GLENTEK LINEAR BRUSH SERVO DRIVES
MODELS: SMA5005

Revision: 1/12/18

Glentek offers the latest in high performance Linear Brush Servo Drives for the control of both DC brush servo motors and voice coil motors. With extensive utilization of surface mount technology and special heat transfer techniques, Glentek's Linear Brush Servo Drives offer one of the world's most powerful products for a given form factor. All models can operate in current (torque) or velocity (RPM) mode and accept a +/-10 VDC analog input as a command reference. All models can close the velocity loop via feedback of a DC tachometer. Output current is 5 amps continuous, 15 amps peak. Operating voltages range from either 24 to 75 VDC for the module and 17 to 53 VAC for the multi-axis configuration. These drives are best suited for low inertia applications that require high bandwidth, low noise, and zero crossover distortion and for motors or voice coils that require high curent loop bandwidths.

ELECTRICAL RATINGS								
Model Number	Input Voltage		Continuous Current (A)	Peak Current (A)	Power Dissipation (W) [2]	Available Package Configurations		
	VDC	VAC				Module	Stand Alone	Multi-Axis
SMA5005 [1]	24-75	17-53	5	15	250	•		•

Notes: [1] With external forced-air cooling (Only Module Package). [2] At ambient temperature (25°C).

Command/Control Modes
+/-10 VDC for current (torque)
+/-10 VDC for velocity (RPM)
Feedback
DC Tachometer
Dedicated Inputs
Dedicated Inputs: +/- Limits, inhibit, fault and reset

FEATURES

Performance	
Multimode operation	All models can operate in current (torque) or velocity (RPM) mode and accept a +/-10 VDC analog input as a command reference.
Linear output stage	Provides high bandwidth, low noise, and zero crossover distortion.
Bandwidth	All servo drives have a nominal 10kHz current loop bandwidth which varies with the motor inductance. Higher bandwidths are available upon request.
Fault protection	Short from output to output, short from output to ground, drive RMS over current and drive over temperature.
Heat dissipation	(@ 25°C): 250 Watts continuous for the SMA5005.
External fault reset	An input is provided to reset the drive in the event of a fault.
Current limit	Peak motor current is adjustable.
Dedicated Inputs	
Dedicated Inputs	+/- Limits, enable, fault and reset.
Input	
Wide operating voltage	Operating voltages range from either 24 to 75 VDC for the SMA5005 module or 17 to 53 VAC for the multi-axis configuration.
Build	
Ergonomic design	Easy access to connections, adjustments and test points.
Industry standard mounting	Available in a module and multi-axis configuration. Glentek offers custom mounting configurations to meet virtually any requirement.
Status indicator	7-segment display indicates drive status.

ENVIRONMENTAL CONDITIONS	
Storage Temperature:	-40°C to 80°C
Operating Temperature:	Standard: 0°C to 40°C without current derating, up to 50°C with 25% current derating Special: -40°C to 40°C without current derating, up to 50°C with 25% current derating
Humidity:	5% to 95% relative humidity, non-condensing
Altitude:	Up to 1000m without derating, derate current 10% per 1000m above 1000m

