

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

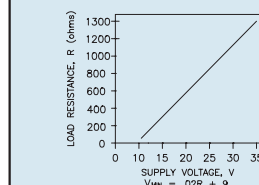
ENVIRONMENTAL

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

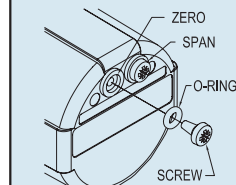
ELECTRICAL

Output	4 to 20 mA
Load Resistance (Total Loop)	See Graph Below
Excitation Voltage	9 to 35 VDC
Minimum Supply Voltage	(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

LOAD RESISTANCE VS INPUT VOLTAGE



ZERO & SPAN ACCESS



MODEL NUMBER CONFIGURATION

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

BASIC CONFIGURATION (FOR ALL RANGES)

RTX-P420-50-A10-S1C

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.

1 HOUSING TYPE

A	Aluminum Base
	Servo/Face Mount
S	Corrosion Resistant
	Servo/Face Mount

2 SHAFT DIAMETER

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

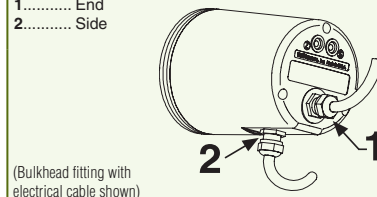
4 OUTPUT VOLTAGE POLARITY

S	Clockwise Increasing
R	Counter Clockwise Increasing

(When viewed from shaft end of unit)

5 ELECTRICAL CONNECTION EXIT LOCATION

1	End
2	Side



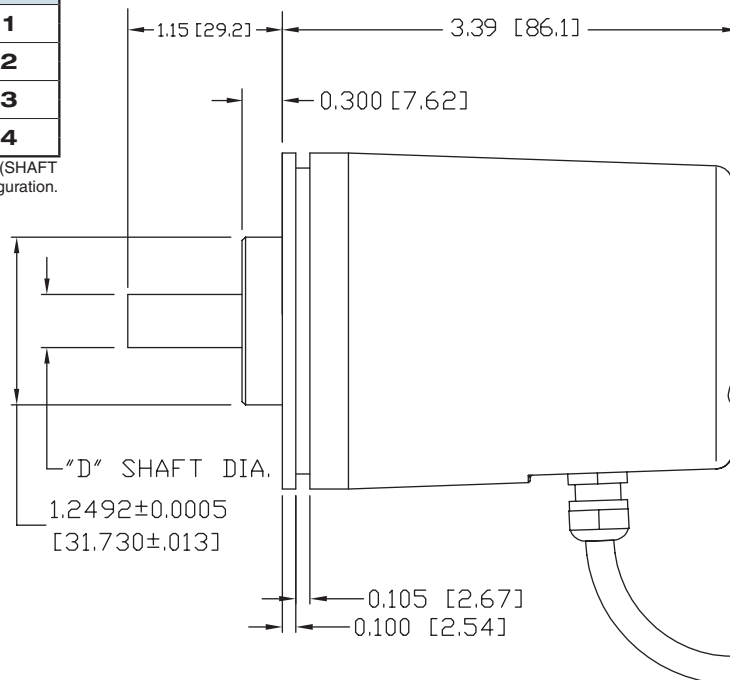
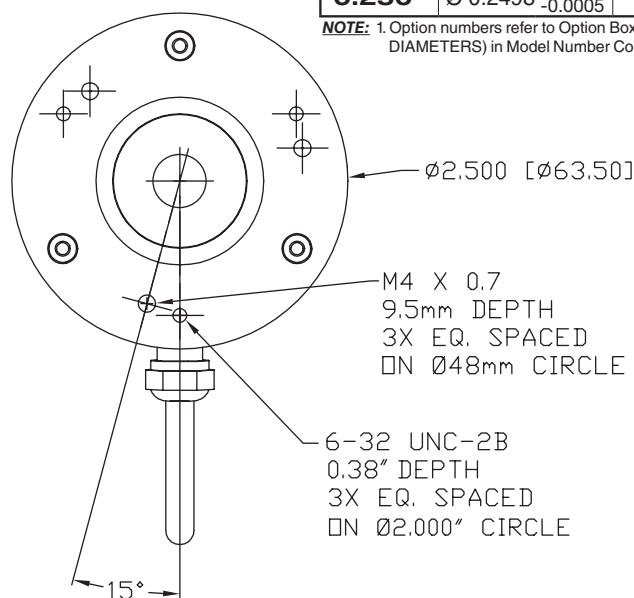
6 ELECTRICAL CONNECTION

C	Connector with Mating Connector
K	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

DIMENSIONAL INFORMATION

SHAFT DIAMETERS		
NOMINAL	ACTUAL	OPTION ^[1]
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**



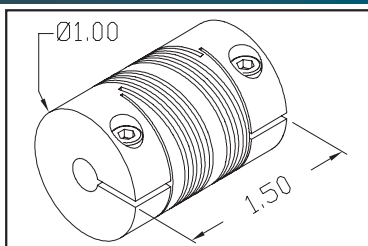
10350 – SERVO CLEAT KIT

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.