



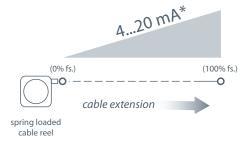
The PT8420 with its 4-20 mA feedback signal, is ideal for monitoring the stroke of a hydraulic cylinder and other applications requiring position data acquistion in harsh environments.

5.6" [141 mm]

3.6" [91 mm]

As a member of our 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.

#### **Output Signal**



\*Optional 3-wire, 0...20mA output signal available.

# PT8420

Cable Actuated Sensor Industrial • 4..20 mA • 0..20mA

Absolute Linear Position to 60 inches (1524 mm)
Aluminum or Stainless Steel Enclosure Options
VLS Option to Prevent Free-Release Damage
IP68 / NEMA 6 • Hazardous Area Certification

#### **GENERAL**

Full Stroke Range Options
Output Signal Options

Accuracy
Repeatability
Resolution
Measuring Cable Options
Enclosure Material

Sensor

Potentiometer Cycle Life

Max. Retraction Acceleration

4...20 mA (2-wire) and
0...20 mA (3-wire)
see ordering information
± 0.05% full stroke
essentially infinite
stainless steel or thermoplastic
powder-painted aluminum or stainless
steel
plastic-hybrid precision potentiometer
see ordering information

0-2 to 0-60 inches

#### **ELECTRICAL**

Input Voltage
Input Current
Max. Loop Resistance (Load)
Circuit Protection
Impedance
Signal Adjust, Zero

Signal Adjust, Span Thermal Effects, Zero Thermal Effects, Span see ordering information 20 mA max.

see ordering information

(loop supply voltage - 8)/0.020

38 mA max.

100M ohms@100 VDC, min.

from factory set zero to 50% of full stroke

range

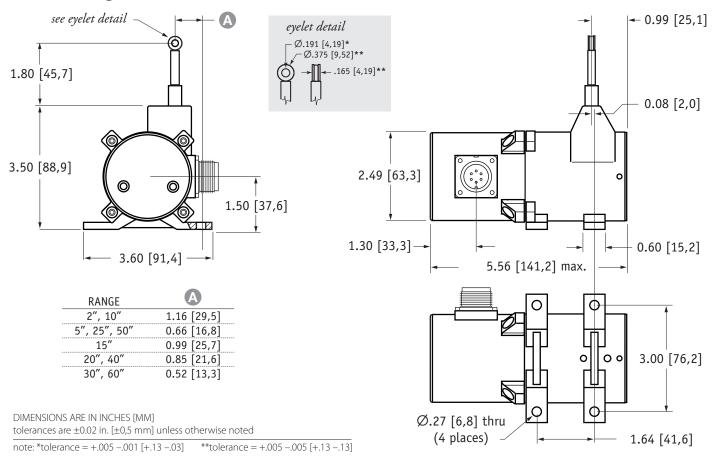
to 50% of factory set span 0.01% f.s./°F, max. 0.01% f.s./°F, max.

#### **ENVIRONMENTAL**

Enclosure
Hazardous Area Certification
Operating Temperature
Vibration
Weight, Aluminum Enclosure
Weight, Stainless Steel Encl.

NEMA 4/4X/6, IP 67/68 see ordering information -40° to 200°F (-40° to 90°C) up to 10 g's to 2000 Hz maximum 3 lbs. max. 6 lbs. max.

#### **Outline Drawing:**



## **Ordering Information:**

#### **Model Number:**



Sample Model Number:

#### PT8420 - 0030 - 111 - 1110

- R range:
- nclosure/cable tension:
- B measuring cable:
- (B) output signal:
- (B) electrical connection: **G** cable guide option:
- aluminum/standard (13 oz.) .034 nylon-coated stainless 4...20mA, 2-wire 6-pin plastic connector standard nylon cable guide

30 inches

#### **Full Stroke Range:**

<b>®</b> <u>order code:</u>	0002	0005	0010	0015	0020	0025	0030	0040 00	50 0060
full stroke range, min:	2 in.	5 in.	10 in.	15 in.	20 in.	25 in.	30 in.	40 in. 50	in. 60 in.
accuracy (% of f.s.):	1.00%	1.00%	0.18%	0.18%	0.18%	0.18%	0.18%	0.15% 0.1	5% 0.15%
potentiometer cycle life*:	2.5 x 10 <sup>6</sup>	2.5 x 10 <sup>6</sup>	5 x 10 <sup>5</sup>	2.5 x 10 <sup>5</sup> 2.5 x	10 <sup>5</sup> 2.5 x 10 <sup>5</sup>				

<sup>\*-1</sup> 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 CableTension:**

