

# LX-PA Series

## Installation Information

1. Unit mounts on surface shown in Figure 1.
2. To maximize cable life, align transducer with moving element so that cable exits unit within 2° of vertical (with unit oriented as shown in Figure 1).
3. Use Table 1 to determine cable exit location relative to transducer mounting holes.
4. Mount unit with two #6 or smaller machine screws or two M3.5 or smaller metric machine screws.

### Note

- a) Place a flat washer under the head of each screw.
  - b) Torque 6-32 screws to **5 lb-in** maximum.
  - c) Torque M3.5 screws to **0.56 N-m** maximum.
5. Solder electrical leads to potentiometer on transducer per the circuit diagram shown in Figure 2 (designators in diagram correspond to pin designators on potentiometer). Output may be reversed by reversing the +Vin and Common leads. Electrical leads may be strain relieved by fastening to the potentiometer with a cable tie.
6. **Note:** Units with ranges 4.7" and less employ a single turn potentiometer which has no stops. On these units the wire rope will extend to a total length of approximately 8" to 10". When extension beyond the specified measurement range occurs, the wiper of the potentiometer traverses a deadband after which the electrical output begins again.

### Specifications

- Input Impedance ..... 1000 ohms ±10%  
 Excitation Voltage ..... 25 Volts max. AC or DC  
 Output Impedance ..... 0 to 1000 ohms  
 Linearity:  
 Ranges to 4.7" ..... ±1.0% Full Scale  
 10" to 25" range ..... ±0.5% Full Scale  
 30" to 50" range ..... ±0.25% Full Scale  
 Operating Temperature ..... -15°C to 60°C

P/N: 400103 F/N:400103A.INDD

Table 1

Range	Dim "A"	
	(inch)	(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

## CIRCUIT DIAGRAM

Figure 2

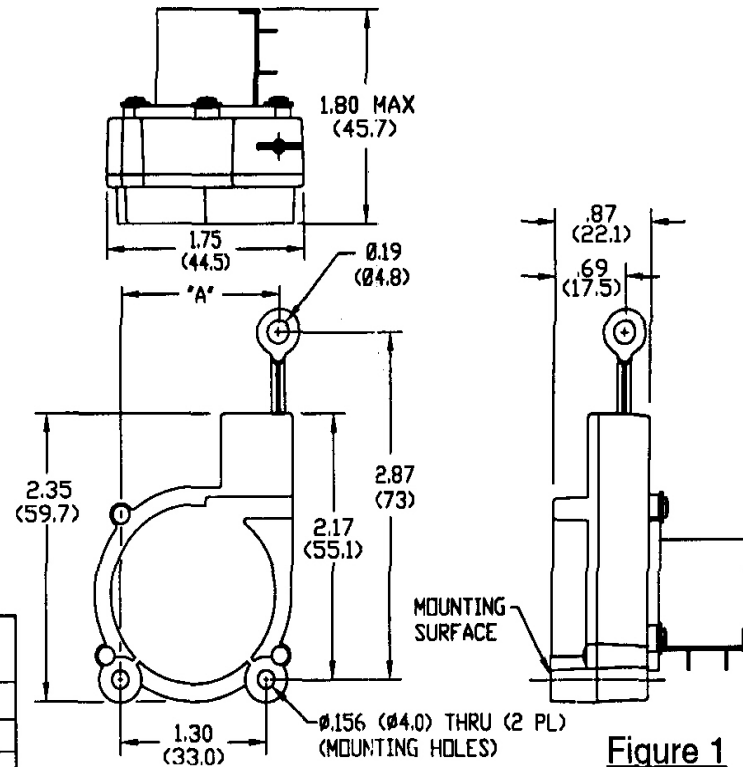
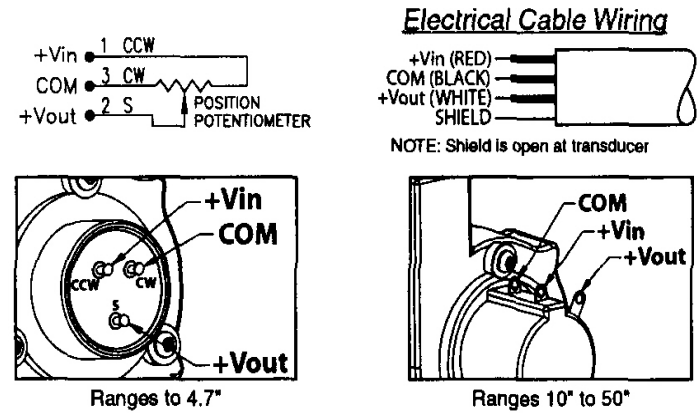


