

MSD752E

Economical

2-Phase Hybrid DSP Stepper Drive

20-70VDC/0.5-5.2A

Overview

MSD752E is an economical 2-phase hybrid stepper drive, using the latest 32 DSP technology, providing precision 0.05A current setting unit, and taking advanced digital filtering techniques, anti-resonance technology and precision current control technology, to make it implement precise smooth operation, extra low noise . It's widely used in semiconductor, electronic processing equipment, laser processing, medical equipment and small CNC. It is capable of driving frame size of 42mm, 57mm, 60mm & 86mm of two-phase hybrid stepper motors.



Features

- Economical and practical
- Low motor vibration, low noise, low motor heating
- Optical isolation signal input
- Automatic idle current reduction
- Precision current setting, the smallest unit of 0.05A
- Over voltage, short circuit, phase-error protection functions
- From 1 full step to 512 micro step per rotation
- Can drive 4, 6, 8-wire 2-phase stepper motors
- Step & direction control

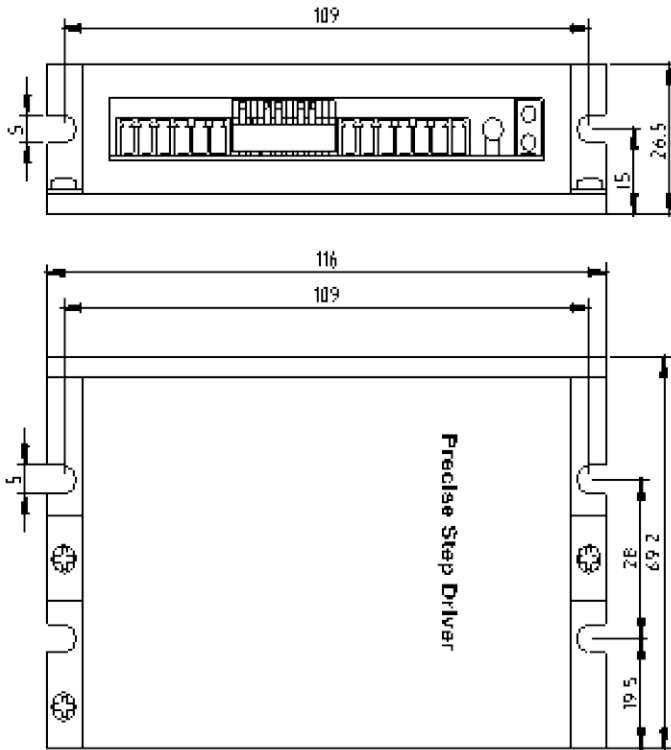
Specification

Model:	MSD752E
Phase:	2
Control Mode:	Step & Direction
Max Input Frequency:	200KHz
Input Voltage Range:	20 - 70 VDC
Suggested Power Supply Voltage Range:	30-60VDC
Output Current:	0.50-5.20A
Software Configuration Resolution Range:	200 - 102,400
# of DIP Switch	SW5-SW8
DIP Switch Resolution Settings:	200, 400, 800, 1600, 3200, 6400, 12800, 25600, 1000, 2000, 4000, 5000, 8000, 10000, 20000, 25000
Software Cofig Current Range:	1.00 - 4.20 A/ 0.50-5.20A
# of DIP Switch Current Configurations:	SW1-SW3
DIP Switch Current Configurations:	1.5A/0.75A, 1.9A/1.25A, 2.3A/2.0A, 2.7A/ 2.75A, 3.2A/3.5A, 3.7A/4.25A,4.2A/5.2A
Logic Current Range:	7-16mA (10mA typical)
Logic Voltage Range:	4-5 VDC for pulse active high (default), 0-0.5V for pulse active low
Pulse enabled at:	Rising edge
Idle Current Percentage:	50%
Software Config. Idle Current Percentage:	0-100%
Step Width:	2,500 ns
Minimal Direction Setup Time:	5,000 ns
Protection:	Over-current, over-voltage, stall, phase-error
Isolation Resistance:	500M Ohm

Environment:	Avoid dust, oil fog and corrosive gases
Ambient Temperature:	0-50°C
Humidity:	40-95% RH
Operating Temperature:	0-70°C
Vibration:	5.9 m/s ² Max
Storage Temperature:	-20-65°C
Specification:	116X 69.2 X 26.54mm
Weight:	0.46 lbs

Mechanical Specification (Unit: mm)

1inch=25.4mm



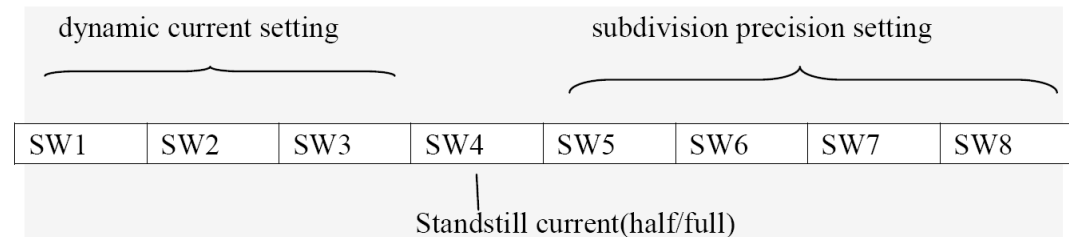
Current selection

Peak	REF	SW1	SW2	SW3
	Default	ON	ON	ON
1.5A/0.75A	1.07A/0.54A	OFF	ON	ON
1.9A/1.25A	1.36A/0.89A	ON	OFF	ON
2.3A/2.00A	1.64A/1.43A	OFF	OFF	ON
2.7A/2.75A	1.93A/1.96A	ON	ON	OFF
3.2A/3.50A	2.28A/2.50A	OFF	ON	OFF
3.7A/4.25A	2.64A/3.04A	ON	OFF	OFF
4.2A/5.20A	3.00A/3.71A	OFF	OFF	OFF

