0/4...20 mA Output • Hazardous Area Certification
Ranges: 0-600 to 0-1700 inches
Industrial Grade

<Extended Range>

PT9420

Specification Summary:

GENERAL

Full Stroke Range Options–*on this datasheet* ..... 0-600 to 0-1700 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 ..... nylon-coated stainless steel
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 ..... 14 lbs. (28 lbs.) max.

ELECTRICAL

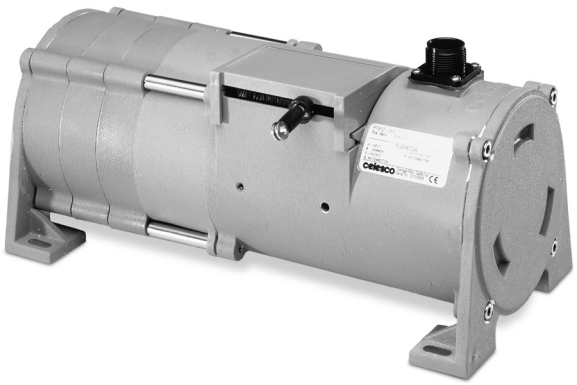
Input Voltage .....*see ordering information*
Input Current..... 20 mA max.
Maximum Loop Resistance (Load) ..... (loop supply voltage – 8)/0.020
Circuit Protection..... 38 mA max.
Impedance..... 100M ohms @ 100 VDC, min.
Output Signal Adjustment
Zero Adjustment ..... from factory set zero to 50% of full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

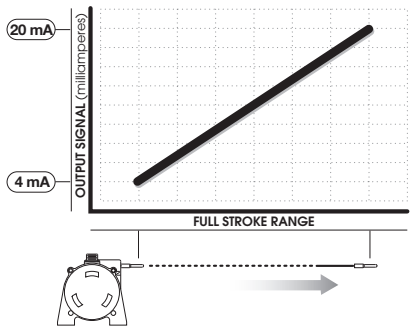
Emission / Immunity.....EN50081-2 / EN50082-2



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".

Output Signal



Celesco Transducer Products, Inc.
20630 Plummer Street • Chatsworth, CA 91311
tel: 800.423.5483 • +1.818.701.2750 • fax: +1.818.701.2799
celesco.com • info@celesco.com

Ordering Information:

Model Number:

PT9420- ____ Ⓡ - ___ Ⓐ **1** Ⓑ ___ Ⓒ - **1** Ⓓ ___ Ⓔ ___ Ⓕ **0** Ⓖ

order code:

Sample Model Number:

PT9420 - 1200 - 111 - 1110

Ⓡ	range:	1200 inches
Ⓐ	enclosure/cable tension:	aluminum
Ⓒ	cable exit:	front
Ⓔ	output signal:	4...20 mA, 2-wire
Ⓕ	electrical connection:	6-pin plastic connector

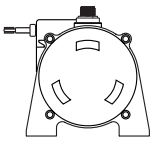
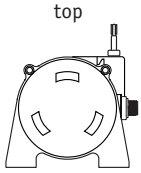
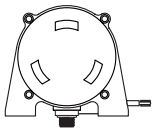
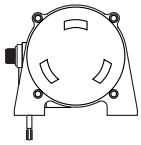
Full Stroke Range:

Ⓡ *order code:*	0600	0800	1000	1200	1500	1700
full stroke range, min:	600 in.	800 in.	1000 in.	1200 in.	1500 in.	1700 in.
cable tension (30%):	25 oz.	25 oz.	24 oz.	24 oz.	23 oz.	23 oz.
measuring cable:	.034-in. dia. nylon-coated stainless	.019-in. dia. nylon-coated stainless	.019-in. dia. nylon-coated stainless	.019-in. dia. nylon-coated stainless	.014-in. dia. nylon-coated stainless	.014-in. dia. nylon-coated stainless

Enclosure Material:

Ⓐ *order code:*	1	3
enclosure material:	powder-painted aluminum	303 stainless steel
max. acceleration:	1G	.33G
max. velocity:	60 inches/sec.	20 inches/sec.

