

# 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 .....  $\pm 0.12\%$  full stroke  
Repeatability .....  $\pm 0.05\%$  full stroke  
Resolution ..... essentially infinite  
Measuring Cable ..... stainless steel *see ordering information*  
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 ..... 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 .....  $-40^{\circ}$  to  $200^{\circ}$ F ( $-40^{\circ}$  to  $90^{\circ}$ C)  
Vibration ..... up to 10 G's to 2000 Hz maximum  
Thermal Effects  
Zero ..... 0.01% f.s./ $^{\circ}$ F, max.  
Span ..... 0.01%/ $^{\circ}$ F, max.

### EMC COMPLIANCE PER DIRECTIVE 89/336/EEC

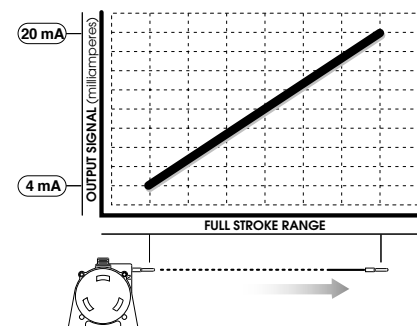
Emission / Immunity ..... EN50081-2 / EN50082-2



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-** \_\_\_\_\_ - **1** - **1** - **0**  
order code:                      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:**

<b>R</b> order code:	<b>0600</b>	<b>0800</b>	<b>1000</b>	<b>1200</b>	<b>1500</b>	<b>1700</b>
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	.024-in. dia. nylon-coated stainless	.024-in. dia. nylon-coated stainless	.019-in. dia. nylon-coated stainless	.015-in. dia. non-coated stainless	.015-in. dia. non-coated stainless

**Enclosure Material:**

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

**Cable Exit:**

**C** order code:

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
front	top	back	down

**Output Signals:**

<b>E</b> order code:	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5*</b>	<b>6*</b>
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		not certified		CSA • Cenelec	

Output Signal Example:



Hazardous Area Certifications:

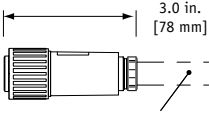
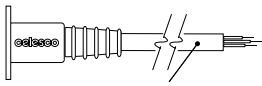
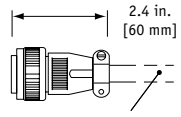
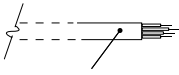
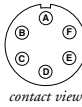
CSA Standard 22.2 Class 1 Groups A, B, C and D	Cenelec LCIE EEx ia IIC T4

