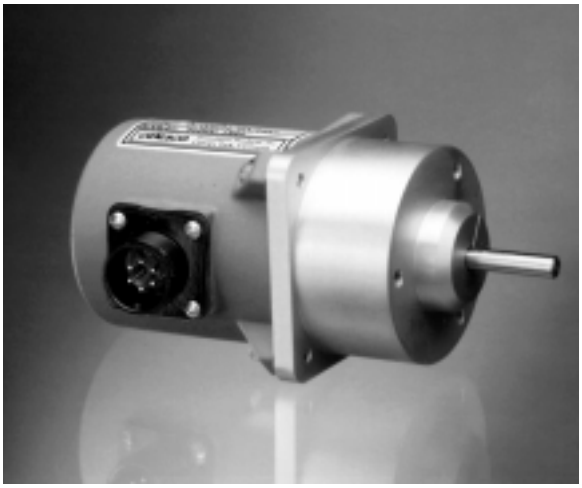
Rotational Position Transducer

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

CE

RT8510



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.

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 ±0.15% full stroke, see ②
Repeatability ..... ± 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 (25ºC) ..... 2.0 in-oz., max.
Weight, Aluminum (Stainless Steel) Enclosure ..... 3 lbs. (6 lbs.) max.

ELECTRICAL

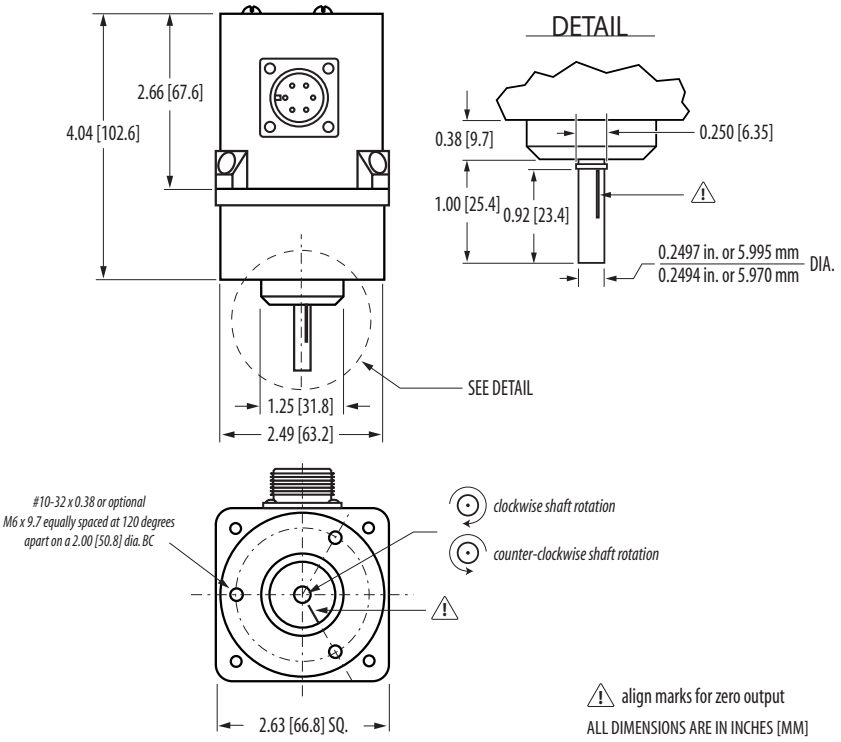
Input Voltage ..... 14.5-40VDC (10.5-40VDC for 0-5 volt output)
Input Current ..... 10 mA maximum
Output Impedance ..... 1000 ohms
Maximum Output Load ..... 5000 ohms
Zero and Span Adjustment ..... 2:1 turndown

ENVIRONMENTAL

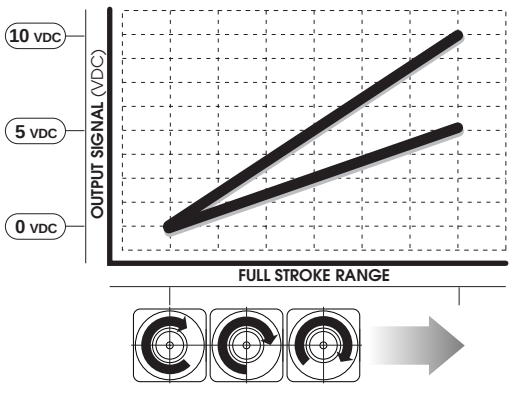
Enclosure Design ..... NEMA 4/4X/6, IP 65/67/68 see ⑤ and ⑥
Operating Temperature ..... -40º to 200ºF
Vibration ..... up to 10 G's to 2000 Hz maximum

CE **EMC COMPLIANCE PER DIRECTIVE 89/336/EEC**

Emission / Immunity ..... EN50081-2 / EN50082-2



Electrical Output Signal:



Latin Tech, Inc.

▼ Ordering Information

Model Number:

RT8510- ____ Ⓡ **-** __ Ⓐ __ Ⓑ **1** Ⓒ **-** **1** Ⓓ __ Ⓔ __ Ⓕ **0** Ⓖ

order code:

Full Stroke Range:

Ⓡ *order code:*	R125	0R25	0R50	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*:	2.5×10^6						5×10^5	2.5×10^5		

Ⓡ *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*:	2.5×10^5									

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.*

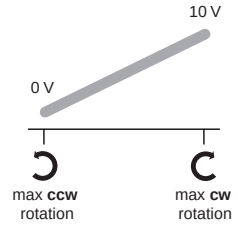
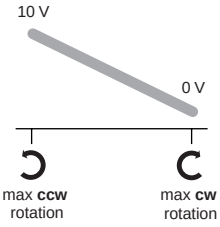
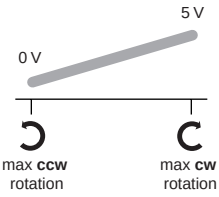
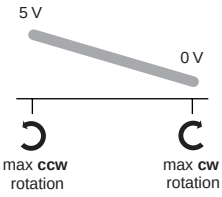
Enclosure Material :

Ⓐ *order code:*	1	2
③ enclosure material:	powder-painted aluminum	303 stainless steel

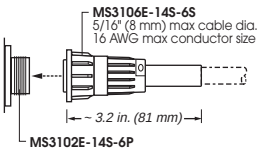
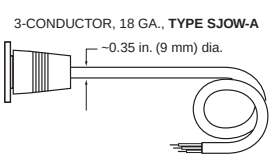
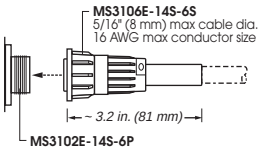
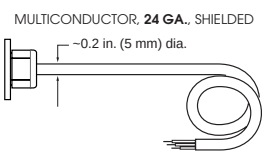
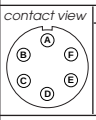
Mounting Configuration and Shaft Diameter:

Ⓑ *order code:*	1	2
shaft diameter:	0.25 inch diameter	6 mm diameter
mounting holes:	10-32 x 0.25 in.	M6 x 10 mm

Output Signals:

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

Electrical Connection:

Ⓔ 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
				
	contact view: 	connections: A = input voltage B = output signal C = common	connections: WHT = input voltage GRN = output signal BLK = common	contact view: 	connections: A = input voltage B = output signal C = common	connections: RED = input voltage GRN = output signal BLK = common
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

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

Specifications:

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