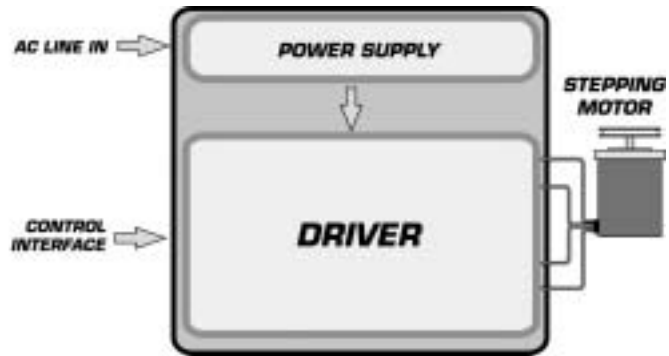


# PANTHER HD

## COMPLETE HIGH PERFORMANCE MICROSTEPPING SYSTEM

### FEATURES

- Integral Driver and Power Supply
- Low Cost
- Extremely Compact (4.0 x 6.7 x 4.4 inches) (101 X 171 X 112 mm)
- High Output Current (7 Amps RMS, 10 Amps Peak)
- Advanced Surface Mount and ASIC Technology
- 115/240 VAC, 50/60 Hz Versions
- No Minimum Inductance
- Fault and Power Indicators
- Up to a 10 MHz Step Clock Rate
- Optically Isolated Inputs
- Automatic Current Reduction
- Short Circuit and Over Temperature Protection
- Up to 51,200 Steps/Rev
- Automatically Switches between Slow and Fast Decay for Un-matched Performance
- 14 Selectable Resolutions – Both in Decimal and Binary
- Fault Output
- Optional Rack Mounting
- Number of Microsteps Per Step Can Be Changed On-The-Fly without Motor Movement Interruption
- 20 kHz Chopping Rate
- Built-in Line Filter
- Optional On-Board Indexer and Encoder Feedback



BLOCK DIAGRAM



### DESCRIPTION

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

The heart of the PANTHER HD is our IM1007 OEM microstepping driver which utilizes our highly integrated IM2000 microstepping controller IC.

Incorporated into the PANTHER HD driver are proprietary circuits that minimize 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 PANTHER HD allows you to change the number of microsteps per step at anytime. There is no need to reset the driver. Built into

the driver are 14 different resolutions in both binary and decimal, allowing the user to rapidly move long distances, yet precisely position the motor at the end of travel without the expense of high performance controllers.

IMS recognizes that cost and size are important criteria in many low and medium power applications. The PANTHER HD was developed to meet those needs along with innovative features found only in IMS drivers.

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

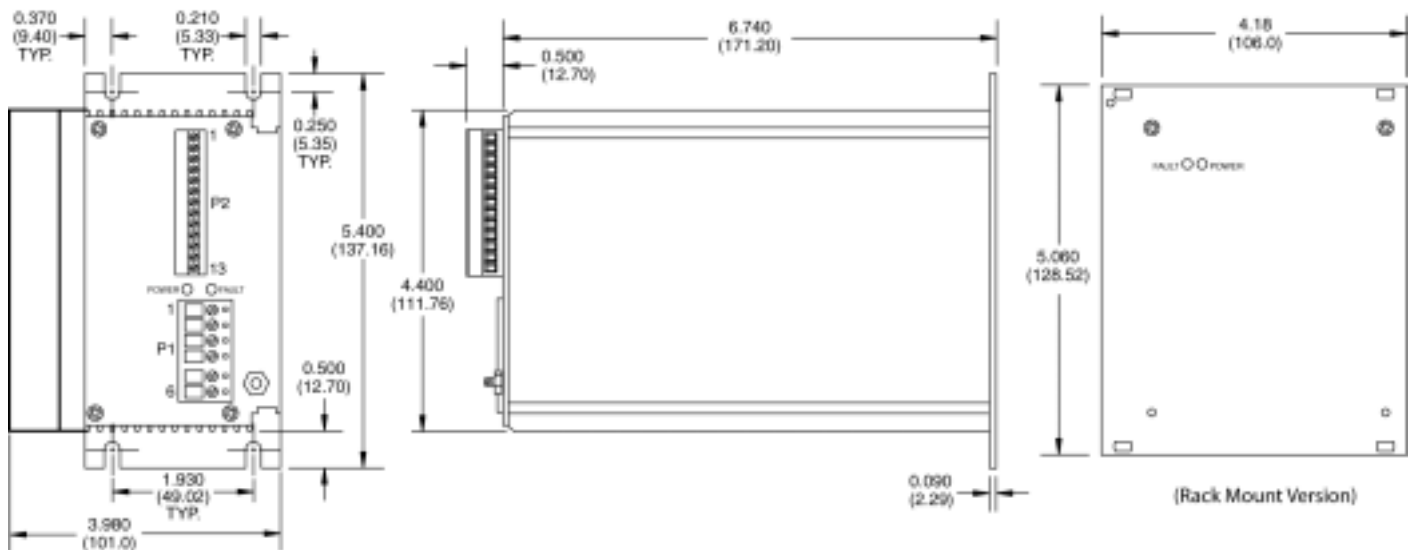
## ELECTRICAL

## PANTHER HD

Input Voltage .....	90 to 128 VAC or optional 180 to 264 VAC, 50/60 Hz
Drive Current (Per Phase) .....	2 to 10 Amps Peak (Max 7 Amps RMS)
Isolated Logic Inputs .....	Step Clock, Direction, Enable, Reset, Microstep Resolution 0 - 3
Step Frequency (Max) .....	10 MHz
Steps/Revolutions (1.8° Step Motors) .....	400, 800, 1000, 1600, 2000, 3200, 5000, 6400, 10000, 12800, 25000, 25600, 50000, 51200
Status Indicators (LED's) .....	Power, Fault
Protection .....	Thermal, Over/Under Voltage, $\emptyset$ to $\emptyset$ , $\emptyset$ to Ground, and $\emptyset$ to +V <sub>BUS</sub> Short Circuit

## MECHANICAL

Dimensions in Inches (mm)



## TEMPERATURE

Storage .....	-40 to +125° C
Case .....	0 to +60° C

## OPTIONS

-RM .....	Rack Mounting Option
-240 .....	240 VAC Input Voltage
SD-1 .....	Small End Screwdriver

## PIN FUNCTIONS

### Connector P2

1. Microstep Resolution Select 0
2. Microstep Resolution Select 1
3. Microstep Resolution Select 2
4. Microstep Resolution Select 3
5. Step Clock
6. Direction
7. Enable
8. Reset
9. Opto Supply
10. Fault
11. Ground
12. Current Adjust
13. Reduction Adjust

### Connector P1

1. Phase A
2. Phase  $\bar{A}$
3. Phase B
4. Phase  $\bar{B}$
5. AC Neutral
6. AC Line