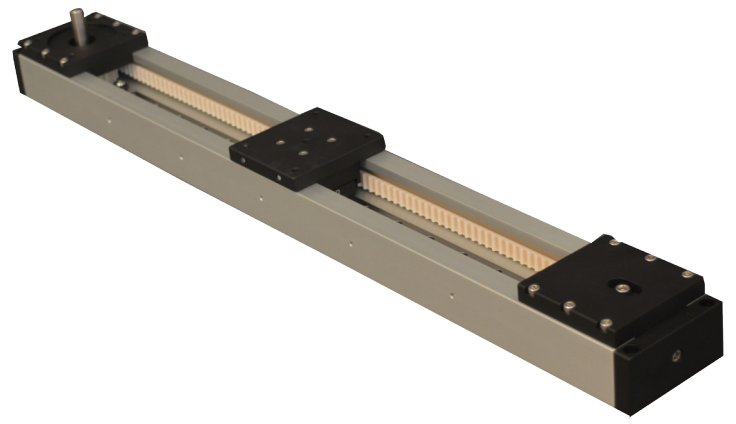
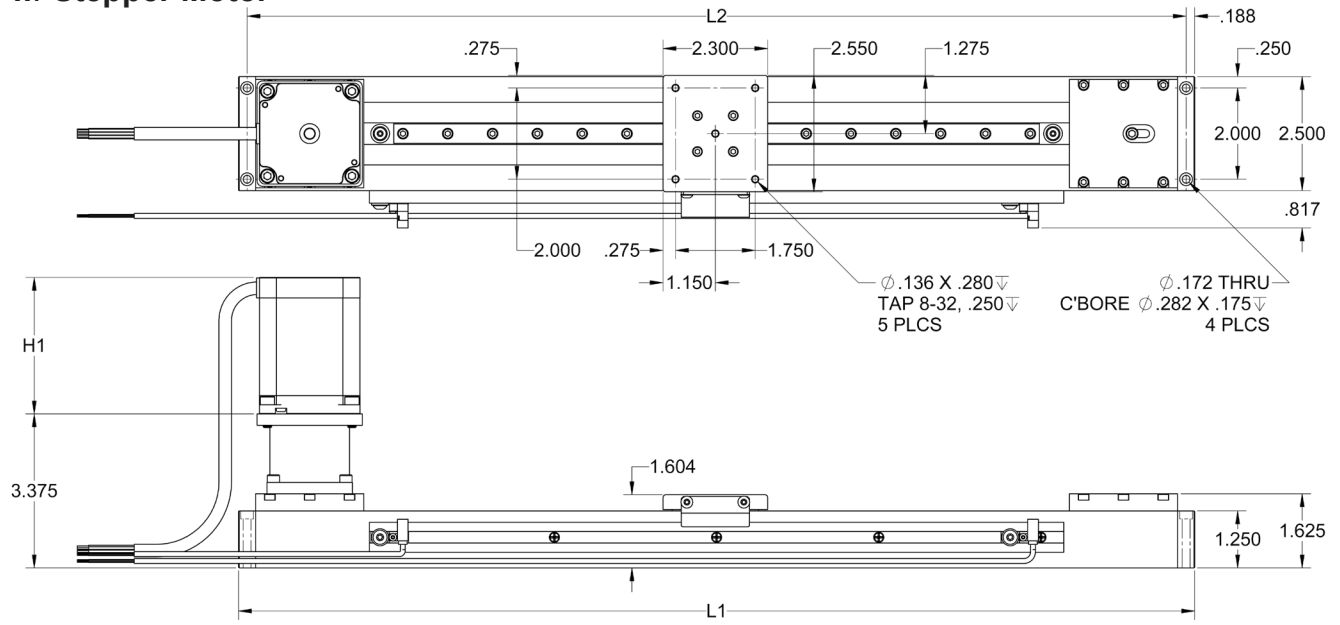


# LB250 Belt Driven Linear Actuator

- Belt Driven Linear Actuator
- Stroke Lengths up to 48 Inches
- Dynamic loads up to 200 lbs
- Speeds up to 100 in/sec
- Linear Guide Motion
- Compatible with Nema 23 Motor or 60mm Frame Servo Motor
- Additional Accessories Available



**\*w/ Stepper Motor**

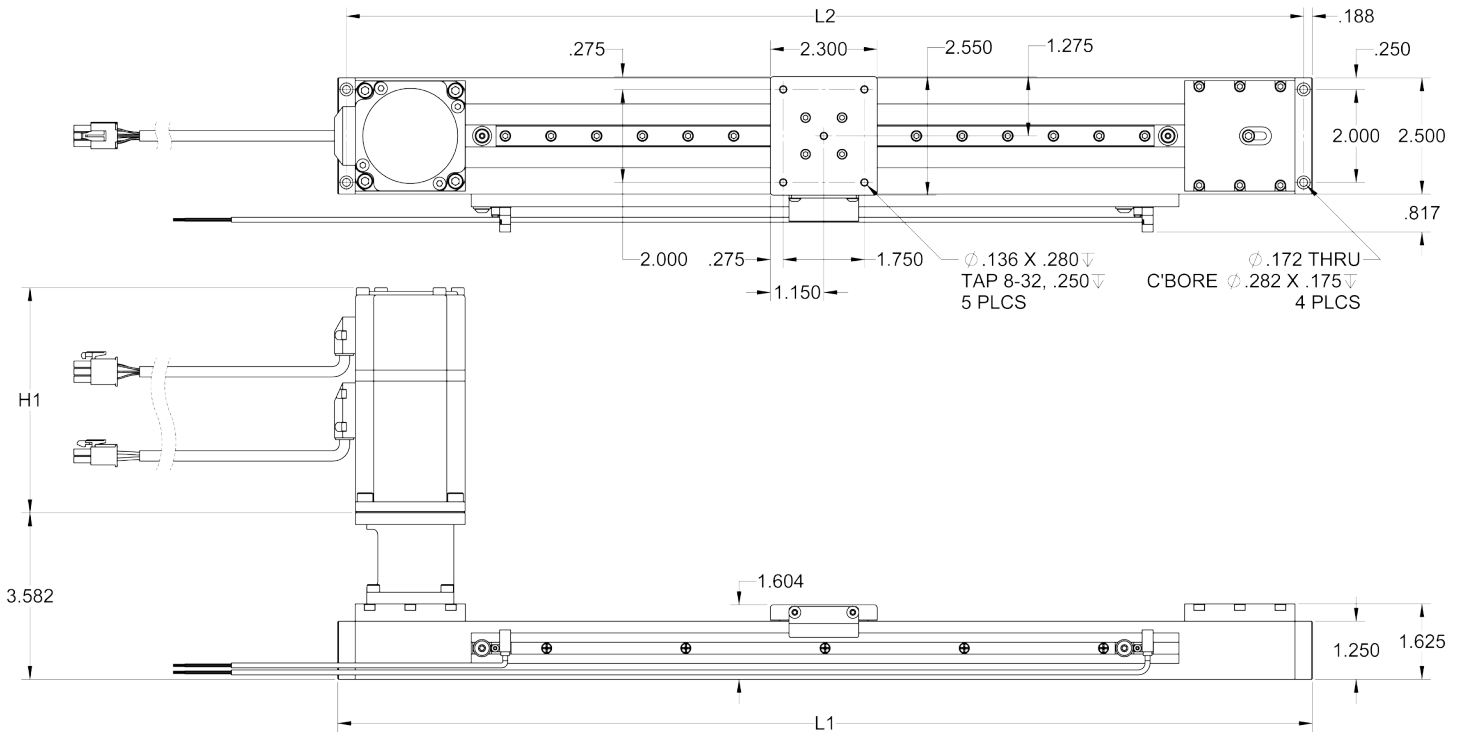


Dimesions			
Model	L1	L2	H1
12"	21.0	20.624	Motor Height, See Motor Specs for More Information
18"	27.0	26.624	
24"	33.0	32.624	
36"	45.0	44.624	
48"	57.0	56.624	

