



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 NEMA 4 (IP-65) 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 ¹
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

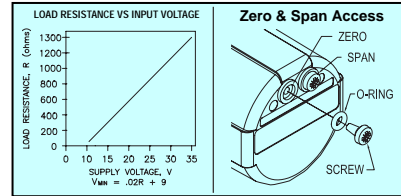
Environmental

Operating Temperature	-25°C to 60°C
Storage Temperature	-50°C to 80°C
Operating Humidity	100% R.H. NEMA 4, 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	NEMA 4X (IP-65) or NEMA 12 (IP-52)
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

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



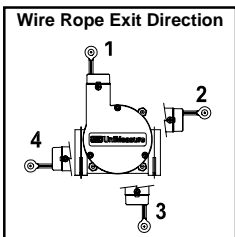
Model Number Configuration

JX-P420- - - - - 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" (380 mm)
20	20" (500 mm)
25	25" (625 mm)
30	30" (750 mm)
40	40" (1000 mm)
50	50" (1250 mm)
60	60" (1500 mm)
80	80" (2000 mm)

Wire Rope	
N	Ø.018" nylon jacketed stainless steel

Wire Rope Tension	
1	Standard (See Table A and Table B for values)

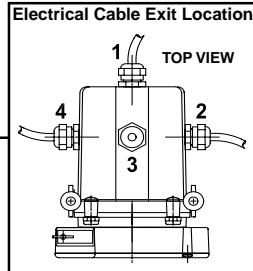


Ingress Protection	
1	IP-65 (NEMA 4X) dust and spraying water protection
2	IP-52 (NEMA 12) dust and dripping liquids

Output Polarity	
S	Standard (Voltage increases as wire rope is extended)
R	Reversed (Voltage decreases as wire rope is extended)

Electrical Cable	
N	No Electrical Cable (See note 1 below)
1	1 m (3') (See note 2 below)
2	2 m (6.5') (See note 2 below)
3	3 m (10') (See note 2 below)
4	4 m (13.5') (See note 2 below)
5	5 m (16.5') (See note 2 below)

Note:
1) Selection N applies to Electrical Connection option 3 only (3 pin connector with mating connector).
2) One of options 1 through 5 is required when Electrical Connection option 1 (Bulkhead Fitting) is selected or if electrical cable is required with mating connector when Electrical Connection option 3 (3 pin connector with mating connector) is required.



Electrical Connection	
1	Bulkhead fitting with electrical cable
3	3 pin connector with mating connector (electrical cable with connector optional)

Note: With option 1, electrical cable must be included. With option 3, mating connector may be ordered with or without electrical cable. See Electrical Cable options for cable lengths.

NOTE
1) Shaded options available at additional cost.

Example
JX-P420-25-N11-20S-31N

DIMENSIONAL INFORMATION

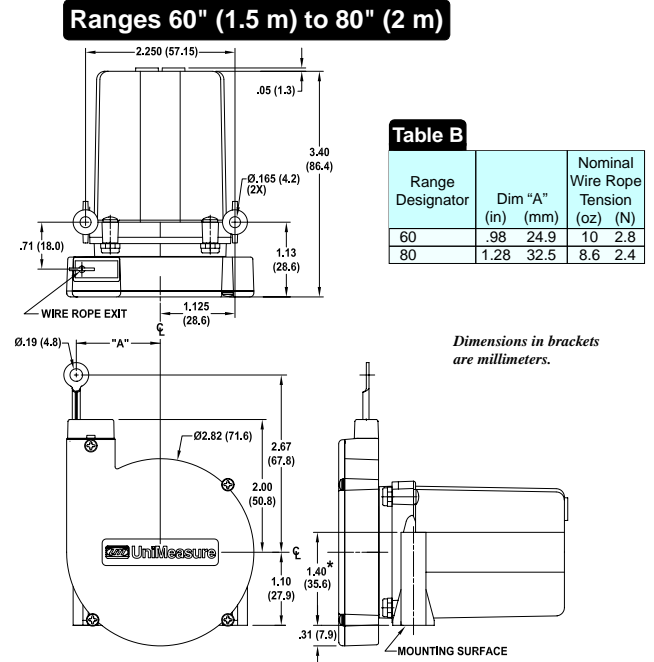
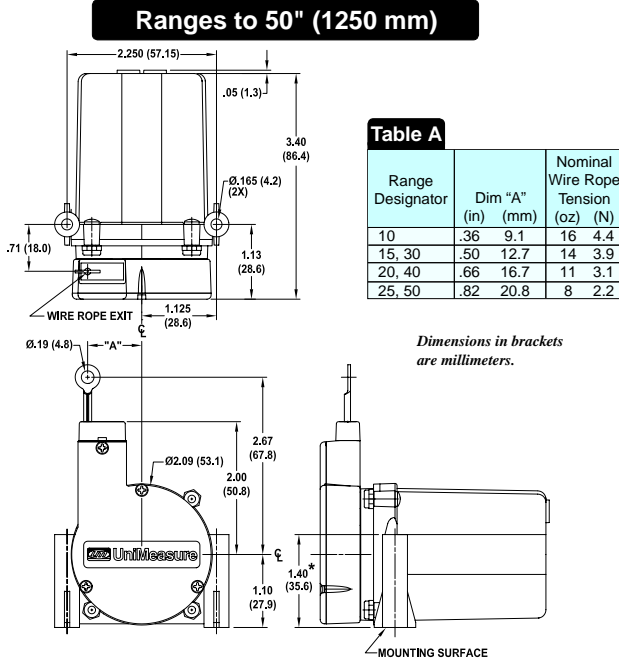
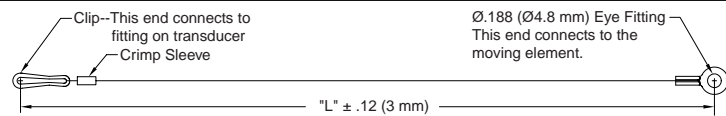


TABLE 3—Electrical Output Options—JX-EP Series

Option	Output Type	Output Stage	Waveform
1	5 VDC TTL Two Channel Current Sinking Two channels in quadrature with 65KΩ internal pullup resistors. 5 VDC input voltage		
2	5 VDC TTL Current Sinking Differential Line Drive Current sinking line drive output. 2KΩ internal pullup resistors. 5 VDC input voltage		
3	5 VDC Push-Pull Differential Line Drive Push-Pull, current sourcing and current sinking output. 5 VDC input voltage. Output is compliant with requirements of TIA/EIA-422-B.		
4	8 to 28 VDC Current Sinking Differential Line Drive Current sinking line drive output with 10KΩ internal pullup resistors. 8 to 28 VDC input voltage		
5	8 to 28 VDC Push-Pull Differential Line Drive Push-Pull, current sourcing and current sinking output. 8 to 28 VDC input voltage.		

Accessory—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. The clip and crimp sleeve are included as loose parts for user termination.

10067- CM-

- * Completed kit (no designator required)
- U Unterminated clip end (clip and crimp sleeve included in kit)
- * Leave blank. No designator required.

Dimension "L"

Specify dimension "L" in centimeters to the **nearest whole centimeter**.

Note 1. 1 cm = 0.394", 1 inch = 2.54 cm

Note 2. Shortest length "L" is 5 cm (approximately 2").