

LX-EM SERIES

HALL EFFECT DIGITAL OUTPUT

The UniMeasure LX-EM 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 and weight are of paramount importance. The sensing element in the LX-EM is a non-contact robust magnetic hall effect device. The standard output is a push-pull line driver from a 7272 IC where the magnitude of the output voltage pulse approximates the input voltage. The output is capable of sourcing and sinking up to 20 mA per channel. When operated with a 5 VDC excitation voltage the output is RS-422A compliant. The LX-EM is available with two channel (A & B) or four channel (A, B, A0, & B0) configuration. Various lengths of electrical cable are also offered.



SPECIFICATIONS

GENERAL

Measurement Ranges See Table 2
 Sensing Device..... Non-contact Hall Effect Device
 Resolution See Table 2
 Linearity..... $\pm 0.10\%$ of Full Scale
 Repeatability..... $\pm 0.015\%$ of Full Scale
 Construction..... Thermoplastic Body
 Wire Rope..... $\varnothing 0.018$ (0.46 mm) NJC
 Wire Rope Tension See Table 2
 Weight 3 oz. (85 gm)
 Electrical Connection Electrical cable, Optional Connector on remote end of cable
 Dimensional Information..... See Supplemental Data
 Life
 Ranges 16" 2,000,000 full stroke cycles
 Ranges 50" 1,000,000 full stroke cycles

ENVIRONMENTAL

Operating Temperature..... -20°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 IP-40 (NEMA 1)

ELECTRICAL

Excitation Voltage..... 4.9 TO 28 VDC
 Excitation Current..... 50 mA max.
 Output Voltage =Excitation Voltage
 Output
 2 channel..... Quadrature square wave push/pull
 20 mA Max. source/sink
 4 channel..... Quadrature square wave push/pull
 20 mA Max. source/sink
 RS-422 A compatible @ 5 VDC Input

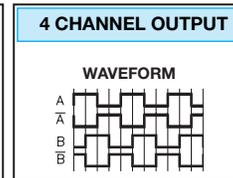
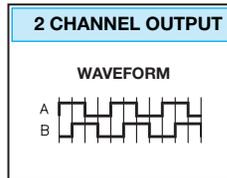


TABLE 2

MODEL	RANGE		RESOLUTION ¹		RESOLUTION TOLERANCE	NOMINAL WIRE ROPE TENSION	
	(inch)	(mm)	counts/inch	counts/mm		(oz)	(N)
LX-EM-16	16	400	454	17.87	$\pm .50\%$	16	4.4
LX-EM-50	50	1250	201.6	7.94	$\pm .35\%$	6	1.7

1. 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.

MODEL NUMBER CONFIGURATION

LX-EM- 0 - 1 - 2 - 3 - 4 - 5 - 6

BASIC CONFIGURATION (FOR ALL RANGES)

LX-EM-50-N72N-11N

0 RANGE
 16..... 16" (406 mm)
 50..... 50" (1250 mm)

1 WIRE ROPE
 N..... $\varnothing 0.018$ (0.45 mm)
 Nylon Jacketed
 Stainless Steel
 S..... $\varnothing 0.016$ (0.4 mm)
 Stainless Steel

2 ELECTRICAL OUTPUT
 72..... Push-pull (7272), 2 channel
 74..... Push-pull differential line drive (7272), 4 channel

3 N..... Required Designator

4 ELECTRICAL CONNECTION LOCATION

- Electrical Exit Location 1
- Electrical Exit Location 2
- Electrical Exit Location 3

5 ELECTRICAL CABLE

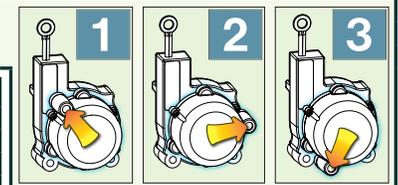
- P 150 mm (6") pigtail
- 1 m (3')
 - 2 m (6.5')
 - 3 m (10')
 - 4 m (13.5')
 - 5 m (16.5')

6 CONNECTOR

- N..... No Connector
 C..... Cable to Cable Connector w/ Mating Connector
 K..... Cable to Cable Connector w/ **NO** Mating Connector

For option "K", electrical cable with mating connector may be ordered separately as item number **10325-xM**, where "x" is the required length in meters.

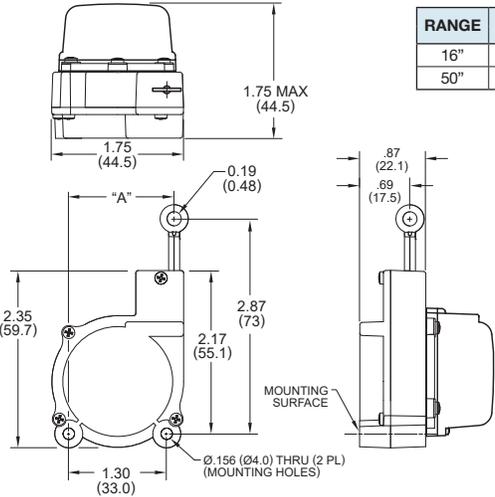
- Cable to cable connector does not connect cable shield/drain wire.



