

Cable-Extension Position Transducer

0/4...20 mA Output • Hazardous Area Certification
 Ranges: 0-2 to 0-60 inches
 Industrial Grade

PT8420



Specification Summary:

GENERAL

Full Stroke Range Options 0-2 to 0-60 inches
 Output Signal Options 4...20 mA (2-wire) and 0...20 mA (3-wire)
 Accuracy $\pm 0.28\%$ to $\pm 0.15\%$ full stroke *see ordering information*
 Repeatability $\pm 0.05\%$ full stroke
 Resolution essentially infinite
 Measuring Cable Options nylon-coated stainless steel or thermoplastic
 Enclosure Material powder-painted aluminum or stainless steel
 Sensor plastic-hybrid precision potentiometer
 Potentiometer Cycle Life *see ordering information*
 Maximum Retraction Acceleration *see ordering information*
 Weight, Aluminum (Stainless Steel) Enclosure 3 lbs. (6 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
 Thermal Effects
 Zero 0.01% f.s./°F, max.
 Span 0.01% f.s./°F, max.

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

EMC COMPLIANCE PER DIRECTIVE 89/336/EEC

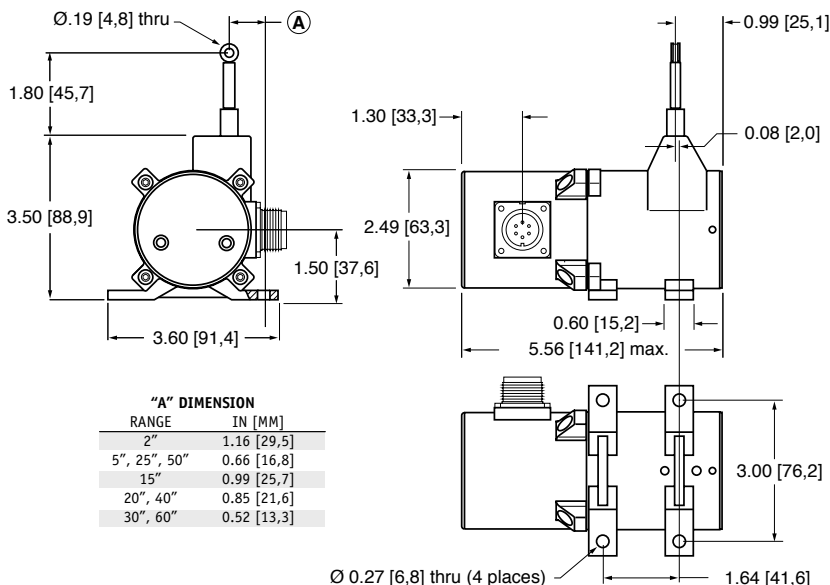
Emission/Immunity EN50081-2/EN50082-2



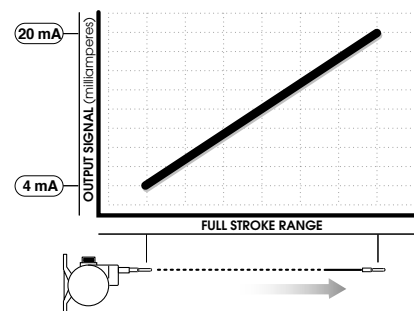
The PT8420 with its 4-20 mA feedback signal, is ideal for monitoring the stroke of a hydraulic cylinder and other applications requiring position data acquisition in harsh environments.

As a member of Celesco's family of NEMA 4-rated cable-extension transducers, the PT8420 provides a feedback signal that is proportional to the linear movement of a traveling stainless-steel extension cable. Simply mount the body of the transducer to a fixed surface and attach the extension cable to the moving object.

Outline Drawing



Output Signal



Ordering Information:

Model Number:

PT8420- _____ **1 - 1** _____
order code: R A B C D E F G

Sample Model Number:

PT8420 - 0030 - 111 - 1110

- R** range: 30 inches
- A** enclosure/cable tension: aluminum/standard (9 oz.)
- B** measuring cable: .034 nylon-coated stainless
- E** output signal: 4...20mA, 2-wire
- F** electrical connection: 6-pin plastic connector
- G** cable guide option: standard nylon cable guide

Full Stroke Range:

