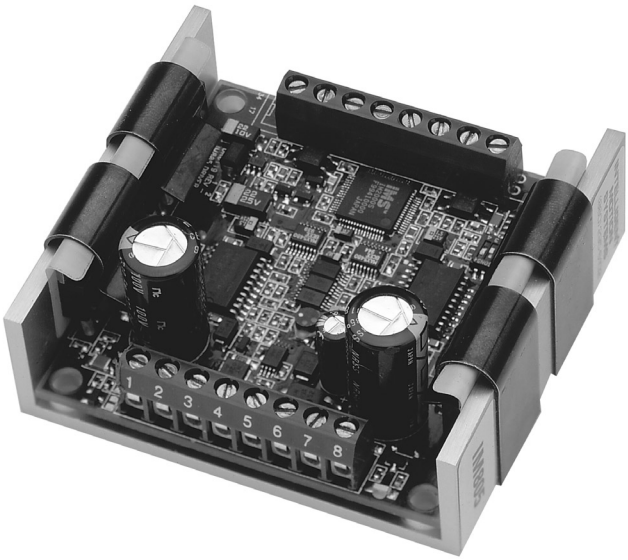
Sold By: Servo Systems Co. • 115 Main Road • P.O. Box 97 • Montville, NJ, 07045-0097
(973) 335-1007 • Toll Free: (800) 922-1103 • Fax: (973) 335-1661 • www.servosystems.com

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.

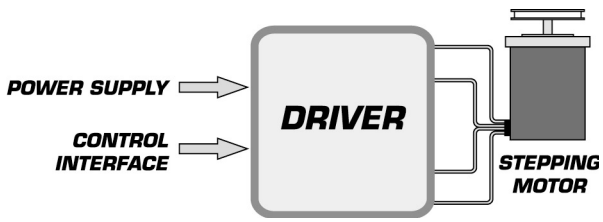
The IM805 has 14 different resolutions (both in binary and decimal) built into the driver. These resolutions can be changed at any time. There is no need to reset the driver. This feature allows the user to rapidly move long distances, yet precisely position the motor at the end of travel without high 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

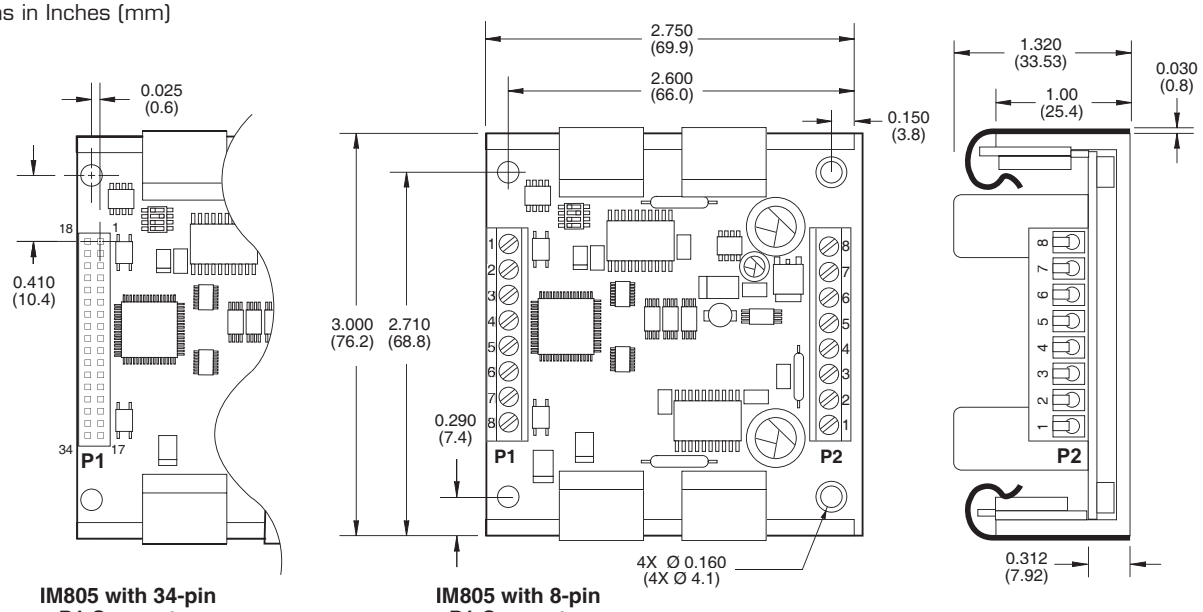
** External heat sink may be required to maintain case temperature.

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)



IM805 with 34-pin P1 Connector

IM805 with 8-pin P1 Connector

REV101805