

3540M Step Motor Drive

Microstepping

3.5 amps, 40 VDC

Features

- DC bus voltage 12-42 VDC motor supply (including ripple)
- Switch selectable currents from 0.4–3.5 amps/phase motor current
- Switch selectable Step resolutions: 400, 1000, 2000, 12800 steps/rev. Other resolutions are available upon request
- Switch selectable idle current reduction, 0 or 50%
- Optically isolated 5 VDC inputs for step, direction and enable
- Enable input to turn off current to the motor
- Self test, switch selectable
- 140 watts of usable power
- Screw terminal connectors. Pin headers available upon request
- MOSFET, dual H-bridge, inaudible PWM amplifier
- 3 state, pulse width modulated current control, switching at 20–30 KHz.
- Drives 4, 6 or 8 lead size 11, 14, 17, 23 or 34 step motors
- CE compliant

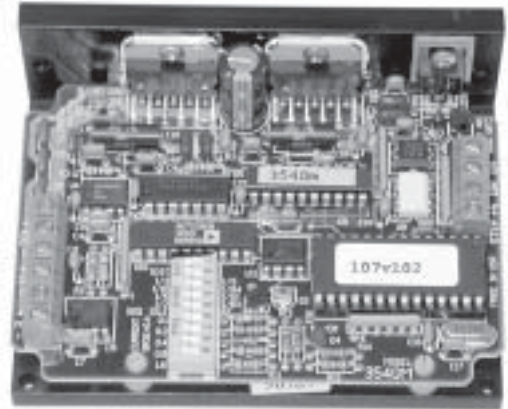
Description

The 3540M step motor driver is a microstepping drive from 400 to 12,800 steps per revolution, with custom resolutions available upon request, step phase sequencer with MOSFET three state switching amplifiers and optoisolated circuits. The drive also includes an automatic feature to lower motor current by 50% anytime the motor is left at rest for more than one second. This feature can be disabled. Additionally there is a switch selectable self-test which rotates the motor $\frac{1}{2}$ revolution in each direction at 100 steps/second.

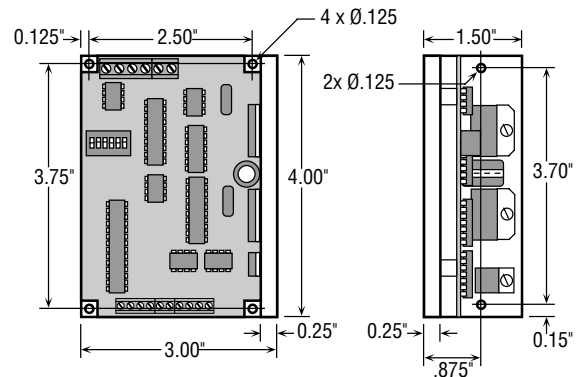
The amplifier regulates motor current by chopping at a constant, inaudible frequency. Phase current is selected from 32 levels by a DIP switch. Microstepping resolution is also selected by DIP switch.

Recommended motors for the 3540M drive:

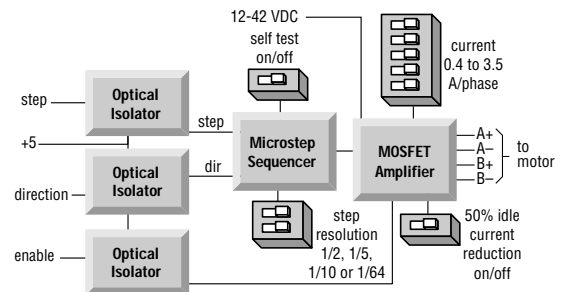
Size 11	Size 14	Size 17	Size 23	Size 34
HT11-012	5014-842	HT17-068	HT23-394	5034-348
HT11-013		HT17-071	HT23-397	
		HT17-075	HT23-400	



