

Rotational Position Transducer

- ▼ Up to 50 Turns
- ▼ Industrial Grade
- ▼ 0...10 VDC Output Signal



RT9510

Specification Summary:

GENERAL

Full Stroke Ranges 0.25 to 0-50 turns, see ① next page
 Output Signal 0-10, 0-5 VDC, see ④
 Accuracy ± 0.30 to $\pm 0.15\%$ full stroke, see ②
 Repeatability $\pm 0.05\%$ full stroke
 Resolution essentially infinite
 Enclosure Material powder-painted aluminum or stainless steel, see ③
 Sensor plastic-hybrid precision potentiometer
 Shaft Loading up to 35 lbs. radial and 5 lbs. axial
 Weight, Aluminum (Stainless Steel) Enclosure 5 lbs. (10 lbs.) max.

ELECTRICAL

Input Voltage 14.5-40VDC (10.5-40VDC for 0-5 volt output)
 Input Current 10 mA maximum
 Output Impedance 1000 ohms
 Maximum Output Load 5000 ohms
 Zero and Span Adjustment 2:1 turndown

ENVIRONMENTAL

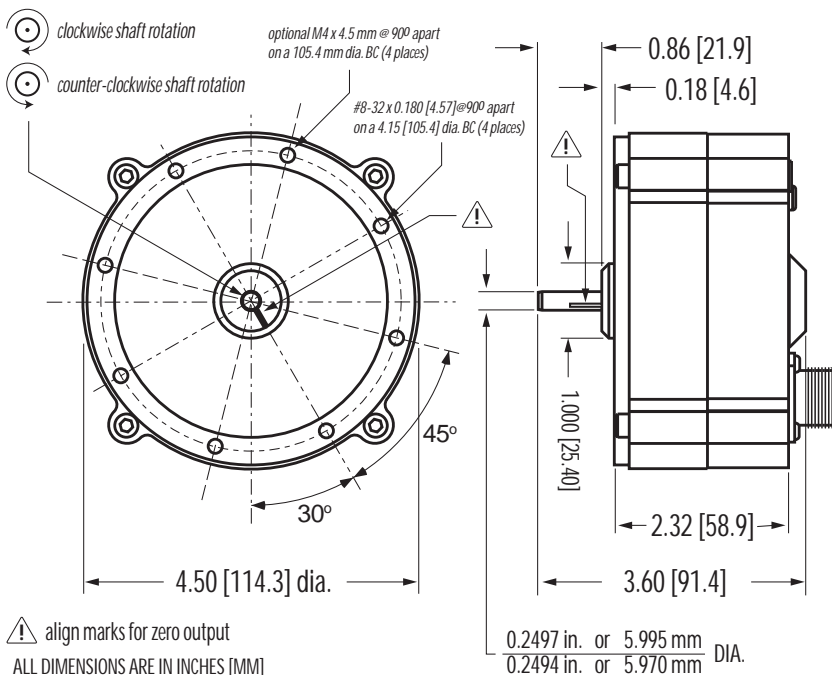
Enclosure Design NEMA 4/4X/6, IP65/67/68, see ⑤ and ⑥
 Operating Temperature -40° to 200° F
 Vibration up to 10 G's to 2000 Hz maximum

CE EMC COMPLIANCE PER DIRECTIVE 89/336/EEC
 Emission / Immunity EN50081-2 / EN50082-2

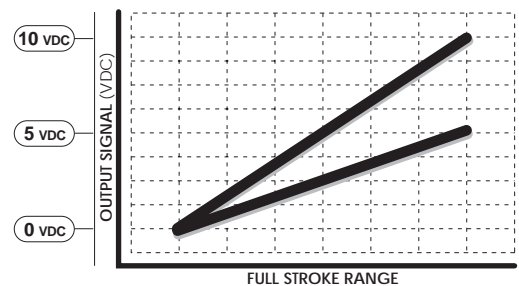


The RT9510 is an incredibly simple device which provides a regulated 0...10 VDC rotational-position feedback signal with a 14.5...40 VDC unregulated input voltage.

This innovative sensor from Celesco, designed to meet tough NEMA-4 and IP67 environmental standards, is available in full-stroke measurement ranges of 1/4 to 50 turns. Because the sensor is potentiometric, the RT9510 is absolute and will maintain position information even after a loss of power.



Electrical Output Signal:



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RT9510 • Rotational Transducer • 0...10 VDC Output Signal

▼ Ordering Information

Model Number:

RT9510- _____ **1** _____ **0**
order code: **R** **A** **B** **C** **D** **E** **F** **G**

Full Stroke Range:

R <i>order code:</i>	0R25	0R50	0001	0002	0003
① clockwise shaft rotations, min:	0.25	0.50	1	2	3
② accuracy (% of f.s.):	0.30%	0.30%	0.30%	0.30%	0.30%
potentiometer cycle life*:	2.5 x 10 ⁶	2.5 x 10 ⁶	2.5 x 10 ⁶	2.5 x 10 ⁶	2.5 x 10 ⁶

R <i>order code:</i>	0005	0010	0020	0030	0050
clockwise shaft rotations, min:	5	10	20	30	50
accuracy (% of f.s.):	0.20%	0.15%	0.15%	0.15%	0.15%
potentiometer cycle life*:	5 x 10 ⁵	2.5 x 10 ⁵	2.5 x 10 ⁵	2.5 x 10 ⁵	2.5 x 10 ⁵

*note: **potentiometer cycle life** is defined as the minimum number of times the sensor can be cycled back and forth, from beginning to end, before any measureable degradation of the output signal occurs.

Enclosure Material:

A <i>order code:</i>	1	2
③ enclosure material:	powder-painted aluminum	303 stainless steel

Mounting Configuration and Shaft Diameter:

B <i>order code:</i>	1	2
shaft diameter:	0.25 inch diameter	6 mm diameter
mounting holes:	8-32 x 0.25 in.	M4 x 6 mm

Output Signals:

B <i>order code:</i>	1	2	3	4
④ output signal configuration:	0...10 VDC	10...0 VDC	0...5 VDC	5...0 VDC

RT9510 • Rotational Transducer • 0...10 VDC Output Signal

Electrical Connection:

① order code:

	1	2	3	4
electrical connection:	6-pin plastic connector and mating plug	10 ft. waterproof cable	6-pin metal connector and mating plug	25 ft. instrumentation cable
		connections	connections	connections
	<p>A = input voltage B = output signal C = common</p>	<p>WHT = input voltage GRN = output signal BLK = common</p>		<p>RED = input voltage GRN = output signal BLK = common</p>
⑤ IP rating:	67	67, 68*	65	67
⑥ NEMA rating:	6, 4X**	6, 4X**	4	6

note: *requires factory submersion test

**applies to stainless steel enclosure, see ③

▼ Sample Model Number

RT9510-0005 - 1 1 1 - 1 1 0
order code: ⑧ ④ ⑥ ③ ① ② ⑦

Specifications: Full Stroke Range: 5 turns (5 clockwise shaft rotations)
 Enclosure Material: powder-painted aluminum
 Shaft Diameter: 0.25 inches
 Mounting Holes: 8-32 x 0.250 in.
 Output Signal: 0-10 VDC, output increasing with clockwise shaft rotation
 Electrical Connection: 6-pin plastic connector