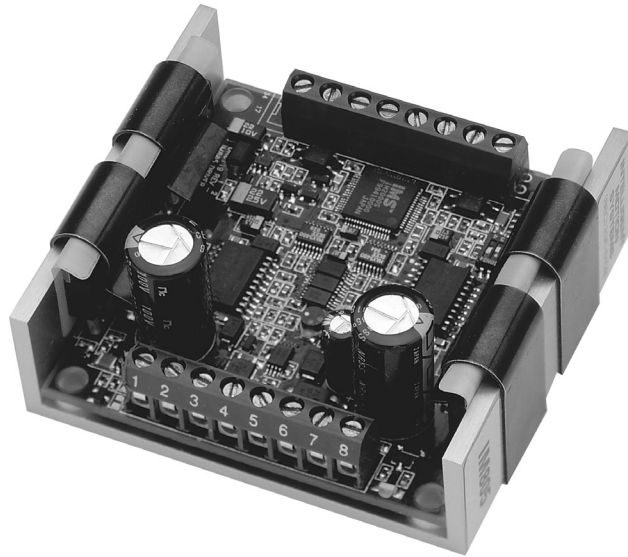


IM805 ^{CE}

HIGH VOLTAGE MINIATURE MICROSTEPPING DRIVER

FEATURES

- Low Cost
- Extremely Small
(2.7 x 3.0 x 1.3 inches)
(69.9 x 76.2 x 33 mm)
- Pin and Footprint Compatible with the IM483
- High Input Voltage (+75 V)
- High Output Current
(5 Amps RMS, 7 Amps Peak)
- Advanced Surface Mount and ASIC Technology
- Designed for High Performance, Low Inductance Motors
- Single Supply
- Up to 10 MHz Step Clock Rate
- Opto-Isolated Inputs
- Fault Output
- Short Circuit Protection
- Up to 51,200 Steps/Rev
- 14 Selectable Microstepping Resolutions May Be Changed On-The-Fly Without Loss of Motor Position
- 20 kHz Chopping Rate
- Automatically Switches Between Slow and Fast Decay for Unmatched Performance
- Adjustable Automatic Current Reduction
- At Full Step Output
- Fault and Power LEDs



DESCRIPTION

The IM805 is a high performance, low cost microstepping driver that incorporates advanced surface mount and ASIC technology. The IM805 is small, easy to interface and use, yet powerful enough to handle the most demanding applications.

The IM805 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 pre-

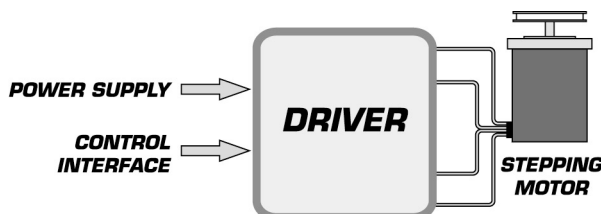
cisely position the motor at the end of travel without high expense.

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

The IM805 is pin and footprint compatible with our IM483 drive, which has an output current of 3A RMS and 4A peak. This allows the same mechanical configuration to be used with systems that may utilize different power requirements.

The IM805 is priced lower to provide customers with affordable state-of-the-art technology for that competitive edge needed in today's market.

BLOCK DIAGRAM



ELECTRICAL SPECIFICATIONS

Input Voltage* +24 to 75 Volts
 Drive Current Per Phase 1.0 to 7 Amps Peak (Max 5 Amps RMS)
 Isolated Inputs Step Clock, Direction, Enable & Reset
 Step Frequency (Max) 1.8 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 Short Circuit and Over/Under Voltage
 Indicators Fault (Red) and Power (Green) LED's

*Includes Motor Back EMF, Power Supply Ripple and High Line Conditions. Recommended Power Supply: ISP200-7.

PIN ASSIGNMENTS

| CONNECTOR P1 - 8 Pin | | CONNECTOR P2 - 8 Pin | |
|----------------------|---------------|----------------------|---------------------|
| PIN | FUNCTION | PIN | FUNCTION |
| 1 | No Connection | 1 | Reduction Adjust |
| 2 | Step Clock | 2 | Current Adjust |
| 3 | Direction | 3 | Ground |
| 4 | Opto Supply | 4 | +V (+12 to +48 VDC) |
| 5 | Enable | 5 | Phase /B |
| 6 | Reset | 6 | Phase B |
| 7 | Fault | 7 | Phase /A |
| 8 | On Full Step | 8 | Phase A |

| CONNECTOR P1 - 34 Pin | | | |
|-----------------------|---------------------|--------------------------------|---------------------|
| PIN | FUNCTION | PIN | FUNCTION |
| 3 | Resolution Select 3 | 21 | Step Clock Out |
| 4 | Step Clock In | 22 | Direction Out |
| 6 | Direction In | 23 | Resolution Select 0 |
| 8 | Opto Supply | 24 | Resolution Select 2 |
| 10 | Enable | 25 | Resolution Select 1 |
| 12 | Reset | 26 | On Full Step |
| 14 | Fault | 27 | Ground |
| 16 | On Full Step | Pins not shown are NO CONNECT. | |

TEMPERATURE

Storage -40 to +125° C
 Case (Max)** 0 to +70° C

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

ORDER INFORMATION

| | |
|---|-------------------------|
| Name | Part Number |
| Microstepping Driver..... | IM805 |
| High Speed Inputs (10 MHz)..... | add -HS to basic part # |
| Heat Sink..... | H-4X |
| Thermal Pad | TN-48 |
| 8 Position 0.045" sq Pin P2 Connector with 8 Position 0.025" sq Pin P1 Connector | -8P2 |
| 34 Position 0.025" sq Pin P1 Connector | -34P1 |
| Plug Type Terminal Strip for P1 and P2 Connectors..... | -PLG |
| Mating Connectors for the -PLG Option..... | PLG-R1/-R2 |
| Side Mounting Clip Set..... | U3-CLP |

MECHANICAL SPECIFICATIONS

Dimensions in Inches (mm)

