

Cable-Extension Position Transducer

0/4...20 mA Output • Hazardous Area Certification
 Ranges: 0-75 to 0-550 inches
 Industrial Grade

PT9420



Specification Summary:

GENERAL

Full Stroke Range Options—on this datasheet 0-75 to 0-550 inches
 Output Signal Options..... 4...20 mA (2-wire) and 0...20 mA (3-wire)
 Accuracy ± 0.12% full stroke
 Repeatability ± 0.05% full stroke
 Resolution essentially infinite
 Measuring Cable Options nylon-coated stainless steel or thermoplastic
 Enclosure Material powder-painted aluminum or 303 stainless steel
 Sensor plastic-hybrid precision potentiometer
 Potentiometer Cycle Life 250,000, min. —before signal degradation can occur
 Maximum Retraction Acceleration/ Velocity see ordering information
 Weight, Aluminum (Stainless Steel) Enclosure 8 lbs. (16 lbs.) max.

ELECTRICAL

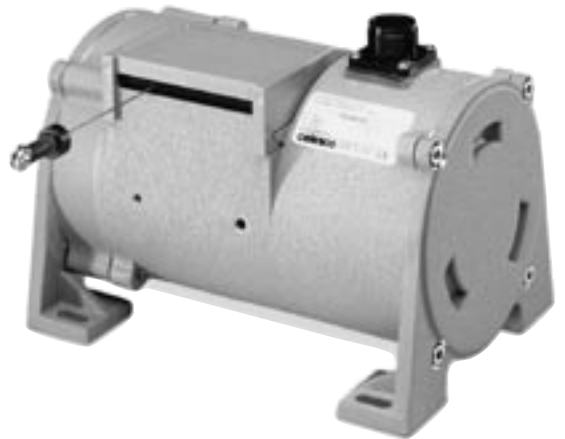
Input Voltage see ordering information
 Input Current 20 mA max.
 Maximum Loop Resistance (Load) (loop supply voltage – 8)/0.020
 Circuit Protection 38 mA max.
 Impedance 100M ohms @ 100 VDC, min.
 Output Signal Adjustment
 Zero Adjustment from factory set zero to 50% of full stroke range
 Span Adjustment from 100% down to 50% of factory set span

ENVIRONMENTAL

Enclosure NEMA 4/4X/6, IP 67/68
 Hazardous Area Certification see ordering information
 Operating Temperature -40° to 200°F (-40° to 90°C)
 Vibration up to 10 G's to 2000 Hz maximum
 Thermal Effects
 Zero 0.01% f.s./°F, max.
 Span 0.01%/°F, max.

EMC COMPLIANCE PER DIRECTIVE 89/336/EEC

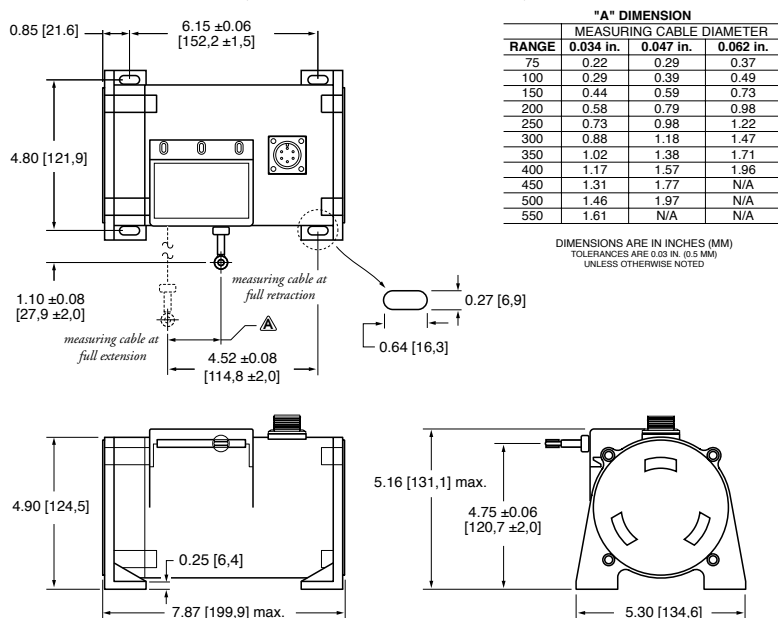
Emission / Immunity EN50081-2 / EN50082-2



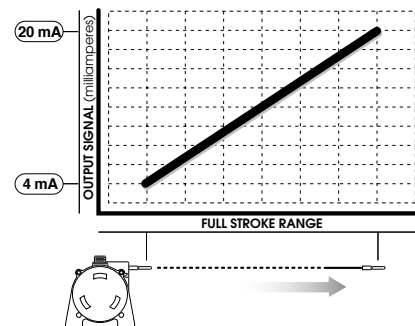
The PT9420 is a great value for demanding long-range applications requiring a 4 - 20 mA linear position feedback signal. Sealed to meet NEMA 4 standards, this Cable-Extension Transducer will perform even under the harshest of environmental conditions.

As a member of Celesco's innovative family of NEMA-4 rated cable-extension transducers, the PT9420 offers numerous benefits. It installs in minutes, functions properly without perfectly parallel alignment, and when its cable is retracted, it measures only 6".

