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..... -40º to 200ºF (-40º to 90ºC)
Vibration ..... up to 10 G's to 2000 Hz maximum
Thermal Effects
Zero ..... 0.01% f.s./ºF, max.
Span ..... 0.01%/ºF, max.

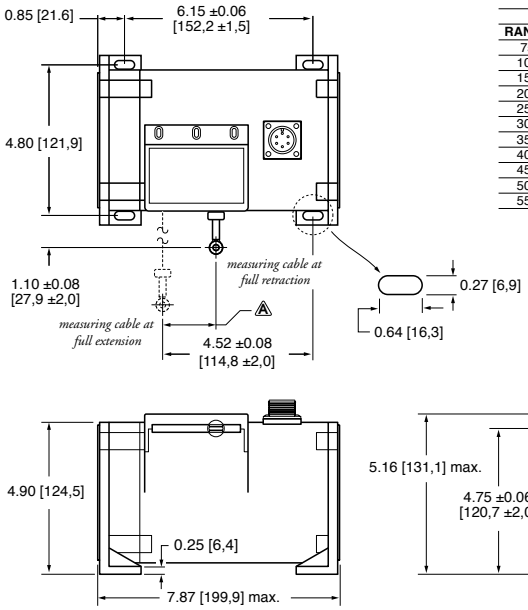
EMC COMPLIANCE PER DIRECTIVE 89/336/EEC

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)

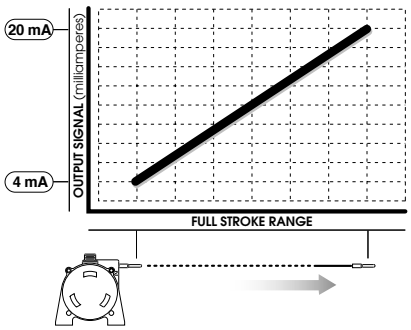


"A" DIMENSION

	MEASURING CABLE DIAMETER		
RANGE	0.034 in.	0.047 in.	0.062 in.
75	0.22	0.29	0.37
100	0.29	0.39	0.49
150	0.44	0.59	0.73
200	0.58	0.79	0.98
250	0.73	0.98	1.22
300	0.88	1.18	1.47
350	1.02	1.38	1.71
400	1.17	1.57	1.96
450	1.31	1.77	N/A
500	1.46	1.97	N/A
550	1.61	N/A	N/A

DIMENSIONS ARE IN INCHES (MM)
TOLERANCES ARE 0.03 IN. (0.5 MM) UNLESS OTHERWISE NOTED

Output Signal



celesco
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20630 Plummer Street • Chatsworth, CA 91311
tel: 800.423.5483 • +1.818.701.2750 • fax: +1.818.701.2799

Ordering Information:

Model Number:

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

Sample Model Number:

PT9420 - 0500 - 111 - 1110

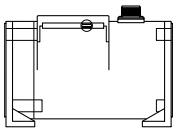
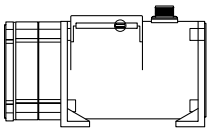
Ⓡ	range:	500 inches
Ⓐ	enclosure/cable tension:	aluminum/26 oz.
Ⓑ	measuring cable:	.034 nylon-coated stainless
Ⓒ	cable exit:	front
Ⓔ	output signal:	4...20 mA, 2-wire
Ⓕ	electrical connection:	6-pin plastic connector

Full Stroke Range:

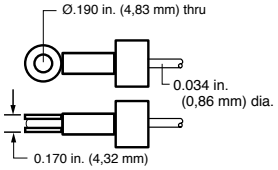
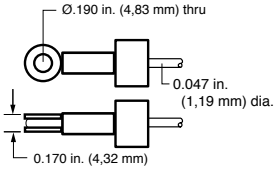
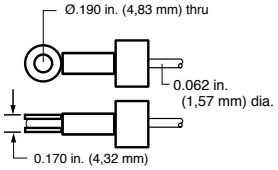
Ⓡ *order code:*	0075	0100	0150	0200	0250	0300	0350	0400	0450*	0500*	0550*
full stroke range, min:	75 in.	100 in.	150 in.	200 in.	250 in.	300 in.	350 in.	400 in.	450 in.	500 in.	550 in.

