

Cable-Extension Position Transducer

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 -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

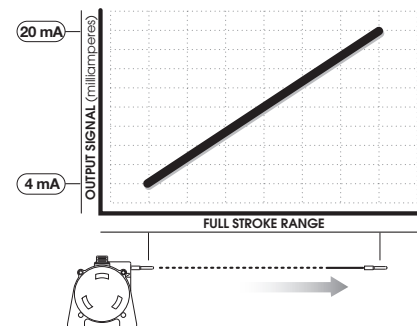
Emission / Immunity..... EN50081-2 / EN50082-2



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".

Output Signal



Ordering Information:

Model Number:

PT9420- order code: **1** - **1** - **0**

R A B C D E F G

Sample Model Number:

PT9420 - 1200 - 111 - 1110

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

Full Stroke Range:

<small>R</small> 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 (±35%):	27 oz.	24 oz.	20 oz.	19 oz.	18 oz.	17 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:

<small>A</small> 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:

G order code: **1** **2** **3** **4**

front top back down

Output Signals:

<small>E</small> 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 	20...4 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		14 - 29 vdc		14 - 32 vdc	
hazardous area certification:	not certified		not certified		CSA • Cenelec	

Output Signal Example:



Hazardous Area Certifications:

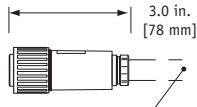
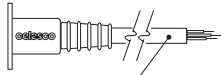
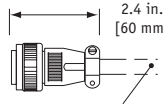

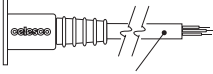
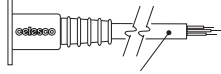
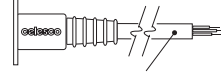

CSA Standard 22.2
 Class 1
 Groups A, B, C and D

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:

<p>1</p> <p>6-pin plastic connector w/mating plug IP 67, NEMA 4X**, 6</p>  <p>3.0 in. [78 mm]</p> <p>1/2 - 5/16" [14 - 8 mm] cable dia. 16 AWG max conductor size connector: MS3102E-14S-6P mating plug: MS3106E-14S-6S</p>	<p>2</p> <p>10-ft. [3 M] waterproof cable IP 67, NEMA 4X**, 6</p>  <p>10 ft. x 0.4-in. dia. [3 M x 10 mm dia.] 18 AWG, type SJTW</p>	<p>3</p> <p>6-pin metal connector w/mating plug IP 65, NEMA 4</p>  <p>2.4 in. [60 mm]</p> <p>3/8-in. [9 mm] max cable dia. 16 AWG max conductor size connector: MS3102E-14S-6P mating plug: MS3106E-14S-6S</p>	<p>4</p> <p>25-ft. [7.5 M] instrumentation cable IP 67, NEMA 6</p>  <p>25 ft. x 0.2-in. dia. [7.5 M x 5 mm dia.] 24 AWG, shielded</p>																																							
<p>5</p> <p>100-ft. [30 M] waterproof cable IP 67, NEMA 4X**, 6</p>  <p>100 ft. x 0.4-in. dia. [30 M x 10 mm dia.] 18 AWG, type SJTW</p>	<p>6</p> <p>10-ft. [3 M] pressure tested* waterproof cable IP 68, NEMA 4X**, 6P</p>  <p>10 ft. x 0.4-in. dia. [3 M x 10 mm dia.] 18 AWG, type SJTW</p>	<p>7</p> <p>100-ft. [30 M] pressure tested* waterproof cable IP 68, NEMA 4X**, 6P</p>  <p>100 ft. x 0.4-in. dia. [30 M x 10 mm dia.] 18 AWG, type SJTW</p>																																								
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Notes: * -Test pressure: 100 feet [30 meters] H₂O (40 PSID); Test Medium: Air; Duration: 2 hours.
 ** -NEMA 4X applies to stainless steel enclosure only.
 *** -14-32 VDC for hazardous area option.

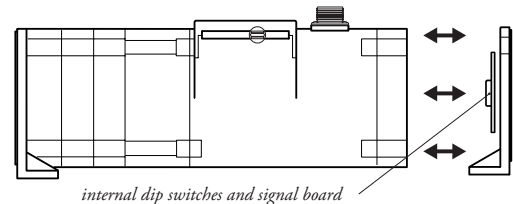
Output Signal Selection:

output signal	switch setting	signal board
0...20 mA or 4...20 mA		
20...0 mA or 20...4 mA		

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.

