

# RTX-P420 SERIES - Rotary Position Transducer

## 4 to 20 mA CURRENT OUTPUT



The UniMeasure RTX-P420 series rotary position transducer with 4 to 20 mA current output is primarily for use in moderate duty applications in 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 shaft seal. Electrical connection options include a body mounted sealed plastic connector with mating connector or a sealed bulkhead fitting and multi conductor electrical cable of user specified length. Alternatively, the mating connector may be ordered with electrical cable as a separate item. As an installation convenience, end mounted or radial mounted connection locations are offered.

### SPECIFICATIONS

#### GENERAL

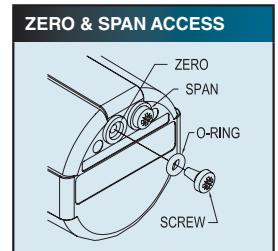
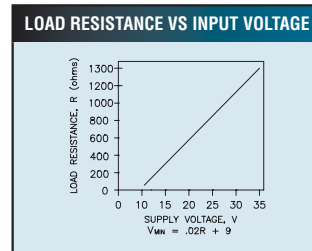
Sensing Device ..... Precision Potentiometer  
 Resolution ..... Essentially Infinite  
 Linearity all ranges .....  $\pm 0.30\%$  Full Scale  
 Repeatability .....  $\pm 0.015\%$  Full Scale  
 Shaft Radial Load ..... 4.5 Kg (10 lb.) maximum  
 Weight ..... 255 gm. (9 oz.)  
 Electrical Connection ..... Plastic Connector or Bulkhead Fitting with Electrical Cable  
 Construction ..... Anodized Aluminum or Stainless Steel Base & Thermoplastic Cover  
 Life ..... 50,000,000 Revolutions Minimum

#### ENVIRONMENTAL

Operating Temperature .....  $-40^{\circ}\text{C}$  to  $95^{\circ}\text{C}$   
 Storage Temperature .....  $-55^{\circ}\text{C}$  to  $95^{\circ}\text{C}$   
 Operating Humidity ..... 100% R.H.  
 Vibration ..... 15 G's 0.1 ms max.  
 Shock ..... 50 G's 0.1 ms max.  
 Ingress Protection ..... NEMA 4, IP-65

#### ELECTRICAL

Output ..... 4 to 20 mA  
 Load Resistance (Total Loop) ..... See Graph Below  
 Excitation Voltage ..... 9 to 35 VDC  
 Minimum Supply Voltage ..... (0.02 X Load Res.) +9 VDC  
 Zero Adjustment Range ..... 0 to 30% of Total Range  
 Span Adjustment Range ..... 80% to 100% of Range  
 Protection ..... Fused & Reversed Polarity



### MODEL NUMBER CONFIGURATION

**RTX-P420-** 0 - 1 2 0 - 4 5 6

#### BASIC CONFIGURATION (FOR ALL RANGES)

**RTX-P420-50-A10-S1C**

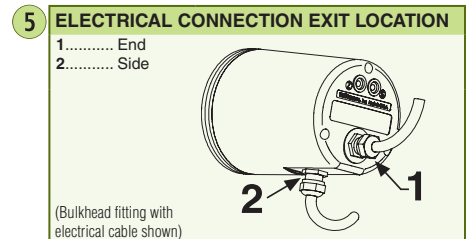
Designator	Rotation
45D	45°
90D	90°
180D	180°
1	1 Rev.
2	2 Rev.
3	3 Rev.
5	5 Rev.
10	10 Rev.
15	15 Rev.
20	20 Rev.
25	25 Rev.
30	30 Rev.
40	40 Rev.
50	50 Rev.
60	60 Rev.
80	80 Rev.
100	100 Rev.
125	125 Rev.
150	150 Rev.
200	200 Rev.

Designator	Housing Type
A	Aluminum Base
S	Servo/Face Mount
S	Corrosion Resistant Servo/Face Mount

Designator	Shaft Diameter
1	Ø10 mm
2	Ø6 mm
3	Ø0.375 inch
4	Ø0.25 inch

Designator	Output Voltage Polarity
S	Clockwise Increasing
R	Counter Clockwise Increasing

(When viewed from shaft end of unit)