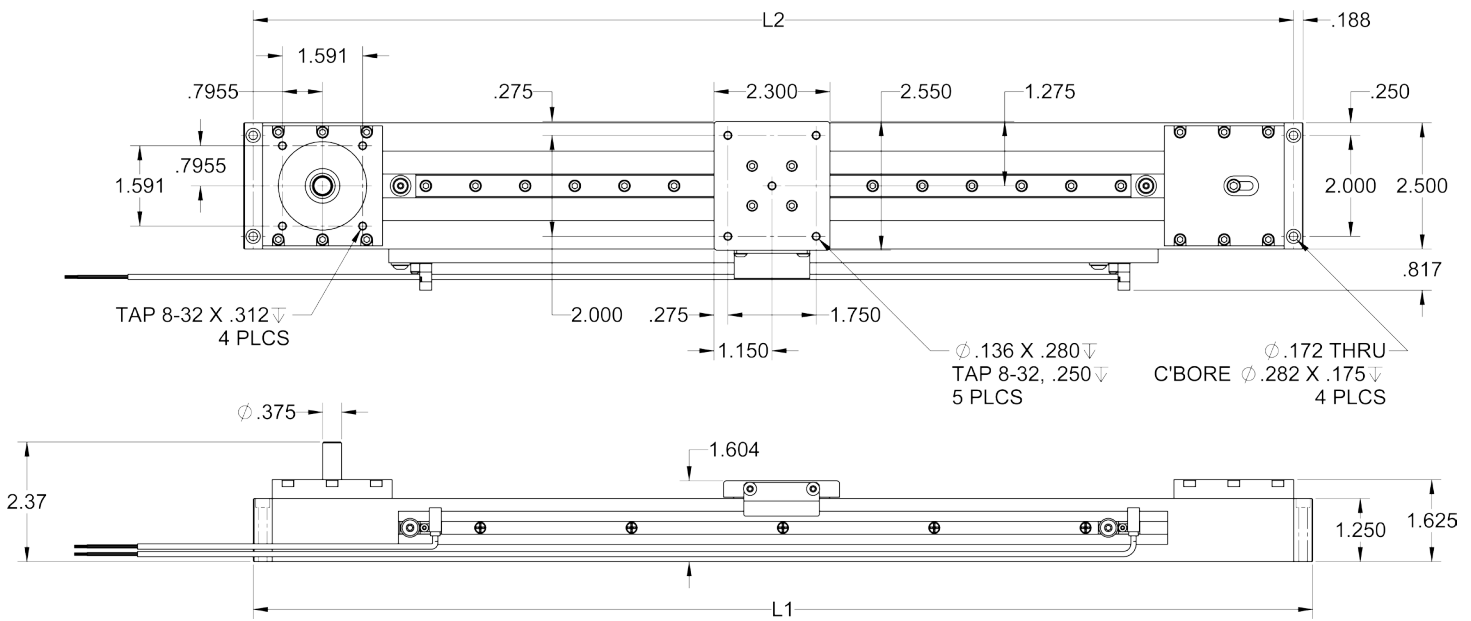
\*Units are in inches

L011255

**\*w/ Servo Motor**



**\*w/ no Motor and No Mount**



Dimensions			
Model	L1	L2	H1
12"	21.0	20.624	Motor Height, See Motor Specs for More Information
18"	27.0	26.624	
24"	33.0	32.624	
36"	45.0	44.624	
48"	57.0	56.624	

\*Units are in inches

# Part Number Creation Guide

# LB250 - 18 - N - 3A - N



**\*Encoder Options are for Stepper Motors Only**

**\*6A-6D Servo Motor options come Standard with 2500 PPR Encoders**

**\*When SB Servo Motor Brake is selected, the brake is incorporated into the Servo Motor**

**\*Cables are sold separately.**

## Specifications:

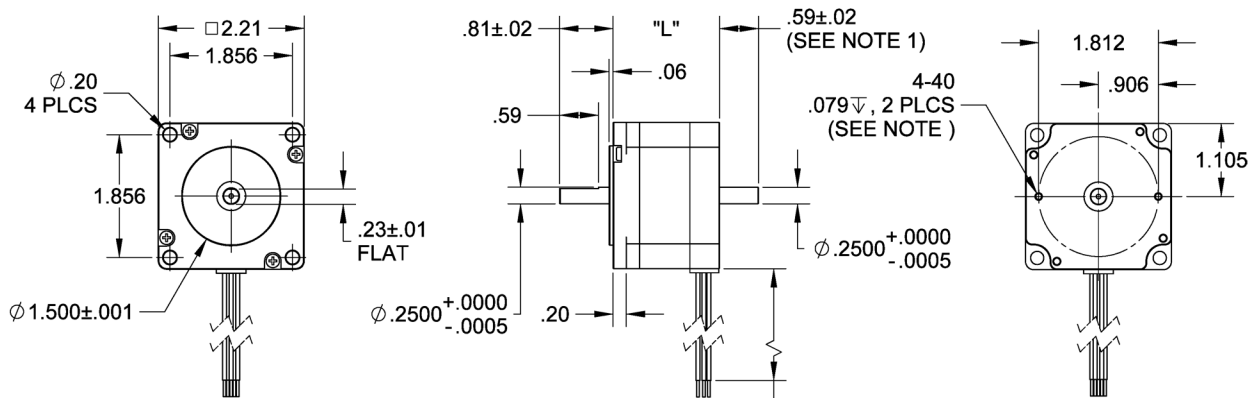
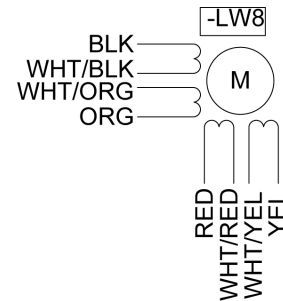
Travel		12"	18"	24"	36"	48"
Load Capacity	Static (lb)	1,000				
	Dynamic (lb)	200				
Max Stroke Length	Inches	12	18	24	36	48
Encoder Outputs	---	TTL Square Wave, Two Channel A & B				
Maximum Travel Speed	Inches/Second	100				
Accuracy	Inches	0.005				
Material	---	Aluminum				
Finish	---	Black/Clear Anodized				
Flatness, Straightness, & Orthogonality	---	<0.001 [Inch/Inch] (<25.4µm/µm)				
Rail Material	---	Stainless Steel				
Inches Per Revolution	Inches	4.8				
Belt Pitch	Inches	0.200				
Number of Pulley Teeth	---	24				
Duty Cycle	---	Low to Mid (<50%)				
Stage Weight (Without Motor) (Without Mount)	Without Limit Switches (lb)	4.88	5.96	7.00	9.10	11.14
	With Limit Switches (lb)	4.89	5.97	7.01	9.11	11.15
Weight of Mount and Coupling	(lb)	0.34				
Moment of Inertia	oz-in-sec <sup>2</sup>	0.12				
Max Moments (Nm)	Mro	34.9				
	Mpo	30.2				
	Myo	30.2				

# Stepper Motor Specifications:

Motor Option	Motor Part Number	Bipolar Torque (oz-in)	Series Current (A)	Unipolar Current (A)	Parallel Current (A)	Unipolar Inductance (mH)	Rotor Inertia (oz-in-sec <sup>2</sup> )	Weight (lbs)	"L" Length (in)
3A	23Y006S-LW8	76	2.10	3.0	4.2	0.6	0.0017	1.00	1.62
3B	23Y106S-LW8	175	2.10	3.0	4.2	1.1	0.0042	1.55	2.21
3C	23Y206S-LW8	262	2.10	3.0	4.2	1.6	0.0068	2.21	3.00
3E	23Y006D-LW8	76	2.10	3.0	4.2	0.6	0.0017	1.00	1.62
3F	23Y106D-LW8	175	2.10	3.0	4.2	1.1	0.0042	1.55	2.21
3G	23Y206D-LW8	262	2.10	3.0	4.2	1.6	0.0068	2.21	3.00

Step Angle Accuracy:	± 5% (Full Step, No Load)	Insulation Resistance:	100M Ohm Min, 500VDC
Resistance Accuracy:	± 10%	Dielectric Strength:	500VAC for 1 minute
Inductance Accuracy:	± 20%	Shaft Radial Play:	0.02" Max (1.0 lbs)
Temperature Rise:	80°C Max (2 Phases On)	End Play:	0.08" Max (1.0 lbs)
Ambient Temperature:	-20° to +50° C	Max Radial Force:	16.9 lbs (0.79" from Flange)
Insulation Type:	Class B	Max Axial Force:	3.4 lbs-Force

Connection	Lead Wire Connection	Lead Wire Color
4 - Lead Bipolar Series MBC Series	Phase 1 (A)	Black
	Phase 3 (A)	Orange
	Phase 2 (B)	Red
	Phase 4 (B)	Yellow
	Connect Wires with Wire Nut	White/Black & White/Orange
	Connect Wires with Wire Nut	White/Red & White/Yellow
4 - Lead Bipolar Parallel MBC Series	Phase 1 (A)	Black & White/Orange
	Phase 3 (A)	Orange & White/Black
	Phase 2 (B)	Red & White/Yellow
	Phase 4 (B)	Yellow & White/Red
6 - Lead Unipolar BLD, TM Series	Phase 1	Black
	Phase 3	Orange
	Phase 2	Red
	Phase 4	Yellow
	Common Phase 1 & 3	White/Black & White/Orange
	Common Phase 2 & 4	White/Red & White/Yellow



