

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	±0.10% of Full Scale
Repeatability.....	±0.015% of Full Scale
Construction.....	Thermoplastic Body
Wire Rope.....	Ø.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

2 CHANNEL OUTPUT



4 CHANNEL OUTPUT



TABLE 2

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

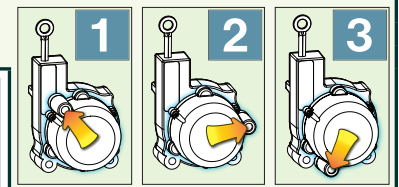
LX-EM- 0 1 2 3 4 5 6

BASIC CONFIGURATION (FOR ALL RANGES)

LX-EM-50-N72N-11N

0 RANGE	1 WIRE ROPE
16..... 16" (406 mm)	N..... Ø.018 (0,45 mm) Nylon Jacketed Stainless Steel
50..... 50" (1250 mm)	S..... Ø.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	5 ELECTRICAL CABLE
1..... Electrical Exit Location 1	P 150 mm (6") pigtail
2..... Electrical Exit Location 2	1..... 1 m (3')
3..... Electrical Exit Location 3	2..... 2 m (6.5')
	3..... 3 m (10')
	4..... 4 m (13.5')
	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.	
2. Cable to cable connector does not connect cable shield/drain wire.	

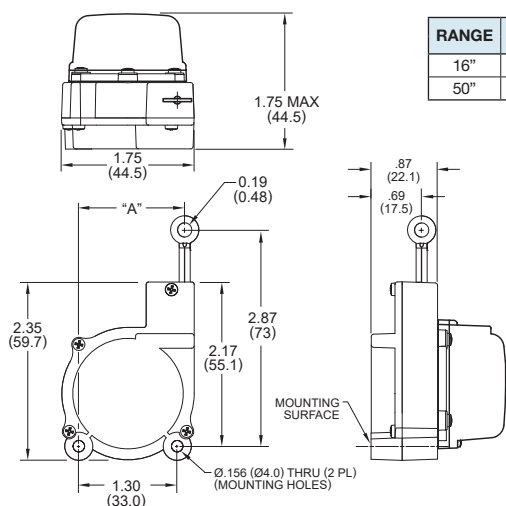


LX-EM SERIES

SUPPLEMENTAL DATA

DIMENSIONAL INFORMATION

LX-EM Series



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

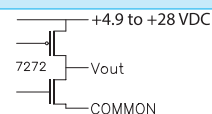
Dimensions in brackets are millimeters

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

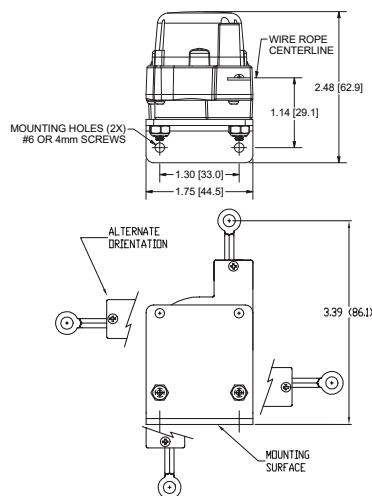


ACCESSORIES

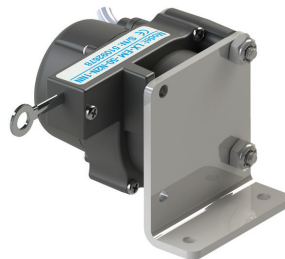
10346 – RIGHT ANGLE MOUNTING BRACKET

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



RIGHT ANGLE MOUNTING BRACKET

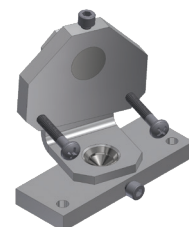
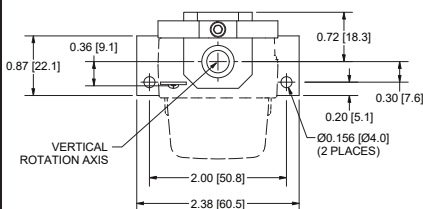


RIGHT ANGLE MOUNTING BRACKET WITH TRANSDUCER MOUNTED

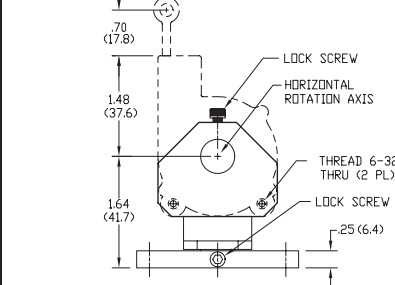
Dimensions in brackets are millimeters

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**



TWO AXIS SWIVEL BASE

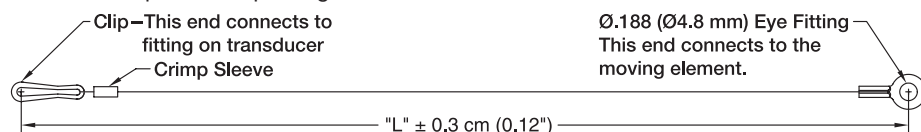


SWIVEL BASE W/ TRANSDUCER MOUNTED

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- -CM-

1

2

1

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")

2

UNTERMINATED CLIP END

Leave Blank.... Completed kit (No designator required)

U Unterminated Clip End
(clip and crimp sleeve included in kit)