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MSD MICROSTEPPING MOTOR DRIVE

FEATURES • SPECIFICATIONS • DIMENSIONS • ORDERING

DRIVES

STEPPER



The MSD is a stand alone microstepping drive, making it a low cost solution for use within multi-axis stepper applications. With switch selectable current settings the MSD is the perfect drive for all of Tol-O-Matic's MRS high torque stepper motors.

Features:

- *Motor current from 0.5 to 5.5 amps/phase* (switch selectable, 51 settings)
- *Built-in 80 V power supply* (accepts 110 or 220 VAC power)
- *MOSFET pulse width modulation switching amplifiers* (3 state)
- *Step, direction, amplifier enable inputs, fault output, optically isolated*
- *2 MHz max input frequency*
- *16 switch selectable microstepping resolutions:* 200, 400, 1000, 2000, 5000, 10000, 12800, 18000, 20000, 21600, 25000, 25400, 25600, 36000, 50000, 508000, steps/rev
- *Over-temperature protection*
- *Short circuit protection*
- *Surge protection*
- *Idle current reduction* (50% switch selectable)
- *Pluggable screw terminal connectors*, mating connectors included
- *Integral heat sink*

SPECIFICATIONS

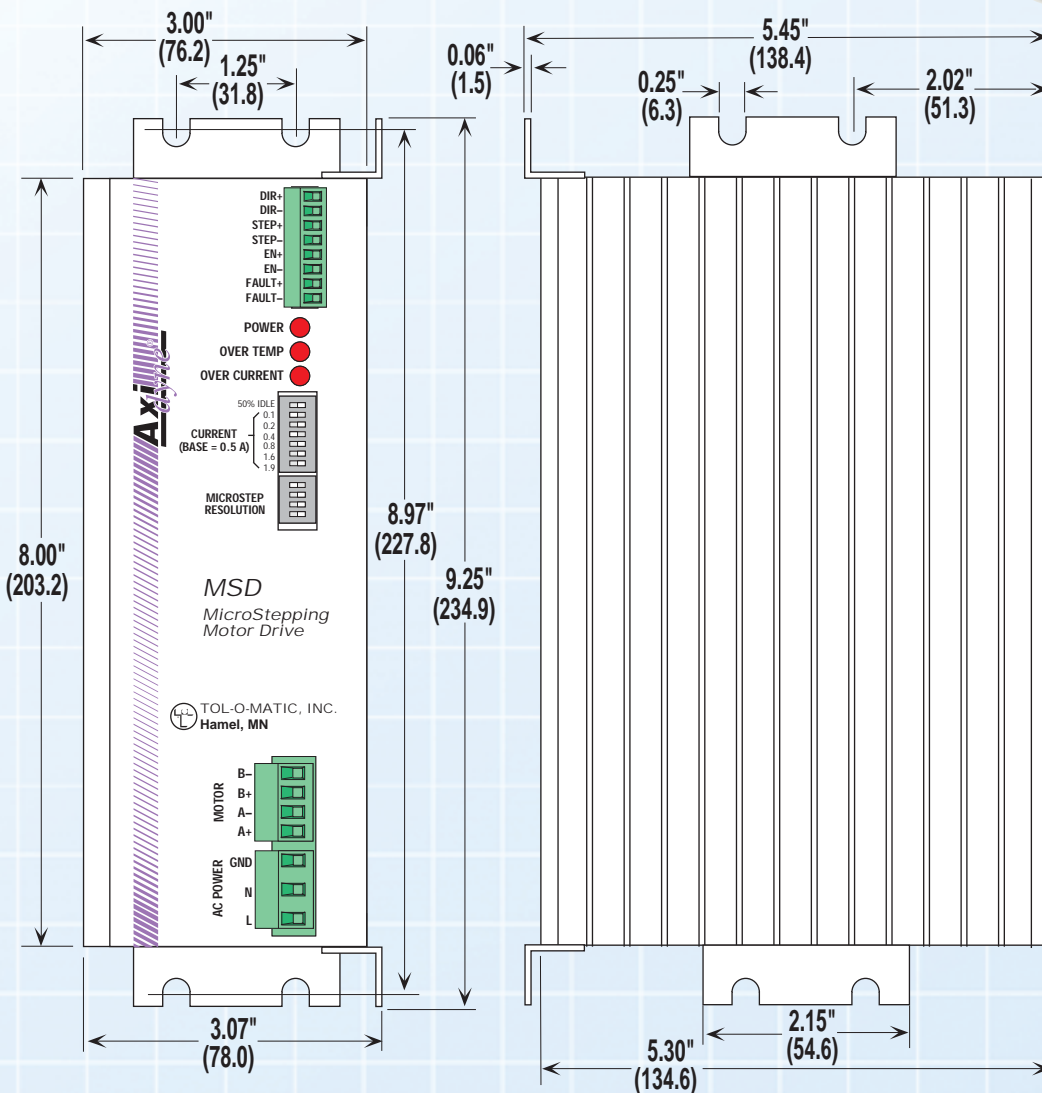
| SPECIFICATIONS | MSD Microstepping Motor Drive |
|---------------------------------------|---|
| Power | |
| Input Voltages (AC line): | 110 or 220 Vac, 60Hz (switch selected) 400 W max (a 50/60Hz version can be special ordered) |
| Input Voltage (DC line): | 75 Vdc full load, 90 Vdc no load |
| Amplifiers | |
| Pulse Width Modulated Switching: | Dual, MOSFET H-bridge, 3 state at 20 kHz |
| Phase Peak Output Current: | 0.5 - 5.5 Amps |
| Output Power: | 400 watts max |
| Protection: | Overcurrent and over-temperature |
| Automatic Idle Current Reduction: | Reduces current to 50% of setting after one second (defeatable) |
| Inputs | |
| Step, Direction & Enable: | Optically isolated differential 5-12V logic |
| Input Current: | 5 mA minimum, 20 mA maximum |
| Motor Steps | on falling edge of step input |
| Minimum Pulse | 1 µsec |
| Maximum Step Rate | 2 MHz |
| Minimum Set Up Time: | 1 µsec |
| Directional Signal Minimum Hold Time: | 50 µs |
| Fault Output | |
| Photo Transistor: | Optically isolated, uncommitted (open collector, open emitter) |
| Voltage: | 30V max. |
| Current | 20 mA max. |
| Environment | |
| Max Case Temperature: | 158° F (70° C) |



102

DIMENSIONS

MSD MICROSTEPPING MOTOR DRIVE



Tol-O-Matic System Compatibility

- Drives MRS series stepper motors to provide motor/drive system performance shown in the MRS motor section (see pages 55-56)
- Easily integrated to the SSC multi-axis/multi-function controller (see pages 21-26). When ordering with controller all interconnecting cabling is automatically configured and included.
- Integral to single axis controller - (MSS see pages 31-33)

- Dip switch covers included
- Two (2) mounting brackets included

Ordering Information

| Configuration Code | Includes | Tol-O-Matic Part # |
|--------------------|--|--------------------|
| MSD | <ul style="list-style-type: none"> • Microstepping Drive • User Manual | 3600-0039 |



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