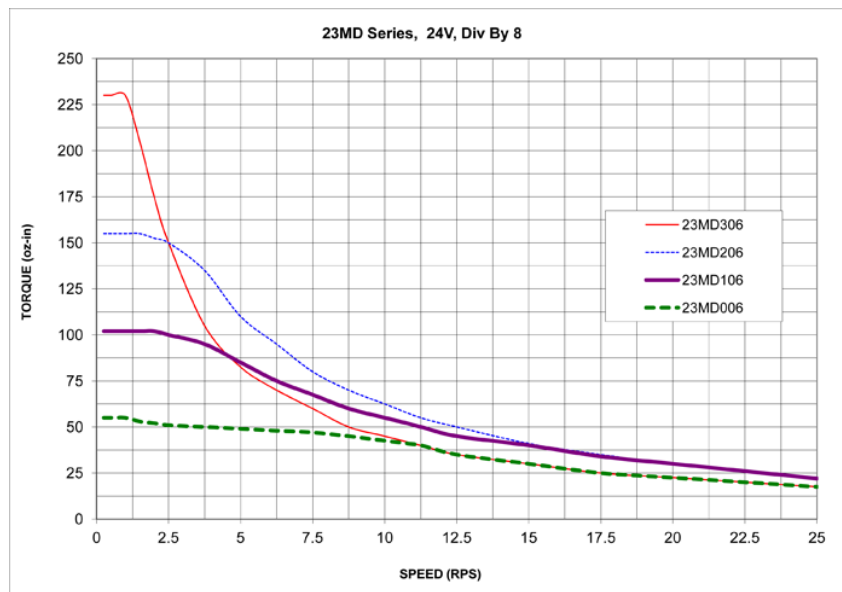
All units are in inches #22AWG WIRES, 12" LONG

NOTE 1: 23YxxxD-LW8 Models Only

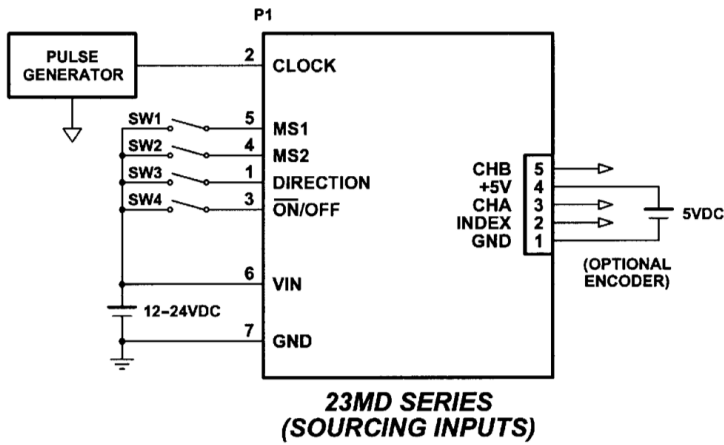
# Stepper Motors with Integrated Driver Specifications:

Motor Option	Motor Part Number	Active Input	Bipolar Torque (oz-in)	Rotor Inertia (oz-in-sec <sup>2</sup> )	Weight (lbs)	"L" Length (in)
4G	23MD006S-00	Sinking	76	0.0017	1.20	2.98
4H	23MD006S-24	Sourcing	76	0.0017	1.20	2.98
4E	23MD106S-00	Sinking	175	0.0042	1.75	4.03
4F	23MD106S-24	Sourcing	175	0.0042	1.75	4.03
4I	23MD206S-00	Sinking	262	0.0068	2.41	4.94
4J	23MD206S-24	Sourcing	262	0.0068	2.41	4.94
4M	23MD006D-00	Sinking	76	0.0017	1.20	2.98
4N	23MD006D-24	Sourcing	76	0.0017	1.20	2.98
4K	23MD106D-00	Sinking	175	0.0042	1.75	4.03
4L	23MD106D-24	Sourcing	175	0.0042	1.75	4.03
4O	23MD206D-00	Sinking	262	0.0068	2.41	4.94
4P	23MD206D-24	Sourcing	262	0.0068	2.41	4.94

Power Requirements:	12-24VDC	Microstepping Res.	1600 Steps/Rev (Div-by 8)
Input Voltage (Inputs):	3.5 - 24VDC	Driver Type:	Bipolar Series
Step Angle Accuracy:	+/- 5% (Full Step, No Load)	Insulation Resistance:	100M Ohm Min, 500VDC
Temperature Rise:	80°C Max (2 Phases On)	Dielectric Strength:	500VDC for One Minute
Ambient Temperature:	-20° to +50° C	Radial Play:	0.02" at 1.0 lbs
Insulation Type:	Class B	End Play:	0.08" at 1.0 lbs
Max Axial Force:	3.4 lbs-Force	Max Radial Force:	16.9 lbs (0.79" from Flange)

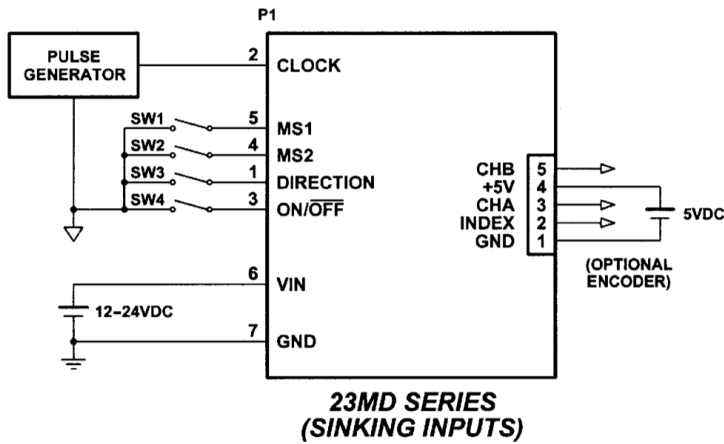


# Stepper Motors with Integrated Driver Specifications: (Cont.)



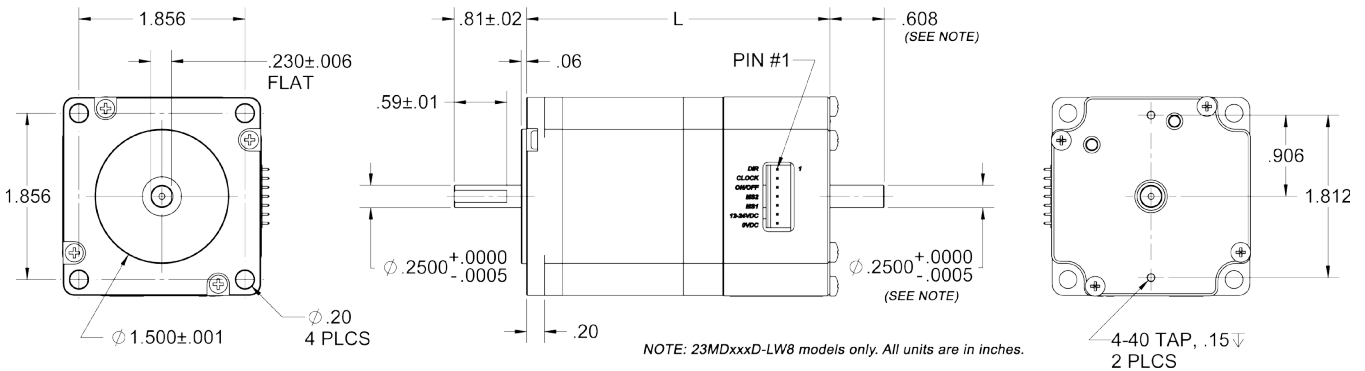
23MD Input Cable - CBL-AA4266 (Sold Separately)

Connector Pin #	Color	Function
1	Brown	Direction
2	Red	Clock
3	Orange	On/Off
4	Yellow	MS2
5	Green	MS1
6	Blue	12VDC-24VDC



