



Design Features and Performance Benefits

The MBL and MBLX Series Brushless Servo Amplifiers are MOSFET pulse-width-modulated (PWM) switching amplifiers. The amplifiers provide four quadrant current control. The MBLX features complete isolation of the user interface from the power stage, allowing transformer-less operation with 120 VAC. Choose the lower cost MBL drive when using isolated DC power supplies with bus voltages of 20 to 180 VDC.

The MBL and MBLX series of servo amplifiers are protected against over current, over temperature, and shorted outputs. Easy to read LED indicators show fault conditions. The MBL and

MBLX Series Servo Amplifiers use convenient pluggable screw connectors for power supply input, motor output and auxiliary inputs, and a DB9 or pluggable screw connector on the command input.

Loop gain and balance are adjusted with potentiometers. Peak and continuous currents are selected by pluggable resistors.

Both the MBL and MBLX Series Servo Amplifiers are available in board level and housed versions. The MBLX is also available with an integral power supply, in-rush limiter, and shunt regulator.

BRUSHLESS SERVO AMPLIFIERS

MBL - MBLX SERIES

**MBL-MBLX Series
Brushless Servo
Amplifiers offer
cost-effective, high
performance motion
control in a compact
package**

- 20 to 180 VDC Supply Voltage
- 24 A Peak/12 A Continuous
- Small Size/ Low Cost
- Fully Isolated Design (MBLX model)
- Four Quadrant, Regenerative Operation
- 20 kHz Switching Frequency
- +5 VDC Supply for Halls and Encoder
- Convenient 120 VAC Single Supply Operation
- Fully Protected (Voltage, Current, Temperature)
- Easy to Read LED Fault Indicators
- OEM and End-User Packaging

BRUSHLESS SERVO AMPLIFIERS

MBL - MBLX SERIES

Motion Science™

Specifications

Supply Voltage
Supply Voltage (HP, AC Input Models)
Continuous Current
Peak Current
Switching (PWM) Frequency
Current Loop Bandwidth
Max. Command Voltage
Max. Motor Voltage

Min. Motor Inductance
Min. Electrical Time Constant (L/R)
Weight (Board Level)

MBL50

21-80 VDC

12 Amps
24 Amps
20 kHz
2.0 kHz
+/- 10 Volts
92 % of DC Supply
Voltage
0.5 mH
0.25 ms
1.5 lbs.

MBL160

40-180 VDC

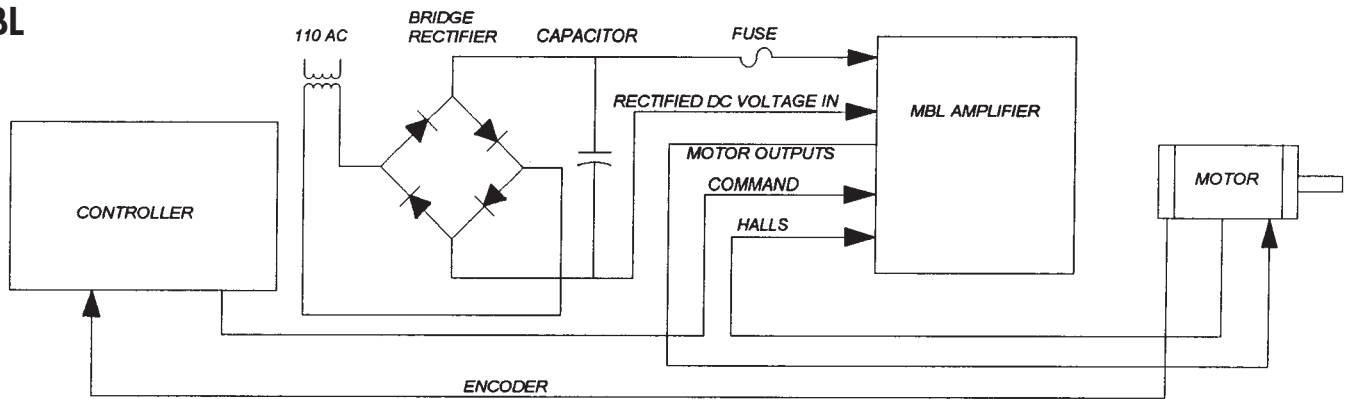
12 Amps
24 Amps
20 kHz
2.0 kHz
+/- 10 Volts
92 % of DC Supply
Voltage
1 mH
0.25 ms
1.5 lbs.

