The UniMeasure P510 series transducer offers a voltage output with wide adjustability to give a 0 to 5, 0 to 10, ±5 or ±10 VDC output. The device may be powered with an unregulated voltage in the range of 4.9 to 30 VDC. Zero and span adjustment potentiometers are readily accessible. With the zero position set anywhere within the first 30% of total travel, the span may be adjusted to give a full 0 to 5 or 0 to 10 VDC output with the span set anywhere within the last 20% of travel. Alternatively, the zero position may be set anywhere between 10% and 90% of full travel to give an output of ±5 or ±10 VDC with the span set between 50% to 100% of the longest travel from the zero position.

### SPECIFICATIONS

#### GENERAL
- **Linearity**:
  - 2", 3", 4" & 5" Ranges: ±0.30% Full Scale
  - 10", 15", 20" & 25" Ranges: ±0.20% Full Scale
  - All other ranges: ±0.15% Full Scale
- **Repeatability**:
  - Essentially Infinite
- **Resolution**:
  - Essentially Infinite
- **Construction**:
  - Aluminum Cover & Baseplate

#### ENVIRONMENTAL
- **Thermal Coefficient of Sensing Element**: ±0.02%/°C of Span
- **Operating Temperature**: -40°C to +95°C
- **Storage Temperature**: -55°C to +125°C
- **Operating Humidity**:
  - 2" through 5" Ranges: 80% to 100% of Range
  - 25" & 30" Ranges: 50% to 100% of Longest Possible Range

#### ELECTRICAL
- **Output**: 0 to 5 or 0 to 10 VDC, ±5 or ±10 VDC
- **Excitation Voltage**: 4.9 to 30 VDC
- **Excitation Current**: 25 mA max.
- **Output Impedance**: 100Ω max.
- **Output Load**: 5KΩ min.
- **ADJUSTMENT RANGE—0 TO 5 OR 0 TO 10 VDC**
  - Zero: 0 to 30% of Range
  - Span: 10% to 90% of Range
- **ADJUSTMENT RANGE—±5 OR ±10 VDC**
  - Zero: 0 to 30% of Range
  - Span: 50% to 100% of Longest Possible Range

#### CONNECTION DIAGRAM
- **Schematic Diagram**: Showing basic configuration.
- **Legend**: Common, 10-30 VDC, Terminal Block, Mating Connector Included/Not Included, Dust Wiper Included/Not Included.

### MODEL NUMBER CONFIGURATION

#### P510 SERIES

- **0 to 5, 0 to 10, ±5, ±10 VDC ANALOG OUTPUT**

#### Basic Configuration (For All Ranges)

**P510-50-S10-N0S-10C**

- **RANGE**
  - 2" (50 mm)
  - 3" (75 mm)
  - 4" (100 mm)
  - 5" (125 mm)
  - 10" (250 mm)
  - 15" (390 mm)
  - 20" (500 mm)
  - 25" (640 mm)
  - 30" (750 mm)
  - 40" (1000 mm)
  - 50" (1250 mm)
  - 60" (1500 mm)
  - 80" (2000 mm)

- **WIRE ROPE TENSION**
  - S: Standard (50 G Units to 50")
  - R: Reduced (See Table 7 for Value)
  - S: Standard (Increasing output as wire rope is extended)

- **WIRE ROPE EXIT DIRECTION**
  - Use Number designators shown

- **DUST WIPER OPTION**
  - N: No dust wiper
  - D: Dust Wiper Included

- **ELECTRICAL OUTPUT POLARITY**
  - S: Standard (Increasing output as wire rope is extended)
  - R: Reversed (decreasing output as wire rope is extended)

- **CONNECTOR LOCATION**
  - Top View

- **ELECTRICAL INTERFACE**
  - C: Mating Connector Included
  - K: Mating Connector Omitted
  - T: Terminal Strip
  - *Electrical cable with mating connector may be ordered separately as part number 10028-xM where ‘x’ is the length required in meters.

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**UniMeasure, Inc.** 4175 SW Research Way, Corvallis, Oregon 97333 U.S.A. | Tel: 541-757-3158 | Fax: 541-757-0858 | Email: sales@unimeasure.com
Ø.188 (Ø4.8 mm) Eye Fitting
This end connects to the moving element.

