

Model LCE



Features

- Low Cost Linear Solution
- Resolutions from 2 to 500 Cycles Per Inch
- IP65 Sealing Available
- 0 Inch to 50 Inch Cable Measurement

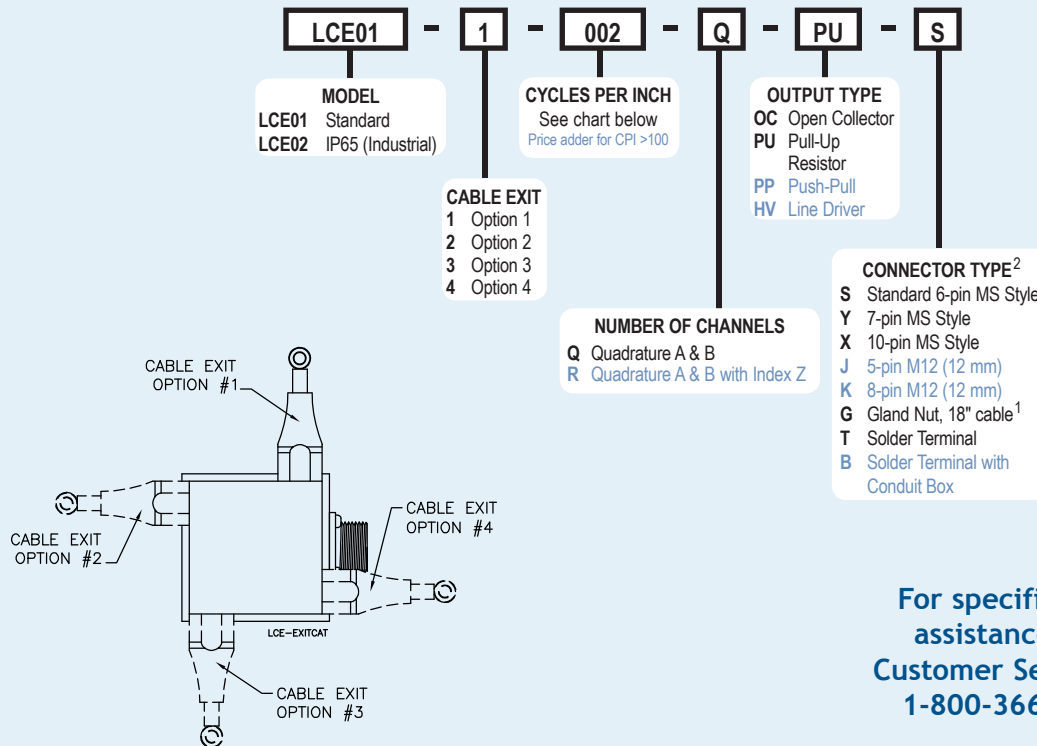
The Linear Cable Encoder (LCE) provides a low cost alternative for obtaining accurate linear measurements. As opposed to typical rotary shaft style encoders, the LCE has a retractable stainless steel cable, allowing for numerous and unusual measuring configurations. Placing the LCE away from harsh environmental conditions, while still providing precise measurements, gives the LCE an outstanding advantage over shaft style encoders. Installation is easy with a variety of cable exit directions, and perfect parallel alignment no longer necessary. The heart of the LCE is the popular Cube Accu-Coder™, the finest cube style encoder available. The Cube advantage provides a reliable digital pulse train in either single channel or quadrature format, with resolutions down to 0.002" per cycle. The small overall size, a variety of resolutions, and many different connector types, makes the versatility of the LCE unbeatable!

Common Applications

Robotics, Extrusion Presses, Valve Positioning, Textile Machinery, Control Gate Positioning

Model LCE Ordering Guide

Blue type indicates price adder options. Not all configuration combinations may be available. Contact Customer Service for details.



For specification assistance call
 Customer Service at
 1-800-366-5412

Model LCE Resolution Table

Cycles Per Inch	002	020	040	050	100	200	250	500
Resolution	0.500"	0.050"	0.025"	0.020"	0.010"	0.005"	0.004"	0.002"

Contact Customer Service for other resolutions

NOTES:

- 1 For non-standard cable lengths, add a forward slash (/) plus cable length expressed in feet. Example: G/6=6 feet of cable.
- 2 For Mating Connectors, Cables, and Cordsets see Electrical Accessories on the web at www.encoder.com.

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Model LCE Specifications

Electrical

- Input Voltage.....4.75 to 28 VDC max for temperatures up to 85° C
4.75 to 24 VDC for temperatures between 85° and 100° C
- Input Current.....80 mA maximum with no output load
- Input Ripple100 mV peak-to-peak at 0 to100 kHz
- Output FormatIncremental- Square wave with channel A leading B during linear extension
- Output Type.....Open Collector- 250 mA max per channel
Pull-Up- 250 mA max per channel
Push-Pull- 20 mA max per channel
Line Driver- 20 mA max per channel (Meets RS 422 at 5 VDC supply)
- IndexOnce per 5" cable extension or retraction
- Max Frequency.....0 to 125 kHz
- Quadrature67.5° electrical or better is typical, 54°
- Edge Separationelectrical minimum at temperatures > 99° C
- Rise Time.....Less than 1 microsecond