MBLX

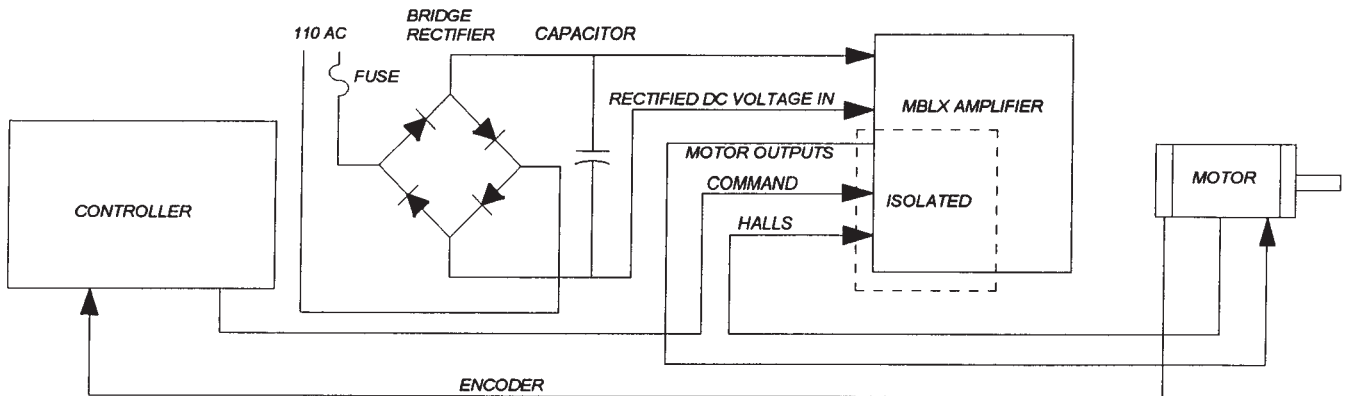
100-180 VDC
70-130 VAC
12 Amps
24 Amps
20 kHz*
2.0 kHz
+/- 10 Volts
92 % of DC Supply
Voltage
1 mH
0.25 ms
1.5 lbs.

* For higher frequency operation call factory

MBL



MBLX



Ordering Info

Amplifier Model No.	Output for Each Axis		
	Output Voltage Range	Contin. Current (Max.)	Peak Current
MBL5012**	21- 80 VDC	4 Amps (6)	12 Amps Max.
MBL5020**	21- 80 VDC	6.7 Amps (10)	20 Amps Max.
MBL5024**	21- 80 VDC	8 Amps (12)	24 Amps Max.
MBL16012**	40 - 180 VDC	4 Amps (6)	12 Amps Max.
MBL16020**	40 - 160 VDC	6.7 Amps (10)	20 Amps Max.
MBL16024**	40 - 180 VDC	8 Amps (12)	24 Amps Max.
MBLX16012**	100 - 180 VDC	4 Amps (6)	12 Amps Max.
MBLX16024**	100 - 180 VDC	8 Amps (12)	24 Amps Max.

Note: Continuous and peak currents are adjustable. For specific customer requirements please contact the factory.

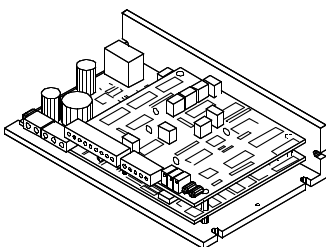
**Specify

-Leave blank for board level. (No sheet metal enclosure).
- H**.....After model # for amplifier with sheet metal enclosure.
- HP**.....(MBLX only) After model # for housed version with power supply & shunt regulator.
- 01**.....Add to model #/suffix for command input terminal block option.

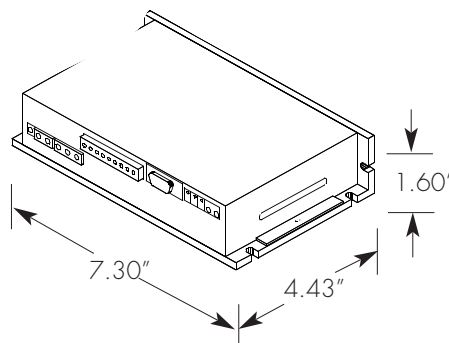
Order Example:

- MBL16024**.....(Amplifier only. No sheet metal enclosure or power supply).
- MBL16024H-01**.....(Amplifier housed with a sheet metal enclosure and terminal block option).
- MBLX16024**.....(Amplifier only. No sheet metal enclosure or power supply).
- MBLX16024H-01**.....(Amplifier housed with a sheet metal enclosure and terminal block option).
- MBLX16024H**.....(Amplifier housed with a sheet metal enclosure).
- MBLX16024HP**.....(Amplifier housed with power supply and shunt regulation).
- MBLX16024HP-01**.....(Amplifier housed with power supply shunt regulation, and terminal block option).

