

# 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

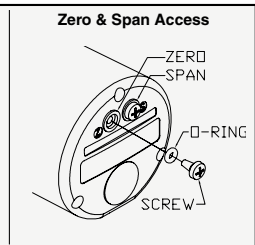
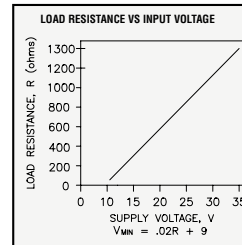
Sensing Device	Precision Potentiometer
Resolution	Essentially Infinite
Linearity all ranges	±0.30% Full Scale
Repeatability	±0.015% Full Scale
Shaft Radial Load	4.5 Kg (10 lb.) maximum
Weight	255 gm. (9 oz.)
Electrical Connection	Plastic Connector or Bulkhead Fitting with Electrical Cable
Construction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

#### Environmental

Operating Temperature	-40°C to 95°C
Storage Temperature	-55°C to 95°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	(.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 -

Rotational Range	
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.

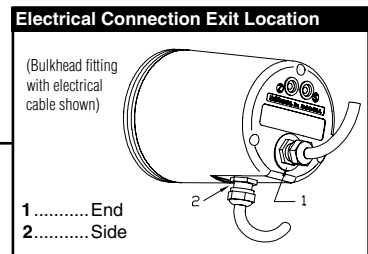
Housing Type	
A	Servo/Face Mount--Aluminum Base
S	Servo/Face Mount--Corrosion Resistant

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

Output Voltage Polarity	
S	Clockwise Increasing
R	Counter Clockwise Increasing

(When viewed from shaft end of unit)

Electrical Connection	
M	Connector with Mating Connector
U	Connector with <b>No</b> Mating Connector-- <i>Electrical cable with mating connector may be ordered separately as item number 10248-xM where 'x' is the required length in meters.</i>
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



**NOTE**  
1) Shaded options available at additional cost.

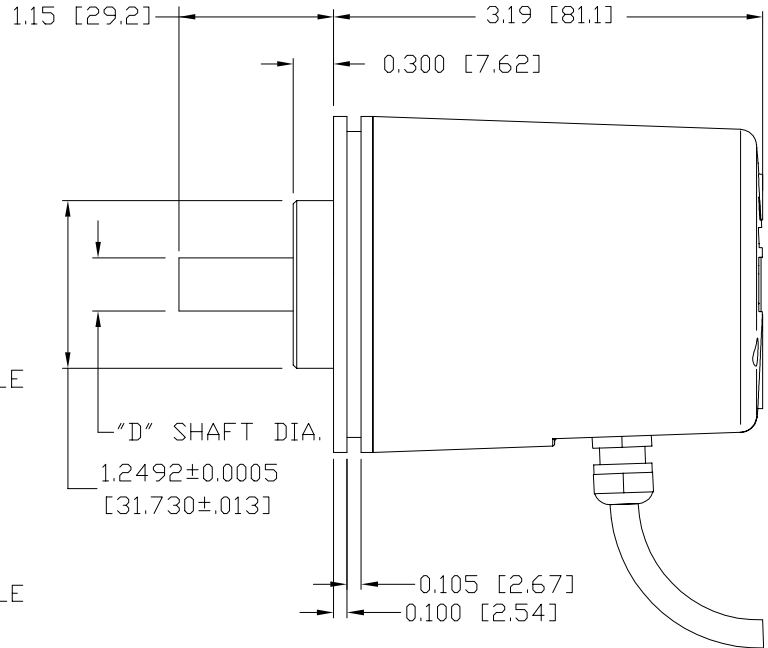
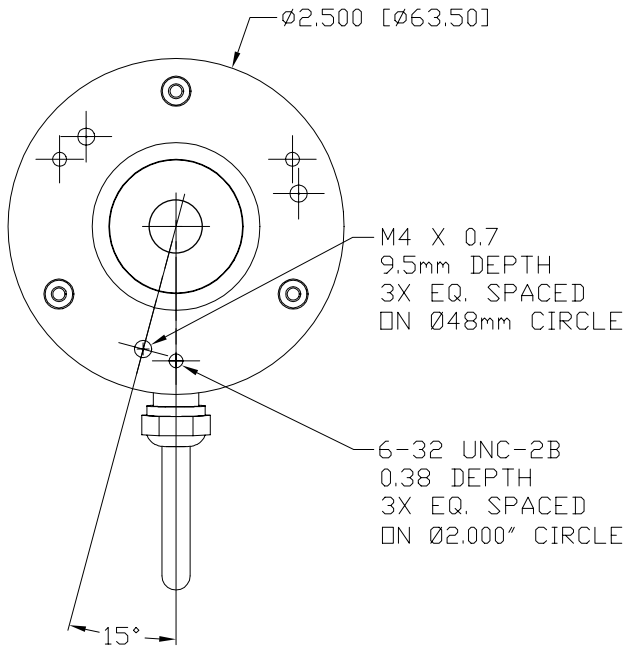
**Example**  
RTX-P420-20-A10-R13

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## SUPPLEMENTAL DATA

### DIMENSIONAL INFORMATION

SHAFT DIAMETERS	
Nominal	Actual
10mm	$\varnothing.3934 \pm \frac{0.0002}{0.0002}$
.375"	$\varnothing.3748 \pm \frac{0.0002}{0.0005}$
.250"	$\varnothing.2498 \pm \frac{0.0002}{0.0005}$
6 mm	$\varnothing.2360 \pm \frac{0.0002}{0.0005}$



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

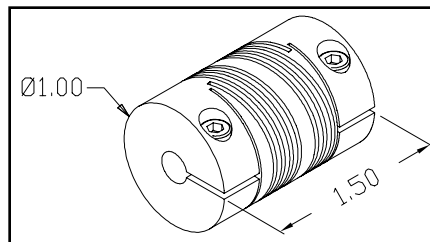
#### 10248-xM MATING CONNECTOR WITH ELECTRICAL CABLE

**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 meter increments.

Order no.:10248-xM, where 'x' = length required in meters.

#### Helical Beam Couplings

A number of helical beam couplings are available to adapt the standard 10 mm 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	10mm to 6mm
10389	10mm to 0.250"
10390	10mm to 0.375"
10391	10mm to 10mm
10392	10mm to 0.500"