Microstep Resolution Truth Table

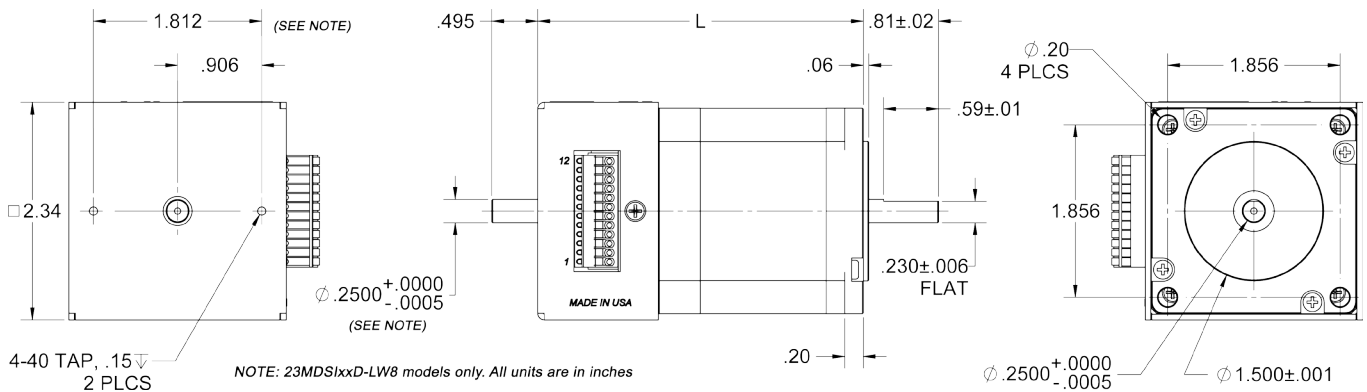
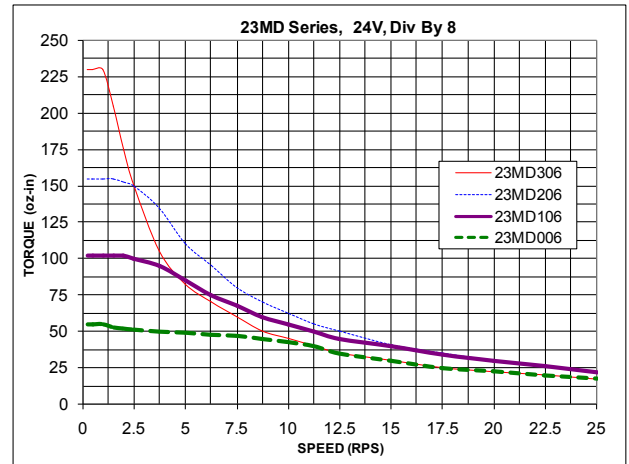
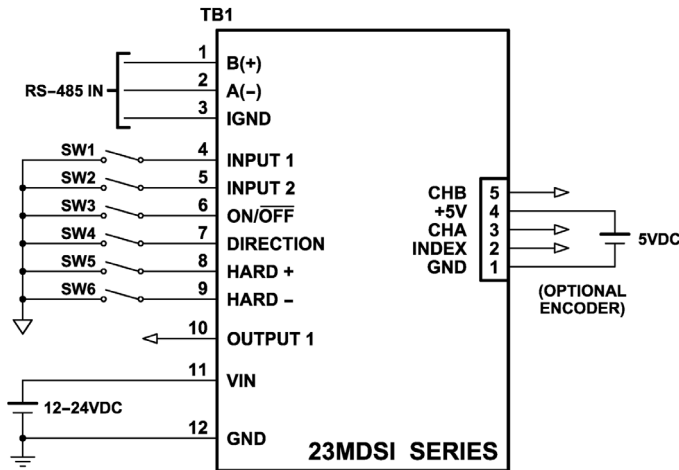
MS1	MS2	Resolution
Active	Active	Full Step
Inactive (Open)	Active	Half Step
Active	Inactive (Open)	Quarter Step
Inactive (Open)	Inactive (Open)	Eighth Step



# Stepper Motors with Integrated Controller and Driver Specifications:

Motor Option	Motor Part Number	Bipolar Torque (oz-in)	Rotor Inertia (oz-in-sec <sup>2</sup> )	Weight (lbs)	L Length (in)
5E	23MDSI106S-00-00	175	0.0042	1.73	3.504
5I	23MDSI206S-00-00	262	0.0068	2.39	4.292
5K	23MDSI106D-00-00	175	0.0042	1.73	3.504
5O	23MDSI206D-00-00	262	0.0068	2.39	4.292

Power Requirements:	12-24VDC	Microstepping Res.	1600 steps/rev (Div-by 8)
Input Voltage (Inputs):	3.5 - 24VDC	Driver Type:	Bipolar Series
Step Angle Accuracy:	+/- 5% (Full Step, No Load)	Insulation Resistance:	100M Ohm Min, 500VDC
Temperature Rise:	80°C Max (2 Phases On)	Dielectric Strength:	500VDC for One Minute
Ambient Temperature:	-20° to +50° C	Radial Play:	0.02" at 1.0 lbs
Insulation Type:	Class B	End Play:	0.08" at 1.0 lbs
Max Axial Force:	3.4 lbs-Force	Max Radial Force:	16.9 lbs (0.79" from Flange)





## Servo Motor Specifications:

Servo Motor Option	Motor Used (when No Brake Selected*)
6A	SMH60S-0020-30AAK-3LKH
6B	SMH60S-0040-30AAK-3LKH
6C	EMJ-02APA22
6D	EMJ-04APB22

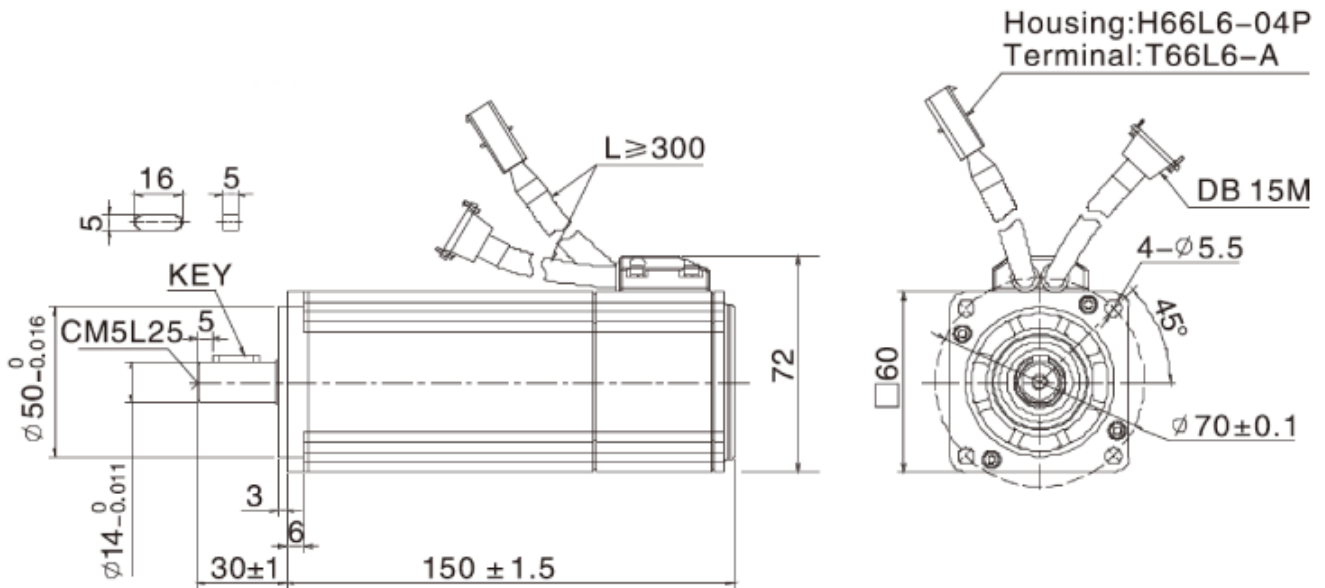
Servo Motor + Servo Brake Option	Motor Used
6A + SB	SMH60S-0020-30ABK-3LKH
6B + SB	SMH60S-0040-30ABK-3LKH
6C + SB	EMJ-02APA24
6D + SB	EMJ-04APB24

\*Note: When SB Servo Brake option is selected, the brake is incorporated into the servo motor.

Model	KNC-SRV-SMH60S-0020-30AAK-3LKH KNC-SRV-SMH60S-0020-30ABK-3LKH	KNC-SRV-SMH60S-0040-30AAK-3LKH KNC-SRV-SMH60S-0040-30ABK-3LKH
Compatible Driver	KNC-SRV-FD422-LA-000	
DC Link Voltage (VDC)	300	300
Rated Power (W)	200	400
Rated Torque (oz-in)	91	180
Rated Speed (RPM)	3000	3000
Rated Current (A)	1.6	3.1
Maximum Torque (oz-in)	271.9	540.9
Maximum Current (A)	4.8	9.3
Standstill Torque (oz-in)	25	50
Standstill Current (A)	1.79	3.38
Resistance Line-Line ( $\Omega$ )	8.02	3.52
Inductance Line-Line (mH)	16.3	7.8
Electrical Time Constant (ms)	2.03	2.22
Mechanical Time Constant (ms)	2.26	1.35
Reverse Voltage Constant $K_e$ (V/krpm)	29	29
Torque Constant $K_t$ (oz-in/A)	68	68
Rotor Moment of Inertia $J_m$ (oz-in-s <sup>2</sup> )	0.00531 0.00536 (with brake)	0.0072 0.0073 (with brake)
Pole Pair Number	3	3
Maximum Voltage Rising $du/dt$ (KV/ $\mu$ s)	8	8
Insulation Class	F	F
Maximum Radical Force F (N)	180	180
Maximum Axial Force F (N)	90	90
Weight (lbs)	1.3 1.8 (with brake)	1.8 2.3 (with brake)

