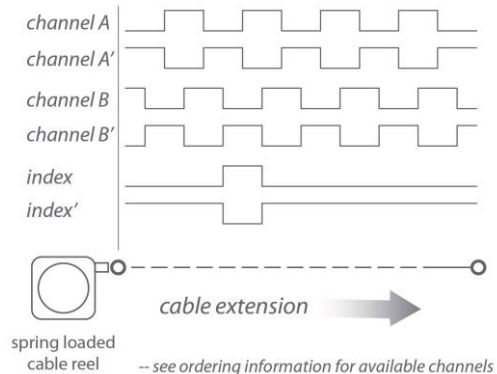




With its incremental optical encoder and industrial design, this rugged transducer provides the highest accuracy and longest life of any measurement device of its kind. For measurements up to 60 inches, this model is available in a variety of resolutions and output stages to fit virtually any requirement.

The PT8150 offers numerous advantages over other industrial-grade sensors: It installs in minutes by mounting its body to a fixed surface and attaching its cable to the movable object, fits into areas unsuited for rod-type measurement devices, and works without perfect parallel alignment.

Output Signal



PT8150

Cable Actuated Sensor Heavy Industrial • Incremental Encoder

Linear Position to 60 inches • 1250mm (metric range)

Aluminum or Stainless Steel Enclosure Options

VLS Option to Prevent Free-Release Damage

IP67 • NEMA 6 Protection

General

Full Stroke Ranges	0-30, 0-60 inches, 0-625, 0-1250 mm
Output Signal	incremental encoder (quadrature)
Accuracy	± 0.04% full stroke
Repeatability	± 0.02% full stroke
Resolution	20 to 500 pulses per inch
Measuring Cable	stainless steel or thermoplastic
Enclosure Material	powder-painted aluminum or stainless steel
Sensor	optical encoder
Maximum Retraction	see ordering information
Acceleration	
Weight, Aluminum (Stainless Steel)	3 lbs. (6 lbs.), max.
Enclosure	

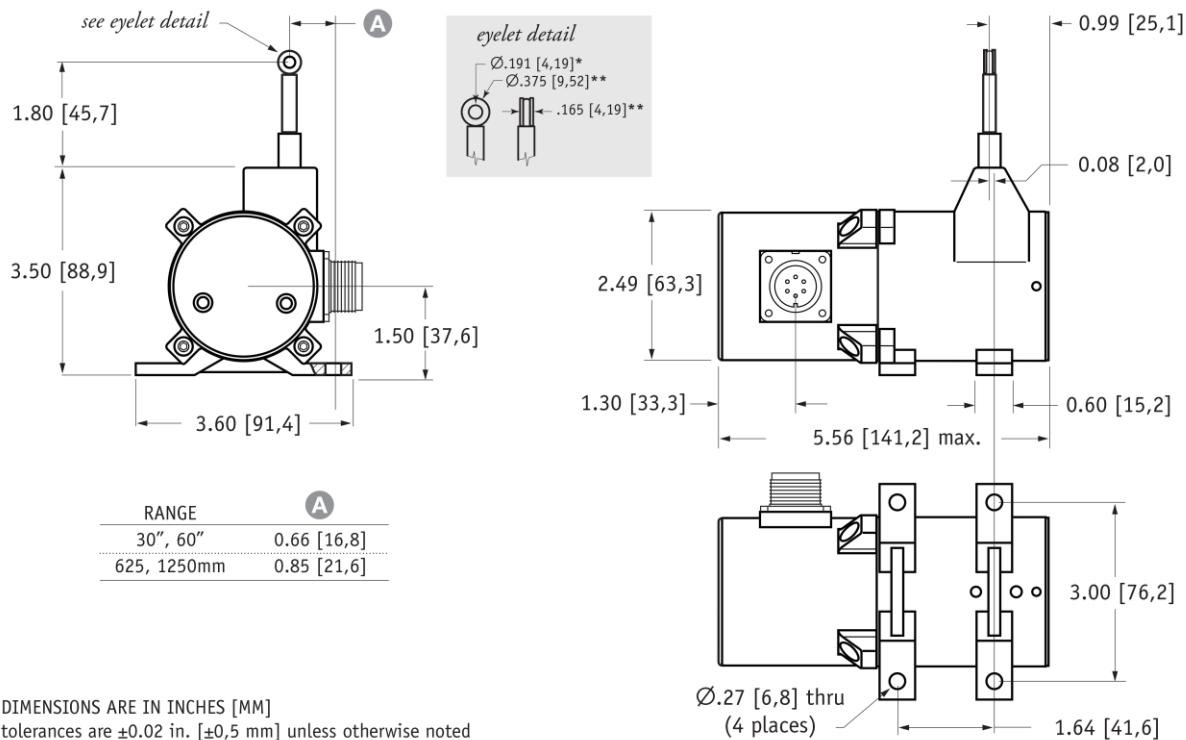
Electrical

Input Voltage	see ordering information
Input Current	see ordering information
Output Driver Options	see ordering information