Cable Exit:

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

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)	20...4 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		14 – 40 vdc		14 – 32 vdc	
hazardous area certification:	not certified				CSA • Cenelec	

Output Signal Example:

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

20 mA = 

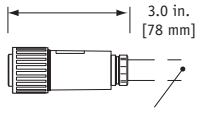
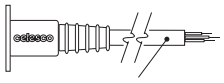
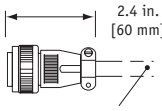
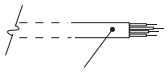
Hazardous Area Certifications:

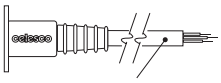
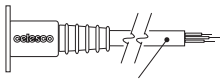
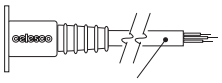
CSA Standard 22.2 Class 1 Groups A, B, C and D	Cenelec LCIE EEx ia IIc T4

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

Ordering Information:

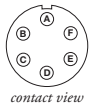
Electrical Connection:

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

order code:	5	6	7
	100-ft. [30 M] waterproof cable	10-ft. [3 M] **pressure tested*** waterproof cable	100-ft. [30 M] **pressure tested*** waterproof cable
	IP 67, NEMA 4X,6**	**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	2-wire	3-wire
A	8...40 vdc***	14...40 vdc
B	4...20 mA out	common
C	–	0...20 mA out
D	case ground	–



contact view

Waterproof Cable

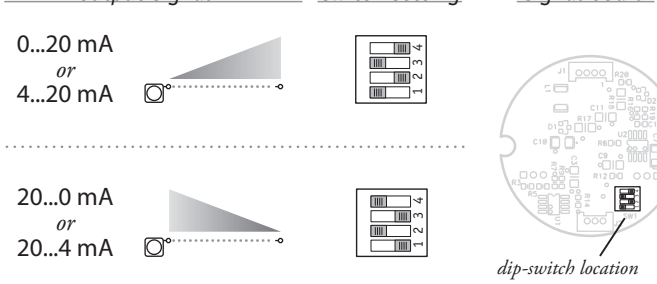
color code	2-wire	3-wire
WHITE	8...40 vdc***	14...40 vdc
BLACK	4...20 mA out	common
GREEN	case ground	0...20 mA out

Instrumentation Cable

color code	2-wire	3-wire
RED	8...40 vdc***	14...40 vdc
BLACK	4...20 mA out	common
WHITE	n/a	n/a
GREEN	case ground	0...20 mA out

Notes:
- * *–Test pressure: 100 feet [30 meters] H_2O (40 PSID); Test Medium: Air; Duration: 2 hours.*
- ** *–NEMA 4X applies to stainless steel enclosure only.*
- *** *–14-32 VDC for hazardous area option.*

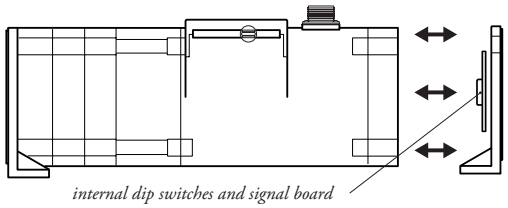
Output Signal Selection:



dip-switch location

The output signal direction can be reversed at any time by simply changing the dip-switch settings found on the internal signal board. After the settings have been changed, adjustment of the Zero and Span trimpots will be required to precisely match signal values to the beginning and end points of the stroke.