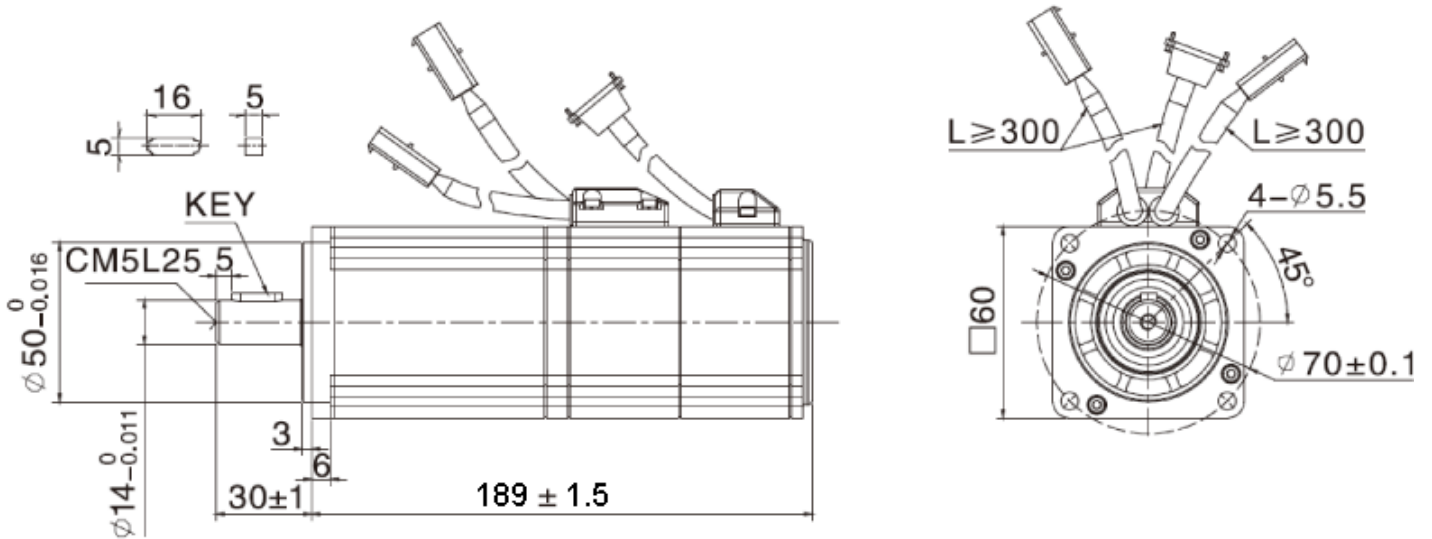
## Servo Motor Specifications (Cont.):

KNC-SRV-SMH60S-00x0-30AAK-3LKH



KNC-SRV-SMH60S-00x0-30ABK-3LKH

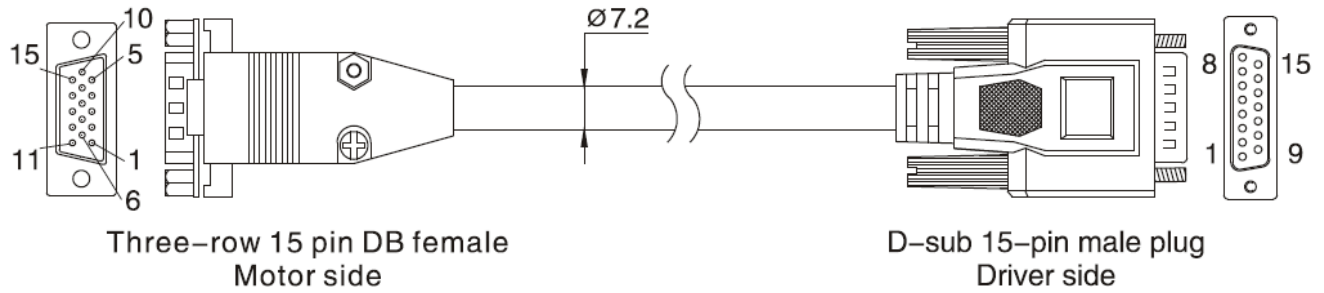
Dimensions are in mm



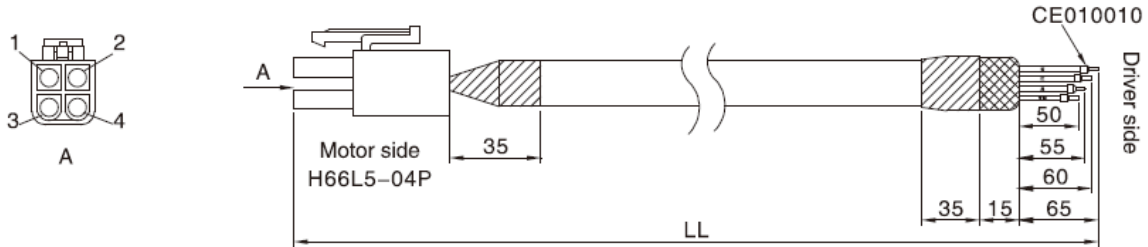
Dimensions are in mm

Model	KNC-SRV-SMH60S-0020-30AAK-3LKH KNC-SRV-SMH60S-0020-30ABK-3LKH	KNC-SRV-SMH60S-0040-30AAK-3LKH KNC-SRV-SMH60S-0040-30ABK-3LKH
Length of Motor L (mm)	85.3 $\pm$ 1 119 $\pm$ 1.5 (with brake)	110.8 $\pm$ 1 145 $\pm$ 1.5 (with brake)

# Servo Motor Specifications (Cont.):



Wire spec. UI20328 4C x 18AWG(41/0.16T) black



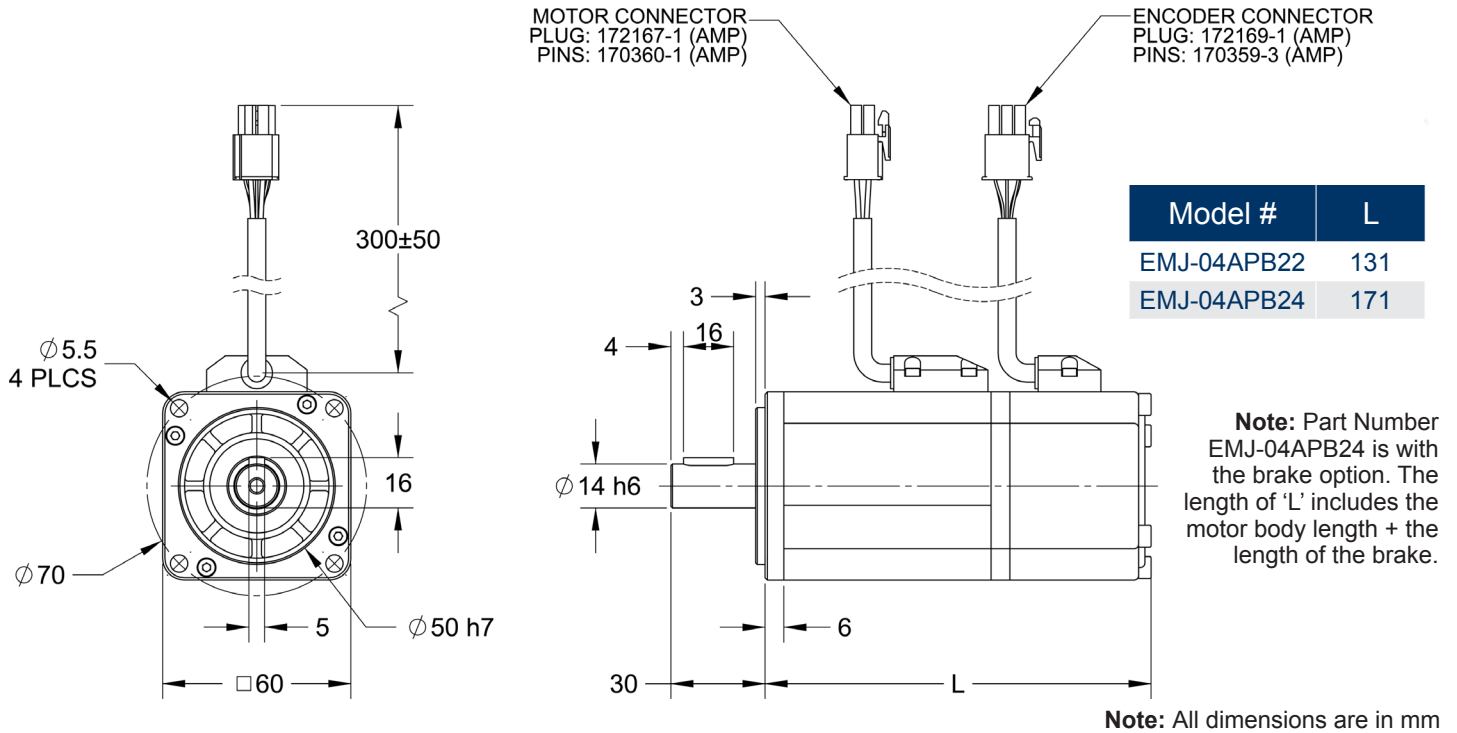
Encoder Cable				
Three-row 15 Pin DB	Two-row 15 pin DB	Signal	External Wire Color	Motor Wire Color
PIN 1	PIN 1	+5V	Red (thick)	Red
PIN 8	PIN 2	A	Orange	Blue-black
PIN 7	PIN 3	B	Yellow	Green
PIN 6	PIN 4	Z	Green	Yellow
PIN 4	PIN 5	U	Brown	Brown-black
PIN 10	PIN 6	V	Purple	White-black
PIN 9	PIN 7	W	Blue	Gray-black
PIN 2	PIN 9	GND	Black (thick)	Black
PIN 13	PIN 10	/A	Orange-White	Blue
PIN 12	PIN 11	/B	Yellow-White	Green-Black
PIN 11	PIN 12	/Z	Green-White	Yellow-Black
PIN 5	PIN 13	/U	Brown-White	Brown
PIN 15	PIN 14	/V	Purple-White	White
PIN 14	PIN 15	/W	Blue-White	Gray
PIN 3 empty	PIN 8 empty	--	--	--
Internal Metal Ring	DB Metal Shell	Shield	Shield	Metal Shell