Environmental

Enclosure	NEMA 4X/6, IP 67
Operating Temperature	0° to 160°F (-17° to 71°C)
Vibration	up to 10g to 2000 Hz maximum

Outline Drawing



DIMENSIONS ARE IN INCHES [MM]

tolerances are ± 0.02 in. [$\pm 0,5$ mm] unless otherwise notednote: *tolerance = $+0.005 -0.001$ [$+0.13 -0.03$] **tolerance = $+0.005 -0.005$ [$+0.13 -0.13$]

Ordering Information

Model Number:

PT8150- _____ **1** _____

order code: **R** **A** **B** **C** **D** **E** **F** **G**

Sample Model Number:

PT8150 - 0030 - 111 - 1110

R range:	30 inches
A enclosure/cable tension:	aluminum/standard (12 oz.)
B measuring cable:	.034 nylon-coated stainless
D output signal:	TTL/CMOS driver
E resolution:	200 ± 4 pulses per inch
F electrical connection:	6-pin plastic connector
G cable guide option:	standard nylon cable guide

Full Stroke Range:

R order code:	0030	0060	0625	1250
full stroke range, min:	30 in.	60 in.	625 mm	1250 mm

Enclosure Material and Measuring Cable Tension:

A order code:	1	5	2	3	6	4	8	7	9
enclosure:	aluminum			303 stainless			316 stainless		
cable tension:	standard	medium	high	standard	medium	high	standard	medium	high
max. acceleration:	15 g	25 g	40 g	6 g	12 g	18 g	6 g	12 g	18 g

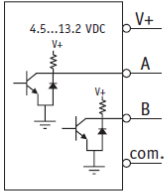
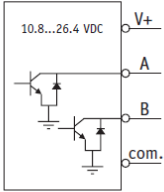
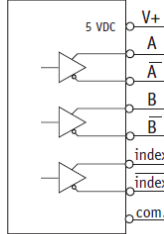
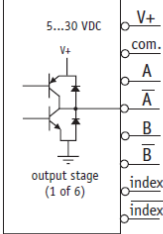
cable tension option specifications (tension tolerance: $\pm 50\%$)	Range:	30 in.	60 in.	625 mm	1250 mm
	Standard:	16 oz.	16 oz.	4,5 N	4,5 N
	Medium:	26 oz.	26 oz.	7,2 N	7,2 N
	High:	47 oz.	47 oz.	13,1 N	13,1 N

Measuring Cable:

	1	2	3	4
⑧ order code:				
cable construction:	Ø.034-inch nylon-coated stainless steel rope	Ø.047-inch bare stainless steel rope	Ø.058-inch PVC jacketed vectra fiber rope	Ø.031-inch bare stainless steel rope
available ranges:	<i>all ranges</i>	<i>30 inch & 625 mm only</i>	<i>30 inch & 625 mm only</i>	<i>60 inch & 1250 mm only</i>
general use:	indoor	outdoor, debris, high temperature	high voltage or magnetic field	outdoor, debris, high temperature

Output Signal:

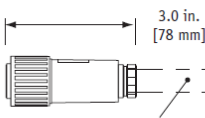
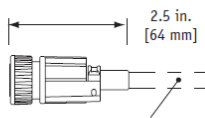
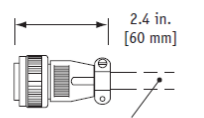
	1	2	3	4
⑩ order code:				
output driver:	TTL - CMOS	Open Collector	5 V - Line Driver	Universal Line Driver
Input voltage (V+):	4.5...13.2 Vdc	10.8...26.4 Vdc	5 Vdc	5...28 VDC
Sink current:	20 mA max.	20 mA max.	20 mA max.	20 mA max.
Input current:	80 mA max.	80 mA max.	150 mA max.	100 mA max, no load

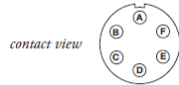





Resolution:

	1	2	3	4
⑪ order code:				
english ranges:	200 ±4 pulses per in.	400 ±8 pulses per in.	500 ±10 pulses per in.	20 ±0.4 pulses per in.
metric ranges:	10 ±0,2 pulses per mm	20 ±0,4 pulses per mm	25 ±0,5 pulses per mm	1 ±0,02 pulses per mm

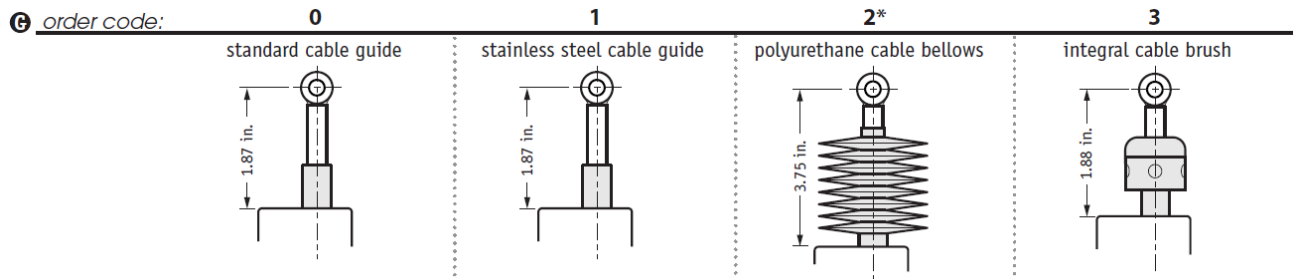
Electrical Connection:

