting

| S3 jumper cap | Pulse mode |
|---------------|------------|
| 1-2           | STEP&DIR   |
| 1-3           | CW&CCW     |

Mechanical Dimensions (in mm)

