

# JX-P420 SERIES

## 4 to 20 mA OUTPUT



The UniMeasure JX-P420 series linear position measuring transducer is a low cost device for use in moderate duty applications in hostile wet or dry environments. The chemical resistant thermoplastic case of the transducer provides IP-65 (NEMA 4X) ingress protection for applications where exposure to washdown, rain, oil and other liquids may occur. The sealed case is achieved through the use of o-rings and a low friction shaft seal. An integral dust wiper insures that the wire rope stays clear of debris as it is extracted and retracted. The standard electrical connection includes a sealed bulkhead fitting and multi-conductor electrical cable. An optional connector and mating connector are also available. As a convenience, optional connector locations on the transducer body are offered. The wire rope exit direction may be specified at time of order or may be user adjusted at time of installation.



The JX-P420 series transducer is a loop powered device with a 4 to 20 mA current output that requires a two wire connection. The transducer, power supply, and current monitor are connected in series. Zero and span adjustment potentiometers are accessible by removing two sealing screws in the rear of the transducer housing. Zero and span allow for adjustment for a full 4 to 20 mA output at between 50% and 100% of maximum linear travel.

### SPECIFICATIONS

#### GENERAL

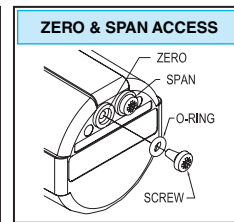
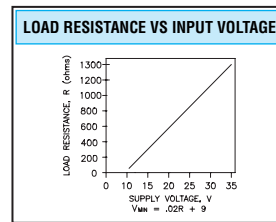
|                                   |  |
|-----------------------------------|--|
| Measurement Range .....           | See Range Table below                    |
| Sensing Device .....              | Precision Potentiometer                  |
| Resolution .....                  | Essentially Infinite                     |
| Linearity                         |  |
| 2", 2.8", 3.8", 4.7" ranges ..... | ±1.0% Full Scale                         |
| 10" to 25" ranges .....           | ±0.5% Full Scale                         |
| 30" to 80" ranges .....           | ±0.25% Full Scale                        |
| Repeatability .....               | ±0.02% Full Scale                        |
| Construction .....                | Thermoplastic Body                       |
| Wire Rope .....                   | Ø.018 (0.46 mm) Jacketed Stainless Steel |
| Wire Rope Tension .....           | See Supplemental Data <sup>†1</sup>      |
| Weight .....                      | 6.7 oz. (190 gm)                         |
| Connections .....                 | Electrical cable, or plastic connector   |
| Life                              |  |
| Ranges to 4.7" .....              | 2,000,000 full stroke cycles             |
| Ranges 10" to 25" .....           | 500,000 full stroke cycles               |
| Ranges 30" to 80" .....           | 250,000 full stroke cycles               |

#### ENVIRONMENTAL

|                             |  |
|-----------------------------|--|
| Operating Temperature ..... | -25°C to 75°C  |
| Storage Temperature .....   | -50°C to 80°C  |
| Operating Humidity .....    | 100% R.H. NEMA 4,<br>90% R.H. non-condensing NEMA 12 |
| Vibration .....             | 15 G's 0.1 ms max.                                   |
| Shock .....                 | 50 G's 0.1 ms max.                                   |
| Ingress Protection .....    | IP-65 (NEMA 4X) or IP-52 (NEMA 12)                   |

#### ELECTRICAL

|                                    |                             |
|------------------------------------|-----------------------------|
| Output .....                       | 4 to 20 mA                  |
| Load Resistance (Total Loop) ..... | See Graph Below             |
| Excitation Voltage .....           | 9 to 35 VDC                 |
| Minimum Supply Voltage .....       | (.02 x Load Res.) + 9 VDC   |
| Insulation Resistance .....        | 100 Megohms min. at 100 VDC |
| Zero Set Adjustment Range .....    | 0 to 30% of Range           |
| Span Set Adjustment Range .....    | 80% to 100% of Range        |
| Protection .....                   | Fused & Reversed Polarity   |



#### FOOTNOTES TO SPECIFICATIONS

1. Supplemental Data section located at end of JX Series pages.

### MODEL NUMBER CONFIGURATION

**JX-P420-** 0 1 2 3 4 5 6 7 8 9

### BASIC CONFIGURATION (FOR ALL RANGES)

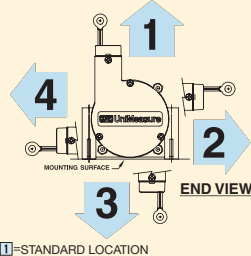
**JX-P420-50-N11-20S-N1C**

|                        |
|------------------------|
| <b>0 RANGE</b>         |
| 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)  |
| 60..... 60" (1500 mm)  |
| 80..... 80" (2000 mm)  |

|  |
|--|
| <b>1 WIRE ROPE</b>                                       |
| N..... Ø.018 (0.45 mm)<br>Nylon Jacketed Stainless Steel |

|   |
|---|
| <b>2 WIRE ROPE TENSION</b>                      |
| 1..... Standard<br>(See Table A & B for values) |

|                                   |
|-----------------------------------|
| <b>3 WIRE ROPE EXIT DIRECTION</b> |
| Use Number designators shown      |