⑫ order code:	1	2	3	4
	6-pin plastic connector with mating plug IP 67, NEMA 4X*, 6	25-ft. instrumentation cable 24 AWG, shielded IP 67, NEMA 6	18-pin plastic connector with mating plug IP 65, NEMA 4	6-pin metal connector with mating plug IP 67, NEMA 6
	 .30 - .39 in. [8 - 10 mm] 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	 .26 - .30 in. [7 - 8 mm] cable dia. 20 - 24 AWG conductor size connector: Connall 14282-18PG-300-K mating plug: Connall 13282-18SG-326-K	 .375 in. [9 mm] max cable dia. 16 AWG max conductor size connector: MS3102E-14S-6P mating plug: MS3106E-14S-6S

6-pin mating plug:	18-pin mating plug:	25-ft. instrumentation cable:																																																																											
<table> <tr> <th>pin</th><th>TTL/CMOS</th><th>5 V Line Driver</th></tr> <tr> <td>A</td><td>Open Collector input voltage</td><td>Universal Line Driver input voltage</td></tr> <tr> <td>B</td><td>common</td><td>common</td></tr> <tr> <td>C</td><td>channel A</td><td>channel A</td></tr> <tr> <td>D</td><td>channel B</td><td>channel B</td></tr> <tr> <td>E</td><td>-</td><td>channel A'</td></tr> <tr> <td>F</td><td>-</td><td>channel B'</td></tr> </table>	pin	TTL/CMOS	5 V Line Driver	A	Open Collector input voltage	Universal Line Driver input voltage	B	common	common	C	channel A	channel A	D	channel B	channel B	E	-	channel A'	F	-	channel B'	<table> <tr> <th>pin</th><th>TTL/CMOS</th><th>5 V Line Driver</th></tr> <tr> <td>1</td><td>Open Collector input voltage</td><td>Universal Line Driver input voltage</td></tr> <tr> <td>2</td><td>common</td><td>common</td></tr> <tr> <td>3</td><td>channel B</td><td>channel B</td></tr> <tr> <td>6</td><td>channel A</td><td>channel A</td></tr> <tr> <td>7</td><td>-</td><td>index</td></tr> <tr> <td>11</td><td>-</td><td>channel B'</td></tr> <tr> <td>12</td><td>-</td><td>channel A'</td></tr> <tr> <td>15</td><td>-</td><td>index'</td></tr> </table>	pin	TTL/CMOS	5 V Line Driver	1	Open Collector input voltage	Universal Line Driver input voltage	2	common	common	3	channel B	channel B	6	channel A	channel A	7	-	index	11	-	channel B'	12	-	channel A'	15	-	index'	<table> <tr> <th>color</th><th>TTL/CMOS</th><th>5 V Line Driver</th></tr> <tr> <td>red</td><td>Open Collector input voltage</td><td>Universal Line Driver input voltage</td></tr> <tr> <td>black</td><td>common</td><td>common</td></tr> <tr> <td>green</td><td>channel A</td><td>channel A</td></tr> <tr> <td>white</td><td>channel B</td><td>channel B</td></tr> <tr> <td>blue</td><td>-</td><td>channel A'</td></tr> <tr> <td>brown</td><td>-</td><td>channel B'</td></tr> <tr> <td>yellow</td><td>-</td><td>index</td></tr> <tr> <td>orange</td><td>-</td><td>index'</td></tr> </table>	color	TTL/CMOS	5 V Line Driver	red	Open Collector input voltage	Universal Line Driver input voltage	black	common	common	green	channel A	channel A	white	channel B	channel B	blue	-	channel A'	brown	-	channel B'	yellow	-	index	orange	-	index'
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* -applies to stainless steel enclosure only.

Cable Guide Options:



**important! – bellows limits measuring cable travel to 25 inches, contact factory before ordering.*

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:

VLS8150 -	-	1	1	-				
	B	A	B	C	D	E	F	G
0030		1		1	1	1	0	
0060		2		2	2	2	1	
0625		3		3	3	3	3	
1250		4		4	4	4		

= available options**

creating VLS model number (example):

1. select PT8150 model **PT8150-0060-111-1110**
2. remove "PT" from the model number **~~PT~~ 8150-0060-111-1110**
3. add "VLS" **VLS + 8150-0060-111-1110**
4. completed model number ! **VLS8150-0060-111-1110**

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

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PT8150 12/01/2015