Fig. 1 – Outline Drawing (26 oz. cable tension only)



Output Signal



Ordering Information:

Model Number:

PT9420- _____ - _____ - _____ - **1** _____ - _____ - _____ - **0**
order code: **R** **A** **B** **C** **D** **E** **F** **G**

Sample Model Number:

PT9420 - 0500 - 111 - 1110

- R** range: 500 inches
- A** enclosure/cable tension: aluminum/26 oz.
- B** measuring cable: .034 nylon-coated stainless
- C** cable exit: front
- E** output signal: 4...20 mA, 2-wire
- F** electrical connection: 6-pin plastic connector

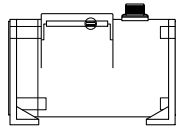
Full Stroke Range:

R order code:	0075	0100	0150	0200	0250	0300	0350	0400	0450*	0500*	0550*
full stroke range, min:	75 in.	100 in.	150 in.	200 in.	250 in.	300 in.	350 in.	400 in.	450 in.	500 in.	550 in.

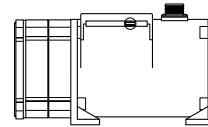
* - 42 oz. cable tension strongly recommended

Enclosure Material and Measuring Cable Tension:

A order code:	1	3	2	4
tension (±30%):		26 oz.		52 oz.
enclosure material:	powder-painted aluminum	303 stainless steel	powder-painted aluminum	303 stainless steel
max. acceleration:	1 G	.33 G	5 G	2 G
max. velocity:	60 inches/sec	20 inches/sec	200 inches/sec	80 inches/sec



standard housing
see fig 1.



dual-spring housing
see fig 2.

Measuring Cable:

B order code:	1	2	3
	.034 nylon-coated stainless steel <i>available in all ranges</i>	.047 stainless steel <i>all ranges up to 500 inches</i>	.062 thermoplastic <i>all ranges up to 400 inches</i>

Cable Exit:

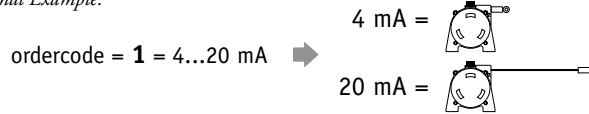
C order code:	1	2	3	4
	front	top	back	down

Ordering Information:

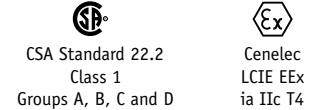
Output Signals:

Order code:	1	2	3	4	5*	6*
output signal options:	4...20 mA 	20...4 mA 	0...20 mA 	20...0 mA 	4...20 mA 	4...20 mA
sensitivity:	16 mA/full stroke ±0.25%		20 mA/full stroke ±0.25%		16 mA/full stroke ±0.25%	
wiring configuration:	2 - wire		3 - wire		2 - wire	
input voltage:	8 - 40 vdc		8 - 40 vdc		14 - 32 vdc	
hazardous area certification:	not certified				CSA • Cenelec	

Output Signal Example:



Hazardous Area Certifications:



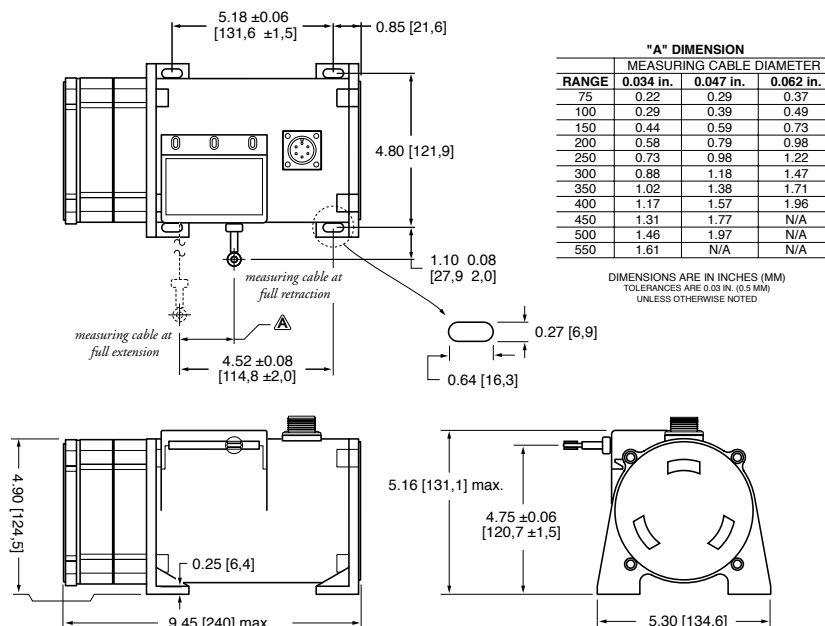
**IMPORTANT: intrinsically safe when powered from a CSA certified zener barrier rated 28 VDC max, 110 mA max per installation drawing#677984*

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																																										
	 3.0 in. [78 mm]	 10 ft. x 0.4-in. dia. [3 M x 10 mm dia.] 18 AWG, type SJ0W-A	 2.4 in. [60 mm]	 25 ft. x 0.2-in. dia. [7,5 M x 5 mm dia.] 24 AWG, shielded																																										
	1/2 - 5/16" [14 - 8 mm] cable dia. 16 AWG max conductor size connector: MS3102E-14S-6P mating plug: MS3106E-14S-6S		3/8-in. [9 mm] max cable dia. 16 AWG max conductor size connector: MS3102E-14S-6P mating plug: MS3106E-14S-6S																																											
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Fig. 2 – Outline Drawing (42 oz. cable tension only)

*-applies to stainless steel enclosure only. **-requires factory submersion test. ***14-32 VDC for hazardous area option.



version: 3.0 last updated: June 7, 2005