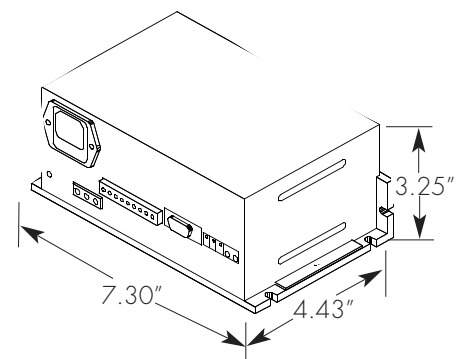
Board Level



H version

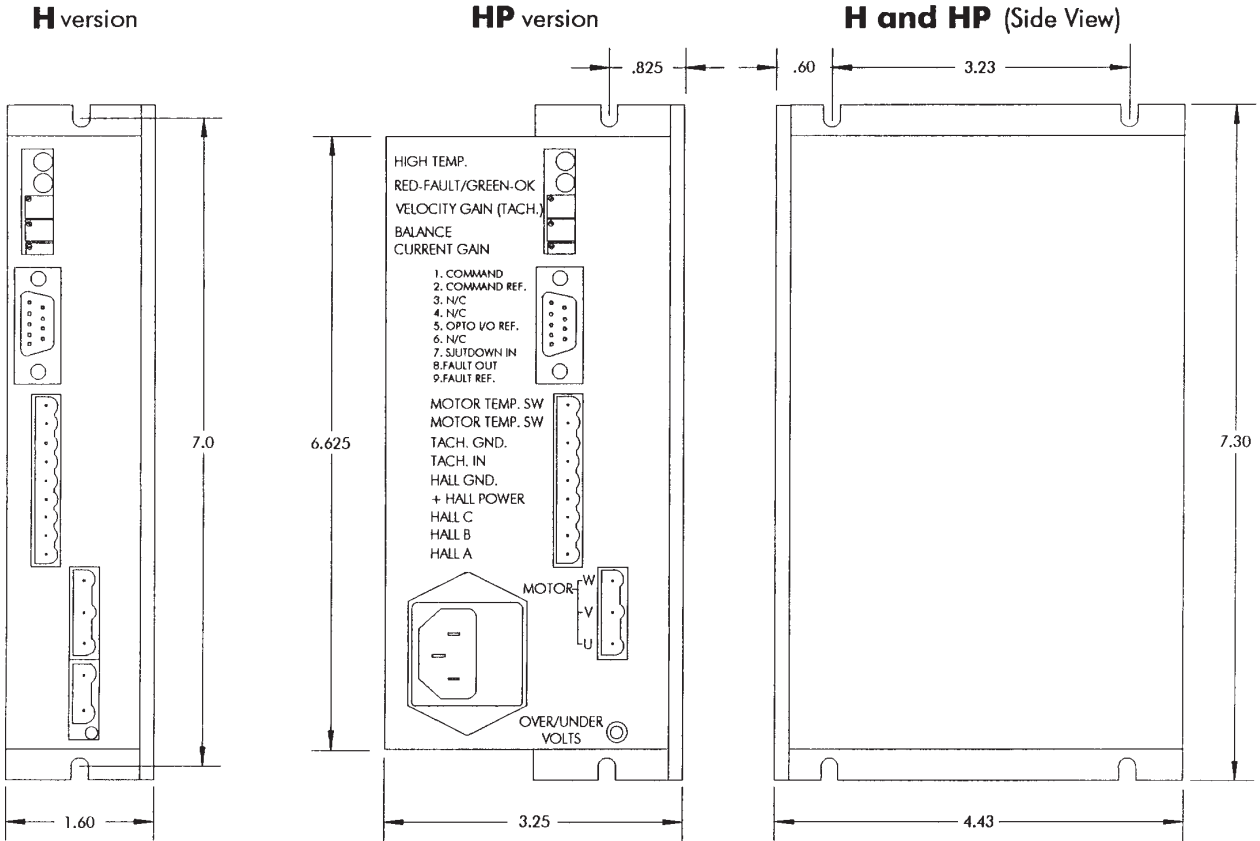


HP version

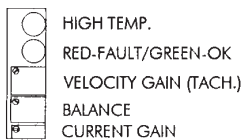


BRUSHLESS SERVO AMPLIFIERS MBL - MBLX SERIES

Motion Science™



Adjustments



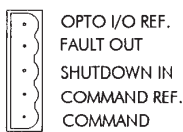
Command Inputs

DB9 Connector (standard)



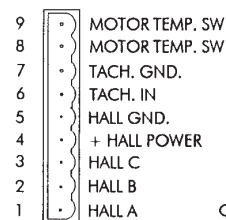
1. COMMAND
2. COMMAND REF.
3. N/C
4. N/C
5. OPTO I/O REF.
6. N/C
7. SHUTDOWN IN
8. FAULT OUT
9. FAULT REF.

Terminal Block (option -01)

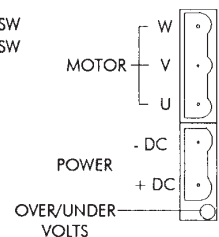


- OPTO I/O REF.
- FAULT OUT
- SHUTDOWN IN
- COMMAND REF.
- COMMAND

Motor Feedback



Motor Power



Each MBL and MBLX Amplifier is supplied with mating Phoenix™ screw terminal connectors