

Rotational Transducer

- ▼ Up to 200 Turns
- ▼ Industrial Grade
- ▼ 4...20 mA Output Signal



RT8420



Specification Summary:

GENERAL

Full Stroke Ranges 0-0.125 to 0-200 turns, see ① next page
 Output Signal 4 - 20 mA (2-wire), 0 - 20 mA (3-wire), see ④
 Sensitivity, 2-wire 16 mA/full stroke, $\pm 0.25\%$
 Sensitivity, 3-wire 20 mA/full stroke, $\pm 0.25\%$
 Accuracy ± 0.30 to $\pm 0.15\%$ full stroke, see ②
 Repeatability $\pm 0.05\%$ full stroke, max.
 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 12 to 40 VDC
 Input Current 20 mA, max.
 Loop Resistance (Load) (loop supply voltage - 12) / 0.02, max.
 Circuit Protection 38 mA maximum
 Impedance 100 M Ω @ 100 VDC, min.
 Zero and Span Adjustment 2:1 turndown

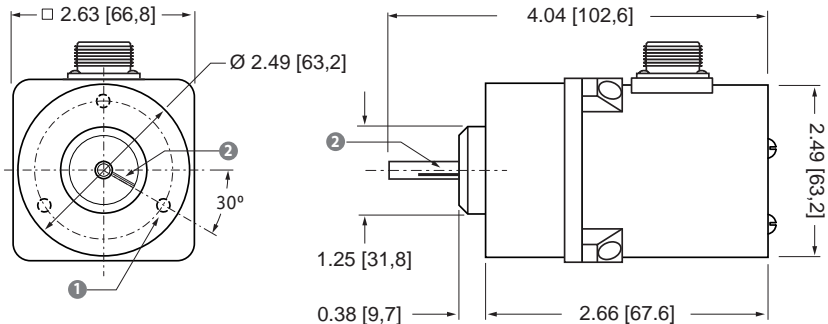
ENVIRONMENTAL

Enclosure Design NEMA 4/4X/6, IP 67/68, see and ⑥
 Operating Temperature -40° F to 200°F
 Thermal Effects
 Zero 0.01% full stroke / °F, max.
 Span 0.01% / °F, max.
 Vibration up to 10 G's to 2000 Hz max.

Celeco's model RT8420 provides extended rotational position feedback from as little as 1/8 of a turn f.s. all the way up to 200 turns f.s. The RT8420 combines the superb linearity and resolution of a plastic-hybrid potentiometer with the durability of Celeco's 4...20 mA circuit to provide an accurate and reliable electrical signal over all ranges.

Additionally, the RT8420 has fully accessible zero and span settings allowing precise matching of the output signal to the required measurement.

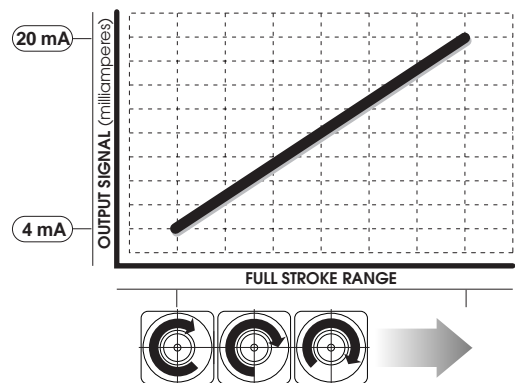
EMC COMPLIANCE PER DIRECTIVE 89/336/EEC
 Emission / Immunity EN50081-2 / EN50082-2



- 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

Celeco Transducer Products, Inc.
 20630 Plummer Street • Chatsworth, CA • 91311
 tel: (800) 423-5483 • (818) 701-2750 • fax: (818) 701-2799
www.celesco.com • info@celesco.com

Ordering Information

Model Number:

RT8420- _____ - _____ - **1** _____ - **0**
 order code: **R** **A** **B** **C** **D** **E** **F** **G**

Full Stroke Range:

	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		





	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 measurable degradation of the output signal occurs.

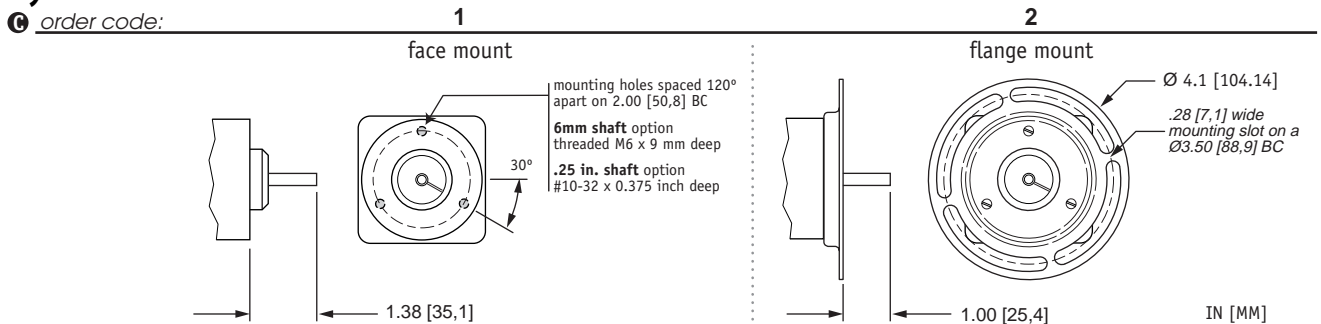
Enclosure Material:

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

Shaft Diameter:

	1	2	3	4
④ order code:	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:



RT8420 • Rotational Transducer • 4...20 mA Output Signal

Output Signals:

	1	2	3	4
④ output signal configuration:	4...20 mA, 2-wire	20...4 mA, 2-wire	0...20 mA, 3-wire	20...0 mA, 3-wire

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																																																												
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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

RT8420-0005 - 1 1 1 - 1 1 1 0
order code: ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

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