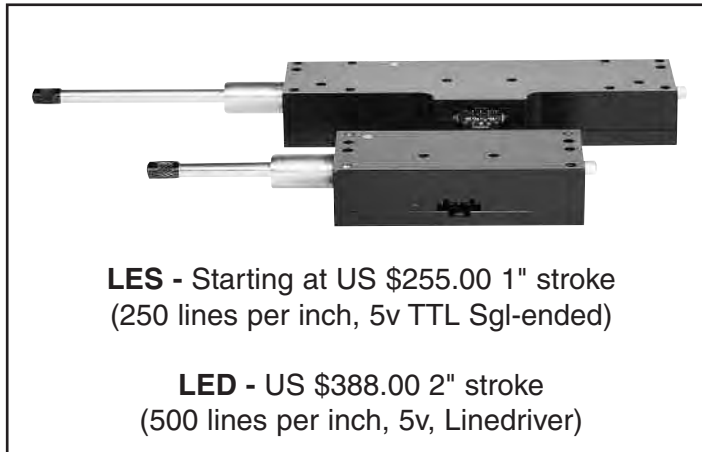


Series LES/LED 1" to 10" Strokes

LINEAR ENCODER (Fully Enclosed) Optical Incremental



LES - Starting at US \$255.00 1" stroke
(250 lines per inch, 5v TTL Sgl-ended)

LED - US \$388.00 2" stroke
(500 lines per inch, 5v, Linedriver)

FEATURES

**WORLD
ENCODERS**

brand, Made in USA

- Resolution 0.001" or 0.0005"
- Fully enclosed Compact Design NEMA 12/IP-56
- Stroke 1" and 2"
- 5v, TTL compatible or 5v linedriver output
- 250, 500 line count per inch
- Std. 3/16" shaft stem with female thread 4-48 UNF-2B x .375 both ends.

SPECIFICATIONS

Mechanical

Plunger Force 1" Version	3-6 oz.
Plunger Force 2" Version	3-9 oz.
Travel 1" Version	1.050 min. in.
Travel 2" Version	2.050 min. in.
Side Load	1 lb.

Electrical

Pulse per Inch	Up to 500 lines per inch
Supply Voltage	5vdc TTL, 5vdc Line Driver
Output Format	Dual Square Wave in Quadrature in 5vdc TTL (Index option) in 5vdc Line Driver (Index Option)
Output Circuit	Line Driver 26C31 (Receiver 26C32 recommended) TTL Output
Supply Voltage	5vdc ±0.5
Current Consumption	88mA Max. No Load
Output Voltage	
Sourcing to +5	Min 2.4v Typ. 3.4v @ -20mA
Sinking to Ground	Typ. 0.2v Max. 0.4v @ 20mA
Frequency Response	100KHz
Cycle Error	Typ. 3.0°, Max 5.5°
Symmetry	Min. 150°, Typ. 180°, Max. 210°
Quadrature & Index Pulse width	Min. 60°, Typ. 90°, Max. 120°

Absolute Max. Ratings

Vibration	Max 20G @ 5-2000Hz
Linear Response	400 in./sec.-250 line per inch

Environmental

Vibration	20G @ 5-2000Hz
Operation Temp.	0-50°C
1" Temp. Coefficient	-0.000036"/°C
2" Temp. Coefficient	-0.000075"/°C
Enclosure	NEMA 12/IP56

Resolutions: (based on X4 quadrature decoding)

Line Count Per Inch	Resolution	Accuracy
250	0.001"	±0.001"
500	0.0005"	±0.0005"

Pin-Out:

Pin	5v L.D.	5v Sgl-ended
1	Ground	Ground
2	Ground	Index Z*
3	Z not*	A ch
4	Z ch*	±5vdc
5	A not	B ch
6	A ch	—
7	+5vdc	—
8	+5vdc	—
9	B not	—
10	B ch	—

(*Index option)

Series LES/LED 1" to 10" Strokes

LINEAR ENCODER (Fully Enclosed) Optical Incremental

Series LES
(5-pin Sgl.-ended)

Series LED
(10-pin Linedriver)