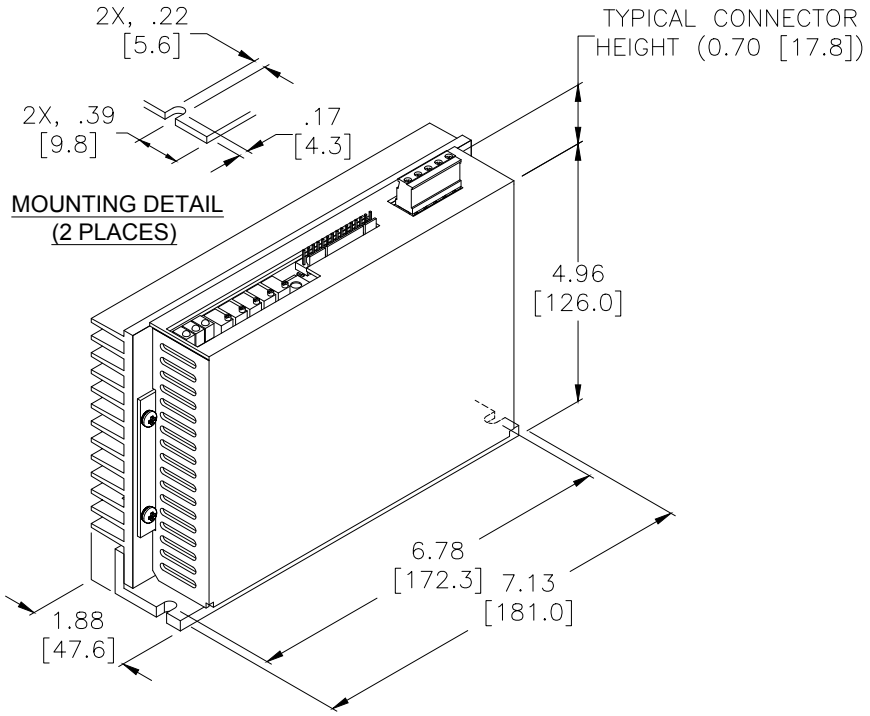
DIMENSIONS

Mounting Configurations	
Module	This package consists of a drive module, without a DC bus power supply. This package offers the smallest mechanical form factor and is a very cost effective solution for single and multi-axis applications where the customer provides DC bus power supply and forced-air cooling.
Multi-Axis	This package consists of a servo drive with a DC bus power supply, external bias voltage power supply and cooling fans. Available in 2 and 4 axis packages.

DIMENSIONS

SMA5005 Module

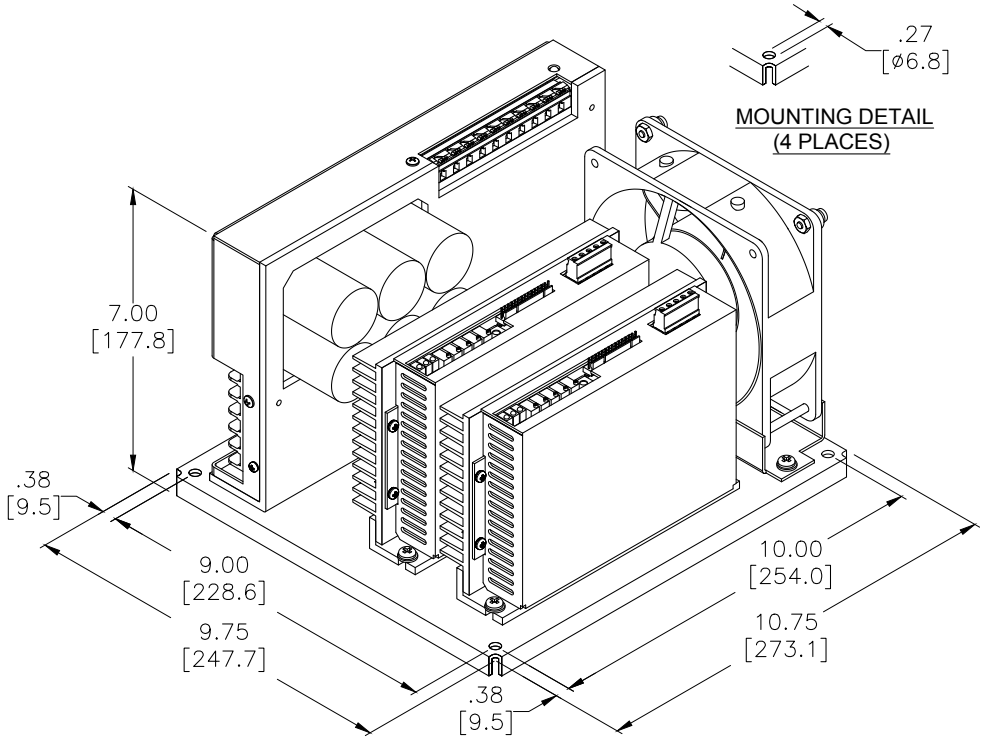
Dimensions are inches [millimeter]



Weight	1.5 lb / 0.7 kg

SMA5005 2-Axis Package

Dimensions are inches [millimeter]