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

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

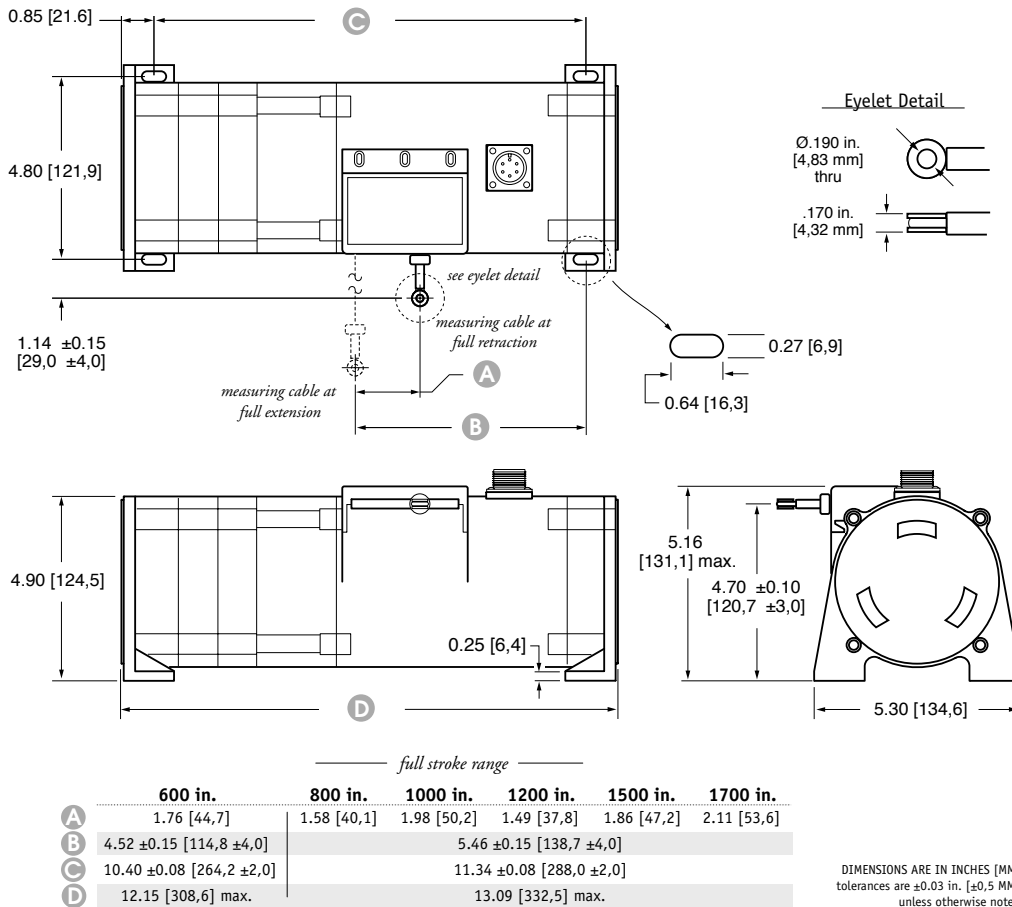
## Ordering Information:

### 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																																									
																																													
	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																																									
	<b>6-pin mating plug:</b> <table border="1"> <thead> <tr> <th>pin</th> <th>2-wire</th> <th>3-wire</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>8...40 vdc***</td> <td>8...40 vdc common</td> </tr> <tr> <td>B</td> <td>4...20 mA out</td> <td>-</td> </tr> <tr> <td>C</td> <td>-</td> <td>0...20 mA out</td> </tr> <tr> <td>D</td> <td>case ground</td> <td>-</td> </tr> </tbody> </table> 	pin	2-wire	3-wire	A	8...40 vdc***	8...40 vdc common	B	4...20 mA out	-	C	-	0...20 mA out	D	case ground	-	<b>10-ft. waterproof cable:</b> <table border="1"> <thead> <tr> <th>color code</th> <th>2-wire</th> <th>3-wire</th> </tr> </thead> <tbody> <tr> <td>WHITE</td> <td>8...40 vdc***</td> <td>n/a</td> </tr> <tr> <td>BLACK</td> <td>4...20 mA out</td> <td>n/a</td> </tr> <tr> <td>GREEN</td> <td>case ground</td> <td>n/a</td> </tr> </tbody> </table>	color code	2-wire	3-wire	WHITE	8...40 vdc***	n/a	BLACK	4...20 mA out	n/a	GREEN	case ground	n/a	<b>25-ft. instrumentation cable:</b> <table border="1"> <thead> <tr> <th>color code</th> <th>2-wire</th> <th>3-wire</th> </tr> </thead> <tbody> <tr> <td>RED</td> <td>8...40 vdc***</td> <td>8...40 vdc</td> </tr> <tr> <td>BLACK</td> <td>4...20 mA out</td> <td>0...20 mA out</td> </tr> <tr> <td>WHITE</td> <td>n/a</td> <td>common</td> </tr> <tr> <td>GREEN</td> <td>case ground</td> <td>n/a</td> </tr> </tbody> </table>	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
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\*-applies to stainless steel enclosure. \*\*-requires factory submersion test. \*\*\*14-32 VDC for hazardous area option.

### Outline Drawing



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**celesco**

celesco.com • info@celesco.com

tel: 800.423.5483 • +1.818.701.2750 • fax: +1.818.701.2799