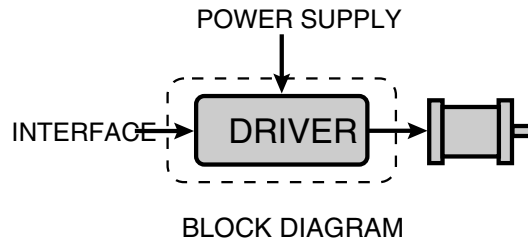


# IM804

## HIGH VOLTAGE MINIATURE MICROSTEPPING DRIVER

### FEATURES

- Low Cost
- Extremely Small 2.7 x 3.0 in.
- High Input Voltage (75Vdc)
- High Output Current (4 Amps RMS, 6 Amps Peak)
- Single Supply
- Advanced Surface Mount and ASIC Technology
- Pin and Footprint Compatible with the IM483
- Designed for High Performance, Low Inductance Motors
- Opto-Isolated Inputs
- 20 kHz Chopping Rate
- Up to 10 MHz Step Clock Rate
- 14 Selectable Microstepping Resolutions Can Be Changed On-The-Fly
- Up to 51,200 Steps/Rev with 1.8° Motor
- Automatically Switches between Slow and Fast Decay for Unmatched Performance
- At Full Step Output
- Adjustable Automatic Current Reduction
- Short Circuit, Over/Under Voltage and Over Temperature Protection
- Fault Output
- Fault and Power LED's



### DESCRIPTION

The IM804 is a high performance, low cost microstepping driver that incorporates advanced surface mount and ASIC technology. The IM804 is small, easy to interface and use, yet powerful enough to handle the most demanding applications.

The IM804 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 higher chopping rates. Now low inductance stepper motors can be used to improve high speed performance and system efficiency.

The IM804 is pin and footprint compatible with our IM483 drive. This allows the same mechanical configuration to be used with systems that may utilize different power requirements.

The IM804 is priced lower to provide customers with affordable state-of-the-art technology for that competitive edge needed in today's market.

# S P E C I F I C A T I O N S

## ELECTRICAL

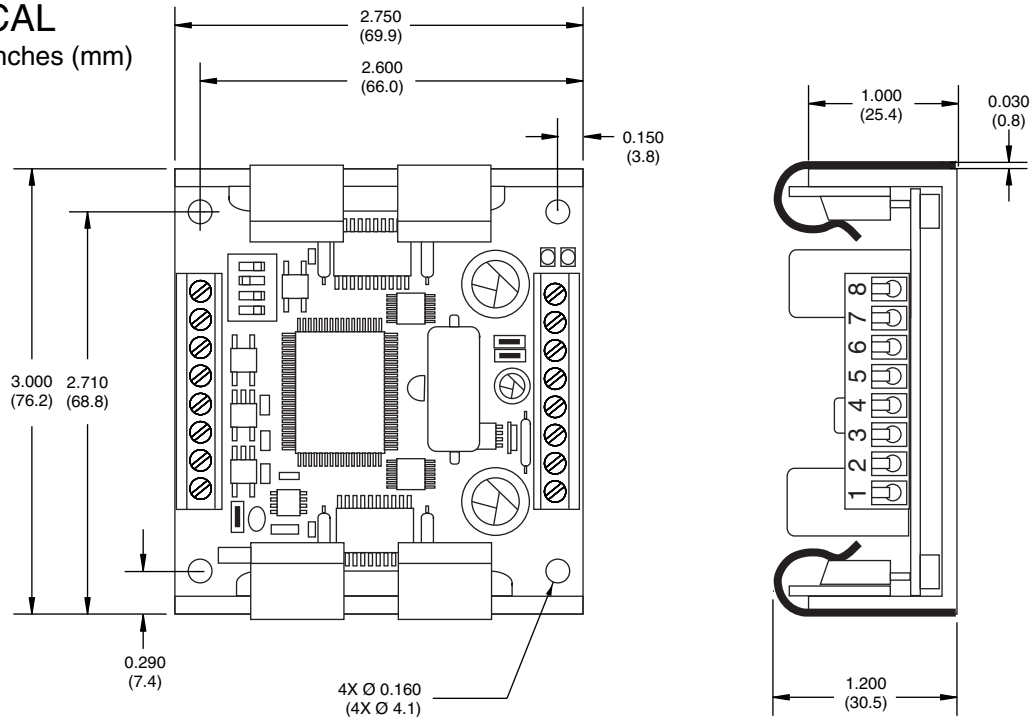
## IM804

Input Voltage .....	+24 to 75 Volts*
Drive Current (Per Phase) .....	1 to 4 Amps (RMS), 6 Amps (Peak)
Isolated Inputs .....	Step Clock, Enable, Direction, & Reset
Step Frequency (Max) .....	2 MHz (typical), 10 MHz (HS Version)
Steps per Revolution (1.8° Motor) .....	400, 800, 1000, 1600, 2000, 3200, 5000, 6400, 10000, 12800, 25000, 25600, 50000, 51200
Protection .....	Thermal, All Way Short Circuit, and Over/Under Voltage
Indicators .....	Fault (Red) & Power (Green) LED's

\*Recommended Power Supply: ISP200-7

## MECHANICAL

Dimensions in Inches (mm)



## TEMPERATURE

Storage .....

\*Case (Max) .....

\*External heat sink may be required to maintain case temperature below 70° C.

## OPTIONS

- TN - 48 ..... Thermal Pad
- 8P2 ..... 8 Position 0.045 sq Pin P2 Connector with 8 Position 0.025 sq Pin P1 Connector
- 34P1 ..... 34 Position 0.025 sq Pin P1 Connector
- PLG ..... Plug Type Terminal Strips for P1 and P2 Connectors
- HS ..... 10 MHz Step Clock Input
- H - 4X ..... Heat Sink

## PIN FUNCTIONS

### Connector P1 (8 Pin)

1. No Connection
2. Step Clock
3. Direction
4. Opto Supply
5. Enable
6. Reset
7. Fault
8. On Full Step

### \*Connector P1 (34 Pin)

- |                        |                         |
|------------------------|-------------------------|
| 3. Resolution Select 3 | 16, 26. On Full Step    |
| 4. Step Clock In       | 21. Step Clock Out      |
| 6. Direction In        | 22. Direction Out       |
| 8. Opto Supply         | 23. Resolution Select 0 |
| 10. Enable             | 24. Resolution Select 2 |
| 12. Reset              | 25. Resolution Select 1 |
| 14. Fault              | 27. Ground              |

\*Pins not shown are no connections.

### Connector P2

8. Phase A
7. Phase  $\bar{A}$
6. Phase B
5. Phase  $\bar{B}$
4. V+ (24V to 75V)
3. Ground
2. Current Adjust
1. Reduction Adjust