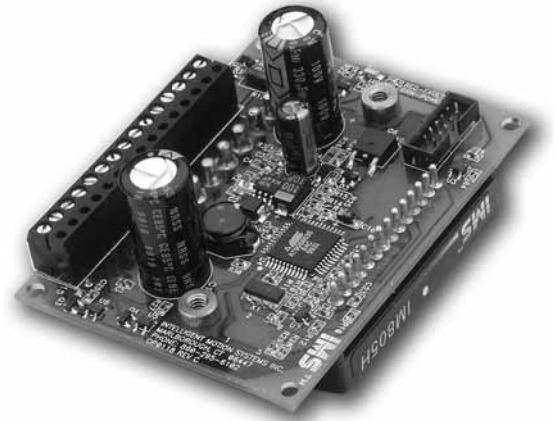


# OSC-805H

## ANALOG SPEED CONTROL BOARD



### FEATURES

- Digital Oscillator for Accurate Speed Control
- Plugs Directly Onto the IM805H PLUS Stepping Motor Driver (Sold Separately)
- Low Cost
- Extremely Compact (3.12 x 2.37 x 1.29 inches) (76 x 60 x 33 mm)
- Configurable:
  - Motor Run/Hold Current
  - Acceleration/Deceleration
  - Initial and Max Velocity
  - Microstep Resolution to 256 microsteps/step
- Operation Modes: Bidirectional and Unidirectional Velocity Control
- Selectable Speed Control Input Adjustable by 15-25kHz PWM, 0 to +5 VDC, 0-20 or 4-20mA
- Step Clock and Direction Out for Cascading Multiple Drives
- Single Supply
- Graphical User Interface (GUI) for Quick and Easy Parameter Setup
- 15 Pin Removable Screw Terminal Interface

### DESCRIPTION

The OSC-805H Analog Speed Control Interface Board offers the system designer the capability of adding low cost, intelligent velocity control to the IM805H PLUS Microstepping Hybrid Motor Driver (sold separately). The OSC-805H mates

with the IM805H PLUS driver and has an input voltage range of +12 to +75 VDC.

The OSC-805H features a digital oscillator for accurate velocity control with an output frequency of up to 100 kilohertz. Output frequency will vary with the voltage level on the speed control input. The speed control input may be adjusted by selecting 15-25kHz PWM, 0 to +5 volts, 4 to 20mA, or 0 to 20mA.

There are two basic modes of operation: bidirectional and unidirectional. In bidirectional mode, both speed and direction are controlled by the speed control input. In unidirectional mode, only velocity is controlled by the speed control input; direction is controlled by a separate input.

The speed control board's setup parameters are configured using the included IMS Analog Speed Control GUI. This enables the user to configure all of the operational parameters of the OSC-805H which are stored in nonvolatile memory.

The OSC-805H has buffered step clock and direction outputs to facilitate cascading of drives. These outputs will follow the primary step clock and direction outputs of the speed control board. The OSC also features Step Clock and Direction inputs for remote connection and control. The use of the Start input switches the device from an external clock input to the internal oscillator.

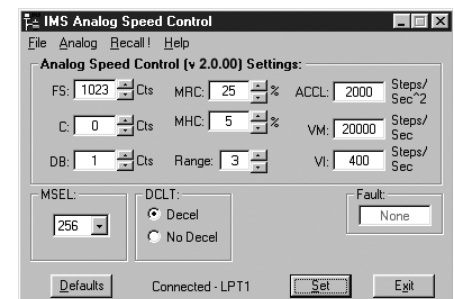
Wiring is accomplished with a convenient 15 pin removable screw terminal (P1) and an optional Parameter Setup Cable which plugs into the board's 10 pin pin-header (P2). For additional mounting configurations, an optional L-Bracket is also available.

### CONFIGURING

The IMS Analog Speed Control software is a required, easy to install and use graphical user interface (GUI) for configuring the OSC-805H from the parallel port on your computer. Access the GUI via the IMS SPI Interface included on the CD shipped with the product, or download at [www.imshome.com](http://www.imshome.com).

IMS Analog Speed Control features:

- Easy installation.
- Automatic communication configuration.
- Will not set out-of-range values.
- Tool-tips display valid range setting for each option.
- Easy single screen interface.



The IMS Analog Speed Control GUI is an easy to install and use single screen interface.

