

Precision Potentiometric Output
Ranges: 0-45° to 0-200 Turns
Industrial Grade

RT8101



Specification Summary:

GENERAL

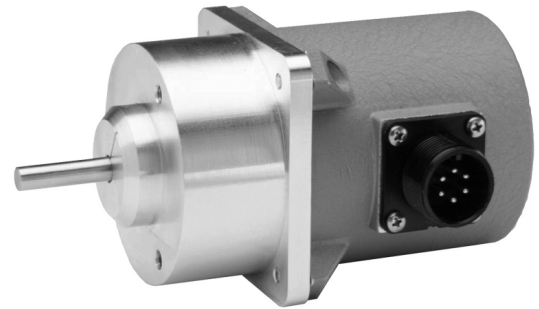
Full Stroke Range Options 0-0.125 to 0-200 turns
 Output Signal Options..... voltage divider (potentiometer)
 Accuracy *see ordering information*
 Repeatability..... ± 0.02% full stroke
 Resolution essentially infinite
 Enclosure Material Options powder-painted aluminum or stainless steel
 Sensor plastic-hybrid precision potentiometer
 Potentiometer Cycle Life *see ordering information*
 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 Resistance Options 500, 1K, 5K, 10K or bridge, *see ordering information*
 Power Rating, Watt 2.0 at 70°F derated to 0 at 250°
 Recommended Maximum Input Voltage 30 V (AC/DC)
 Output Signal Change Over Full Stroke Range 94% ±4% of input voltage

ENVIRONMENTAL

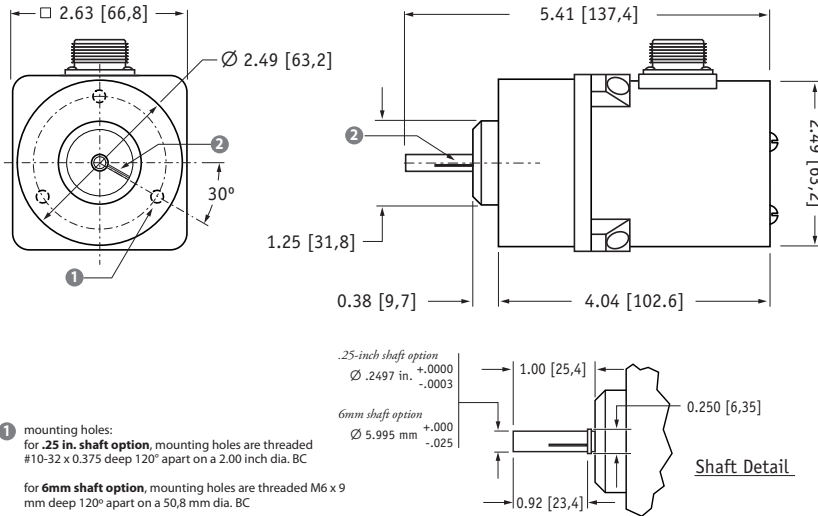
EnclosureNEMA 4/4X/6, IP 67/68
 Operating Temperature -40° to 200°F (-40° to 90°C)
 Vibration..... up to 10 G's to 2000 Hz maximum



Celesco's model RT8101 provides a voltage feedback signal for rotational position. The sensing element of this device is a precision plastic-hybrid potentiometer which provides superb linearity and resolution.

The RT8101 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. Because the sensor is potentiometric, the RT8101 is absolute and will maintain position information even after a loss of power.

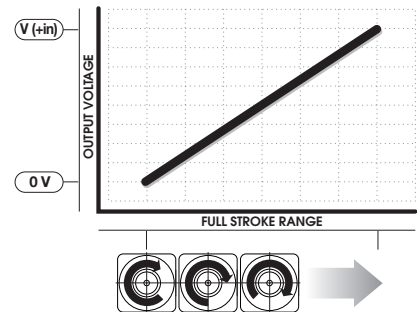
Outline Drawing



- 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]

Output Signal

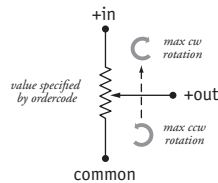


Ordering Information:

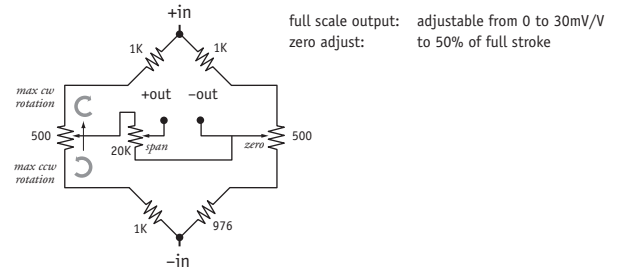
Output Signals:

| | | | | |
|--------------------|------------|--------------------------------------------------------|-------------------|---------------------------------|
| 1 | 2 | 3 | 4 | 5 |
| order code: | 500 ohm* | 1000 ohm* | 5000 ohm* | 10,000 ohm* |
| available ranges: | all ranges | not available for .125-turn (R125) and .25-turn (OR25) | range options | adjustable bridge (0...30 mV/V) |
| | | | *tolerance = ±10% | |

circuit options: 1, 2, 3, 4



circuit option: 5 (adjustable bridge)



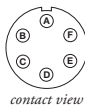
Electrical Connection:

| | | | |
|--------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| 1 | 2 | 3 | 4 |
| order code: | 10-ft. [3 M] waterproof cable | 6-pin metal connector w/mating plug | 25-ft. [7.5 M] instrumentation cable |
| 6-pin plastic connector w/mating plug | IP 67, NEMA 4X**, 6 | IP 65, NEMA 4 | IP 67, NEMA 6 |
| | | | |
| 1/2 - 5/16" [14 - 8 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 SJTW | 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 |

| | | |
|--------------------------------------------------------------|------------------------------------------------------------|--------------------------------------------------------------|
| 5 | 6 | 7 |
| order code: | 10-ft. [3 M] pressure tested* waterproof cable | 100-ft. [30 M] pressure tested* waterproof cable |
| 100-ft. [30 M] waterproof cable | IP 68, NEMA 4X**, 6P | IP 68, NEMA 4X**, 6P |
| | | |
| 100 ft. x 0.4-in. dia. [30 M x 10 mm dia.] 18 AWG, type SJTW | 10 ft. x 0.4-in. dia. [3 M x 10 mm dia.] 18 AWG, type SJTW | 100 ft. x 0.4-in. dia. [30 M x 10 mm dia.] 18 AWG, type SJTW |

6-pin Mating Plug

| pin | standard | bridge |
|-----|----------|--------|
| A | + in | + in |
| B | common | - in |
| C | + out | - out |
| D | - | + out |



Waterproof Cable

| color code | standard | bridge |
|------------|----------|--------|
| WHITE | + in | n/a |
| BLACK | common | n/a |
| GREEN | + out | n/a |

Instrumentation Cable

| color code | standard | bridge |
|------------|----------|--------|
| RED | + in | + in |
| BLACK | common | - in |
| GREEN | + out | + out |
| WHITE | - | - out |

Notes: { * -Test pressure: 100 feet [30 meters] H₂O (40 PSID); Test Medium: Air; Duration: 2 hours.
 ** -NEMA 4X applies to stainless steel enclosure only.

version: 7.0 last updated: June 01, 2011