LX-EM SERIES SUPPLEMENTAL DATA

DIMENSIONAL INFORMATION

LX-EM Series



RANGE	DIM "A"	
	(inch)	(mm)
16"	1.01	25.7
50"	1.46	37.1

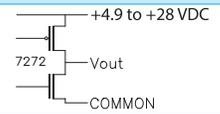
Dimensions in brackets are millimeters

ELECTRICAL INFORMATION

OUTPUT

4.9 to 28 VDC Push-Pull Differential Line Drive
Push-Pull, current sourcing and current sinking output.
Input Voltage: 4.9 to 28 VDC.

OUTPUT STAGE



2 CHANNEL OUTPUT

WAVEFORM



4 CHANNEL OUTPUT

WAVEFORM

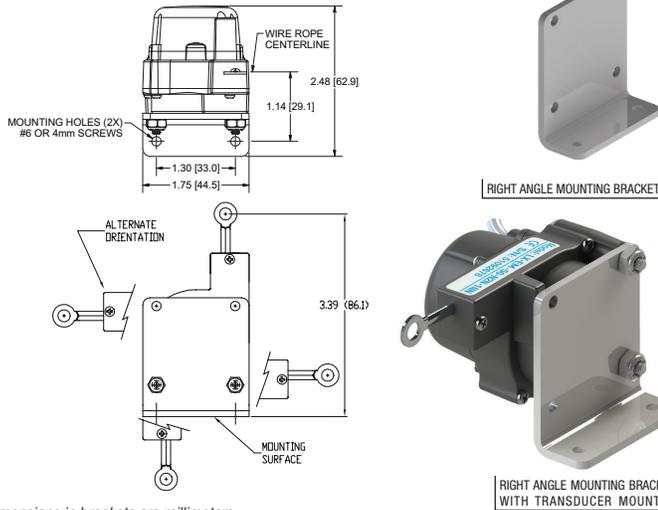


ACCESSORIES

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.

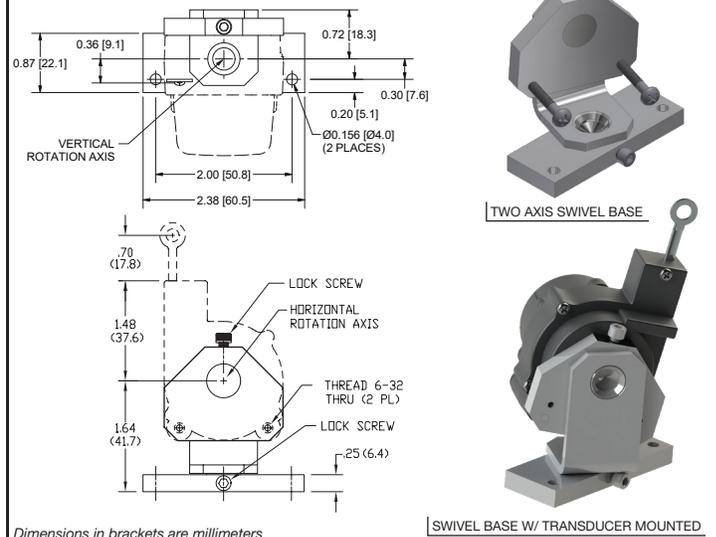
ORDER MODEL NUMBER: 10346



Dimensions in brackets are millimeters

10156 - TWO AXIS SWIVEL BASE

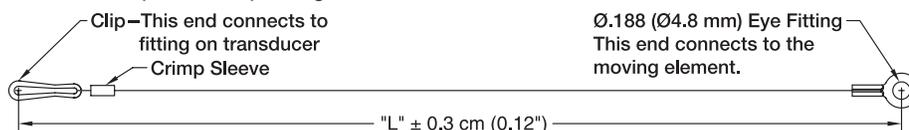
With a capability of 360° rotation about the vertical axis and 245° rotation about the horizontal axis, the 10156 Two Axis Swivel Base allows easy setup for all LX Series transducers. The axes may be locked in place after the transducer is oriented. Ideal for quick setups. **ORDER MODEL NUMBER: 10156**



Dimensions in brackets are millimeters

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- 1 -CM- 2

- DIMENSION "L"**
Specify Dimension "L" in centimeters to the nearest whole centimeter
NOTES: 1. 1 cm = 0.394", 1 inch = 2.54 cm
2. Shortest length "L" is 5 cm (approximately 2")
- UNTERMINATED CLIP END**
Leave Blank.... Completed kit (No designator required)
U Unterminated Clip End (clip and crimp sleeve included in kit)