MECHANICAL OUTLINE

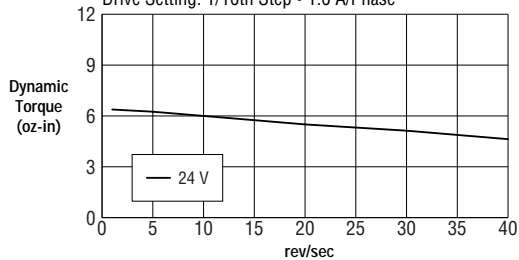


BLOCK DIAGRAM

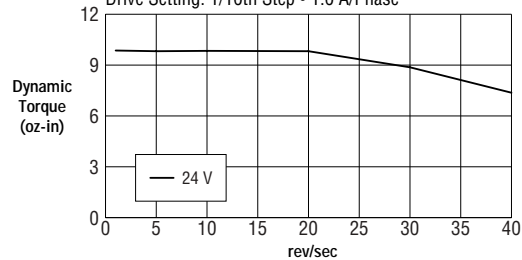


3540M Torque Curves

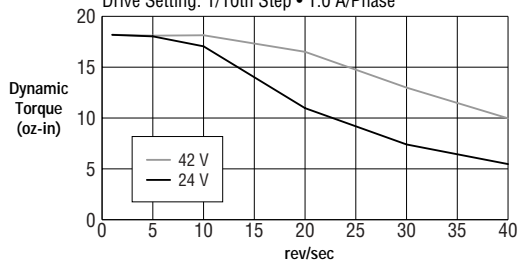
HT11-012 MOTOR

 Motor Connection: 4 Lead Bipolar
 Drive Setting: 1/10th Step • 1.0 A/Phase


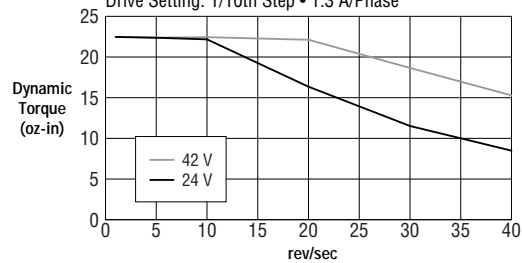
HT11-013 MOTOR

 Motor Connection: 4 Lead Bipolar
 Drive Setting: 1/10th Step • 1.0 A/Phase


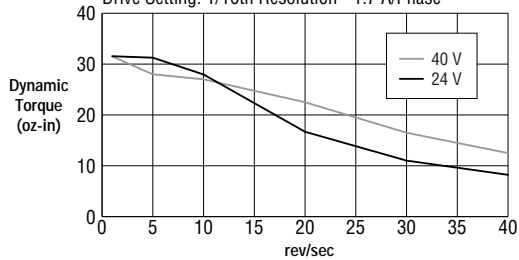
5014-842 MOTOR

 Motor Connection: Parallel
 Drive Setting: 1/10th Step • 1.0 A/Phase


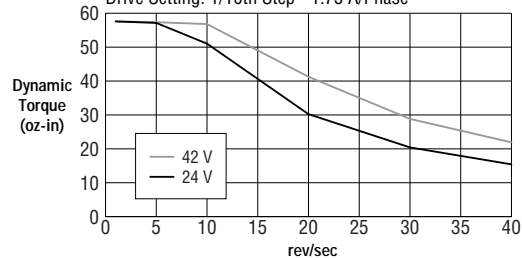
HT17-068 MOTOR

 Motor Connection: Parallel
 Drive Setting: 1/10th Step • 1.3 A/Phase


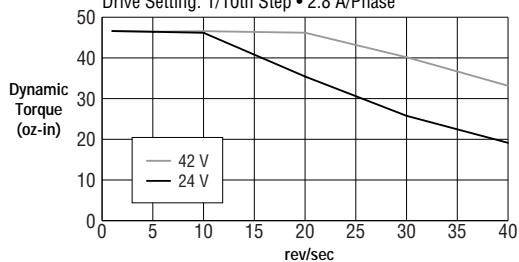
HT17-071 MOTOR

 Motor Connection: Parallel
 Drive Setting: 1/10th Resolution • 1.7 A/Phase


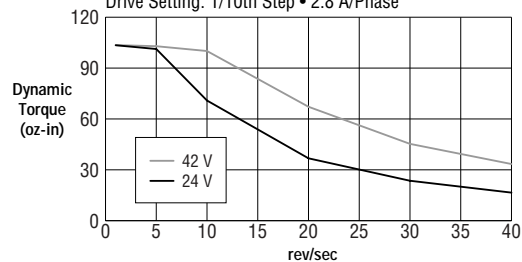
HT17-075 MOTOR

 Motor Connection: Parallel
 Drive Setting: 1/10th Step • 1.75 A/Phase


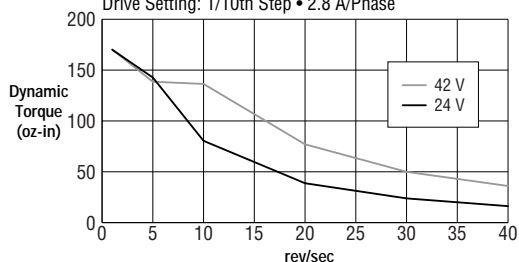
HT23-394 MOTOR

 Motor Connection: Parallel
 Drive Setting: 1/10th Step • 2.8 A/Phase


HT23-397 MOTOR

 Motor Connection: Parallel
 Drive Setting: 1/10th Step • 2.8 A/Phase


HT23-400 MOTOR

 Motor Connection: Parallel
 Drive Setting: 1/10th Step • 2.8 A/Phase


5034-348 MOTOR

 Motor Connection: Parallel
 Drive Setting: 1/10th Step • 3.5 A/Phase