MOT-005-05-KL		
Cable Color	Signal	PIN #
Yellow	U	PIN 1
Red	V	PIN 2
Black	W	PIN 3
Yellow-green	PE	PIN 4

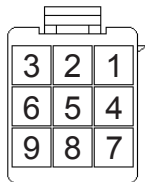
Model		KNC-SRV-SMH60S-0020-30AAK-3LKH KNC-SRV-SMH60S-0020-30ABK-3LKH	KNC-SRV-SMH60S-0040-30AAK-3LKH KNC-SRV-SMH60S-0040-30ABK-3LKH
Length of Motor L (mm)		85.3±1 119±1.5 (with brake)	110.8±1 145±1.5 (with brake)
Position Feedback Device		Incremental Encoder 2500PPR	
Cooling Method		Totally Enclosed, Non-Ventilated	
Protection Level		IP65 for Body, Shaft Sealing IP54	
Temperature		-20°C~40°C	
Humidity		Below 90% RH (No Condensing)	
Environmental Conditions of Operation	Ambient Environment	Away from active gas, combustible gas, oil drops and dust	
	Altitude	Maximum Altitude 4000m, Rated Power at 100m or Below, Above 1000m: Decreasing 1.5% per 100m Rise	

# Servo Motor Specifications (Cont.):

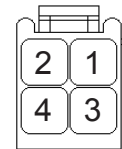
Motor Option	Motor Part Number	Rated Torque (oz-in)	Rated Power (Watts)	Rated Speed (RPM)	Rated Current (A rms)	Max Current (A rms)	Inertia (oz-in-sec <sup>2</sup> )	Electric Time Constant T <sub>E</sub> (ms)	Back EMF Voltage K <sub>E</sub> (V/krpm)	Torque Constant K <sub>T</sub> (oz-in/A)	Resistance (ohms)	Weight (lbs)	Length (L) (mm)
6C	EMJ-02APA22	91	200	3000	1.3	3.9	0.00269	2.391	31.91	79.9	11.0	4.41	123
6D	EMJ-04APB22	180	400	3000	2.7	8.1	0.00439	2.979	31.63	79.9	4.7	5.52	131



Power Requirement: 220VAC	Vibration: 49 m/s <sup>2</sup>	Running Air Pressure: 86 to 106 kPa
Insulation Class: F	Ambient Temperature: 20% to 80% RH	Insulation Voltage Endurance: AC 1800C, 50Hz, 1 min
Ambient Temperature: 0°C to 40°C	Running Humidity: Not More Than 90%, Under 25°C	Insulation Impedance: Not Less Than 50M Under Normal Conditions
Running Temperature: -25°C to 40°C		



Pin No.	Signal	Color
1	A+	BLUE
2	B+	GREEN
3	C+	YELLOW
4	A-	BLUE/BLACK
5	B-	GREEN/BLACK
6	C-	YELLOW/BLACK
7	PG 5V	RED
8	PG 0V	BLACK
9	FG	SHIELD



Pin No.	Signal	Color
1	U	RED
2	V	BLUE
3	W	WHITE
4	FG	GREEN/YELLOW

# Stepper Encoder Specification:

Encoder Cable - CBL-AA4175-10 (Sold Separately)		
Connector PIN #	Color	Function
1	Black	0VDC
2	N/C	---
3	Orange	CH A
4	Red	+5Vdc
5	Yellow	CH B

Parameter	Min	Typ	Max	Units
<b>Supply Current</b>				
CPR < 500, no load	-	27	30	mA
CPR ≥ 500, no load	-	55	57	mA
<b>Output Low (<math>I_{OL} = 8mA</math> max)</b>				
	-	-	0.5	Volts
<b>Output High*</b>				
$I_{OL} = -8mA$ max	2.0	-	-	Volts
no load	4.2	4.8	-	Volts
<b>Output Current Per Channel</b>				
	-8.0	-	8.0	mA
<b>Output Rise Time</b>				
		110		nS
<b>Output Fall Time</b>				
		35		nS

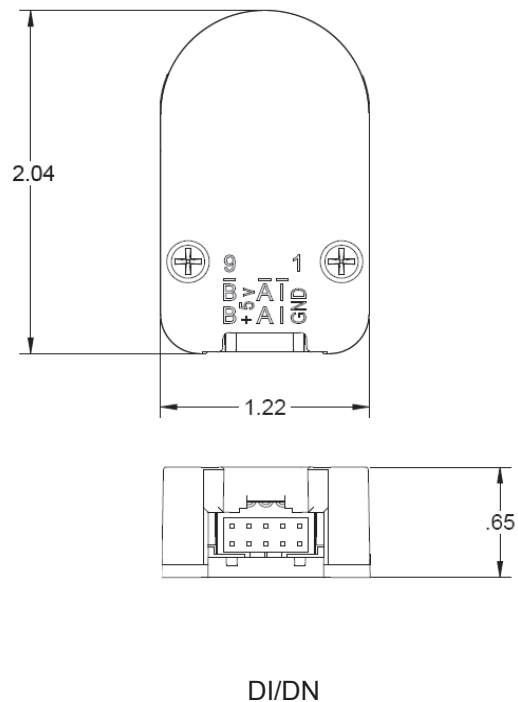
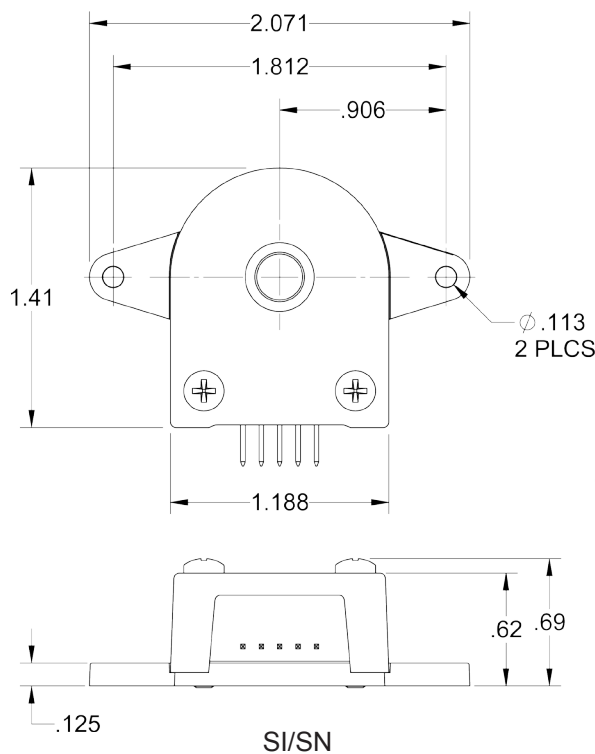
\* Unloaded high level output voltage is 4.80V typically, 4.2V minimum.

