

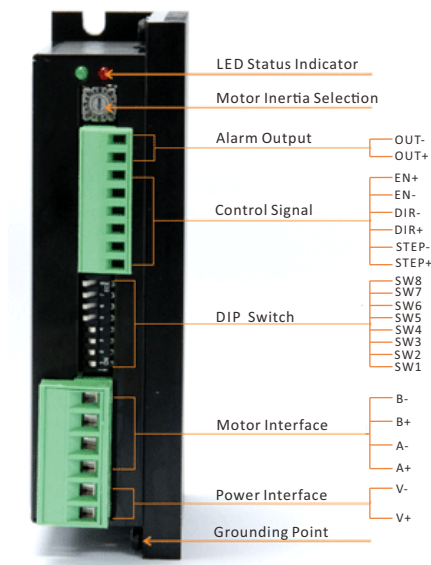
# Stepper Drive Y2SD2

Open loop, DC Input 2-phase

## Technical Features

Item	Description
Input Voltage	24 to 48VDC
Output Current	1.0 to 4.5A (Peak)
Control Mode	Pulse and Direction, CW & CCW
Control Signal	5VDC and 24VDC Compatible
Micro Step Range	16 Types, 5-125 Micro Step Settings, From 1000 to 25000 Pules/Round
Idle Current	50% or 90% by Setting Jumpers
Special Functions	Auto Tuning, Self Test, Alarm Output, Load Inertia Selection
Input signal Filtering	150KHz Digital Filtering for Low Micro Step Scenarios 2MHz Digital Filtering for High Micro Step Scenarios
Protection	Metal, High EMC Performance, Multi-Level Electrical Protection
Matching Motors	Adaptive to Stepper Motors of Nema17 to Nema34
Power Suppliers	Adaptive to 4A and above DC Power Supplies

## Driver Interfaces Description



## 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
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 24VDC

## Advantages

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



## Motor Rotate Inertia Selection

Knob Position	Motor Rotate Inertia
0/8	Less than 10g.cm <sup>2</sup>
1/9	Less than 30g.cm <sup>2</sup>
2/A	Less than 50g.cm <sup>2</sup>
3/B	Less than 80g.cm <sup>2</sup>
4/C	Less than 100g.cm <sup>2</sup>
5/D	Less than 200g.cm <sup>2</sup>
6/E	Less than 400g.cm <sup>2</sup>
7/F	Above 400g.cm <sup>2</sup>

## DIP Switch Settings

### Output Current Settings

Switch Settings			Peak Current /A
SW1	SW2	SW3	
Off	Off	Off	4.5
On	Off	Off	4.0
Off	On	Off	3.5
On	On	Off	3.0
Off	Off	On	2.5
On	Off	On	2.0
Off	On	On	1.5
On	On	On	1.0

### Idel Current Settings

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

### Micro Step Settings

Switch setting			Y2SD2		Y2SD2-S1		Y2SD2-S2	
SW5	SW6	SW7	Micro Step	Pulse /Round	Micro Step	Pulse /Round	Micro Step	Pulse /Round
Off	Off	Off	256	51200	125	25000	3	600
On	Off	Off	128	25600	100	20000	36	7200
Off	On	Off	64	12800	50	10000	30	6000
On	On	Off	32	6400	40	8000	18	3600
Off	Off	On	16	3200	25	5000	15	3000
On	Off	On	8	1600	20	4000	9	1800
Off	On	Off	4	800	10	2000	7.5	1500
On	On	On	2	400	5	1000	6	1200

## Self Test

DIP	Function	Description
SW8	Self Test	On: motor will rotate at 1rpm/s for 1 round clockwise and 1 round back.

## Power Interface

PIN	Power Connect
V+	Power +
V-	GND

## Motor Interface

Motor connection, please refer to motor connection information

## Control Interface

### Input Signals

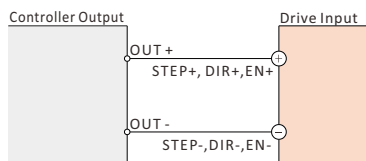
PIN	Name	Description
STEP	Pulse Signal	Pulse signal from controllers, 5 to 24V, Differential, PNP, NPN supported.
DIR	Direction Signal	Direction signal from controllers, 5 to 24V, Differential, PNP, NPN supported.
EN	Enable Signal	Enable disconnected, motor enabled, 5 to 24V, Differential, PNP, NPN supported.

### Output Signals

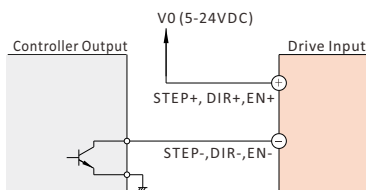
PIN	Name	Description
OUT	Alarm Output	OUT+ and OUT- connected when drive working abnormally. Max. bear 30VDC and 100mA.

### Input Connect

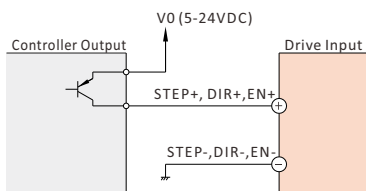
#### Differential Type



#### NPN Type

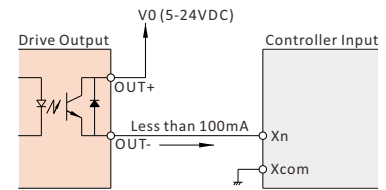


#### PNP Type

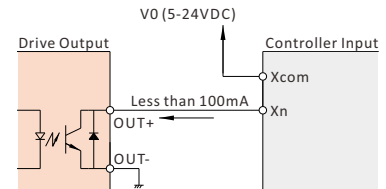


## Output Connect

### Common Cathode Type

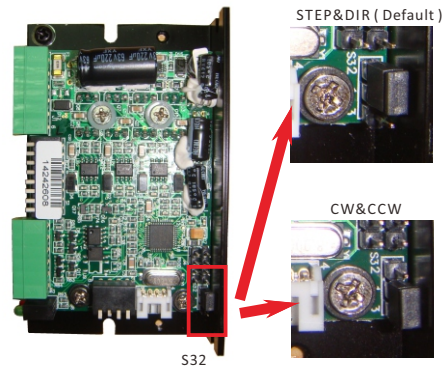


### Common Anode Type



## Pulse Mode Setting

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



## Mechanical Dimensions (in mm)

