

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

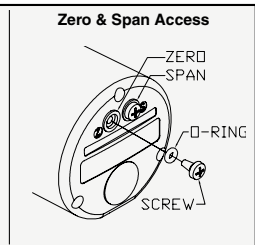
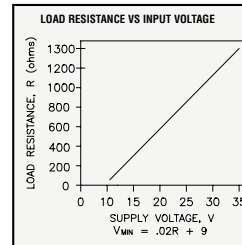
Sensing Device Precision Potentiometer
 Resolution Essentially Infinite
 Linearity all ranges ±0.30% Full Scale
 Repeatability ±0.015% Full Scale
 Shaft Radial Load 4.5 Kg (10 lb.) maximum
 Weight 255 gm. (9 oz.)
 Electrical Connection Plastic Connector or Bulkhead Fitting with Electrical Cable
 Construction 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. |

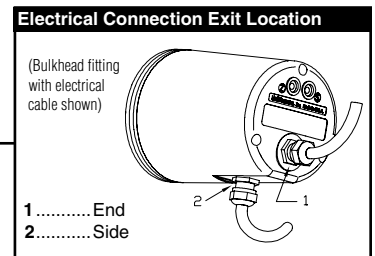
| Housing Type | |
|--------------|---------------------------------------|
| A | Servo/Face Mount--Aluminum Base |
| S | Servo/Face Mount--Corrosion Resistant |

| 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 No 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.

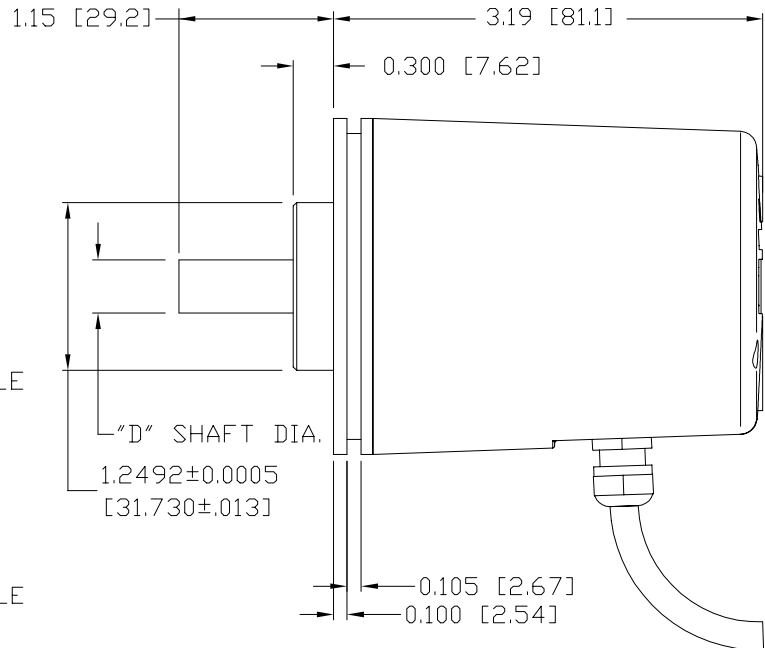
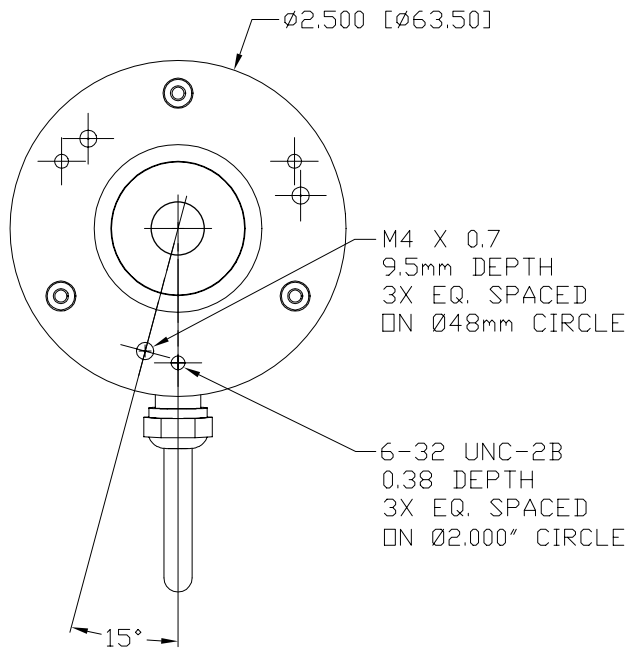
Example
 RTX-P420-20-A10-R13

RTX-P420 SERIES - Rotary Position Transducer

SUPPLEMENTAL DATA

DIMENSIONAL INFORMATION

| SHAFT DIAMETERS | |
|-----------------|---|
| Nominal | Actual |
| 10mm | $\text{Ø}.3934 \pm \frac{.0000}{.0002}$ |
| .375" | $\text{Ø}.3748 \pm \frac{.0000}{.0005}$ |
| .250" | $\text{Ø}.2498 \pm \frac{.0000}{.0005}$ |
| 6 mm | $\text{Ø}.2360 \pm \frac{.0000}{.0005}$ |



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

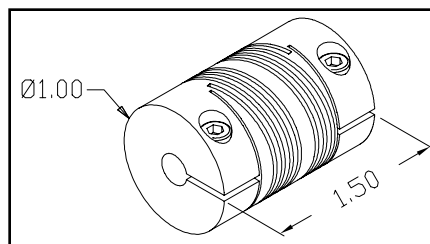
10350—Servo Cleat Kit—M3 screws
Includes 3 each servo cleats with M3 x 10mm long screws. Order no.: 10350

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" |