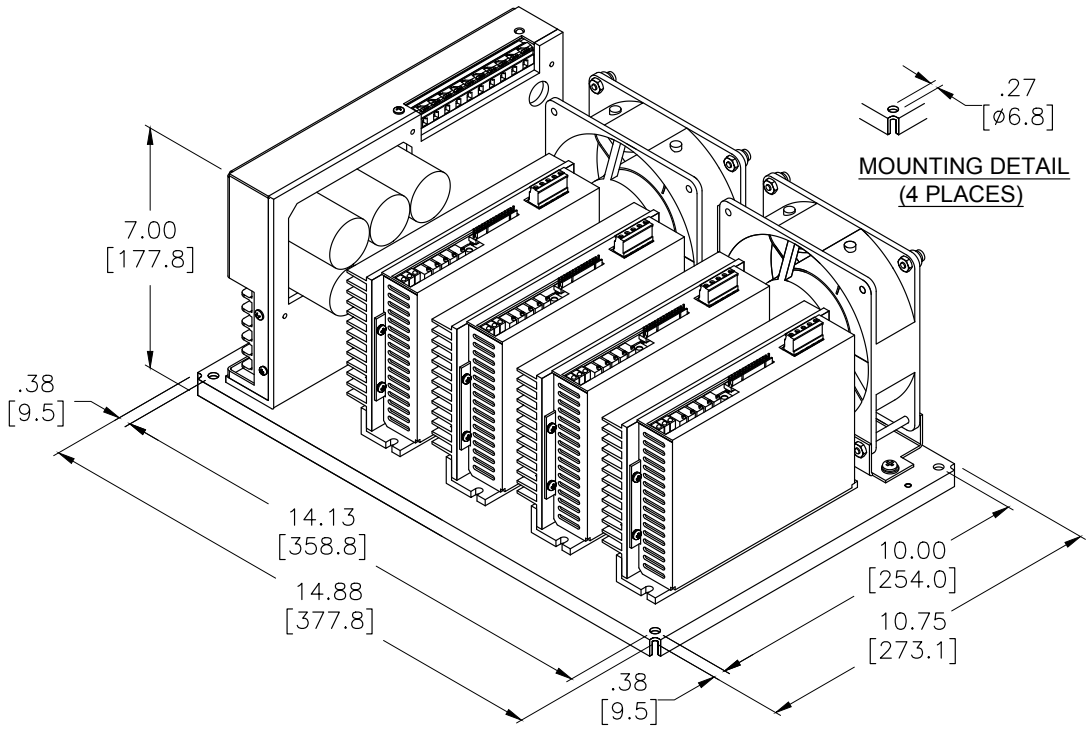


Weight	9.5 lb / 4.3 kg

DIMENSIONS

SMA5005 4-Axis Package

Dimensions are inches [millimeter]



Weight	15.1 lb / 6.7 kg

MODULE MODEL NUMBERING

This section explains the model numbering system for Glentek's high performance Linear Brush Servo Drives. The model numbering system is designed so that you, our customer, will be able to quickly and accurately create the model number for the drive that best suits your requirements. Please complete the drive configuration code you require using the information on this page. After completing your model number, please contact a Glentek Sales Engineer to confirm that the model number you have created is correct.

