PM Instrumentation

LX-PA

Low-Cost Ratiometric Voltage Output

UniMeasure

The **UniMeasure LX-PA Series** linear position transducer with analog output is a low cost, compact alternative 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. Model LX-PA is available in eleven different measurement ranges with a maximum range of 50" (1250 mm). The output is voltage from a potentiometric voltage divider circuit. In the basic configuration, the electrical connections are made directly to the contacts on the potentiometer of the unit. Electrical cable and a cover for the potentiometer are optionally available. Standard potentiometer value is 1K ohm with optional values of 5K and 10K ohm available.

SPECIFICATIONS

GENERAL

- Measurement Ranges ..... See Table 1
- Sensing Device ..... Precision Potentiometer
- Resolution ..... Essentially Infinite
- Linearity
  - 2", 2.8", 3.8" 4.7" ranges ..... ±1.0% Full Scale
  - 10" to 25" ranges ..... ±0.5% Full Scale
  - 30" to 50" ranges ..... ±0.25% Full Scale
- Repeatability ..... ±0.03% Full Scale
- Construction ..... Thermoplastic Body
- Cable ..... Ø.018 (0.46 mm) Jacketed Stainless Steel
- Wire Rope Tension ..... See Table 1
- Weight ..... 3 oz. (85 gm)
- Connections ..... Solder terminals
- Dimensional Information ..... See Supplemental Data[1]
- Life
  - Ranges to 4.7" ..... 1,000,000 full stroke cycles
  - Ranges 10" to 25" ..... 250,000 full stroke cycles
  - Ranges 30" to 50" ..... 125,000 full stroke cycles

ENVIRONMENTAL

- Operating Temperature ..... -25°C to 75°C
- Storage Temperature ..... -50°C to 80°C
- Operating Humidity ..... 95 R.H. max. non-condensing
- Vibration ..... 15 G's 0.1 ms max.
- Shock ..... 50 G's 0.1 ms max.
- Ingress Protection ..... IP-40 (NEMA 1)

ELECTRICAL

- Input Impedance ..... 1000 Ω ±15%
- Output Impedance ..... 0 to 1000 Ω
- Excitation Voltage ..... 30 Volts max. AC or DC

CIRCUIT DIAGRAM

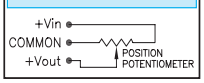


TABLE 1

MODEL	RANGE (inch)	RANGE (mm)	NOMINAL OUTPUT[2] AT 1 VDC INPUT VOLTAGE (mV/in)	NOMINAL OUTPUT[2] AT 1 VDC INPUT VOLTAGE (mV/mm)	NOMINAL WIRE ROPE TENSION (oz)	NOMINAL WIRE ROPE TENSION (N)
LX-PA-2	2	50	469	18.5	16	4.4
LX-PA-2.8	2.8	70	341	13.4	10	2.8
LX-PA-3.8	3.8	96	258	10.1	8	2.2
LX-PA-4.7	4.7	120	207	8.1	6	1.7
LX-PA-10	10	250	88	3.5	16	4.4
LX-PA-15	15	380	64	2.5	10	2.8
LX-PA-20	20	500	49	1.9	8	2.2
LX-PA-25	25	625	39	1.5	6	1.7
LX-PA-30	30	750	32	1.3	10	2.8
LX-PA-40	40	1000	24	1.0	8	2.2
LX-PA-50	50	1250	20	0.8	6	1.7

FOOTNOTES TO SPECIFICATIONS

1. Supplemental Data section located at end of LX Series pages.
2. To Calculate nominal output in application, multiply nominal ouput shown by excitation voltage of application.

MODEL NUMBER CONFIGURATION

LX-PA - (0) - (1)(2)(3) - (4)(5)(6)

BASIC CONFIGURATION (FOR ALL RANGES)

LX-PA-50-N1N-NNN

(0) RANGE

2	2" (50 mm)
2.8	2.8" (70 mm)
3.8	3.8" (96 mm)
4.7	4.7" (120 mm)
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)

(1) WIRE ROPE

- **N** ..... Ø.018 (0,45 mm) Nylon Jacketed Stainless Steel
- **S** ..... Ø.016 (0,4 mm) Stainless Steel

(2) POTENTIOMETER VALUE

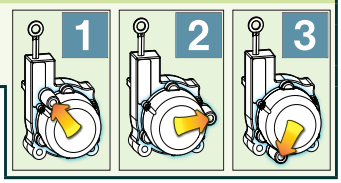
- **1** ..... 1K ohm
- **3** ..... 5K ohm
- **4** ..... 10K ohm

(3)

- **N** ..... Required Designator

(4) COVER & ELECTRICAL CONNECTION LOCATION

- **N** ..... No Cover
- **1** ..... Cover, w/ Electrical Exit Location **1**
- **2** ..... Cover, w/ Electrical Exit Location **2**
- **3** ..... Cover, w/ Electrical Exit Location **3**



(5) ELECTRICAL CABLE

- **N** ..... No Electrical Cable
- **P** ..... 150 mm (6") pigtail
- **1** ..... 1 m (3')
- **2** ..... 2 m (6.5')
- **3** ..... 3 m (10')
- **4** ..... 4 m (13.5')
- **5** ..... 5 m (16.5')

(6) CONNECTOR

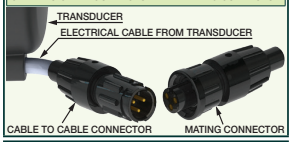
- **N** ..... No Connector
- **C** ..... Cable to Cable Connector w/ Mating Connector, *See* FIG A
- **K** ..... Cable to Cable Connector w/ ***NO*** Mating Connector, *See* FIG B

For option "K", electrical cable with mating connector may be ordered separately as item number **10248-xM**, where "x" is the required length in meters.