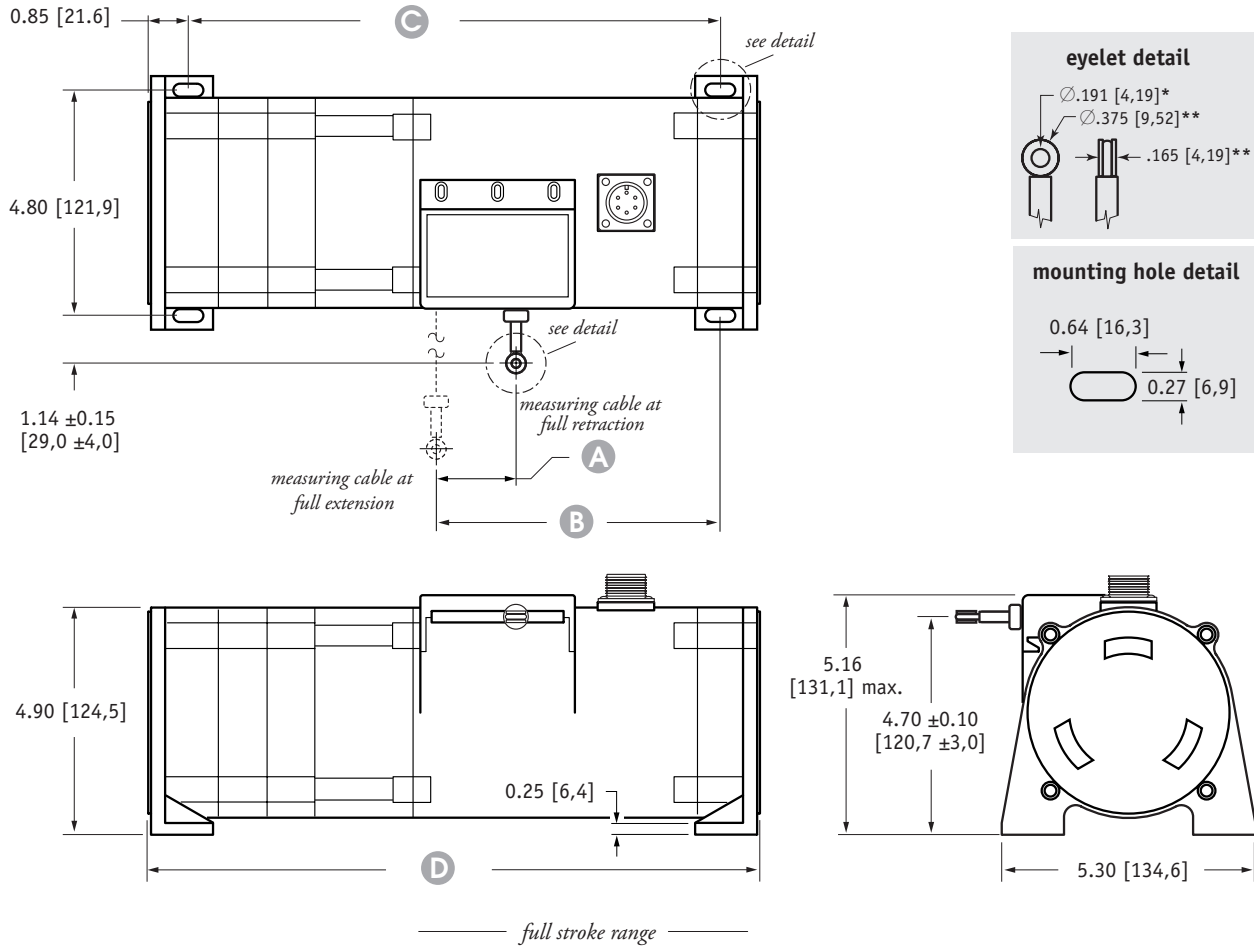
To gain access to the signal board, remove four Allen-Head Screws and remove end cover bracket.



Caution! Do Not Remove Spring-Side End Cover
 Removing spring-side end cover could cause spring to become unseated and permanently damaged.

PT9420 Extended Range • Cable-Extension Transducer: 0/4...20 mA Output Signal

Outline Drawing



	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]

version: 7.0 last updated: September 6, 2011
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