

LX-EP SERIES

TWO CHANNEL DIGITAL OUTPUT



The UniMeasure LX-EP Series linear position transducer with digital output is a low cost, compact device for use in light to moderate duty applications in dry environments. The plastic bodied device is ideal for high volume OEM situations where cost is a major consideration and in applications where small size or low weight are of paramount importance.

The sensing element in the LX-EP is an optical incremental encoder with electrical outputs consisting of two square wave, TTL level output channels in quadrature. Each output channel is open collector, current sinking with an internal 5.4KΩ pullup resistor.

The electrical connection to the LX-EP is a common configuration with five pins of .025" (.64 mm) square shape on .100" (2.54 mm) centers. An accessory electrical cable offered in various lengths is available.

SPECIFICATIONS

General

Measurement Ranges..... See Table 2
 Sensing Device Incremental Optical Encoder
 Resolution See Table 2
 Linearity ±0.10% of Full Scale
 Repeatability ±0.015% of Full Scale
 Construction Thermoplastic Body
 Wire Rope Ø.018 (0.46 mm) Jacketed Stainless Steel
 Wire Rope Tension See Table 2
 Weight 3 oz. (85 gm)
 Connector025" (.64 mm) square pins on .10" (2.54 mm) centers
 Dimensional Information See Supplemental Data¹
 Life
 Ranges 10" to 25" 2,000,000 full stroke cycles
 Ranges 30" to 50" 1,000,000 full stroke cycles

Electrical

Excitation Voltage 5.00 ± 0.25 VDC
 Excitation Current 30 mA max.
 Output Two channel square wave in quadrature, TTL level current sinking with 5.4KΩ pullups

Environmental

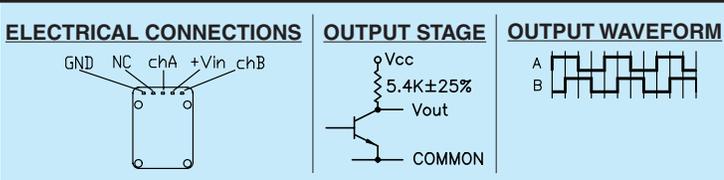
Operating Temperature -40°C to 75°C
 Storage Temperature -40°C to 85°C
 Operating Humidity 95% R.H. max. non-condensing
 Vibration 5G
 Shock 50G
 Ingress Protection NEMA 1 (IP-40)

TABLE 2

MODEL NO.	RANGE		RESOLUTION		TOLERANCE ON RESOLUTION (See Note 2)	NOMINAL CABLE TENSION	
	(inch)	(mm)	counts/inch	counts/mm (See Note 1)		(oz)	(N)
LX-EP-10	10	250	113.5	4.46	±.50%	16	4.4
LX-EP-15	15	380	82.5	3.25	±.35%	14	3.9
LX-EP-20	20	500	62.3	2.45	±.35%	11	3.1
LX-EP-25	25	625	50.4	1.98	±.35%	8	2.2
LX-EP-30	30	750	82.5	3.25	±.35%	14	3.9
LX-EP-40	40	1000	62.3	2.45	±.35%	11	3.1
LX-EP-50	50	1250	50.4	1.98	±.35%	8	2.2

NOTES

- Resolution shown is for times one counting mode. Resolution may be increased by a factor of four with interface electronics capable of quadrature times 4 counting mode.
- Resolution shown is a calculation based upon the capstan diameter, wire rope diameter and line count of the encoding device. Tolerance on resolution accounts for resolution differences from unit to unit due to manufacturing tolerances on the capstan and wire rope. In practice, the output count in a given unit of travel is an integer.



Model Number Configuration

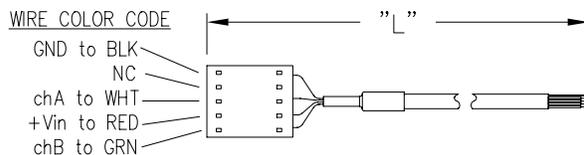
LX-EP-

Range	
10	10" (250 mm)
15	15" (390 mm)
20	20" (500 mm)
25	25" (640 mm)
30	30" (750 mm)
40	40" (1000 mm)
50	50" (1250 mm)

Note: For mating connector with electrical cable see Accessory 10172.