1" Stroke

1" Stroke

2" Stroke

2" Stroke

Series PES/PED Linear Encoder (Fully Enclosed) 1" & 2" Strokes

Model	Linecount per inch	Stroke		
<input type="checkbox"/>	-	<input type="checkbox"/>		
ORDERING INFORMATION				
PES: 5 pin - Sgl-ended TTL compatible	250 500	1 = 1" stroke 2 = 2" stroke		
PED: 10 pin - Linedriver				
PART NUMBER	LIST PRICE	PART NUMBER	CONNECTORS/CABLES	LIST PRICE
5 pin Sgl-ended TTL compatible		CA-3132-1FT	1 ft. 22 AWG wires w/5 pin connector on (1) end	\$ 9.00
PES-250-1	\$255.00	CA-3131-6FT	6 ft. shielded cable w/5 pin connector on (1) end	\$18.00
PES-250-2	\$306.00	CA-4217-6FT	6 ft. shielded cable w/10 pin connector on (1) end	\$24.00
PES-500-1	\$319.00			
PES-500-2	\$370.00			
10 pin Dual Quadrature Linedriver				
PED-250-1	\$273.00			
PED-250-2	\$324.00			
PED-500-1	\$337.00			
PED-500-2	\$388.00			

Std. Stock Items: Ship Immediately. *Lead Time: 5 - 7 days to ship.

NEW! We announce Series LES/LED early Spring 2012.

Series LES/LED Linear Encoder (Fully Enclosed) 1" to 10" Strokes

Model	Linecount per inch	Stroke		
<input type="checkbox"/>	-	<input type="checkbox"/>		
ORDERING INFORMATION				
LES: 5 pin - Sgl-ended TTL compatible	250 500	1 = 1" stroke 6 = 6" stroke 2 = 2" stroke 8 = 8" stroke 4 = 4" stroke 10 = 10" stroke		
LED: 10 pin - Linedriver				
PART NUMBER	LIST PRICE	PART NUMBER	CONNECTORS/CABLES	LIST PRICE
5 pin Sgl-ended TTL compatible		CA-3132-1FT	1 ft. 22 AWG wires w/5 pin connector on (1) end	\$ 9.00
LES-250-1	\$255.00	CA-3131-6FT	6 ft. shielded cable w/5 pin connector on (1) end	\$18.00
LES-250-2	\$306.00	CA-4217-6FT	6 ft. shielded cable w/10 pin connector on (1) end	\$24.00
LES-250-4	\$430.00			
LES-250-6	\$554.00			
LES-250-8	\$678.00			
LES-250-10	\$802.00			
LES-500-1	\$273.00			
LES-500-2	\$370.00			
LES-500-4	\$494.00			
LES-500-6	\$618.00			
LES-500-8	\$742.00			
LES-500-10	\$866.00			
10 pin Dual Quadrature Linedriver				
LED-250-1	\$273.00			
LED-250-2	\$324.00			
LED-250-4	\$457.00			
LED-250-6	\$590.00			
LED-250-8	\$723.00			
LED-250-10	\$856.00			
LED-500-1	\$337.00			
LED-500-2	\$388.00			
LED-500-4	\$521.00			
LED-500-6	\$654.00			
LED-500-8	\$787.00			
LED-500-10	\$920.00			

*Lead Time: 2 - 3 weeks to ship.

Cables/Colors

CA3131-6 FT (5 pin-Sgl-ended)

PIN #	Channel	Color
1	GRD	Black
2	Z	Green
3	A	White
4	5V	Red
5	B	Brown

CA4217-6 FT (10 pin-L.D.)

PIN #	Channel	Color
1	GRD	Drain (connected on one end)
2	GRD	Green w/White Stripe
3	Z not	White w/Orange Stripe
4	Z	Orange w/White Stripe
5	A not	White w/Blue Stripe
6	A	Blue w/White Stripe
7	5V	White w/Green Stripe
8	—	—
9	B not	White w/Brown Stripe
10	B	Brown w/White Stripe

Due to circumstances beyond World Encoders' control, small quantities of In-Stock items will be shipped immediately, and lead time on Non-Stock items is up to a few weeks.