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
- Linearity: ±0.10% of Full Scale
- Repeatability: ±0.015% of Full Scale
- Construction: Thermoplastic Body
- Wire Rope: 0.018 (0.46 mm) Jacketed Stainless Steel
- Wire Rope Tension: See Table 2
- Weight: 3 oz. (85 gm)
- Connector: 0.025" (.64 mm) square pins on 0.100" (2.54 mm) centers
- Dimensional Information: See Supplemental Data
- Life: Ranges 10" to 25": 2,000,000 full stroke cycles
  Ranges 30" to 50": 1,000,000 full stroke cycles

**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: IP-40 (NEMA 1)

**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

**OUTPUT STAGE**

**STANDARD OUTPUT**

**WAVEFORM**

**TABLE 2**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>RANGE (in)</th>
<th>RESOLUTION[2] (counts/inch)</th>
<th>RESOLUTION TOLERANCE[3] (counts/mm)</th>
<th>NOMINAL WIRE ROPE TENSION (oz)</th>
<th>NOMINAL WIRE ROPE TENSION (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LX-EP-10</td>
<td>10</td>
<td>250</td>
<td>113.5</td>
<td>±50%</td>
<td>16</td>
</tr>
<tr>
<td>LX-EP-15</td>
<td>15</td>
<td>380</td>
<td>82.5</td>
<td>±35%</td>
<td>10</td>
</tr>
<tr>
<td>LX-EP-20</td>
<td>20</td>
<td>500</td>
<td>62.3</td>
<td>±35%</td>
<td>8</td>
</tr>
<tr>
<td>LX-EP-25</td>
<td>25</td>
<td>625</td>
<td>50.4</td>
<td>±35%</td>
<td>6</td>
</tr>
<tr>
<td>LX-EP-30</td>
<td>30</td>
<td>750</td>
<td>82.5</td>
<td>±35%</td>
<td>10</td>
</tr>
<tr>
<td>LX-EP-40</td>
<td>40</td>
<td>1000</td>
<td>62.3</td>
<td>±35%</td>
<td>8</td>
</tr>
<tr>
<td>LX-EP-50</td>
<td>50</td>
<td>1250</td>
<td>50.4</td>
<td>±35%</td>
<td>6</td>
</tr>
</tbody>
</table>

**FOOTNOTES TO SPECIFICATIONS**
1. Supplemental Data section located at end of LX Series pages.
2. 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.
3. 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 resolutional 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**

**Basic Configuration** (for all ranges)

**LX-EP-50**

**ACCESSORY–10172 ELECTRICAL CABLE (LX-EP ONLY)**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Dim &quot;L&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>10172-1M</td>
<td>1 m (3 ft)</td>
</tr>
<tr>
<td>10172-2M</td>
<td>2 m (6.5 ft)</td>
</tr>
<tr>
<td>10172-3M</td>
<td>3 m (10 ft)</td>
</tr>
<tr>
<td>10172-4M</td>
<td>4 m (13.5 ft)</td>
</tr>
<tr>
<td>10172-5M</td>
<td>5 m (16.5 ft)</td>
</tr>
</tbody>
</table>
DIMENSIONAL INFORMATION

**LX-EP Series**

<table>
<thead>
<tr>
<th>RANGE</th>
<th>DIM &quot;A&quot; (inch)</th>
<th>DIM &quot;A&quot; (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10&quot;</td>
<td>1.01</td>
<td>25.7</td>
</tr>
<tr>
<td>15&quot;</td>
<td>1.14</td>
<td>29.0</td>
</tr>
<tr>
<td>20&quot;</td>
<td>1.30</td>
<td>33.0</td>
</tr>
<tr>
<td>25&quot;</td>
<td>1.46</td>
<td>37.1</td>
</tr>
</tbody>
</table>

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

---

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

---

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.

**ORDER MODEL NUMBER:** 10067

---

**10067-CM**

<table>
<thead>
<tr>
<th>DIMENSION &quot;L&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specify Dimension &quot;L&quot; in centimeters to the nearest whole centimeter</td>
</tr>
</tbody>
</table>

**UNTERMINATED CLIP END**

Leave blank... Completed kit (no designator required)

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