



LASDAC8

Two-Phase Digital Stepper Motor Driver

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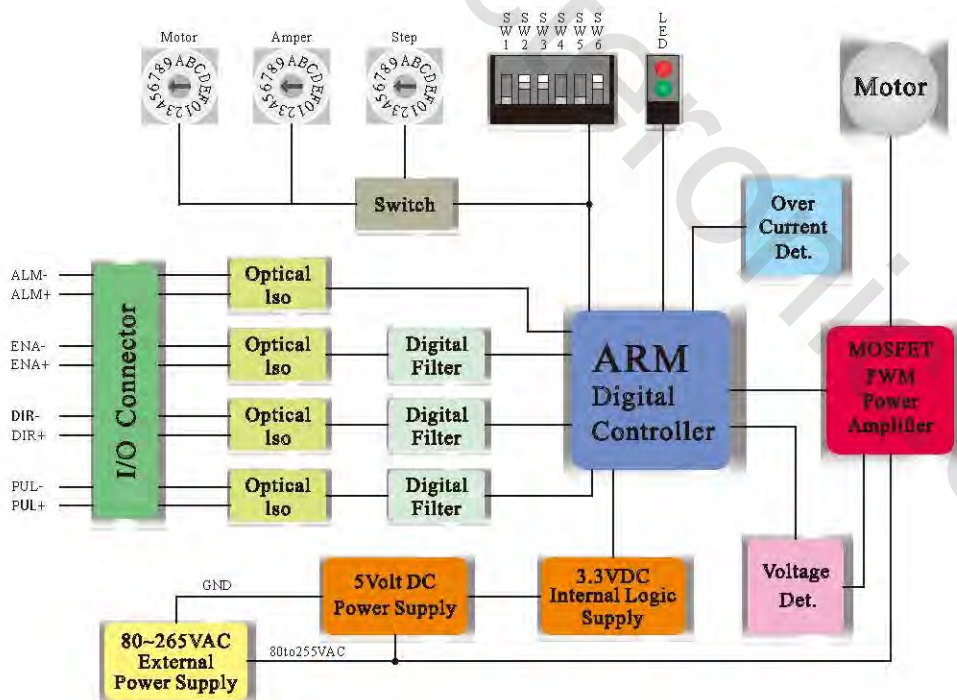
LASDAC8

Introduction

The 2015-style LASDAC8 two-phase digital stepper motor driver recently launched by He Tai Electrical Appliance Co., Ltd. features excellent performance, which is used to adapt to the three-phase 86 and 110/130 stepper motors so as to make the motors have excellent properties of high speed and large torque output, low speed, low vibration, low noise, low heat radiation, etc. Therefore, it is a product with most excellent performance in the same industry at present.

- Basic frequency: 80MHZ
- Brand new ARM core M4 technology 32-bit processor
- Pulse, direction, enable 5~24V input
- Maximum input pulse frequency: more than 2MHZ
- Maximum output current: 8A
- Maximum number of subdivisions: 25600
- Maximum input voltage: 80~265VAC

