

Rotational Position Transducer

- ▼ Up to 200 Turns
- ▼ Industrial Grade
- ▼ 0...10 VDC Output Signal



RT8510



Specification Summary:

GENERAL

Full Stroke Ranges 0-0.125 to 0-200 turns, see ① next page
 Output Signal 0-10, 0-5 VDC, see ④
 Accuracy ± 0.28 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 ④
 Sensor plastic-hybrid precision potentiometer
 Shaft Loading up to 10 lbs. radial and 5 lbs. axial
 Starting Torque (25°C) 2.0 in-oz., max.
 Weight, Aluminum (Stainless Steel) Enclosure 3 lbs. (6 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

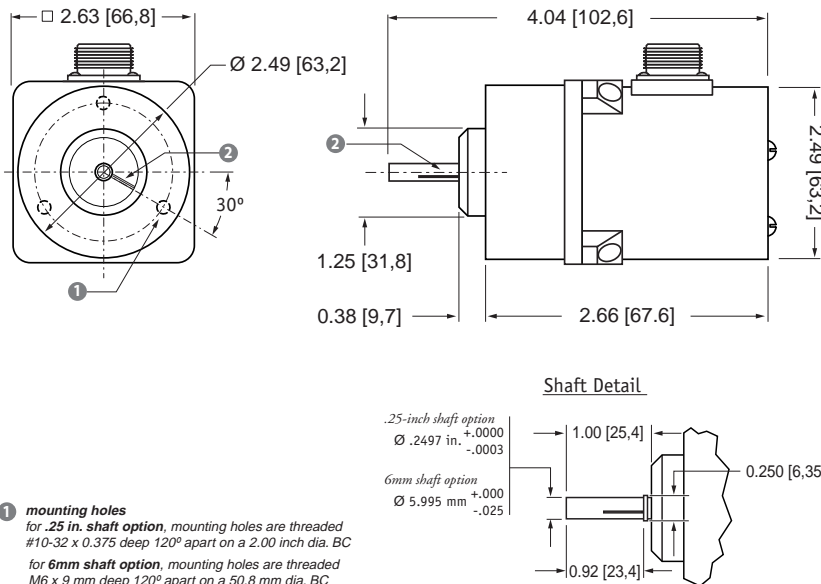
ENVIRONMENTAL

Enclosure Design NEMA 4/4X/6, IP 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 RT8510 can operate from an unregulated 14.5 to 40 VDC power supply while providing a regulated output signal over it's full range from 1/8 of a turn up to 200 turns. It provides a 0 - 10 VDC position feedback signal proportional to the rotational position of the shaft

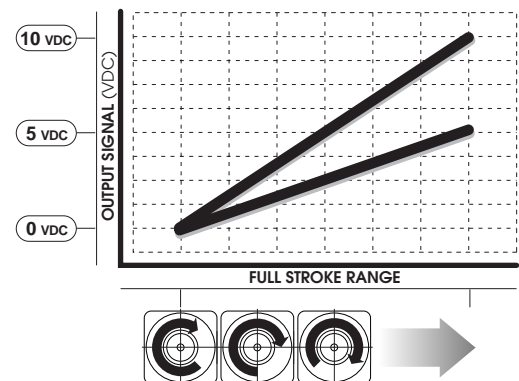
As a member of Celesco's innovative family of NEMA-4/ IP67 rotational transducers, the RT8510 offers numerous benefits including a zero and span adjust and a potentiometric sensor which provides an "absolute" feedback signal that is unaffected by power loss.



- ① mounting holes
for .25 in. shaft option, mounting holes are threaded #10-32 x 0.375 deep 120° apart on a 2.00 inch dia. BC
for 6mm shaft option, mounting holes are threaded M6 x 9 mm deep 120° apart on a 50,8 mm dia. BC
- ② reference mark
full counter-clockwise position - align mark on shaft to mark on face for start of measurement range

ALL DIMENSIONS ARE IN INCHES [MM]

Electrical Output Signal:



celesco

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RT8510 • Rotational Transducer • 0...10 VDC Output Signal

Ordering Information

Model Number:

RT8510- _____ - _____ - **1** _____ - **0**
order code: R A B C D E F G

Full Stroke Range:

<small>R</small> order code:	R125	OR25	OR50	0001	0002	0003	0005	0010	0020	0030
① clockwise shaft rotations, min:	0.125	0.25	0.50	1	2	3	5	10	20	30
② accuracy (% of f.s.):	0.30 %						0.20 %	0.15 %		
potentiometer cycle life*:	2.5 x 10 ⁶						5 x 10 ⁵	2.5 x 10 ⁵		





<small>R</small> order code:	0040	0050	0060	0080	0100	0120	0140	0160	0180	0200
clockwise shaft rotations, min:	40	50	60	80	100	120	140	160	180	200
accuracy (% of f.s.):	0.15 %									
potentiometer cycle life*:	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.*

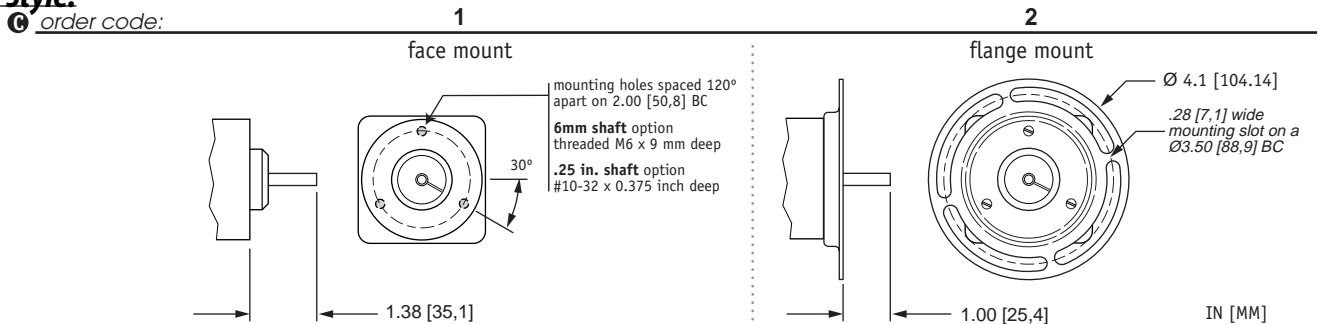
Enclosure Material:

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

Shaft Diameter:

<small>B</small> order code:	1	2	3	4
	0.25-in. diameter	6 mm diameter	0.25-in. dia. w/flats	6 mm dia. w/flats
				
	.2497 in. (+.0000 - .0003)	5.995 mm (+.000 - .025)	0.33 in. 0.025 in.	8.4 mm 0.64 mm

Mounting Style:



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Output Signals:

	1	2	3	4
④ order code:				
④ output signal configuration:	0...10 VDC	10...0 VDC	0...5 VDC	5...0 VDC

Electrical Connection:

	1	2	3	4
⑤ 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 A = input voltage B = output signal C = common	connections WHT = input voltage GRN = output signal BLK = common	connections A = input voltage B = output signal C = common	connections RED = input voltage GRN = output signal BLK = common
⑤ IP rating:	67	67, 68*	67	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

RT8510-0005 - 1 1 1 - 1 1 1 0
order code: R A B C D E F G

Specifications: Full Stroke Range: 5 turns (5 clockwise shaft rotations)
 Enclosure Material: powder-painted aluminum
 Shaft Diameter: 0.25 inches
 Mounting Style: face mount
 Output Signal: 0-10 VDC, output increasing with clockwise shaft rotation
 Electrical Connection: 6-pin plastic connector