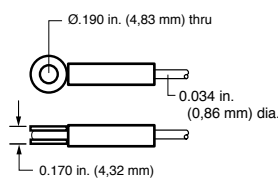
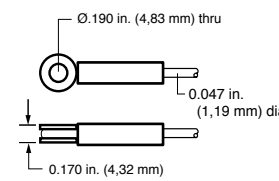
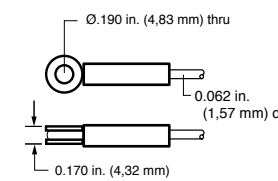
R order code:	0002	0005	0010	0015	0020	0025	0030	0040	0050	0060
full stroke range, min:	2 in.	5 in.	10 in.	15 in.	20 in.	25 in.	30 in.	40 in.	50	60
accuracy (% of f.s.):	0.28%	0.28%	0.18%	0.18%	0.18%	0.18%	0.18%	0.15%	0.15%	0.15%
potentiometer cycle life*:	2.5 x 10 ⁶	2.5 x 10 ⁶	5 x 10 ⁵	5 x 10 ⁵	5 x 10 ⁵	5 x 10 ⁵	5 x 10 ⁵	2.5 x 10 ⁵	2.5 x 10 ⁵	2.5 x 10 ⁵

*-1 cycle is defined as the travel of the measuring cable from full retraction to full extension and back to full retraction







Enclosure Material and Measuring Cable Tension:

A order code:	1	3	8	5	6	7	2	4	9
enclosure:	aluminum	303 stainless	316 stainless	aluminum	303 stainless	316 stainless	aluminum	303 stainless	316 stainless
cable tension (±20%)	standard tension			medium tension			high tension		
2, 10-inch ranges:	28 oz. [25 G max. acceleration]			45 oz. [37 G max. acceleration]			84 oz. [75 G max. acceleration]		
15-inch range:	19 oz. [10 G max. acceleration]			30 oz. [16 G max. acceleration]			57 oz. [30 G max. acceleration]		
4, 20, 40-inch ranges:	15 oz. [8 G max. acceleration]			24 oz. [12 G max. acceleration]			45 oz. [24 G max. acceleration]		
5, 25, 50-inch ranges:	12 oz. [5 G max. acceleration]			19 oz. [8 G max. acceleration]			36 oz. [15 G max. acceleration]		
30, 60-inch ranges:	9 oz. [3 G max. acceleration]			14 oz. [5 G max. acceleration]			27 oz. [9 G max. acceleration]		

Measuring Cable:

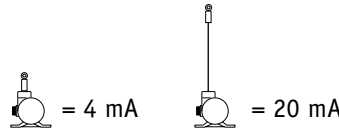
B order code:	1	2	3
	.034 nylon-coated stainless steel <i>available in all ranges</i>	.047 stainless steel <i>5, 15, 20, 25, 30-inch ranges only</i>	.062 thermoplastic <i>all ranges up to 30 inches only</i>
			

Output Signals:

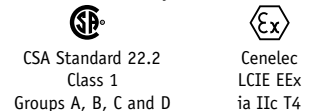
E order code:	1	2	3	4	5*	6*
output signal options:	4...20 mA 	20...4 mA 	0...20 mA 	20...0 mA 	4...20 mA 	4...20 mA 
sensitivity:	16 mA/full stroke ±0.25%		20 mA/full stroke ±0.25%		16 mA/full stroke ±0.25%	
wiring configuration:	2 - wire		3 - wire		2 - wire	
input voltage:	8 - 40 vdc		8 - 40 vdc		14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

Example:

ordercode = 1 = 4...20 mA



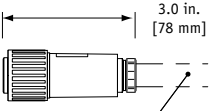
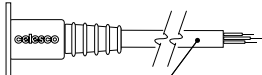
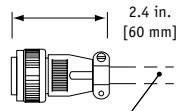
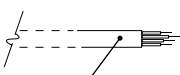
Hazardous Area Certifications:



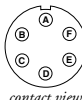
*IMPORTANT: intrinsically safe when powered from a CSA certified zener barrier rated 28 VDC max, 110 mA max per installation drawing#677984

Ordering Information:

Electrical Connection:

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

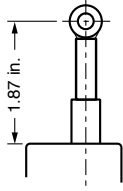
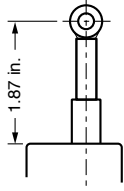
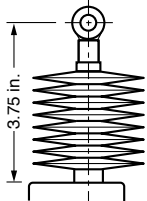
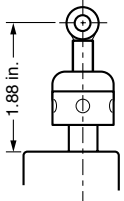
6-pin mating plug:			10-ft. waterproof cable:			25-ft. instrumentation cable:		
pin	2-wire	3-wire	color code	2-wire	3-wire	color code	2-wire	3-wire
A	8...40 vdc***	8...40 vdc	WHITE	8...40 vdc***	n/a	RED	8...40 vdc***	8...40 vdc
B	4...20 mA out	common	BLACK	4...20 mA out	n/a	BLACK	4...20 mA out	0...20 mA out
C	-	0...20 mA out	GREEN	case ground	n/a	WHITE	n/a	common
D	case ground	-				GREEN	case ground	n/a



contact view

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

Cable Guide Options:

0	1	2*	3
standard cable guide	stainless steel cable guide	polyurethane cable bellows	integral cable brush
			

*note: all ranges up to 25 inches only