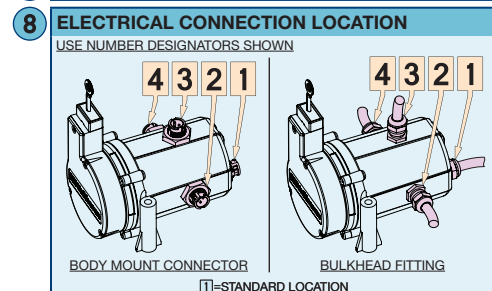


|   |
|---|
| <b>4 INGRESS PROTECTION</b>                               |
| 1..... IP-65 (NEMA 4X) dust and spraying water protection |
| 2..... IP-52 (NEMA 12) dust and dripping liquids          |

|                                     |
|-------------------------------------|
| <b>5 0..... Required Designator</b> |
|-------------------------------------|

|  |
|--|
| <b>6 ELECTRICAL OUTPUT POLARITY</b>                          |
| S..... Standard (increasing output as wire rope is extended) |
| R..... Reversed (decreasing output as wire rope is extended) |

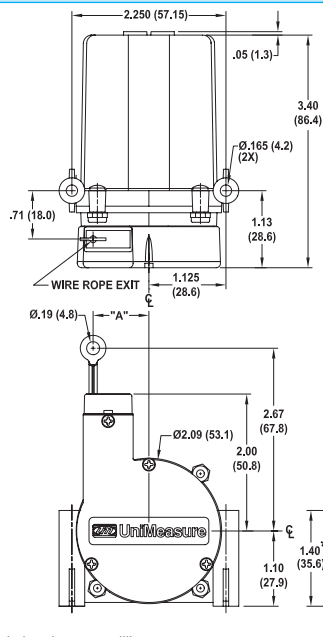
|                                     |
|-------------------------------------|
| <b>7 N..... Required Designator</b> |
|-------------------------------------|



|  |  |
|--|--|
| <b>9 ELECTRICAL CONNECTION</b>   |  |
| C..... Connector with Mating Connector   |  |
| K..... Connector with <b>No</b> Mating Connector*  |  |
| *Electrical cable with mating connector may be ordered separately as item number <b>10248-xM</b> where 'x' is the required length in meters. |  |
| 1..... Bulkhead Fitting + 1 m (3') Electrical Cable  |  |
| 2..... Bulkhead Fitting + 2 m (6.5') Electrical Cable  |  |
| 3..... Bulkhead Fitting + 3 m (10') Electrical Cable   |  |
| 4..... Bulkhead Fitting + 4 m (13.5') Electrical Cable   |  |
| 5..... Bulkhead Fitting + 5 m (16.5') Electrical Cable   |  |

### DIMENSIONAL INFORMATION

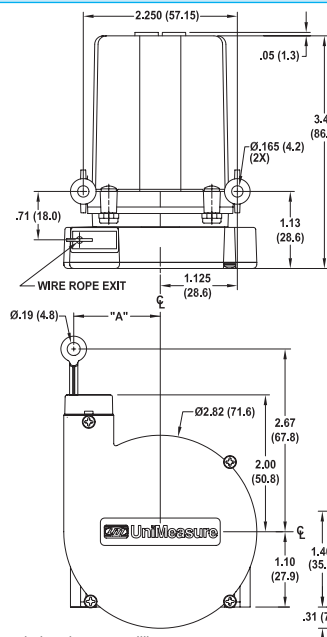
#### JX SERIES – RANGES TO 50" (1250 MM)



**TABLE A**

| RANGE       | DIM "A" |      | NOMINAL WIRE ROPE TENSION |     |
|-------------|---------|------|---------------------------|-----|
|             | (in)    | (mm) | (oz)                      | (N) |
| 2, 10       | .36     | 9.1  | 16                        | 4.4 |
| 2.8, 15, 30 | .50     | 12.7 | 14                        | 3.9 |
| 3.8, 20, 40 | .66     | 16.7 | 11                        | 3.1 |
| 4.7, 25, 50 | .82     | 20.8 | 8                         | 2.2 |

#### JX SERIES – RANGES 60" (1.5 M) AND 80" (2 M)



**TABLE B**

| RANGE | DIM "A" |      | NOMINAL WIRE ROPE TENSION |     |
|-------|---------|------|---------------------------|-----|
|       | (in)    | (mm) | (oz)                      | (N) |
| 60    | .98     | 24.9 | 10                        | 2.8 |
| 80    | 1.28    | 32.5 | 8.6                       | 2.4 |

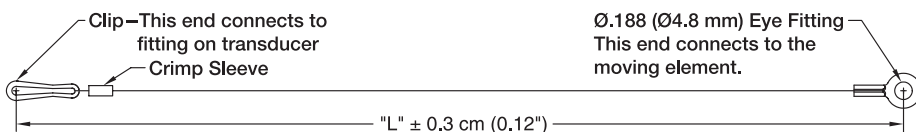
Dimensions in brackets are millimeters

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**

**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)