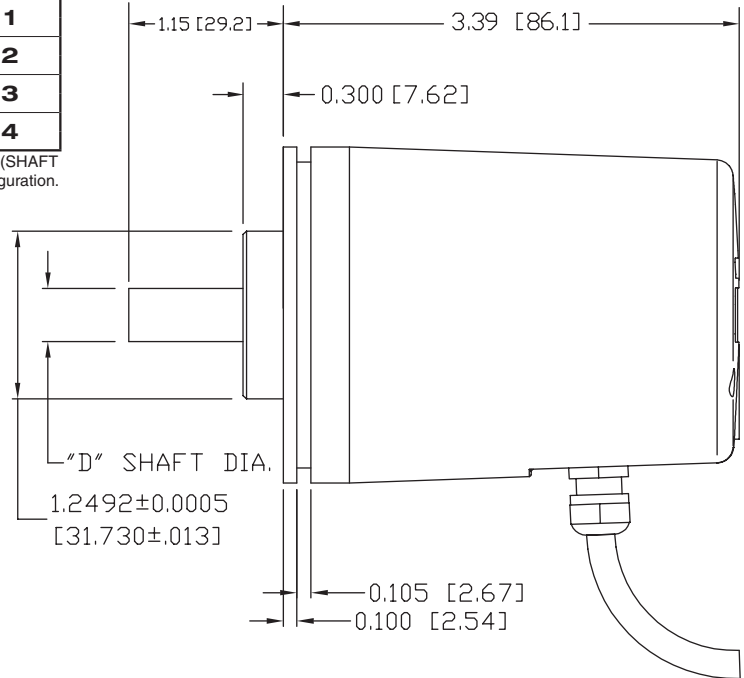
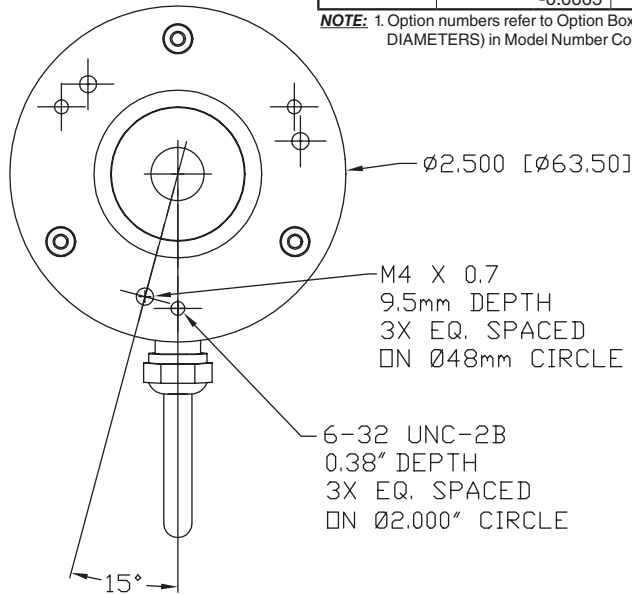


Designator	Electrical Connection
C	Connector with Mating Connector
K	Connector with No Mating Connector--Electrical cable with mating connector may be ordered separately as item number 10248-xM where 'x' is the required length in meters.
P	Bulkhead Fitting + 150 mm (6") Pigtail
1	Bulkhead Fitting + 1 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
6	Bulkhead Fitting + 6 m (20') Electrical Cable
7	Bulkhead Fitting + 7 m (23') Electrical Cable
8	Bulkhead Fitting + 8 m (26') Electrical Cable

### DIMENSIONAL INFORMATION

SHAFT DIAMETERS		
NOMINAL	ACTUAL	OPTION <sup>[1]</sup>
10 mm	$\varnothing 0.3934^{+0.0000}_{-0.0002}$	1
6 mm	$\varnothing 0.2360^{+0.0000}_{-0.0005}$	2
0.375"	$\varnothing 0.3748^{+0.0000}_{-0.0005}$	3
0.250"	$\varnothing 0.2498^{+0.0000}_{-0.0005}$	4

NOTE: 1. Option numbers refer to Option Box 2 (SHAFT DIAMETERS) in Model Number Configuration.



[dimensions in brackets are millimeters]

### ACCESSORIES

#### 10349 – SERVO CLEAT KIT

**10349** – Servo Cleat Kit – 4-40 screws  
 Includes 3 each servo cleats with 4-40 x 0.37 long screws. Order no.: **10349**



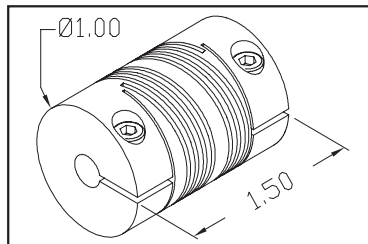
#### 10350 – SERVO CLEAT KIT

**10350** – Servo Cleat Kit – M3 screws  
 Includes 3 each servo cleats with M3 x 10mm long screws. Order no.: **10350**



### HELICAL BEAM COUPLINGS

A number of helical beam couplings are available to adapt the standard 10mm shaft of the RTX to other popular shaft sizes. The couplings accommodate axial misalignment and offer zero backlash. Coupling material is aluminum. Order by number shown.



ORDER No.	COUPLING SIZE
10388	10 mm to 6 mm
10389	10 mm to 0.250"
10390	10 mm to 0.375"
10391	10 mm to 10 mm
10392	10 mm to 0.500"

### 10248-xM MATING CONNECTOR WITH ELECTRICAL CABLE

**10248-xM** – Mating connector with electrical cable. Electrical cable is 3 conductor, shielded cable with drain wire. Replace 'x' in part number with the required length in meters to nearest whole meter. Order no.: **10248-xM**, where 'x' = length required in meters.