0...5, 0...10 VDC Output
Ranges: 0-90º to 0-50 Turns
Industrial Grade

RT9510

CE

Specification Summary:

GENERAL

Full Stroke Range Options ..... 0-0.125 to 0-50 turns
Output Signal Options ..... 0...5, 0...10 VDC
Accuracy ..... ± 0.30% to ±0.15% full stroke *see ordering information*
Repeatability ..... ± 0.05% full stroke
Resolution ..... essentially infinite
Enclosure Material ..... powder-painted aluminum or stainless steel
Sensor ..... plastic-hybrid precision potentiometer
Potentiometer Cycle Life ..... *see ordering information*
Shaft Loading ..... up to 35 lbs. radial and 5 lbs. axial
Weight, Aluminum (Stainless Steel) Enclosure ..... 5 lbs. (10 lbs.) max.

ELECTRICAL

Input ..... 14.5-40 VDC (10.5-40 VDC for 0...5 volt output)
Input Current ..... 10 mA maximum
Output Impedence ..... 1000 ohms
Maximum Load ..... 5000 ohms
Zero and Span Adjustment ..... *see ordering information*

ENVIRONMENTAL

Enclosure ..... NEMA 4/4X/6, IP 67/68
Operating Temperature ..... -40º to 200ºF (-40º to 90ºC)
Vibration ..... up to 10 G's to 2000 Hz maximum

EMC COMPLIENCE PER DIRECTIVE 89/336/EEC

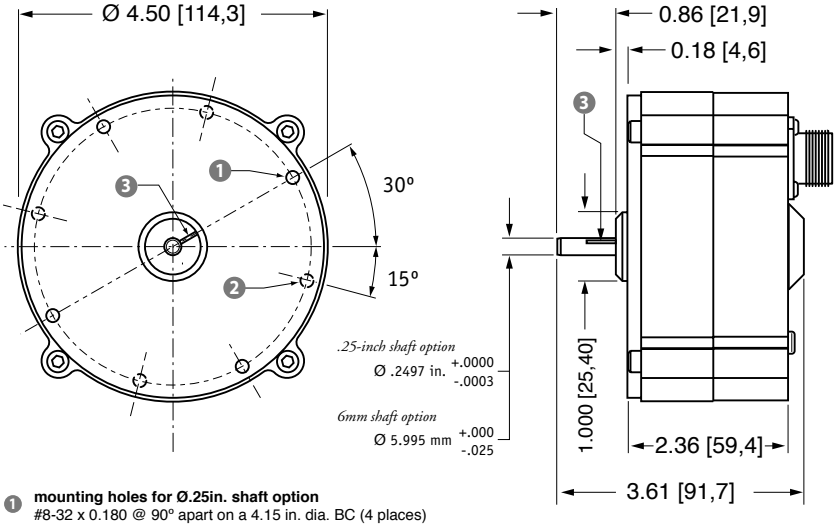
Emission/Immunity ..... EN50081-2 / EN50082-2



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.

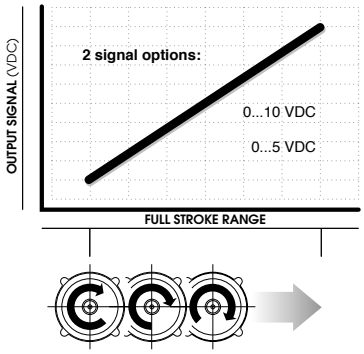
Outline Drawing



1. **mounting holes for Ø.25in. shaft option**
   #8-32 x 0.180 @ 90º apart on a 4.15 in. dia. BC (4 places)
2. **mounting holes for Ø 6mm shaft option**
   M4 x 4,5 mm @ 90º apart on a 105,4 mm dia. BC (4 places)
3. **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]

Output Signal



Ordering Information:

Model Number:

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

Sample Model Number:

RT9510 - 0005 - 111 - 1110

Ⓡ	range:	5 turns (clockwise shaft rotations)
Ⓐ	enclosure:	aluminum
Ⓑ	shaft diameter:	.25 inches
Ⓔ	output signal:	0...10 VDC signal increasing clockwise
Ⓕ	electrical connection:	6-pin plastic connector

Full Stroke Range:

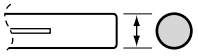
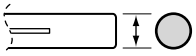
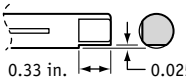
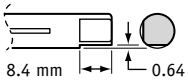
Ⓡ *order code:*	R125	0R25	0R50	0001	0002	0003	0005	0010	0020	0030	0050
clockwise shaft rotations, min:	0.125	0.25	0.50	1	2	3	5	10	20	30	50
accuracy (% of f.s.):	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%	0.15%	0.15%	0.15%	0.15%
potentiometer cycle life*:	2.5×10^6	2.5×10^6	2.5×10^6	2.5×10^6	2.5×10^6	2.5×10^6	5×10^5	2.5×10^5	2.5×10^5	2.5×10^5	2.5×10^5

**–number of times the sensor shaft can be cycled back and forth from beginning to end and back to the beginning before any measurable signal degradation may occur.*

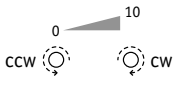
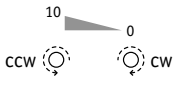
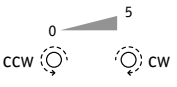
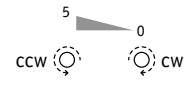
Enclosure Material:

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

Shaft Diameter:

Ⓑ *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

Output Signals:

Ⓔ *order code:*	1	2	3	4
output signal options:	0...10 VDC	10...0 VDC	0...5 VDC	5...0 VDC
				
input voltage:	14.5...40 VDC		10.5...40 VDC	

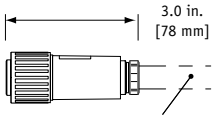
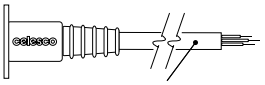
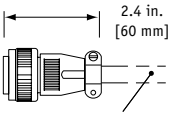
Example:

ordercode = **1** = 0...10 VDC { max ccw  = 0 VDC max cw  = 10 VDC

Ordering Information:

Electrical Connection:

Ⓕ *order code:*

1	2	3	4
6-pin plastic connector with mating plug **IP 67, NEMA 4X*,6**	10-ft. waterproof cable 18 AWG, sealed strain relief **IP 67,68** NEMA 4X*,6**	6-pin metal connector with mating plug **IP 65, NEMA 4**	25-ft. instrumentation cable 24 AWG, shielded **IP 67, NEMA 6**
			
.30 – .39 in. [8 – 10 mm] cable dia. 16 AWG max conductor size connector: MS3102E-14S-6P mating plug: MS3106E-14S-6S	10 ft. x 0.4-in. dia. [3 M x 10 mm dia.] 18 AWG, type SJOW-A	3/8-in. [9 mm] max cable dia. 16 AWG max conductor size connector: MS3102E-14S-6P mating plug: MS3106E-14S-6S	25 ft. x 0.2-in. dia. [7,5 M x 5 mm dia.] 24 AWG, shielded

6-pin mating plug:

pin	signal
A	input voltage
B	output signal
C	common



contact view

10-ft. waterproof cable:

color code	signal
WHITE	input voltage
GREEN	output signal
BLACK	common

25-ft. instrumentation cable:

color code	signal
RED	input voltage
GREEN	output signal
BLACK	common

** –applies to stainless steel enclosure only. ** –requires factory submersion test*

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