Recommended Operating Conditions	Min	Max	Units
Temperature	-40	100	°C
Supply Voltage	4.5	5.5	Volts
Load Capacitance	-	100	pF
Count Frequency	-	100	kHz

Parameter	Description
CPR(N):	The Number of Cycles Per Revolution
One Shaft Rotation:	360 mechanical degrees, N cycles
One Electrical Degree (°e):	1/360th of one cycle
One Cycle (C):	360 electrical degrees (°e). Each cycle can be decoded into 1 or 4 codes, referred to as X1 or X4 resolution multiplication
Symmetry:	A measure of the relationship between (X) and (Y) in electrical degrees, nominally 180 °e
Quadrature (Z):	The phase lag or lead between channels A and B in electrical degrees, nominally 90 °e
Index (CH I):	The Index Output goes high once per revolution, coincident with the low states of channels A and B, nominally 1/4 of one cycle (90°e)

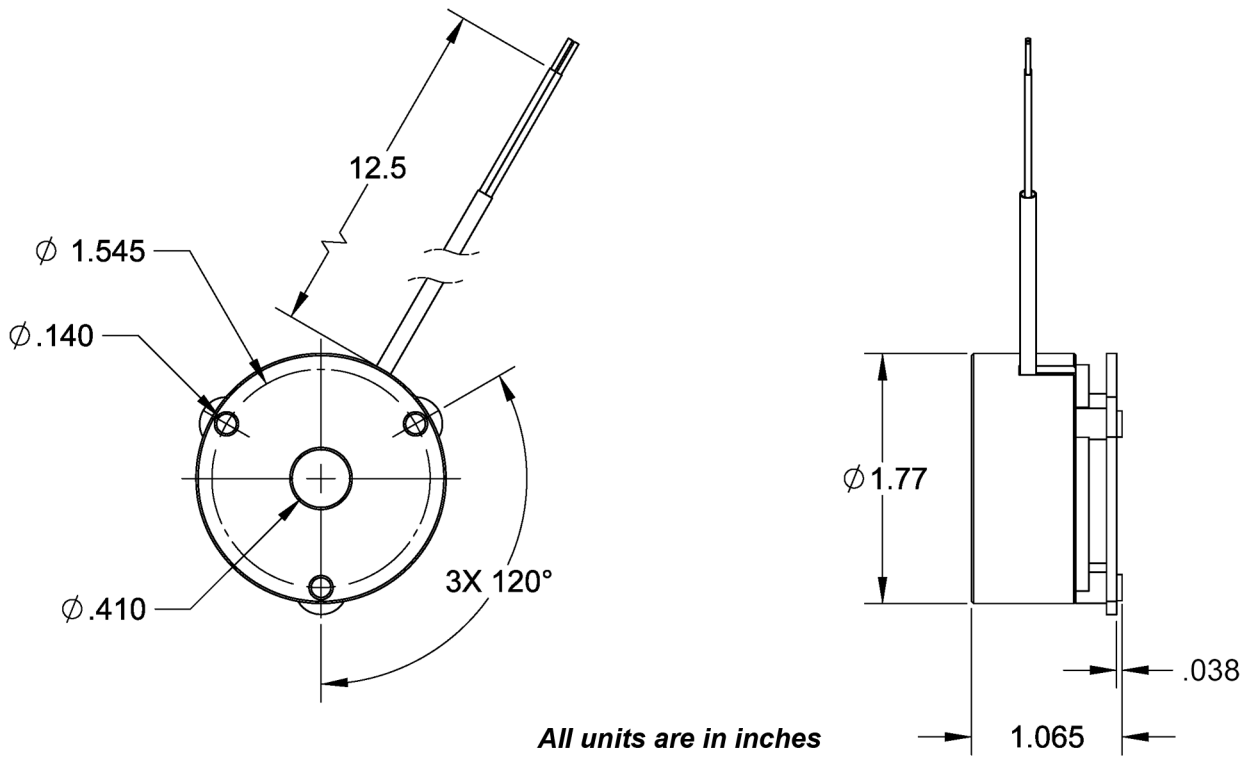
Parameter	Max	Units
Vibration (5 to 2kHz)	20	g
Shaft Axial Play	+/- 0.01	in.
Shaft Eccentricity Plus Radial Play	0.004	in.
Acceleration	250,000	rad/sec <sup>2</sup>

Timing Characteristics	Symbol	Min	Typ	Max	Units
Cycle Error	C	-	3.0	5.5	°e
Symmetry	X,Y	150	180	210	°e
Quadrature	Z	60	90	120	°e
Index Pulse Width	Po	60	90	120	°e
Ch. I Rise After Ch. B or Ch. A Fall	t1	10	100	250	ns
Ch. I Fall After Ch. B or Ch. A Rise	t2	70	150	300	ns

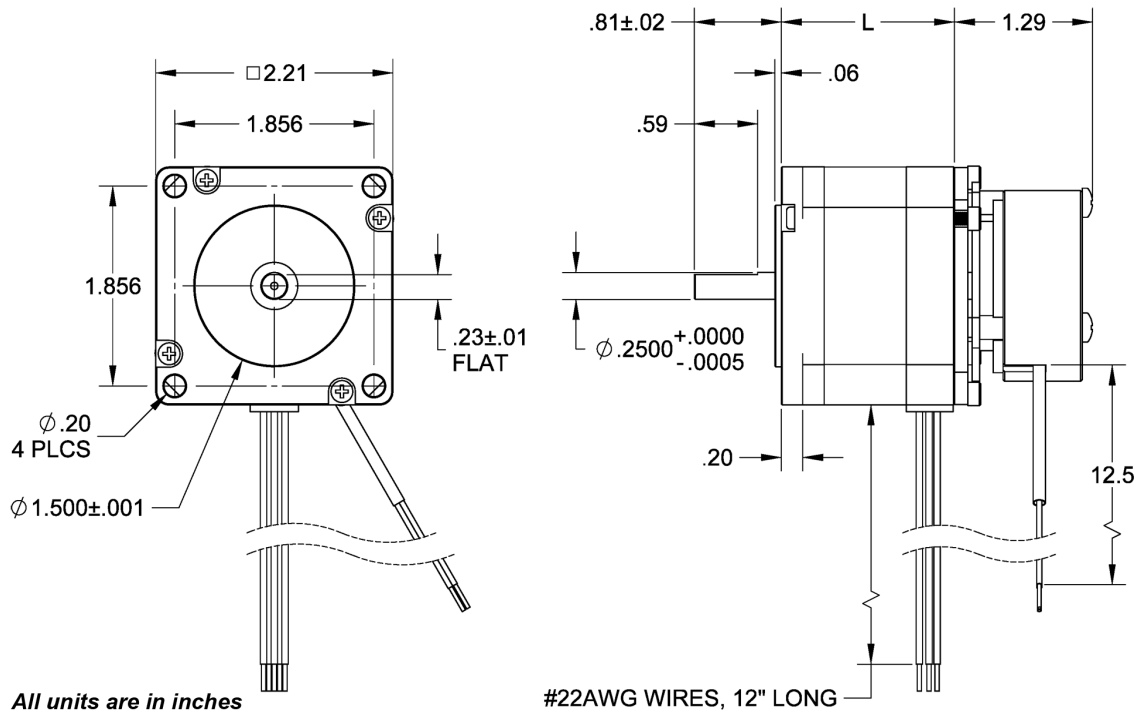


## Stepper Brake Specifications:

Model #	Fits NEMA Size	Bore Size (in)	Maximum Torque (oz-in)	Maximum Torque (in-lb)	Electric Power (Watts)	Current (mA)	Voltage (V)	Diameter (in)	Width (in)	Weight (lbs)
12AE	23	0.250	80	5	7	375	24	1.77	0.890	0.38



## Brake Attached to NEMA 23 Stepper Motor:

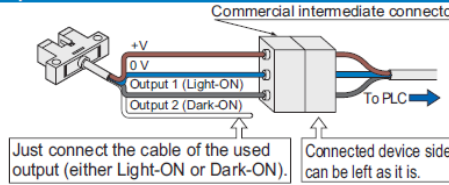


# Limit Switch Specifications:

## Equipped with two independent outputs

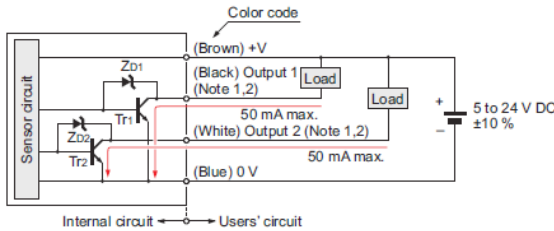
All models are equipped with two independent outputs- Light-ON and Dark-ON. Hence, one model suffices even if the output is to be used differently, depending upon the location of use. Also, since two independent outputs have been provided, cumbersome handling of the output conversion control input, or fear of logic inversion due to a cable break, is eliminated. The sensor can be connected to the existing wiring as it is.

### Example of connection with a commercial intermediate connector



Note: Ensure to insulate the unused output wire.

