



# RTX-P510 SERIES - Rotary Position Transducer

## 0 to 5, 0 to 10, ±5, ±10 VDC ANALOG OUTPUT

The UniMeasure RTX-P510 series rotary position transducer offers a voltage output with wide adjustability to give a 0 to 5, 0 to 10, ±5 or ±10 VDC output. The device may be powered with any voltage in the range of 4.9 to 30 VDC. With the zero position set anywhere within the first 30% of total travel, the span may be adjusted to give a full 0 to 5 or 0 to 10 VDC output with the span set anywhere within the last 20% of travel. Alternatively, the zero position may be set anywhere between 40% and 60% of full travel to give an output of ±5 or ±10 VDC with the span set between 80% to 100% of the longest travel from the zero position. The RTX-P510 series shares similar traits of other RTX series rotary transducers including chemical resistant thermoplastic case, IP-65 (NEMA 4) ingress protection, body mounted electrical connector or bulkhead fitting with length of electrical cable, and side or end mounted electrical connection location.

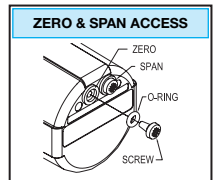


### SPECIFICATIONS

**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 within length of shaft only  
 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  
 Shaft Breakaway Torque.....3 oz-in (0.021 N-m) Maximum

**ENVIRONMENTAL**  
 Operating Temperature.....-40°C to 85°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 .....IP-65 (NEMA 4)

**ELECTRICAL**  
 Output .....0 to 5, 0 to 10, ±5, ±10 VDC  
 Excitation Voltage.....4.9 to 30 VDC  
 Excitation Current.....25 mA max.  
 Output Impedance .....10Ω max.  
 Output Load .....5KΩ min.  
**ADJUSTMENT RANGE- 0 to 5 or 0 to 10 VDC**  
 Zero .....0 to 30% of Range  
 Span .....80% to 100% of Range  
**ADJUSTMENT RANGE- ±5 or ±10 VDC**  
 Zero .....40% to 60% of Range  
 Span .....80% to 100% of Longest Possible Travel from Zero Position  
 Protection .....Reversed Polarity



### MODEL NUMBER CONFIGURATION

**RTX-P510-** 0 - 1 2 3 - 4 5 6

### BASIC CONFIGURATION (FOR ALL RANGES)

**RTX-P510-50-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**

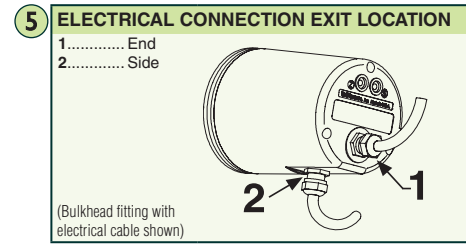
1	Ø10 mm
2	Ø6 mm
3	Ø0.375 inch
4	Ø0.25 inch

**3** 0.....Required Designator

**4 OUTPUT VOLTAGE POLARITY**

S	Clockwise Increasing
R	Counter Clockwise Increasing

(When viewed from shaft end of unit)



**6 ELECTRICAL CONNECTION**

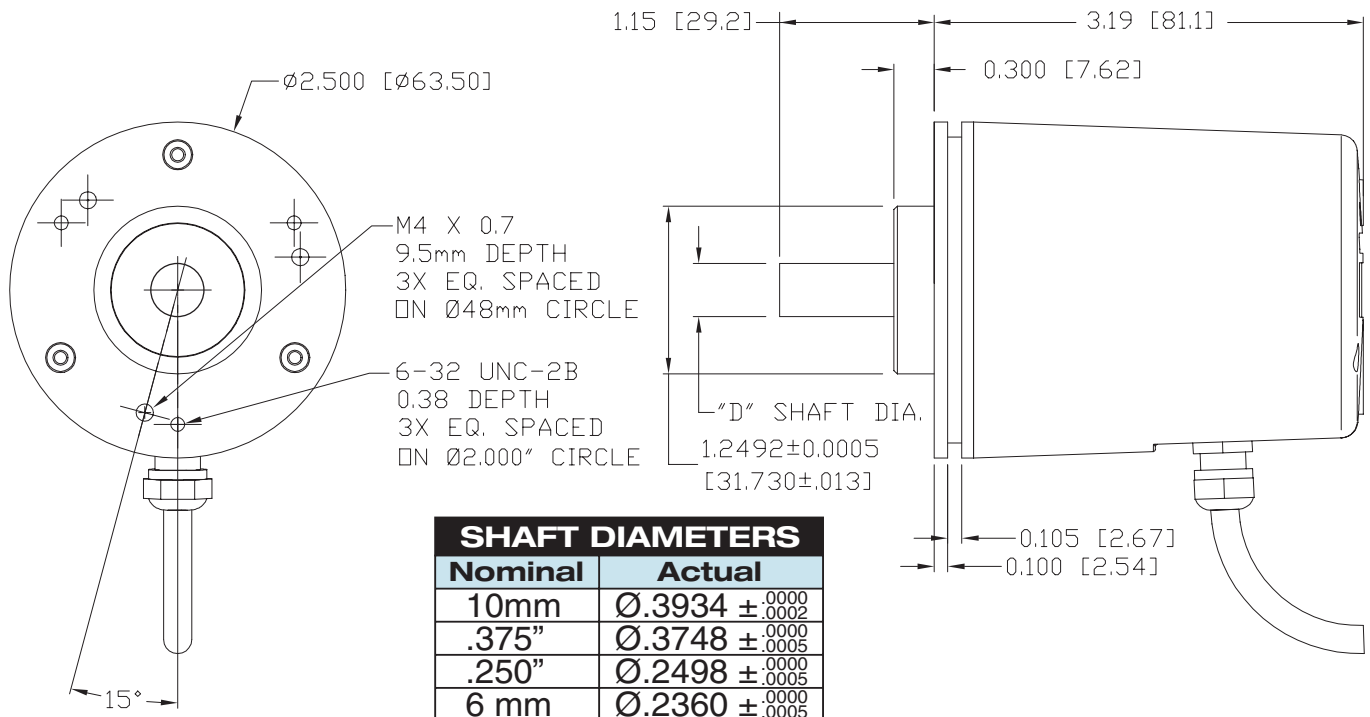
**C**.....Connector with Mating Connector  
**K**.....Connector with **No** Mating Connector--*Electrical cable with mating connector may be ordered separately as item number 10248-xM where 'x' is the required length in meters.*

**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

#### RTX Series — ALL RANGES



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**



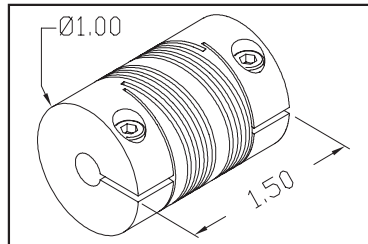
#### 10350 – SERVO CLEAT KIT (Metric)

**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.