Parameter settings

MSD752E stepper drive uses eight DIP switch to set up dynamic current, standstill current and internal motor parameters and adjusting parameters for self-tuning. Detail description as follow:

Notes: Normal factory default is ON. The user can set their own depending on the application.



(2) Quiescent current setting

Hold current uses SW4 DIP switch for SE setup, "ON" means hold current is half the dynamic current, "Off" means the same hold current and dynamic current.

(3)Parameter tuning

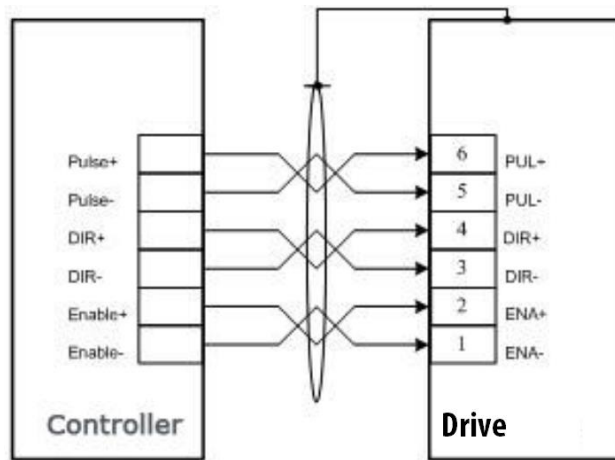
SW4 from ON to OFF, and turn back from off to on within 1 second.

SW4 from OFF to ON, and turn back from on to off within 1 second.

Micro step selection

Pulse/REV	SW5	SW6	SW7	SW8
Default	ON	ON	ON	ON
400	OFF	ON	ON	ON
800	ON	OFF	ON	ON
1600	OFF	OFF	ON	ON
3200	ON	ON	OFF	ON
6400	OFF	ON	OFF	ON
12800	ON	OFF	OFF	ON
25600	OFF	OFF	OFF	ON
1000	ON	ON	ON	OFF
2000	OFF	ON	ON	OFF
4000	ON	OFF	ON	OFF
5000	OFF	OFF	ON	OFF
8000	ON	ON	OFF	OFF
10000	OFF	ON	OFF	OFF
20000	ON	OFF	OFF	OFF
25000	OFF	OFF	OFF	OFF

Typical Connection



Control signal wiring diagram

Failure indication

Red LED flashing number within 3seconds represent different fault information.

Number	Flashing number	Red Led flashing wave shape	Fault
1	1	●○○○○○	Over current, phase fault
2	2	●●○○○○	Over voltage problem voltage>95VDC
3	3	●●●○○○	EEPROM problem
4	4	●●●●○○	Motor open circuit, poor contact problem
5	1	●○○●○○	CW limit protection
6	2	●●○●●○	CCW limit protection

APPENDIX

Twelve Month Limited Warranty

Motion Control Products Ltd. warrants its products against defects in materials and workmanship for a period of 12 months from the shipping date. During the warranty period, Motion Control Products will either, at its option, repair or replace products which are proved to be defective.

Exclusions

The above warranty shall not apply to defects resulting from: improper or inadequate handling by the customer; improper or inadequate customer wiring; unauthorised modification or misuse; or operation beyond the electrical specifications of the product and/or operation beyond environmental specifications for the product.

Shipping Failed Product & Obtaining Warranty Service

If your product should fail during the warranty and want to obtain warranty service, a RMA (returned material authorisation number) request form must be filled in on our website <http://www.motioncontrolproducts.com/pages/returns.php> before returning the product for service. Please include a written description of the problem along with contact name and address. Customer shall prepay shipping charges returned to Motion Control Products for warranty service, and Motion Control Products shall pay for return of products to the customer, providing the fault is not customer caused. Send the failed product to your distributor for your area or to **Motion Control Products Limited**, 11-15 Francis Avenue, Bournemouth, Dorset BH11 8NX, UK. Also enclose information regarding the circumstances prior to the product failure. For full terms and conditions of Warranty and Returns Policy, please refer to our website <http://www.motioncontrolproducts.com/pages/returns.php>

Warranty Limitations

Motion Control Products makes no other warranty, either expressed or implied, with respect to the product. Motion Control Products specifically disclaims the implied warranties for a particular purpose. Some jurisdictions do not allow limitations on how long the implied warranty lasts, so the above limitation or exclusion may not apply to you. However, any implied warranty is limited to the 12-month duration of this written warranty.

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