

### ● Introduction

The PST4030 is a versatility fully digital stepping driver based on ARM with advanced control algorithm. The PST4030 is the next generation of digital stepping motor controls. It brings a unique level of system smoothness, providing optimum torque and nulls mid-range instability. Motor self-test and parameter auto-setup technology offers optimum responses with different motors and easy-to-use. The driven motors can run with much smaller noise, lower heating, smoother movement than most of the drivers in the markets. Its unique features make the PST4030 an ideal solution for applications that require low-speed smoothness.

The stepper drive PST4030 is suitable for a wide range of stepping motors from NEMA size 8 to 17, which are used in various kinds of machines, such as 3D printers, X-Y tables, labeling machines, laser cutters, engraving machines, pick-place devices, and etc



### ● Electrical Specifications

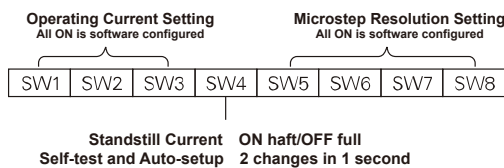
Parameters	Min	Typical	Max	Unit
Output current	0.14	-	3.0 (2.2RMS)	A
Supply voltage	+12	+24	+32	VDC
Logic signal current	6	10	16	mA
Pulse input frequency	0	-	160	kHz
Isolation resistance	500			MΩ

### ● Function Description

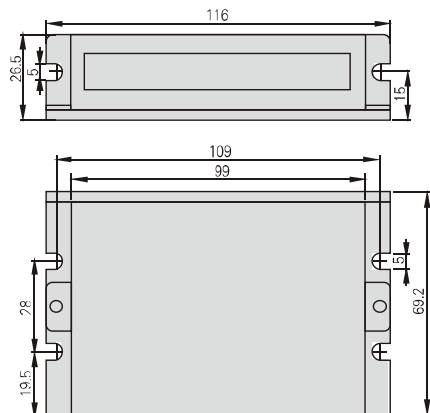
Function	Description
Micro step Setting	Micro step resolution is programmable. When not in software configured mode, micro step resolution is set by SW5, 6, 7, 8 of the DIP switch. In order to avoid losing steps, do not change the micro step resolution on the fly.
Current Setting	Output current is programmable. When not in software configured mode, operating current is set by SW1, 2, 3, 4 of the DIP switch, which is Up to 3.0A.
Automatic Standstill Current Reduction	The current will be automatically reduced to 50% of the selected operating current 0.4 second after the last pulse.
Control Signals	PUL+ and PUL- are for the pulse command signal. DIR+ and DIR- are for the direction control signal. ENA+ and ENA- are for the enable/disable control signal.
Motor Connector	A+, A- and B+, B- are for motor connections. Exchanging the connection of two wires for a coil to the drive will reverse default motion direction.
Power Connector	Recommended to use power supplies with output of +20 to 45VDC, leaving space for power fluctuation and back-EMF.
Indicators	There are two LED indicators on the drive for power and alarm signals. When the Green LED is on, the drive is powered up. When the Red LED is on, the drive is in fault status. When in fault status, the motor shaft will be free. Reset the drive by re-powering it to make it function properly after solving problem(s).

#### ■ Parameter Settings

Micro step resolution and output current are programmable. When not in software configured mode, the drive uses a 8-bit DIP switch to set micro step resolution and motor operating current, as shown below:



#### ■ Mechanical Dimension



#### ■ Operating Current Settings

Output RMS Current	SW1	SW2	SW3	SW4
0.1A	on	on	on	on
0.2A	off	on	on	on
0.3A	on	off	on	on
0.5A	off	off	on	on
0.6A	on	on	off	on
0.7A	off	on	off	on
0.8A	on	off	off	on
1.0A	off	off	off	on
1.2A	on	on	on	off
1.3A	off	on	on	off
1.5A	on	off	on	off
1.6A	off	off	on	off
1.7A	on	on	off	off
1.8A	off	on	off	off
2.0A	on	off	off	off
2.2A	off	off	off	off

#### ■ Micro step Resolution Settings

Microstep	Steps/Rev.	SW5	SW6	SW7	SW8
1-512	Default/Software configured	ON	ON	ON	ON
2	400	OFF	ON	ON	ON
4	800	ON	OFF	ON	ON
8	1600	OFF	OFF	ON	ON
16	3200	ON	ON	OFF	ON
32	6400	OFF	ON	OFF	ON
64	12800	ON	OFF	OFF	ON
128	25600	OFF	OFF	OFF	ON
5	1000	ON	ON	ON	OFF
10	2000	OFF	ON	ON	OFF
20	4000	ON	OFF	ON	OFF
25	5000	OFF	OFF	ON	OFF
40	8000	ON	ON	OFF	OFF
50	10000	OFF	ON	OFF	OFF
100	20000	ON	OFF	OFF	OFF
125	25000	OFF	OFF	OFF	OFF