** – 42 oz. cable tension strongly recommended*

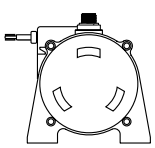
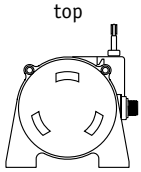
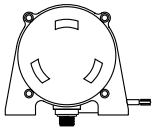
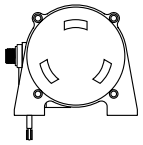
Enclosure Material and Measuring Cable Tension:

Ⓐ *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:

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

Cable Exit:

Ⓒ *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 (4 ▲ 20)	20...4 mA (20 ▼ 4)	0...20 mA (0 ▲ 20)	20...0 mA (20 ▼ 0)	4...20 mA (4 ▲ 20)	4...20 mA (20 ▼ 4)
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:

ordercode = **1** = 4...20 mA

4 mA =

20 mA =

Hazardous Area Certifications:

CSA Standard 22.2 Class 1 Groups A, B, C and D

Cenelec LCIE EEx ia IIc T4

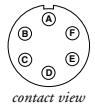
**IMPORTANT: intrinsically safe when powered from a CSA certified zener barrier rated 28 VDC max, 110 mA max per installation drawing#677984*

Electrical Connection:

order code:	1	2	3	4
	6-pin plastic connector with mating plug	10-ft. waterproof cable 18 AWG, sealed strain relief	6-pin metal connector with mating plug	25-ft. instrumentation cable 24 AWG, shielded
	IP 67, NEMA 4X*,6	**IP 67,68** NEMA 4X*,6**	**IP 65, NEMA 4**	**IP 67, NEMA 6**
	3.0 in. [78 mm]		2.4 in. [60 mm]	
	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 SJOW-A	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

6-pin mating plug:

pin	2-wire	3-wire
A	8...40 vdc***	8...40 vdc
B	4...20 mA out	common
C	–	0...20 mA out
D	case ground	–



contact view

10-ft. waterproof cable:

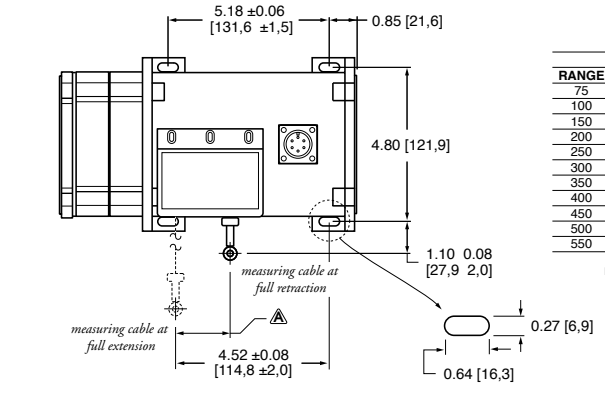
color code	2-wire	3-wire
WHITE	8...40 vdc***	n/a
BLACK	4...20 mA out	n/a
GREEN	case ground	n/a

25-ft. instrumentation cable:

color code	2-wire	3-wire
RED	8...40 vdc***	8...40 vdc
BLACK	4...20 mA out	0...20 mA out
WHITE	n/a	common
GREEN	case ground	n/a

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

Fig. 2 – Outline Drawing (42 oz. cable tension only)



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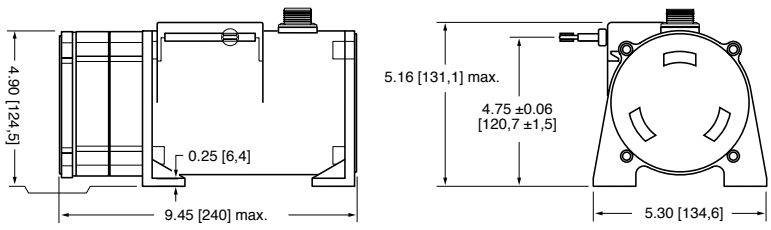

version: **3.0** last updated: **June 7, 2005**