Functional Diagram



■ Electrical properties and environmental indexes

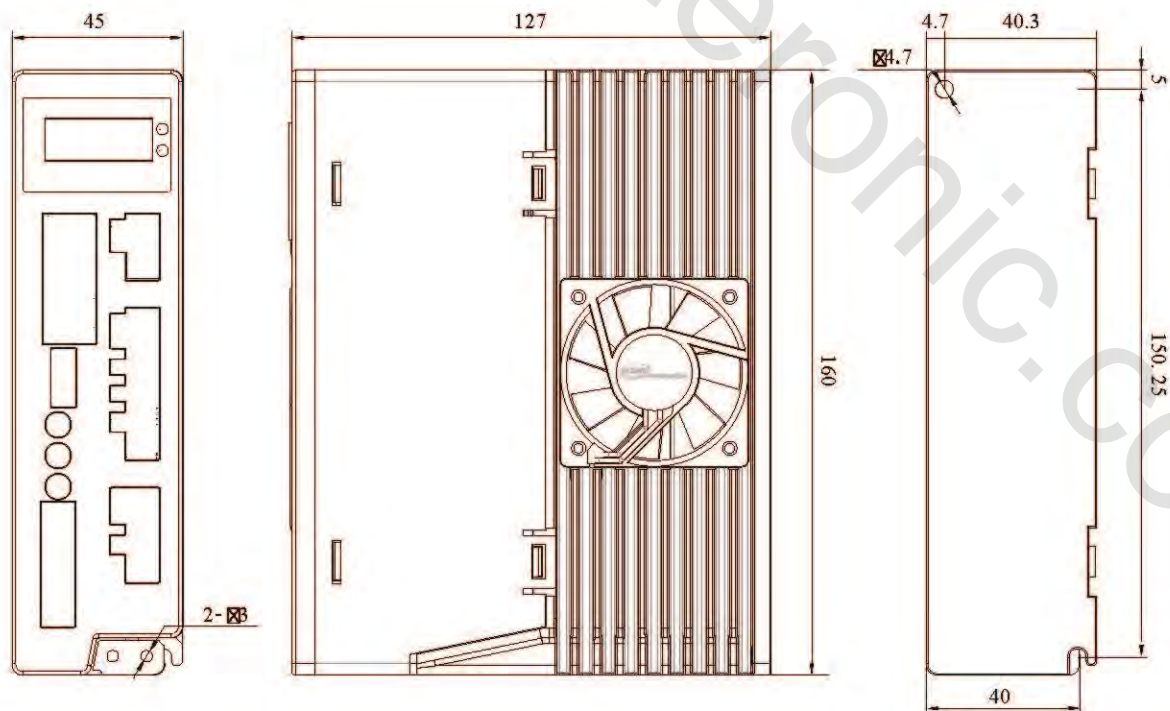
● Electrical parameters

Driver parameters	Minimum value	Typical value	Maximum value	Unit
Input voltage	80	265	220	VAC
Drive current	0.5	-	8	A
Input pulse frequency	1	-	1M	Hz

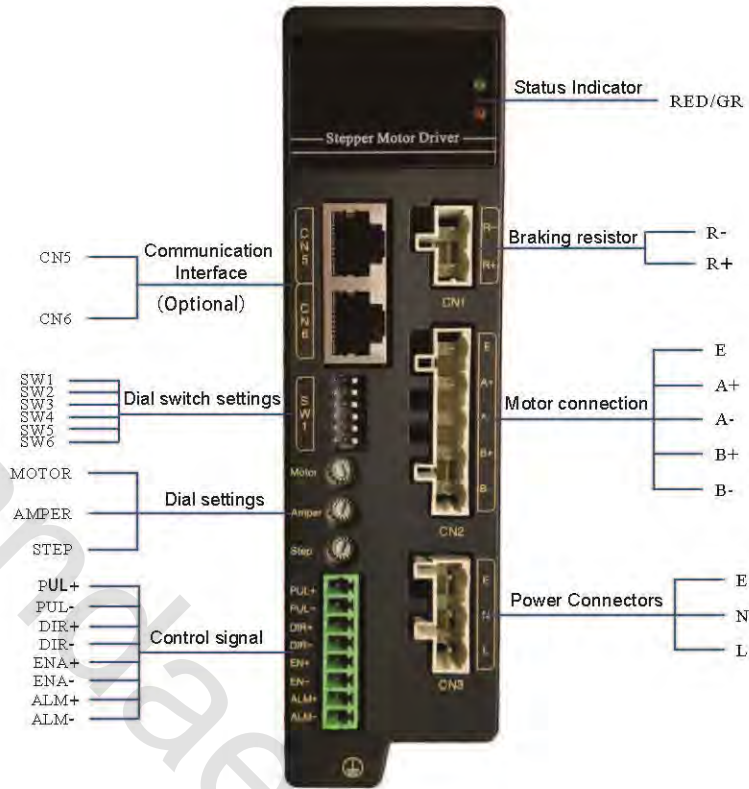
● Environmental indexes

Cooling mode	Natural cooling or forced cooling
Use occasion	Avoid dust, oil stain and corrosive gas
Operating environment temperature	0~40°C
Highest environment humidity	90%RH (no condensation)
Storage temperature	- 10 ~70°C
Maximum vibration	5.9m/S2 max

■ Mechanical dimensions and installation drawing



■ Driver interface and wiring diagram



● Motor Wiring

CN1	Function
R-	Braking Resistor
R+	Braking Resistor

CN2	Function
E	Terminal
A+	No Wiring
A-	Two phase Motor-A-
B+	Two phase Motor-B+
B-	Two phase Motor-B-

