

Rotational Transducer

- ▼ Up to 50 Turns
- ▼ Industrial Grade
- ▼ Precision Potentiometric Output



RT9101

Specification Summary:

GENERAL

Full Stroke Ranges 0-0.25 to 0-50 turns, see ① next page
 Output Signal voltage divider (potentiometer)
 Accuracy ± 0.30 to $\pm 0.15\%$ full stroke, see ②
 Repeatability $\pm 0.02\%$ 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 Resistance 500, 1K, 5K, 10K ohms ($\pm 10\%$) or adjustable bridge, see ④
 Power Rating, Watts 2.0 at 70°F (derated to 0 @ 250°F)
 Recommended Maximum Input Voltage 30 V(AC or DC)
 Output Signal Change Over Measurement Range 94% $\pm 4\%$ of input voltage

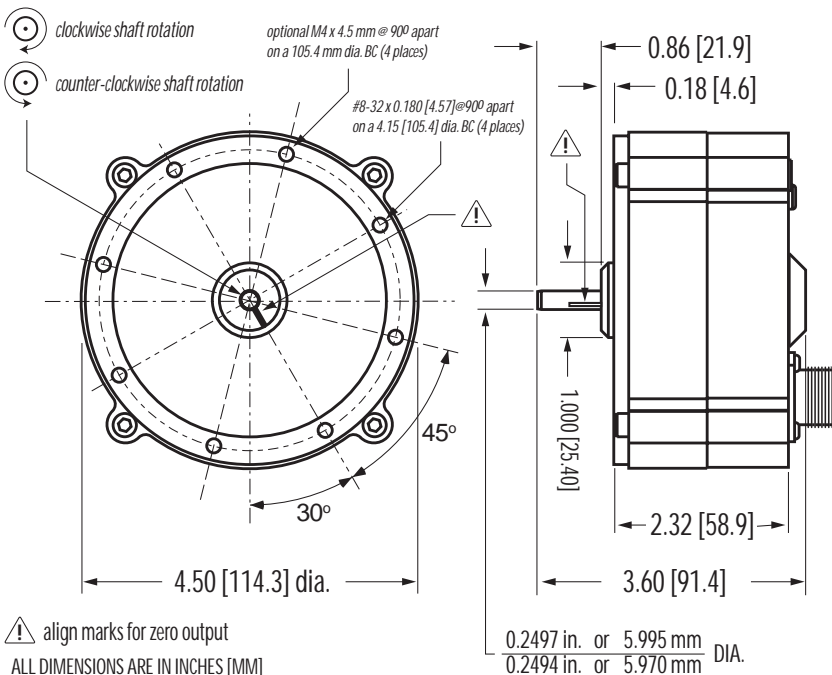
ENVIRONMENTAL

Environmental Suitability NEMA 4/4X/6, IP 65/67/68, see ⑤ and ⑥
 Operating Temperature -40° to 200°F
 Vibration up to 10 G's to 2000 Hz maximum

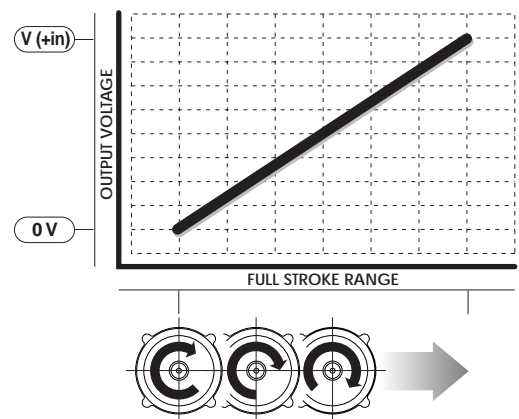


Celeco's model RT9101 provides a voltage feedback signal for rotational position. The sensing element of this device is a precision plastic-hybrid potentiometer which provided superb linearity and resolution.

This innovative sensor from Celeco, 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 RT9101 is absolute and will maintain position information even after a loss of power.



Electrical Output Signal:



celesco

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www.celesco.com • info@celesco.com

▼ Ordering Information

Model Number:

RT9101- _____ - _____ **1** - _____ **1** - _____ **0**
 order code: **R** **A** **B** **C** **D** **E** **F** **G**

Full Stroke Range:

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

Mounting Configuration and Shaft Diameter:

	B order code:	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:

	D order code:	1	2	3	4	5
④ sensing circuit:		500 Ω	1K Ω	5K Ω	10K Ω	0...30 mV/V adjustable bridge

max cw rotation

max ccw rotation

in

common

out

full scale output: adjustable from 0 to 30mV/V

zero adjust: from full retraction to 50% of full stroke

-out

+in

-in

+out

RT9101 • Rotational Transducer • Potentiometric Output

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																																														
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IP rating:	67	67, 68*	65	67																																														
NEMA rating:	6, 4X**	6, 4X**	4	6																																														

note: *requires factory submersion test

**applies to stainless steel enclosure, see ③

▼ Sample Model Number

RT9101-0005 - 1 1 1 - 1 1 1 0
order code: ① ② ③ ④ ⑤ ⑥ ⑦ ⑧

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: 500 ohm voltage divider
 Electrical Connection: 6-pin plastic connector