

# Stepper Drive

## MSB - 401

### 16 Microsteps

MSB-401 is a fully enclosed Micro stepping stepper motor drive suitable for 4, 6 and 8 wire stepper motors.

This 40V, 1 Amps drive is suitable up to 10Kg-Cm stepper motors. This drive also features automatics standby mode for reduced motor heating. The 40KHz chopper frequency drives the motor with short electrical time constants.

MSB-401 Provides the user with pulse and direction mode of control. The Clock frequency determines the motor speed and ramping depending upon microstep selection.

#### Standby Mode:

Various Operating parameters can be configured using the on-board Piano type DIP switches.



**MicroLOGIX**  
Embedded Controls (P) Ltd.



#### Applications :

- Banking Machines ■
- Office Automation ■
- Tele Communication ■
- Printing Machines ■
- Medical Equipments ■
- Machine Tools ■
- Industrial Automation ■
- Machine for Wood Working ■
- Textile Machineries ■
- Spot Lights ■
- Machines for farm and food industries ■

## Features

### Stepper Drive MSB - 401

- DMOS, Full Bridge Driver ■
- Operating Voltage up to 40V DC ■
- Selectable Motor current up to 1A ■
- Microstep selection up to 16 ■
- Pulse and Direction Control ■
- Automatic current reduction ( Standby ) ■
- Thermal Protection ■
- Short Circuit Protection ■
- Over Voltage Protection ■



## Standard Specification - MSB 401

<b>Power Amplifier</b>	Amplifier Type Current Control Output Current DC Bus Voltage Idle Current Reduction Step Selection Status LEDs	Dual H - Bridge Recirculating, Pulse Width Modulated, 46KHz switching 0.5 - 1 Amps, DIP Switch Selectable 40 Volts DC max Automatic 25% or 50% DIP Switch selectable 1,2,4 and 16 Microstepping through DIP switch (SW4, SW5) Power and Fault
<b>Control Signals</b>	Mode of Operation Step and Direction Input Auto/ Manual Selection	Pulse and Direction : Up to 24 KHz Clock frequency Optically Isolated. 5 - 24 VDC 10 microsecond Minimum pulse width. Direction Signal 1 millisecond Minimum. Through DIP switch selection(SW1)
<b>System</b>	Overall Size Chassis Material Weight Temperature Humidity Protections Connectors	Closed Frame - 125(W) x 83(D) x 32(H) mm MS Enclosure with Black Powder Coated 260 grams Operating ( 0 <sup>o</sup> C to 60 <sup>o</sup> C) Storage (-20 C to 85 C) MAX 90% non-condensing Over / Under Voltage, Short Circuit, Over temperature. Centre Lock Connectors

## DIP Switch Details - MSB 401

<table border="1" style="margin: auto;"> <tr><th></th><th>ON</th><th>OFF</th></tr> <tr><td>1</td><td>AUTO</td><td>MAN</td></tr> <tr><td>2</td><td>ENAB</td><td>STOP</td></tr> <tr><td>3</td><td>ANTICKL</td><td>CLOCK</td></tr> </table>		ON	OFF	1	AUTO	MAN	2	ENAB	STOP	3	ANTICKL	CLOCK	<table border="1" style="margin: auto;"> <tr><th colspan="3">STEP SELECTION</th></tr> <tr><th>STEP</th><th>4</th><th>5</th></tr> <tr><td>FULL</td><td>OFF</td><td>OFF</td></tr> <tr><td>HALF</td><td>OFF</td><td>ON</td></tr> <tr><td>1/4</td><td>ON</td><td>OFF</td></tr> <tr><td>1/16</td><td>ON</td><td>ON</td></tr> </table>	STEP SELECTION			STEP	4	5	FULL	OFF	OFF	HALF	OFF	ON	1/4	ON	OFF	1/16	ON	ON	<table border="1" style="margin: auto;"> <tr><th colspan="3">CURRENT SELECTION</th></tr> <tr><th>PEAK(A)</th><th>7</th><th>8</th></tr> <tr><td>0.5</td><td>OFF</td><td>OFF</td></tr> <tr><td>1.0</td><td>OFF</td><td>ON</td></tr> </table>	CURRENT SELECTION			PEAK(A)	7	8	0.5	OFF	OFF	1.0	OFF	ON
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