Example
LX-EP-40

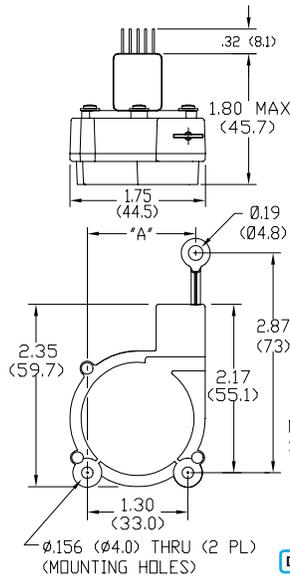
ACCESSORY—10172 ELECTRICAL CABLE (LX-EP ONLY)



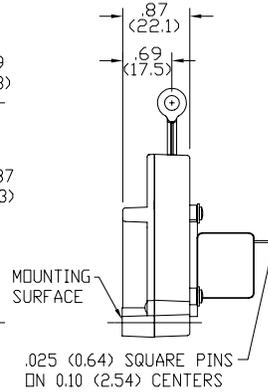
Part No.	Dim "L"
10172-1M	1 m (3 ft)
10172-2M	2 m (6.5 ft)
10172-3M	3 m (10 ft)
10172-4M	4 m (13.5 ft)
10172-5M	5 m (16.5 ft)

DIMENSIONAL INFORMATION

LX-EP



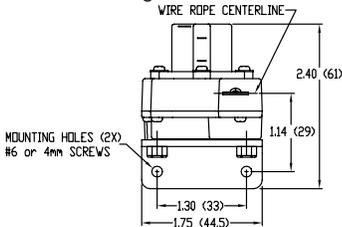
RANGE	Dim "A" (inch)	Dim "A" (mm)
10"	1.01	25.7
15", 30"	1.14	29.0
20", 40"	1.30	33.0
25", 50"	1.46	37.1



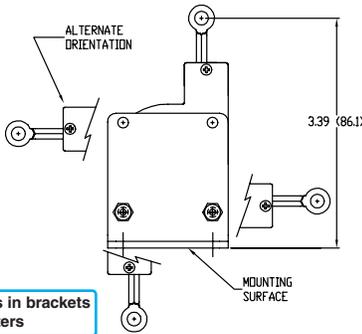
Dimensions in brackets are millimeters

ACCESSORY—10346 RIGHT ANGLE MOUNTING BRACKET

The Right Angle Mounting Bracket serves as a base for mounting the LX transducer perpendicular to a surface. The transducer may be mounted in any of four different wire rope exit orientations when mounted on the outside of the bracket (see figure) or any of three orientations when placed above the bracket mounting holes. Order model number: **10346**.



10346 Right Angle Mounting Bracket

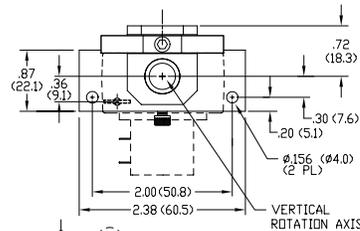


With Transducer Mounted

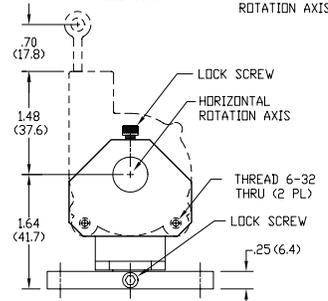
Dimensions in brackets are millimeters

ACCESSORY—10156 TWO AXIS SWIVEL BASE

With a capability of 360° rotation about the vertical axis and 245° rotation about the horizontal axis, the 10156 Two Axis Swivel Base allows easy setup of the LX-PA or the LX-EP transducer. The axes may be locked in place after the transducer is oriented. Ideal for quick setups. Order model number: **10156**.



10156 Two Axis Swivel Base

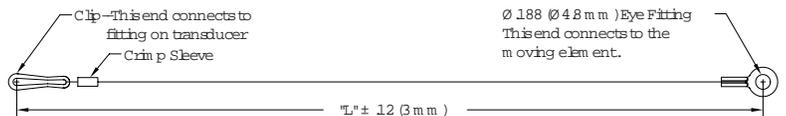


With Transducer Mounted

Dimensions in brackets are millimeters

ACCESSORY—10067 AUXILIARY WIRE ROPE EXTENSION KIT

The auxiliary wire rope extension may be used to facilitate mounting the transducer remotely from the measurement point. The clip on the extension attaches to the eye fitting on the transducer. The eye fitting on the opposite end, which is identical to the fitting on the transducer, mounts to the moving element. The extension kit is also available with the clip end unterminated for situations where it is more convenient to size the wire rope length during installation. Clip and crimp fitting are included with the unterminated version.



10067- CM-

Dimension "L"
Specify dimension "L" in centimeters to the nearest whole centimeter.

Note 1. 1 cm = 0.394", 1 inch = 2.54 cm
Note 2. Shortest length "L" is 5 cm (approximately 2").

*..... Completed kit (no designator required)
U..... Unterminated clip end (clip and crimp sleeve included in kit)

* Leave blank. No designator required.