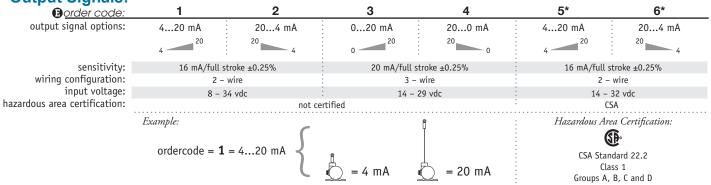
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<b>♠</b> <u>order code:</u>	1		5	2	3	6	6	4	8	7	,	9
enclosure:	aluminum			303 stainless				316 stainless				
cable tension:	stand	dard me	dium	high	standard	med	ium	high	standard	med	ium	high
max. acceleration:	15	g 2	5 g	40 g	6 g	12	g	18 g	6 g	12	g	18 g
		Range:	2 in.	5 in.	10 in.	15 in.	20 in.	25 in.	30 in.	40 in.	50 in.	60 in.
cable tension option specifications	sion option   Me	Standard:	39 oz.	16 oz.	39 oz.	26 oz.	20 oz.	16 oz.	13 oz.	20 oz.	16 oz.	13 oz.
		Medium:	65 oz.	26 oz.	65 oz.	43 oz.	33 oz.	26 oz.	22 oz.	33 oz.	26 oz.	22 oz.
	l	High:	116 oz.	47 oz.	116 oz.	77 oz.	60 oz.	47 oz.	40 oz.	60 oz.	47 oz.	40 oz.
										tei	nsion tolera	nce: + 50%

## **Ordering Information (cont.):**

#### **Measuring Cable:**

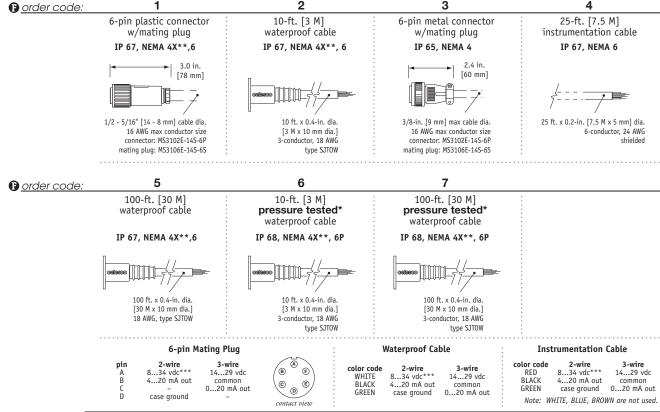
<b>B</b> order code:	1	2	3	4
cable construction:	Ø.034-inch nylon-coated stainless steel rope	$\emptyset$ .047-inch bare stainless steel rope	$\varnothing$ .058-inch PVC jacketed vectra fiber rope	Ø.031-inch bare stainless steel rope
available ranges:	all ranges	5, 15, 20, 25, 30-inch only	thru 30 inches only	40, 50, 60-inch only
general use:	indoor	outdoor, debris, high temperature	high voltage or magnetic field	outdoor, debris, high temperature

# **Output Signals:**



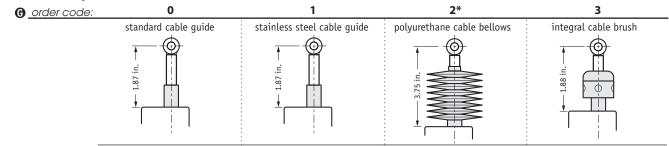
\*IMPORTANT: intrinsically safe when powered from a CSA certified zener barrier rated 28 VDC max, 110 mA max per installation drawing#677984

#### **Electrical Connection:**



# **Ordering Information (cont.):**

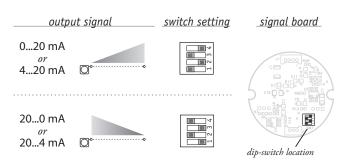
### **Cable Guide Options:**

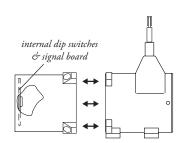


\*note: all ranges up to 25 inches only

#### **Output Signal Selection:**

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 rear cover.

SENSOR SOLUTIONS /// PT8420

# VLS Option - Free Release Protection

The patented Celesco Velocity Limiting System (VLS) is an option for PT8000 Series cable extension transducers that limits cable retraction to a safe 40 to 55 inches per second.

The VLS option prevents the measuring cable from ever reaching a damaging velocity during an accidental free release. This option is ideal for mobile applications that require frequent cable disconnection and reconnection. It prevents expensive unscheduled downtime due to accidental cable mishandling or attachment failure.

VLS is NOT available for medium and high cable tension options, stainless steel enclosure, cable bellows or 2, 5 and 15-inch stroke ranges. **How To Configure Model Number for VLS Option:** 

VLS8420-		- 1		1 -	1			
	6	Ð	B	0	0	•	•	Ф
	0015		1			1	1	0
	0020		2			2	2	1
	0025		3			3	3	3
	0030		4			4	4	
	0040					5	5	
	0050					6	6	
	0060						7	
= available option	s**							

creating VLS model number (example):

1. select PT8420 model PT8420-0060-111-1110

3. add "VLS" VLS + 8420-0060-111-1110

4. completed model number! VLS8420-0060-111-1110

\*\*Note: please contact factory for a solution to options not supported.



19 Waterman Ave.Toronto,Ont. M4B1Y2 Tel:416-445-5500 Fax: 416-445-1170

Toll Free: 1-800-465-1600

Email: sales@intertechnology.com Website: www.intertechnology.com

#### te.com/sensorsolutions

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