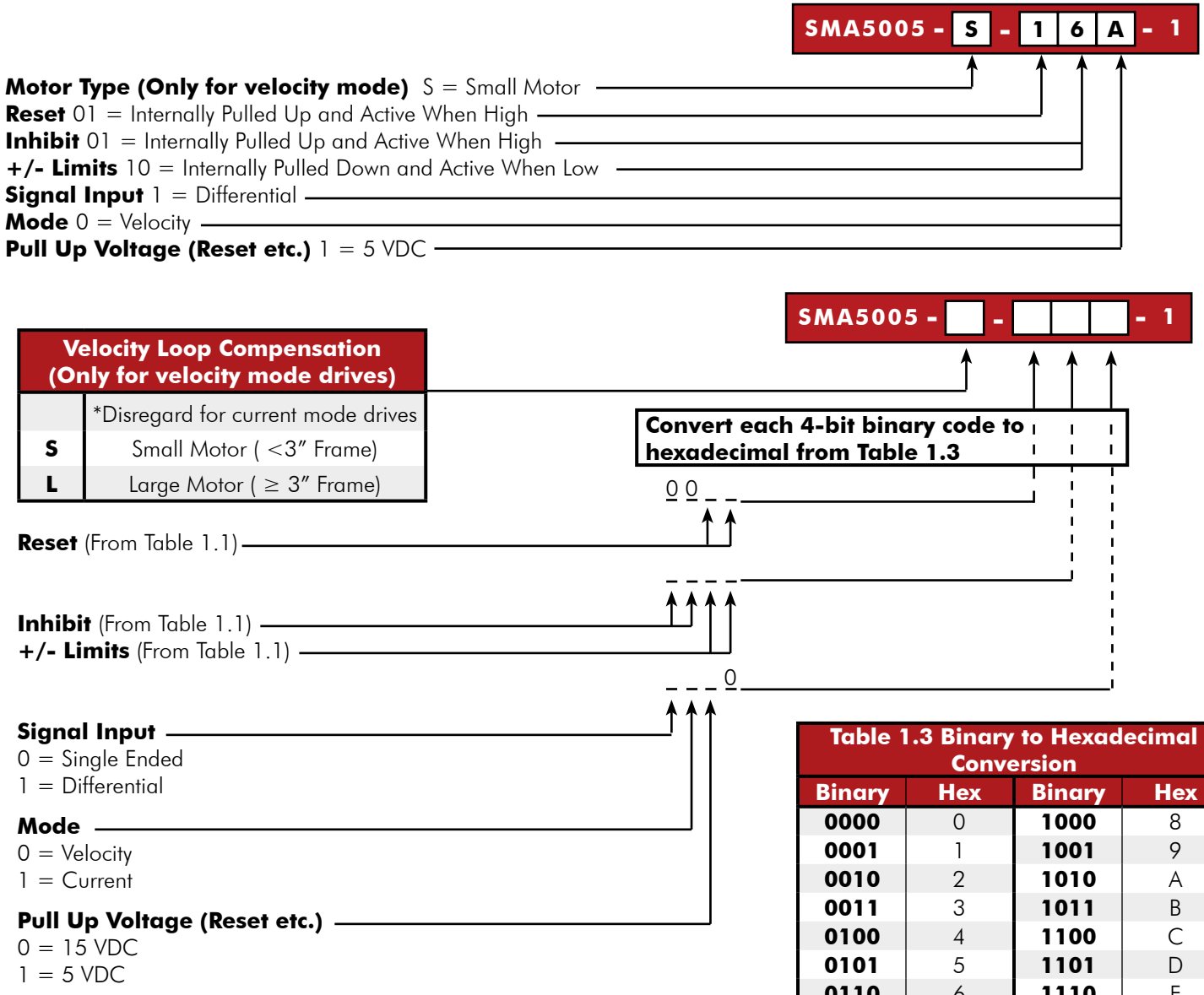


Table 1.3 Binary to Hexadecimal Conversion

Binary	Hex	Binary	Hex
0000	0	**1000**	8
0001	1	**1001**	9
0010	2	**1010**	A
0011	3	**1011**	B
0100	4	**1100**	C
0101	5	**1101**	D
0110	6	**1110**	E
0111	7	**1111**	F

Table 1.1 Inhibit, Reset, +/- Limits Configuration

Type	Input is:	Input State:	Binary
A	Internally Pulled Up	Active When Low	00
B	Internally Pulled Down	Active When High	11
C	Internally Pulled Up	Active When High	01
D	Internally Pulled Down	Active When Low	10

Table 1.2 Logic Input Configuration

Type	Logic
A	Requires grounding of input to disable the drive.
B	Requires a positive voltage at input to disable the drive.
C	Requires grounding of input to enable the drive.
D	Requires a positive voltage at input to enable the drive.

MULTI-AXIS MODEL NUMBERING

This section explains the model numbering system for Glentek's high performance Linear Brush Servo Drives. The model numbering system is designed so that you, our customer, will be able to quickly and accurately create the model number for the drive that best suits your requirements. Please complete the drive configuration code you require using the information on this page. After completing your model number, please contact a Glentek Sales Engineer to confirm that the model number you have created is correct.

SMA5005 - [ ] - 1 6 E - 2 A - 2

Motor Type (Only for velocity mode) Blank = Since current mode was selected
Reset 01 = Internally Pulled Up and Active When High
Inhibit 01 = Internally Pulled Up and Active When High
+/- Limits 10 = Internally Pulled Down and Active When Low
Signal Input 1 = Differential
Mode 1 = Current
Pull Up Voltage (Reset etc.) 1 = 5 VDC
Mounting Configuration 2 = 2-Axis Chassis
Number of Drives Installed 2 = 2 Drives

SMA5005 - [ ] - [ ][ ][ ][ ] - [ ] A - [ ]

Velocity Loop Compensation (Only for velocity mode drives)	
	*Disregard for current mode drives
S	Small Motor (<3" Frame)
L	Large Motor (≥ 3" Frame)

Convert each 4-bit binary code to hexadecimal from Table 1.3

0 0 _ _

Reset (From Table 1.1)

Inhibit (From Table 1.1)
+/- Limits (From Table 1.1)

0

Signal Input
0 = Single Ended
1 = Differential

Mode
0 = Velocity
1 = Current

Pull Up Voltage (Reset etc.)
0 = 15 VDC
1 = 5 VDC

Mounting Configuration
2 = 2-Axis Chassis
4 = 4-Axis Chassis

Number of Drives Installed
1 = 1 Drive (2-Axis Chassis)
2 = 2 Drive (2-Axis Chassis)
3 = 3 Drive (2-Axis Chassis)
4 = 4 Drive (2-Axis Chassis)

Table 1.3 Binary to Hexadecimal Conversion

Binary	Hex	Binary	Hex
0000	0	1000	8
0001	1	1001	9
0010	2	1010	A
0011	3	1011	B
0100	4	1100	C
0101	5	1101	D
0110	6	1110	E
0111	7	1111	F

Table 1.1 Inhibit, Reset, +/- Limits Configuration

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