Figure 1

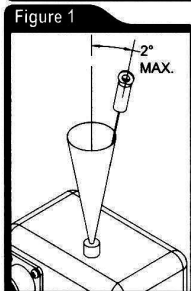
Dimensions in brackets are millimeters

**WARNING!**

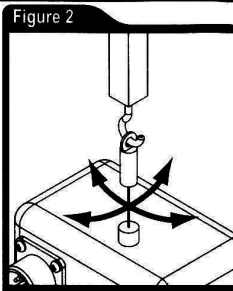
**Do not permit cable to snap back.  
Serious transducer damage will result!**

**General Installation Guidelines**

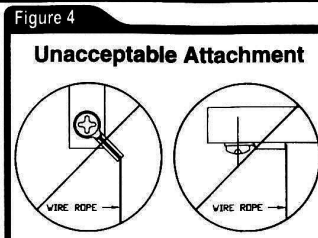
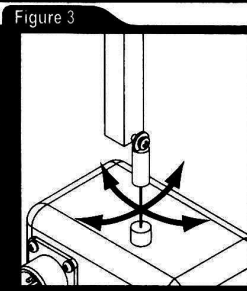
**Wire Rope Attachment**



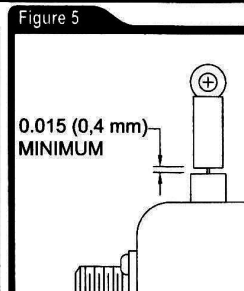
**Angularity** --The wire rope should be aligned within 2° of perpendicular (Fig. 1) when at full extension.



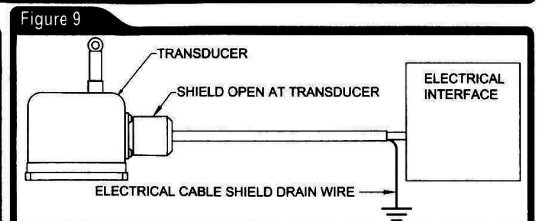
**Eye Fitting Freedom** --The eye fitting on the end of the wire rope should be mounted to allow rotation both axially about the pivot point and perpendicular to the axis of the pivot (Fig. 2 & 3) to allow the crimp barrel of the eye fitting to follow the direction of the wire rope. This eliminates all bending stress on the wire rope at the crimp of the eye fitting.



**Prevention** -- Attaching the eye fitting as shown in Fig. 4 above will put undue bending stress on the wire rope which may cause early fatigue. **To prevent premature wire rope failure, eye fitting mounting conditions as shown above should be avoided.**



**Zero Extension** -- Insure that the wire rope starting point is not less than .015" (0.4 mm) from the zero extension position (Fig. 5).



**Electrical Cable Shielding** -- It is generally recommended that shielded, twisted pair cabling be used between transducer and electrical interface. The shield should remain open at the transducer and be tied to ground at the electrical interface. As shown in Fig. 9 above.

**Sensor Type Selection:**

For Throttle: Select *Zero-Based Potentiometer*

For Steer: Select *Mid-Zero Based Potentiometer*

For Shock: Select *Potentiometer Distance*