Clip--This end connects to fitting on transducer
Crimp Sleeve

"L" ± 0.3 cm (0.12")

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 – 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-xx Replacement Wire Rope Kit

Standard Ø.016" Stainless Steel Wire Rope.
Ø.018" Nylon Jacketed Stainless Steel Wire Rope.
Standard Ø.016" Stainless Steel Wire Rope with Dust Wiper.
Ø.018" Nylon Jacketed Stainless Steel Wire Rope with Dust Wiper.

POTENTIOMETER VALUE

Non-standard potentiometer linearity is as follows:

<table>
<thead>
<tr>
<th>RANGE</th>
<th>LINEARITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>5&quot; and Below</td>
<td>±1.00% of full scale</td>
</tr>
<tr>
<td>10&quot; to 25&quot;</td>
<td>±0.50% of full scale</td>
</tr>
<tr>
<td>30&quot; and above</td>
<td>±0.25% of full scale</td>
</tr>
</tbody>
</table>

Note: This option is subject to potentiometer availability.

ELECTRICAL OUTPUT POLARITY

Output is at a maximum when wire rope is fully retracted. Output decreases as wire rope is extended. Does not apply to velocity or encoder signal.

ELECTRICAL INTERFACE

Replaces connector with a terminal strip.

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

Leaves blank. Completed kit (No designator required)

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

Replacement Wire Rope Kits

The replacement Wire Rope Kit includes a new wire rope with all end terminations, wire rope guide, felt dust wiper where applicable and installation instructions. To order, replace ‘xx’ in the part number with the applicable measurement range in inches.

10107-xx Replacement Wire Rope Kit
10108-xx Replacement Wire Rope Kit
10127-xx Replacement Wire Rope Kit
10128-xx Replacement Wire Rope Kit
### ADDITIONAL OPTIONS

#### TABLE 7

<table>
<thead>
<tr>
<th>Range Designation</th>
<th>Range</th>
<th>Wire Rope Standard Tension (oz)</th>
<th>Wire Rope Standard Acceleration (G's)</th>
<th>Wire Rope Reduced Tension (oz)</th>
<th>Wire Rope Reduced Acceleration (G's)</th>
<th>Wire Rope Reduced Tension (oz)</th>
<th>Wire Rope Reduced Acceleration (G's)</th>
<th>Wire Rope Reduced Tension (oz)</th>
<th>Wire Rope Reduced Acceleration (G's)</th>
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<td>28</td>
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<td>3</td>
<td>3</td>
<td>75</td>
<td>&gt;50</td>
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<td>3.9</td>
<td>16</td>
<td></td>
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<td>&gt;50</td>
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<td>3.1</td>
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<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>125</td>
<td>&gt;50</td>
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<td>2.2</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
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<td>250</td>
<td>&gt;50</td>
<td>16</td>
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<td>15</td>
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<td>19</td>
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<td>1.4</td>
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### DIMENSIONAL INFORMATION

#### STANDARD SERIES PA, PB, P420, P510, EP & V SERIES

**Ranges to 50” (1250 mm)**

- PA, PB, P420 & P510 SERIES
  - V SERIES 2.00 (50.8 mm)
  - EP SERIES 2.37 (60.2 mm)

**Ranges to 60” (1500 mm) and 80” (2000 mm)**

- PA, PB, P420 & P510 SERIES
  - V SERIES 2.37 (60.2 mm)
  - EP SERIES 2.00 (50.8 mm)

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**PA, PB, P420, P510, V Series**

<table>
<thead>
<tr>
<th>RANGE</th>
<th>DIM &quot;A&quot; (inch)</th>
<th>DIM &quot;A&quot; (mm)</th>
</tr>
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<tbody>
<tr>
<td>60&quot;</td>
<td>0.68</td>
<td>(17.4)</td>
</tr>
<tr>
<td>80&quot;</td>
<td>0.68</td>
<td>(17.4)</td>
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</table>

**EP Series**

<table>
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<th>RANGE</th>
<th>DIM &quot;A&quot; (inch)</th>
<th>DIM &quot;A&quot; (mm)</th>
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<td>0.68</td>
<td>(17.4)</td>
</tr>
<tr>
<td>EP-25, EP-50</td>
<td>0.21</td>
<td>(5.3)</td>
</tr>
<tr>
<td>EP-60</td>
<td>See Figure 2</td>
<td></td>
</tr>
<tr>
<td>EP-80</td>
<td>See Figure 2</td>
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<tr>
<td>EPM-250</td>
<td>0.68</td>
<td>(17.4)</td>
</tr>
<tr>
<td>EPM-1250</td>
<td>0.21</td>
<td>(5.3)</td>
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</tbody>
</table>