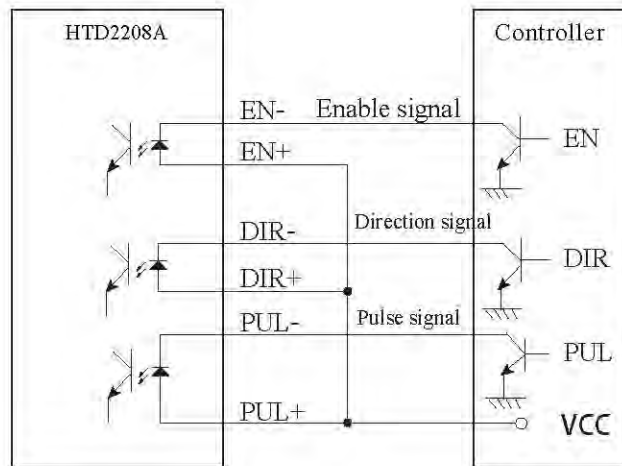
CN3	Function
E	Terminal
N	AC1
L	AC2

● Control signal interface

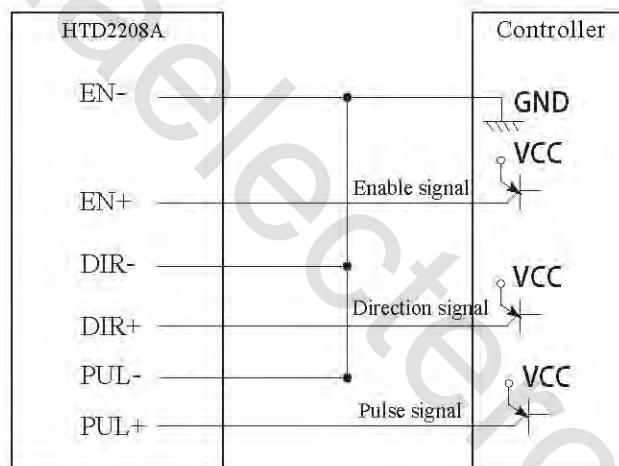
Name	Function
PUL+	Pulse control signal: effective pulse falling edge, pulse voltage of 5V~24V, maximum frequency of 1MHZ.
PUL-	
DIR+	Direction control signal: high and low level pulse signals, high level of 5V~24V.
DIR-	
ENA+	Enable control signal: ENA+ is connected to high level of 5V~24V; each phase of the motor will be in a free state, no longer be controlled by the driver and no longer respond to the pulse signal. It is mainly used for debugging the machine.
ENA-	

● Control signal example diagram

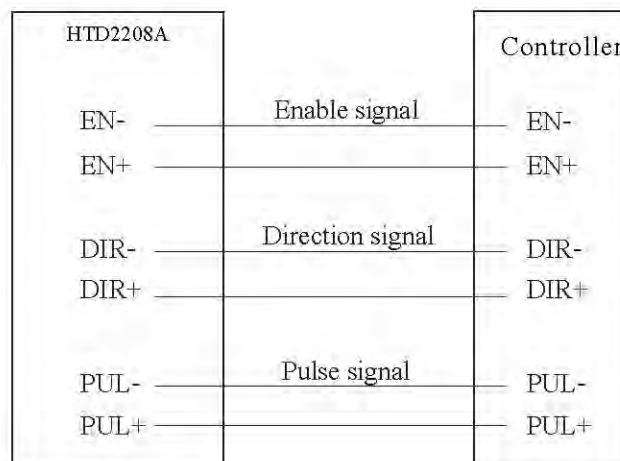
Common anode



Common cathode



Difference



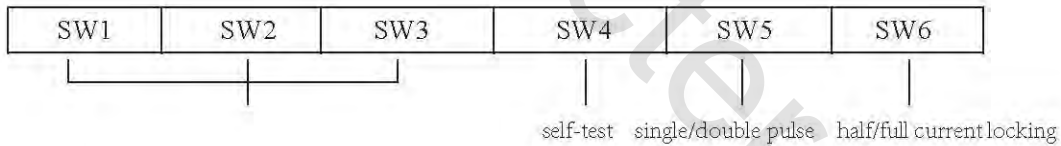
■ Status indication and operating parameter setting

● Status indication and precautions

Status/cause	Green light	Red light				
At power-on	Normal	Not reliably connected to the motor	The motor may be damaged	Overvoltage	Under-voltage	
In operation	Normal	Over-current phenomenon occurs	The motor may be damaged	Overvoltage	Under-voltage	Over-temperature

Precautions: It is not allowed to connect the LASDAC8 stepper motor driver with the power supply and turn on the power switch before the driver is connected with the motor. It is also not allowed to connect the positive and negative ports of the power supply inversely, otherwise the red light of the driver will be on or the stepper motor driver will be damaged!

● Operating parameter setting



● Current setting

For the LASDAC8 two-phase stepper motor driver, the peak current outputted by the output driver is setting through rotating dial switches. Under normal circumstances, the current shall be set as the motor rated current or the current less than the motor rated current, which will be determined according to the customer demand for output torque and motor heating value. If the demand for torque is large, the current shall be set relatively small. If the demand for heating value is small, the current shall be set relatively small.

Dial	0	1	2	3	4	5	6	7
Operating current	0.5A	1.0A	1.5A	2.0A	2.5A	3.0A	3.5A	4.0A
Dial	8	9	A	B	C	D	E	F
Operating current	4.5A	5.0A	5.5A	6.0A	6.5A	7.0A	7.5A	8.0A

● Subdivision setting

For the LASDAC8 two-phase stepper motor driver, the subdivision value is set through rotating dial switches and a total of 16 subdivision settings are optional.

Dial	0	1	2	3	4	5	6	7
Subdivision	200	400	800	1600	3200	6400	12800	25600
Dial	8	9	A	B	C	D	E	F
Subdivision	1000	2000	4000	5000	8000	10000	20000	25000