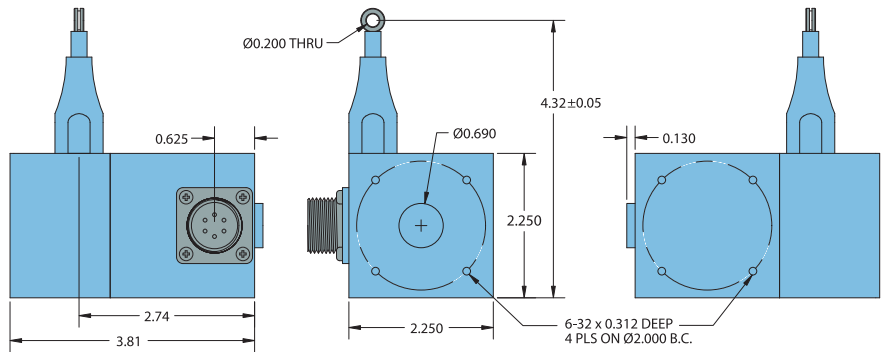
Mechanical

- Full Stroke
- Length (FSL).....50" standard. Longer measuring ranges may Length (FSL) be available, please contact Customer Service.
- FinishBlack powder coated aluminum
- Accuracy±0.10% of FSL
- Repeatability.....±0.015% of FSL
- Linear ResolutionUp to 500 cycles per inch (0.002" per cycle)
- Cable Material0.034" nylon coated stainless steel rope
- Cable Tension.....20 oz maximum typical
- Life (cycles)1,000,000 predicted at zero angle cable exit
- Electrical Conn6-, 7-, or 10-pin MS Style, 5-, or 8-pin M12 (12 mm), Gland with 18" cable (foil and braid shield, 24 AWG conductors), Solder Terminal, or Solder Terminal with conduit box
- Weight.....19 oz typical

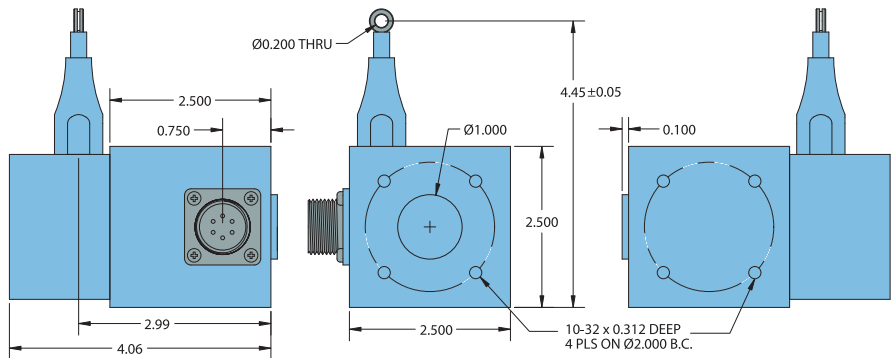
Environmental

- Operating Temp.....0° to 85° C, or 0° to 100° C for 5-24 VDC
- Sealing.....IP65 for Industrial LCE

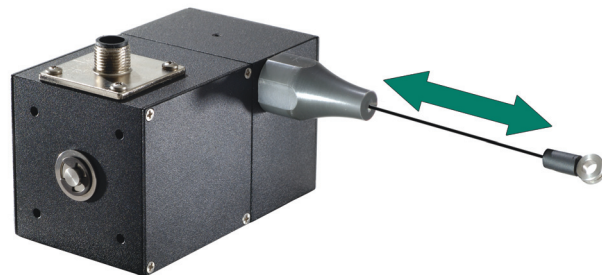
Model LCE Standard Housing (LCE01)



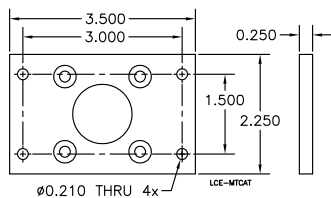
Model LCE IP65 Industrial Housing (LCE02)



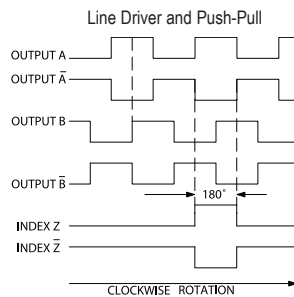
All dimensions are in inches with a tolerance of ±0.005" or ±0.01" unless otherwise specified



Optional Mounting Plate
Attaches to Standard or Industrial LCE in three different orientations.
Order Accessory Item 176064-01

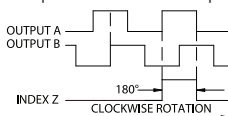


Waveform Diagrams



NOTE: ALL DEGREE REFERENCES ARE ELECTRICAL DEGREES
NOTE: PUSH-PULL OUTPUT DOES NOT INCLUDE COMPLEMENTARY CHANNELS

Open Collector and Pull-Up



Wiring Tables

Function	Gland Cable Wire Color	5-pin M12	8-pin M12	10-pin MS	7-pin MS HV	7-pin MS O, S PP	6-pin MS HV No Index	6-pin MS O, S PP	Term. Block HV No Index	Term. Block O, S PP
Com	Black	3	7	F	F	F	A	A, F	1	1, 6
+VDC	Red	1	2	D	D	D	B	B	2	2
A	White	4	1	A	A	A	C	D	3	4
A'	Brown	---	3	H	C	---	D	---	4	---
B	Blue	2	4	B	B	B	E	E	5	5
B'	Violet	---	5	I	E	---	F	---	6	---
Z	Orange	5	6	C	---	C	---	C	---	3
Z'	Yellow	---	8	J	---	---	---	---	---	---
Case	Green ¹	---	---	G	G	G	---	---	---	---
Shield	Bare	---	---	---	---	---	---	---	---	---