

IM1007

HIGH PERFORMANCE MICROSTEPPING DRIVER

FEATURES

- Low Cost
- Extremely Small (5.9 x 3.0 x 1.1 in.) (149 x 76.2 x 29 mm)
- High Input Voltage (80V)
- High Output Current (7 Amps RMS, 10 Amps Peak)
- Advanced Surface Mount and ASIC Technology
- No Minimum Inductance
- Single Supply
- Microstep Resolutions Can Be Changed On-The-Fly Without Loss of Motor Position
- Up to 10 MHz Step Clock Rate
- All Inputs Opto-Isolated
- Adjustable Automatic Current Reduction
- Current Boost Mode
- 20 kHz Chopping Rate
- Short Circuit, Over/Under Voltage and Over Temperature Protection
- Removable Screw Type Terminal Connectors
- Automatically Switches between Slow and Fast Decay for Un-matched Performance
- 14 Selectable Resolutions Both in Decimal and Binary
- Up to 51,200 Steps/Rev
- Fault Output
- At Full Step Output
- Optional On-board Indexer and Encoder Feedback

DESCRIPTION

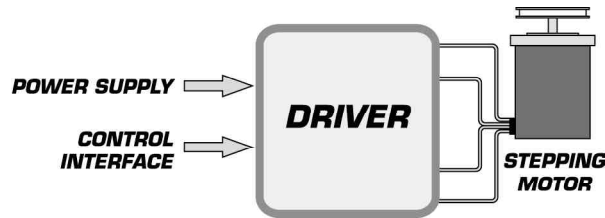
The IM1007 is a high performance, low cost microstepping driver that incorporates advanced surface mount and ASIC technology. The IM1007 is small, easy to interface and use, yet powerful enough to handle the most demanding applications.

The IM1007 has 14 different resolutions (both in binary and

decimal) built into the driver. These resolutions can be changed at any time. There is no need to reset the driver.

This feature allows the user to rapidly move long distances, yet precisely position the motor at the end of travel without the expense of high performance controllers.

The development of proprietary circuits has minimized ripple current, while maintaining a 20 kHz chopping rate. This prevents additional motor heating that is common with drivers requiring



BLOCK DIAGRAM



higher chopping rates. Now low inductance stepper motors can be used to improve high speed performance and system efficiency.

The IM1007 also comes with an optional on-board indexer to provide design engineers with versatility and power unmatched in today's industry.

The IM1007 is priced lower to provide customers with affordable state-of-the-art technology for that competitive edge needed in today's market.



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SPECIFICATIONS

ELECTRICAL

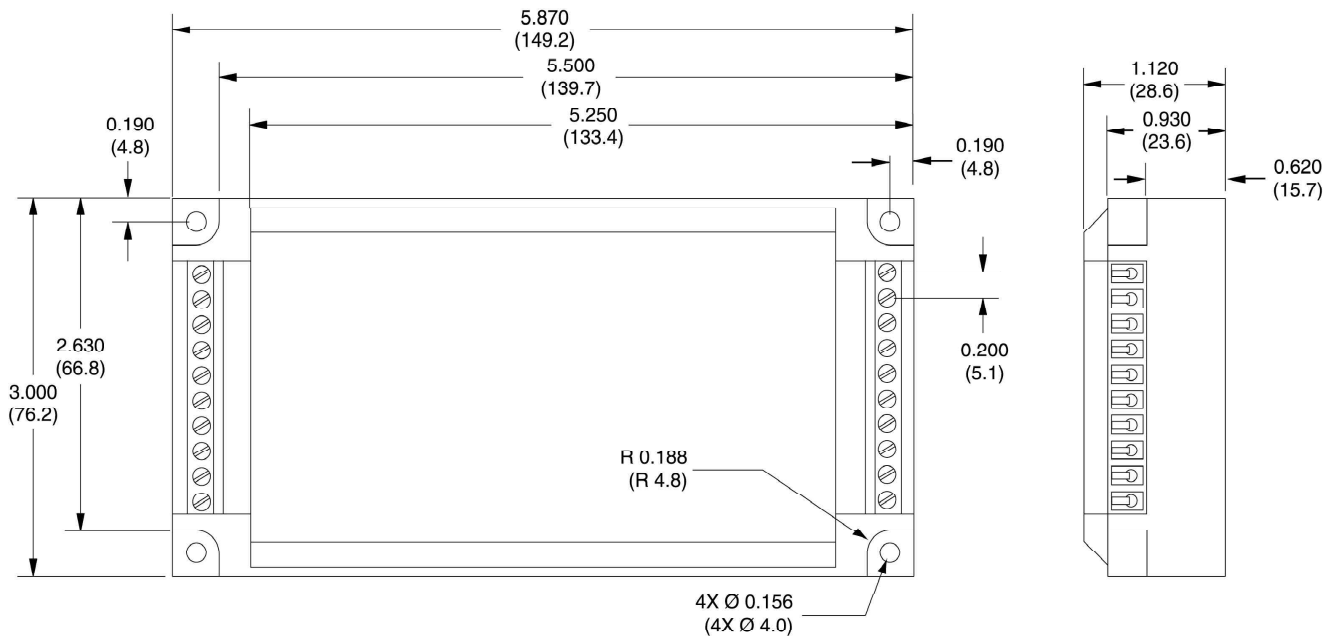
IM1007

Input Voltage _____	+24 to 80 Volts* (Includes Motor Back EMF)
Drive Current (Per Phase) _____	2 to 7 Amps RMS, 10 Amps Peak
Isolated Inputs _____	Microstep Resolution 1-4, Step Clock, Direction, Enable & Reset
Step Frequency (Max) _____	2 MHz (10 MHz -HS Option)
Steps per Revolution (1.8° Motor) _____	400, 800, 1000, 1600, 2000, 3200, 5000, 6400, 10000, 12800, 25000, 25600, 50000, 51200
Protection _____	Over Temperature, Over/Undervoltage and All Way Short Circuit

*Recommended Power Supply: ISP300-7

MECHANICAL

Dimensions in Inches (mm)



TEMPERATURE

Storage _____ -40 to +125° C

Case* (Max) _____ 0 to +70° C

*External heat sink may be required to maintain case temperature.

OPTIONS

H-1000 _____	Heat Sink
TN-1000 _____	Thermal Pad
-HS _____	High Speed Inputs (10MHz)

PIN FUNCTIONS

Connector P1

1. Microstep Resolution Select 1
2. Microstep Resolution Select 2
3. Microstep Resolution Select 3
4. Microstep Resolution Select 4
5. Opto Supply
6. Step Clock
7. Direction
8. Reset
9. Output Enable
10. Current Reduction

Connector P2

10. Phase A
9. Phase \bar{A}
8. Phase B
7. Phase \bar{B}
6. V + (24v to 80v)
5. Ground
4. Current Adjust
3. Reduction Adjust
2. Fault
1. Full Step



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