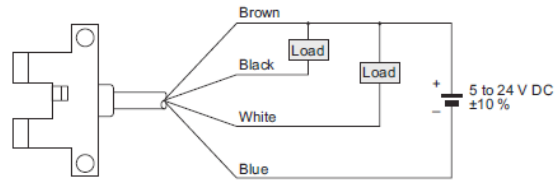
### I/O circuit diagram



Notes: 1) Make sure to connect terminals correctly as the sensor does not incorporate a reverse polarity protection circuit. Further, the output is not incorporated with a short-circuit protection circuit. Do not connect it directly to a power supply or a capacitive load. Faulty wiring may result in damage.  
2) Ensure to insulate the unused output wire.

Symbols ... ZD1, ZD2: Surge absorption zener diode  
Tr1, Tr2 : NPN output transistor

### Wiring diagram



### Output operation

	Color code	Output operation
Output 1	Black	Light-ON
Output 2	White	Dark-ON

Supply voltage	5 to 24 V DC $\pm 10\%$ Ripple P-P 10 % or less		
Current consumption	15 mA or less		
Output	<NPN output type> NPN open-collector transistor	<PNP output type> PNP open-collector transistor	
	<ul style="list-style-type: none"> <li>Maximum sink current: 50 mA</li> <li>Applied voltage: 30 V DC or less (between output and 0 V)</li> <li>Residual voltage: 0.7 V or less (at 50 mA sink current) 0.4 V or less (at 16 mA sink current)</li> </ul>	<ul style="list-style-type: none"> <li>Maximum source current: 50 mA</li> <li>Applied voltage: 30 V DC or less (between output and + V)</li> <li>Residual voltage: 0.7 V or less (at 50 mA source current) 0.4 V or less (at 16 mA source current)</li> </ul>	
	Utilization category	DC-12 or DC-13	
Output operation	Incorporated with 2 outputs: Light-ON / Dark-ON		
Response time	Under light received condition: 20 $\mu$ s or less Under light interrupted condition: 100 $\mu$ s or less (Response frequency: 1 kHz or more) (Note 2)		
Operation indicator	Vermilion LED (lights up under light received condition)		
Environmental resistance	Pollution degree	3 (Industrial environment)	
	Ambient temperature (Note 3, 4)	$-25$ to $+55$ °C $-13$ to $+131$ °F (No dew condensation or icing allowed), Storage: $-30$ to $+80$ °C $-22$ to $+176$ °F	
	Ambient humidity	35 to 85 % RH, Storage: 35 to 85 % RH	
	Ambient illuminance	Fluorescent light: 1,000 lx at the light-receiving face	
	EMC	EN 60947-5-2	
	Voltage withstandability	1,000 V AC for one min. between all supply terminals connected together and enclosure	
	Insulation resistance	50 M $\Omega$ , or more, with 250 V DC megger between all supply terminals connected together and enclosure	
	Vibration resistance	10 to 2,000 Hz frequency, 1.5 mm 0.059 in amplitude in X, Y and Z directions for two hours each	
Shock resistance	15,000 m/s <sup>2</sup> acceleration (1,500 G approx.) in X, Y and Z directions for three times each		
Emitting element	Infrared LED (Peak emission wavelength: 940 nm 0.037 mil, non-modulated)		
Material	Enclosure: PBT, Slit cover: Polycarbonate		
Cable	0.09 mm <sup>2</sup> 4-core cabtyre cable [PM-□24-R: 0.1 mm <sup>2</sup> flexible, oil and heat resistant cabtyre cable (Note 5)], 1 m 3.281 ft long		
Cable extension	Extension up to total 100 m 328.084 ft is possible with 0.3 mm <sup>2</sup> , or more, cable.		
Weight	Net weight: 10 g approx.		

## **Terms and Conditions**

### **Limited Warranty**

All Anaheim Automation products are warranted against defects in workmanship and materials, when used under normal operating conditions and when used in accordance with the factory's specifications. This warranty is in effect for a period of twelve months from the date of purchase, or eighteen months from the date of manufacture, whichever comes first. Anaheim Automation will repair or replace at its' option, any of its products found to be defective and are within the warranty period. Anaheim Automation is not responsible for removal, installation, or incidental expenses incurred in shipping to and from the factory. Anaheim Automation is not liable, under any circumstances, for any consequential, incidental or indirect damages or expenses associated with the warranted product. Product that is damaged due to misuse, abuse, negligence, exposure, accident, improper installation or hook-up, or has been modified or dismantled, is NOT covered under this warranty.

### **Open Accounts**

Anaheim Automation extends credit to Government agencies, industrial and distributor accounts with a good published credit rating. Companies may apply for an open account by filling out Anaheim Automation's Credit Application Form, or by supplying credit information on their company's letterhead to Anaheim Automation's Accounting Department. Credit Information supplied by the buyer, or by others on the customer's behalf, shall become part of the Credit Application and any false or misleading information shall constitute fraud. All orders are shipped prepaid, COD, cash, wire-transfer, VISA or Mastercard, until an open account is established.

### **Payment Terms for Open Accounts**

Terms are Net 30 days. FOB is Anaheim, California.

### **Account Management and Remedies**

In the event it becomes necessary for Anaheim Automation to file suit to enforce payment of past due invoices, such a suit will be brought in Orange County, California. Anaheim Automation shall be entitled to collection of fees, court costs, and interest at 10% per annum or such legal maximum rate as is allowed, on all invoice amounts past due. All purchase agreements are governed by the laws of the State of California.

### **Shipping**

Anaheim Automation ships UPS Ground. If the customer prefers another carrier, or a premium routing method, this information must be clearly stated on the Purchase Order and confirmed, in writing, by Anaheim Automation. The customer must authorize any additional expenses that will incur. If quoted "factory stock," and Anaheim Automation has received a Purchase Order by noon PST, the order will ship the following day. For customers with an urgent request, there exists a possibility to ship later the same day. However, an "expedite fee" is charged, along with any other expenses incurred to fulfill this request.

All promises of shipment or delivery are approximated as closely as possible by Anaheim Automation, but are subject to delivery estimates made by our suppliers, weather conditions, fires, strikes, disputes, accidents, delays in transportation, material, fuel, or labor shortages, or any other cause beyond reasonable control of Anaheim Automation. *In no event will Anaheim Automation assume any responsibility for any delays in shipments or deliveries.*



### **Blanket Orders**

All Blanket Orders must be confirmed with a written Purchase Order, and include scheduled release dates. Any changes to the schedule or the quantity purchased, must be agreed upon by Anaheim Automation, Inc., and a written "Change Order" must be in processed to confirm such changes. **NOTE: Blanket Orders are Non-Cancelable and Non-Returnable.**

### **Shortages or Damages**

All claims for shortages or shipment errors must be made within 15 days after the receipt of the shipment. Anaheim Automation's liability is limited to the value of material value on the invoice. Claims for other loss or damages are filed against the carrier involved in the specific shipment.

### **Discontinued Items**

Items are subject to change or discontinuance without notice. Ask a Customer Service Representative for advice on any possible substitution for your application.

### **Returns (RMA) and Repairs**

Anything being returned to Anaheim Automation must have a RMA (Return Materials Authorization) number assigned by the factory, and it must be referenced on all the paperwork accompanying the return/repair. Items that do not reference the RMA number will not be processed. Do NOT return product using a Debit Memo. No product will be accepted for Credit after 30 days from the date of shipment. Product must be shipped with freight prepaid. ***Special, custom or modified products are Non-Returnable, and no credit shall be offered.***

Product in need of repair must have previous authorization to return it to the factory. It is critical to do so, as the advice the factory can offer is invaluable, and can often save the customer money. The factory will determine upon inspection whether the product is covered under warranty. The factory charges a "flat-rate" fee based on model number, regardless of the problem found. The fee is charged for all returns, including those where no problem is found, as inspection and test is time-consuming.

### **Cancellations and Restocking Charges**

Cancellation of any order must be approved by Anaheim Automation and will be on terms that protect us from any loss. The restocking charge is 15% on all product returned. The minimum restocking charge is \$25.00. Returns must be made within 30 days of receipt of product. Shipping expenses are paid by the customer. All products are subject to factory inspection and must be in resellable condition to receive credit. ***Special, custom and modified products are Non-Returnable and Non-Cancelable.***

### **Engineering or Technical Assistance**

Technical assistance is available at no charge to help the customer in choosing Anaheim Automation products for a specific application. However, any selection, quotation, or application suggestion offered from Anaheim Automation, its' representatives or distributors, are only to assist the customer, and in all cases, determination of fitness for purpose or use are solely the customers' responsibility. While every effort is made to offer solid advice and to produce technical data and illustrations accurately, such advice and documents are for reference only, and subject to change without notice. Programming of product is the customer's responsibility.

**All Sales are made pursuant to the Terms and Conditions herein, are in lieu of any other expressed or implied terms, including but not limited to any implied warranties.**