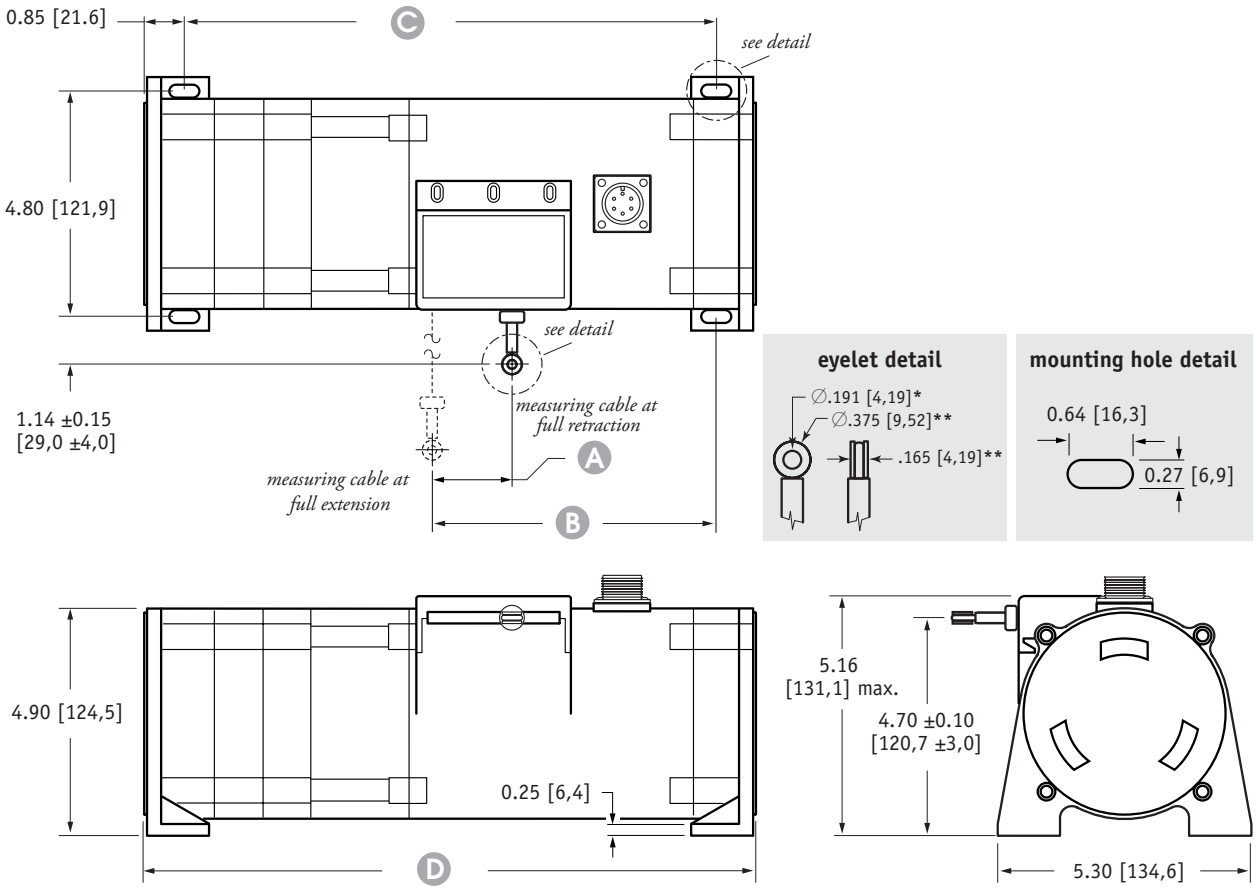
To gain access to the signal board, remove four Allen-Head Screws and remove end cover bracket.


internal dip switches and signal board

Caution! Do Not Remove Spring-Side End Cover

Removing spring-side end cover could cause spring to become unseated and permanently damaged.

Outline Drawing



full stroke range

	600 in.	800 in.	1000 in.	1200 in.	1500 in.	1700 in.
A	1.76 [44,7]	1.58 [40,1]	1.98 [50,2]	1.49 [37,8]	1.86 [47,2]	2.11 [53,6]
B	4.52 ±0.15 [114,8 ±4,0]	5.46 ±0.15 [138,7 ±4,0]				
C	10.40 ±0.08 [264,2 ±2,0]	11.34 ±0.08 [288,0 ±2,0]				
D	12.15 [308,6] max.	13.09 [332,5] max.				

DIMENSIONS ARE IN INCHES [MM]
tolerances are 0.03 IN. [0.5 MM] unless otherwise noted.

* tolerance = +.005 –.001 [+.13 –.03]
** tolerance = +.005 –.005 [+.13 –.13]