

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
 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

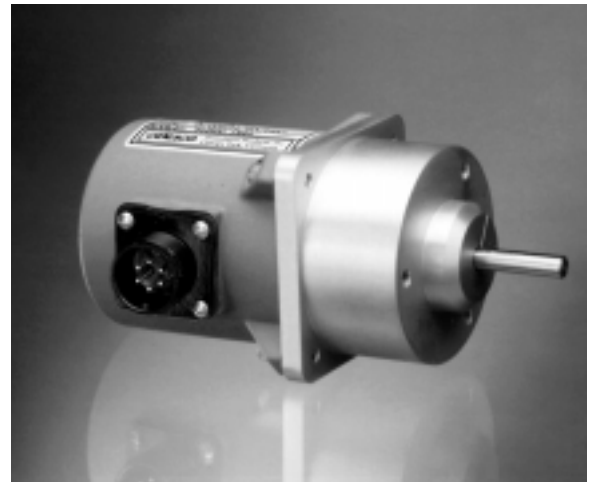
Input Voltage 12 to 40 VDC
 Input Current 20 mA, max.
 Loop Resistance (Load) (loop supply voltage - 12) / 0.02, max.
 Circuit Protection 38 mA maximum
 Impedance 100 M Ω @ 100 VDC, min.
 Zero and Span Adjustment 2:1 turndown

ENVIRONMENTAL

Enclosure Design NEMA 4/4X/6, IP 65/67/68, 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.

EMC COMPLIANCE PER DIRECTIVE 89/336/EEC

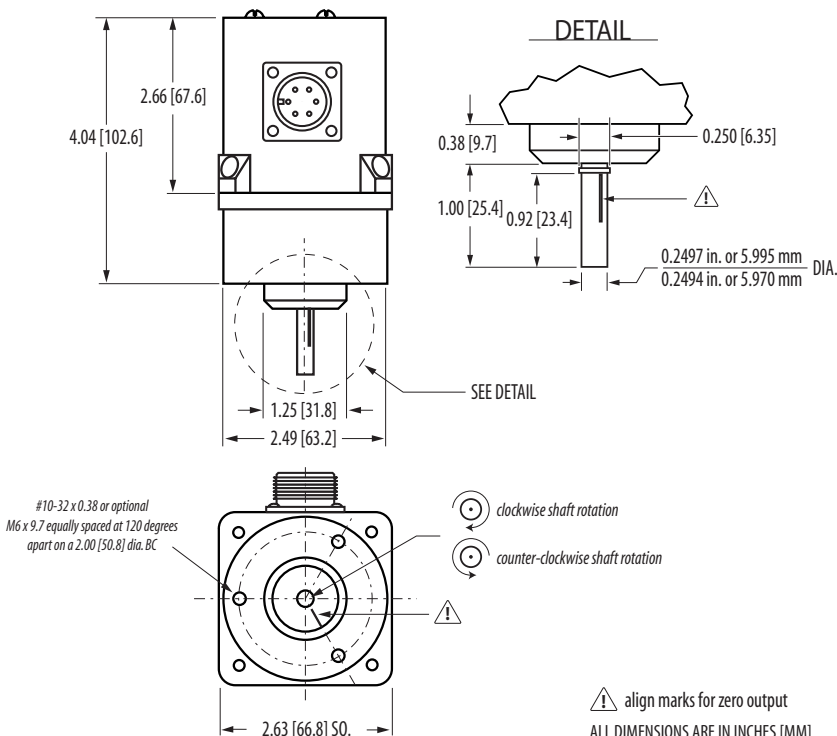
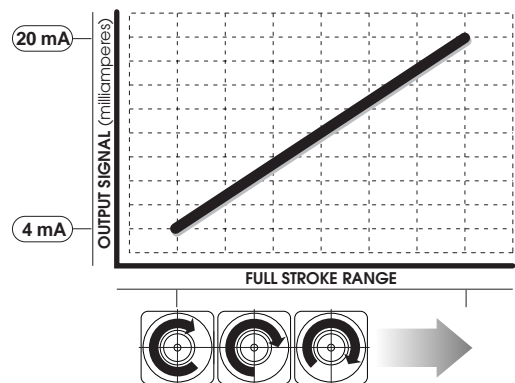
Emission / Immunity EN50081-2 / EN50082-2



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.

Electrical Output Signal:



⚠ align marks for zero output
 ALL DIMENSIONS ARE IN INCHES [MM]

Latin Tech, Inc.