## ELECTRICAL SPECIFICATIONS

Speed Control Input.....	15-25kHz PWM, 0 to +5 VDC, 4-20 or 0-20mA
A/D Resolution.....	10 bit
Speed Control Potentiometer Resistance.....	10 kΩ
Input Voltage (+V) Range.....	+12 to +75 VDC
Phase Output Current (attached driver).....	4 Amps/7 Amps (Peak)
Low Level Input Voltage	
Stop/Start, Dir & Step Clock.....	0 to +1.5 VDC
Enable.....	0 to +1.65 VDC
High Level Input Voltage	
Stop/Start, Dir & Step Clock.....	+3.0 to +5.0 VDC
Enable.....	+3.85 to +5.0 VDC
Input Pull-up Resistance (to +5 VDC)	
Stop/Start, Dir & Step Clock, Enable.....	4.99 kΩ
Output Drain-Source Voltage (Step Clock & Dir Out).....	+80 VDC
Output Drain Current (Step Clock & Dir Out).....	120 mA
Drain-Source On-Resistance (Step Clock & Dir Out).....	6 Ω

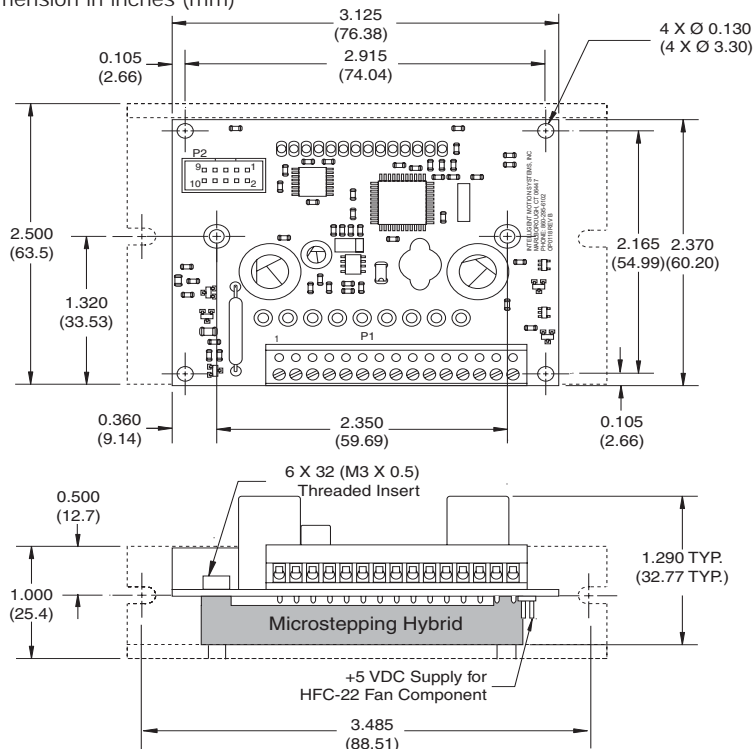
## PARAMETERS

SETUP PARAMETERS				
NAME	FUNCTION	RANGE	UNITS	DEFAULT
ACCL	Accel/Decel	2000 to 65000	steps/sec <sup>2</sup>	2000
C	Center Position	0 to 1022	counts	0
DB	Deadband	0 to 255	counts	1
DCLT	Decel Type	Decel at ACCL Rate/No Decel	-	Decel
IMODE	Analog Input	15-25kHz PWM/Voltage/4-20mA/ 0-20mA	-	0
FS	Full Scale	1 to 1023	counts	1023
MHC	Motor Hold Current	0 to 100	percent	5
MRC	Motor Run Current	1 to 100	percent	25
MSEL	Microstep Resolution	2, 4, 5, 8, 10, 16, 25, 32, 50, 64, 125, 128, 250, 256	μsteps per step	256
RANGE	VI/VM Range	1 to 8	-	3
VI	Initial Velocity	1 to 99999*	steps/sec	400
VM	Maximum Velocity	2 to 100000*	steps/sec	20000

\*Depends on the setting of the Range parameter

## MECHANICAL SPECIFICATIONS

Dimension in inches (mm)



Dashed line indicates optional L-Bracket

## PIN ASSIGNMENTS

REMOVABLE SCREW TERMINAL - P1	
PIN	FUNCTION
1	Phase B
2	Phase /B
3	+V (+12 to +75 VDC)
4	Power Ground
5	Phase /A
6	Phase A
7	Enable Input
8	Start Input
9	Step Clock Input
10	Direction Input
11	+5 VDC Output
12	Logic Ground
13	Speed Control Input
14	Direction Output
15	Step Clock Output
10 PIN PIN-HEADER - P2 (SPI)	
4	Chip Select
5	Ground
7	Master Out - Slave In
8	Clock
10	Master In - Slave Out

## OPTIONS

An optional Parameter Setup Cable is an inexpensive accessory which eliminates the need for the user to wire communications. This 6 foot long cable plugs in easily to connect a standard DB-25 PC parallel port to the 10 pin pin-header (P2) on the OSC. Recommended with the first order.

For additional mounting options, the MB-22 L-Bracket is available for the OSC-805H.

## ORDER INFORMATION

Name	Part Number
Speed Control Board.....	OSC-805H
Microstepping Motor Driver.....	XIM805H
Parameter Setup Cable ....	OSC-CC100-000
Mounting L-Bracket.....	MB-22