

Specifications – Encoders



Pictured: MLx23 motor (stack type) with an E3 encoder



Features and Benefits

- All MLS and MLA configurations are available with rear-mounted optical encoders (except for size 8)
- Two channel quadrature square wave outputs with optional third channel index output
- Various cycles per revolution (CPR) or pulses per revolution (PPR) available – from 32 to 10,000 CPR or 128 to 40,000 PPR

Encoders

Motor Size	E2	E3	E5	E6
MLx11	•		•	
MLx14	•		•	
MLx17	•	•	•	•
MLx23		•		•

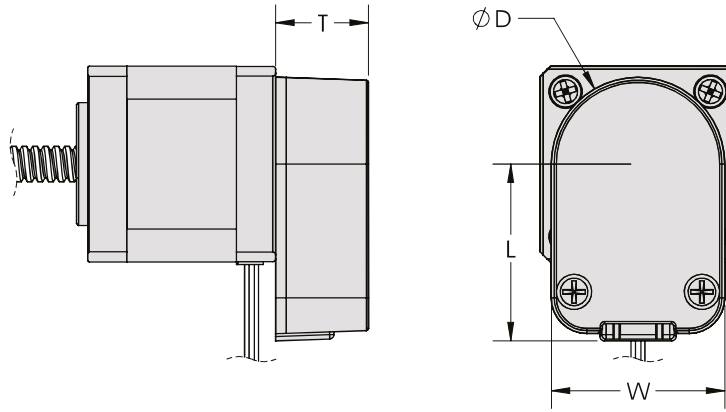
Available Configurations

Motors	Encoder	CPR	Index	Output
MLx11, MLx14, MLx17	E2	32, 50, 96, 100, 192, 200, 250, 256, 360, 400, 500, 512, 540, 720, 900, 1000, 1024, 1250, 2000 ¹ , 2048 ¹ , 2500 ¹ , 4000 ¹ , 4096 ¹ , 5000 ¹	Index or No Index	N/A
MLx17, MLx23	E3	64, 100, 200, 400, 500, 512, 1000, 1024, 1800, 2000, 2048, 2500, 3600 ¹ , 4000 ¹ , 4096 ¹ , 5000 ¹ , 7200 ¹ , 8000 ¹ , 8192 ¹		
MLx11, MLx14, MLx17	E5	32, 50, 96, 100, 192, 200, 250, 256, 360, 400, 500, 512, 540, 720, 900, 1000, 1024, 1250, 2000 ¹ , 2048 ¹ , 2500 ¹ , 4000 ¹ , 4096 ¹ , 5000 ¹	Index or No Index	Single-Ended or Differential
MLx17, MLx23	E6	64, 100, 200, 400, 500, 512, 1000, 1024, 1800, 2000, 2048, 2500, 3600 ¹ , 4000 ¹ , 4096 ¹ , 5000 ¹ , 7200 ¹ , 8000 ¹ , 8192 ¹ , 10000 ¹		

1. CPR available with Index only

Note: Please specify encoder model, CPR, Index and Output (if applicable)

Dimensions – Encoders



Encoder Specifications

Encoder	Dimensions (inch)				Input/Output (VDC)			Operating Temperature (°C)		Acceleration (rad/sec ²)	Mating Connector ²
	T ¹	L	D	W	Min	Typ	Max	Min	Max	Max	US Digital
E2	0.62	0.82	1.19	1.19	4.5	5.0	5.5	-40	100	250,000	CON-C5 CON-LC5
E3		0.57	2.20	1.62							
E5	0.65	1.24	1.22	-40 (CPR<2000) -25 (CPR≥2000)							
E6		1.42	2.22	1.39							

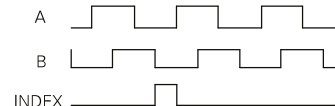
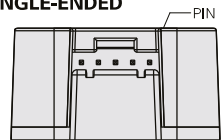
1. MLx17 motor requires mounting plate, which increases dimension T by approximately 0.15 in.
2. All single-ended encoders are 5 pin connections. All differential encoders are 10 pin connections.

Pinouts

Pin	Single-Ended	Differential ³
1	Ground	Ground
2	Index	
3	A Channel	Index-
4	+5 VDC Power	Index+
5	B Channel	A- Channel
6	-	A+ Channel
7	-	+5 VDC Power
8	-	
9	-	B- Channel
10	-	B+ Channel

3. E5 and E6 only

SINGLE-ENDED



DIFFERENTIAL