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

▼ Ordering Information

Model Number:

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

Full Stroke Range:

R 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		

R 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.*

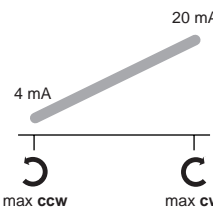
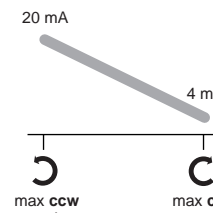
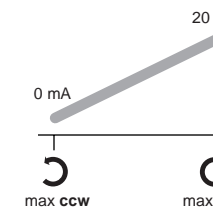
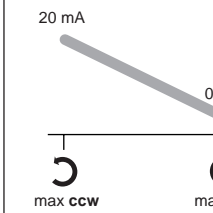
Enclosure Material:

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

Mounting Configuration:

B 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:

B order code:	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
				

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

Electrical Connection:

③ 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																																																																								
	<table border="1"> <thead> <tr> <th>contact view</th> <th colspan="2">connections</th> </tr> <tr> <td></td> <th>2-wire</th> <th>3-wire</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>A</td> <td>A</td> </tr> <tr> <td>B</td> <td>A</td> <td>A</td> </tr> <tr> <td>C</td> <td>B</td> <td>C</td> </tr> <tr> <td>D</td> <td>n/a</td> <td>B</td> </tr> <tr> <td>E</td> <td>n/a</td> <td>n/a</td> </tr> <tr> <td>F</td> <td>D</td> <td>n/a</td> </tr> </tbody> </table>	contact view	connections			2-wire	3-wire	A	A	A	B	A	A	C	B	C	D	n/a	B	E	n/a	n/a	F	D	n/a	<table border="1"> <thead> <tr> <th colspan="2">connections</th> </tr> <tr> <th>2-wire</th> <th>3-wire</th> </tr> </thead> <tbody> <tr> <td>12...40 VDC</td> <td>WHT n/a</td> </tr> <tr> <td>4...20 mA out</td> <td>BLK n/a</td> </tr> <tr> <td>common</td> <td>n/a n/a</td> </tr> <tr> <td>case ground</td> <td>GRN n/a</td> </tr> </tbody> </table>	connections		2-wire	3-wire	12...40 VDC	WHT n/a	4...20 mA out	BLK n/a	common	n/a n/a	case ground	GRN n/a	<table border="1"> <thead> <tr> <th>contact view</th> <th colspan="2">connections</th> </tr> <tr> <td></td> <th>2-wire</th> <th>3-wire</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>A</td> <td>A</td> </tr> <tr> <td>B</td> <td>A</td> <td>A</td> </tr> <tr> <td>C</td> <td>B</td> <td>C</td> </tr> <tr> <td>D</td> <td>n/a</td> <td>B</td> </tr> <tr> <td>E</td> <td>n/a</td> <td>n/a</td> </tr> <tr> <td>F</td> <td>D</td> <td>n/a</td> </tr> </tbody> </table>	contact view	connections			2-wire	3-wire	A	A	A	B	A	A	C	B	C	D	n/a	B	E	n/a	n/a	F	D	n/a	<table border="1"> <thead> <tr> <th colspan="2">connections</th> </tr> <tr> <th>2-wire</th> <th>3-wire</th> </tr> </thead> <tbody> <tr> <td>12...40 VDC</td> <td>RED RED</td> </tr> <tr> <td>4...20 mA out</td> <td>BLK BLK</td> </tr> <tr> <td>common</td> <td>n/a WHT</td> </tr> <tr> <td>case ground</td> <td>GRN n/a</td> </tr> </tbody> </table>	connections		2-wire	3-wire	12...40 VDC	RED RED	4...20 mA out	BLK BLK	common	n/a WHT	case ground	GRN n/a
contact view	connections																																																																											
	2-wire	3-wire																																																																										
A	A	A																																																																										
B	A	A																																																																										
C	B	C																																																																										
D	n/a	B																																																																										
E	n/a	n/a																																																																										
F	D	n/a																																																																										
connections																																																																												
2-wire	3-wire																																																																											
12...40 VDC	WHT n/a																																																																											
4...20 mA out	BLK n/a																																																																											
common	n/a n/a																																																																											
case ground	GRN n/a																																																																											
contact view	connections																																																																											
	2-wire	3-wire																																																																										
A	A	A																																																																										
B	A	A																																																																										
C	B	C																																																																										
D	n/a	B																																																																										
E	n/a	n/a																																																																										
F	D	n/a																																																																										
connections																																																																												
2-wire	3-wire																																																																											
12...40 VDC	RED RED																																																																											
4...20 mA out	BLK BLK																																																																											
common	n/a WHT																																																																											
case ground	GRN n/a																																																																											
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

RT8420-0005 - 1 1 1 - 1 1 1 0
order code: ② ① ③ ④ ⑤ ⑥ ⑦

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