1. "C" and "K" options only apply when electrical cable is selected.
2. Cable to cable connector does not connect cable shield/drain wire.

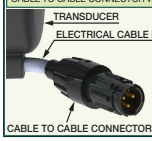
CONNECTOR OPTION "C" FIG A

CABLE TO CABLE CONNECTOR WITH MATING CONNECTOR



CONNECTOR OPTION "K" FIG B

CABLE TO CABLE CONNECTOR WITH ***NO*** MATING CONNECTOR



For Option **"K"**, mating connector with electrical cable is available as **P/N 10248-xM** where **"x"** is required length in meters

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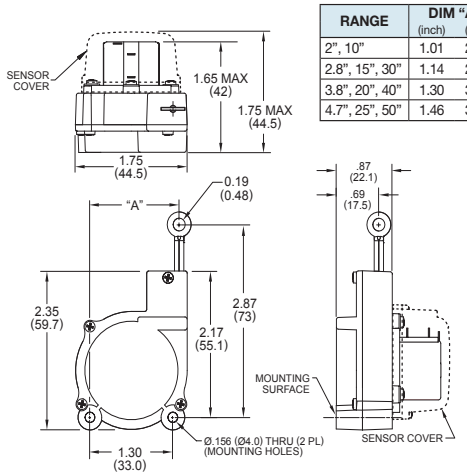
DIMENSIONAL INFORMATION

LX-PA Series

RANGE	DIM "A" (inch)	DIM "A" (mm)
2", 10"	1.01	25.7
2.8", 15", 30"	1.14	29.0
3.8", 20", 40"	1.30	33.0
4.7", 25", 50"	1.46	37.1



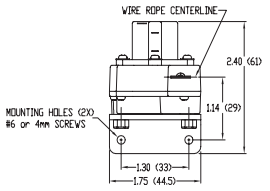
Dimensions in brackets are millimeters

ACCESSORIES

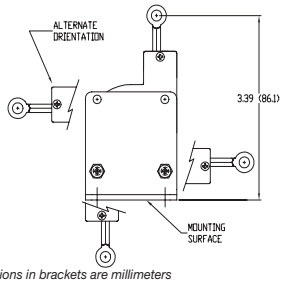
10346 – RIGHT ANGLE MOUNTING BRACKET

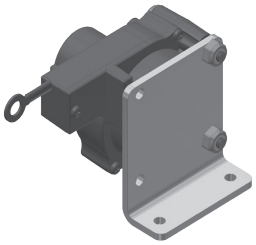
The Right Angle Mounting Bracket serves as a base for mounting the LX transducer perpendicular to a surface. The transducer may be mounted in any of four different wire rope exit orientations when mounted on the outside of the bracket (see figure) or any of three orientations when placed above the bracket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

ORDER MODEL NUMBER: 10346



RIGHT ANGLE MOUNTING BRACKET



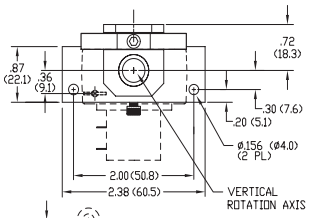


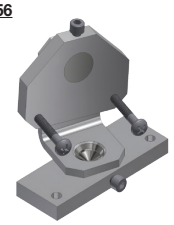
RIGHT ANGLE MOUNTING BRACKET WITH TRANSDUCER MOUNTED

Dimensions in brackets are millimeters

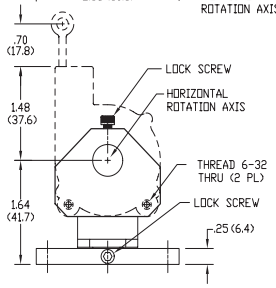
10156 – TWO AXIS SWIVEL BASE

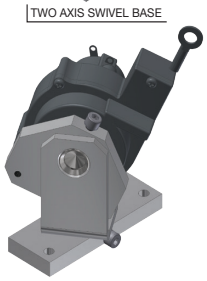
With a capability of 360° rotation about the vertical axis and 245° rotation about the horizontal axis, the 10156 Two Axis Swivel Base allows easy setup of the LX-PA or the LX-EP transducer. The axes may be locked in place after the transducer is oriented. Ideal for quick setups. **ORDER MODEL NUMBER: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





TWO AXIS SWIVEL BASE



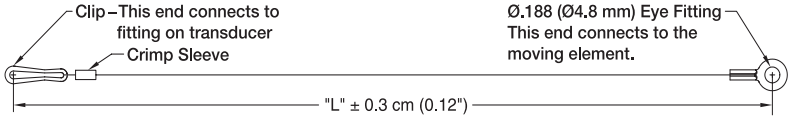


SWIVEL BASE W/ TRANSDUCER MOUNTED

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- ① -CM- 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)

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