

PT9150 (Extended Range)

Cable Actuated Sensor

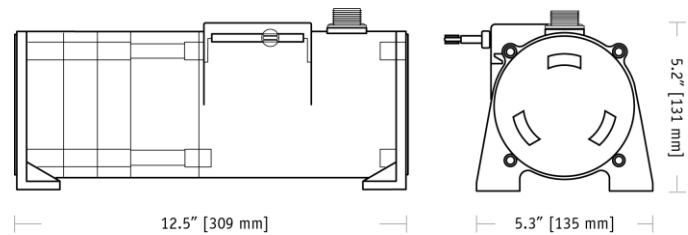
Extended Ranges • Incremental Encoder

Linear Position to 1700 inches (4300 cm)

Stroke Range Options: 0-600 to 0-1700 inches

VLS Option to Prevent Free-Release Damage

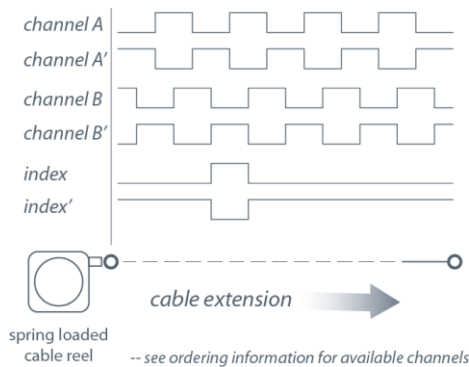
IP67 • NEMA 6 Protection



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. This model is available in a wide variety of resolutions and output stages to fit virtually any requirement.

It can measure up to 1700", yet when its cable is retracted it is only 6" long. Its small size and low-cost-to-measurement ratio offers remarkable flexibility and value.

Output Signal



General

Full Stroke Range	0-600 to 0-1700 inches
Output Signal	incremental encoder (quadrature)
Output Driver Options	TTL/CMOS, open collector or line driver
Accuracy	0.04% full stroke
Repeatability	± 0.02% full stroke
Resolution	10 to 250 pulses per inch
Measuring Cable	nylon-coated stainless steel
Enclosure Material	powder-painted aluminum or stainless steel
Sensor	optical incremental encoder
Maximum Retraction	see ordering information
Acceleration	
Maximum Velocity	see ordering information
Weight, Aluminum (Stainless Steel) Enclosure	14 lbs. (28 lbs.), max.

Electrical

Input Voltage	see ordering information
Input Current	see ordering information

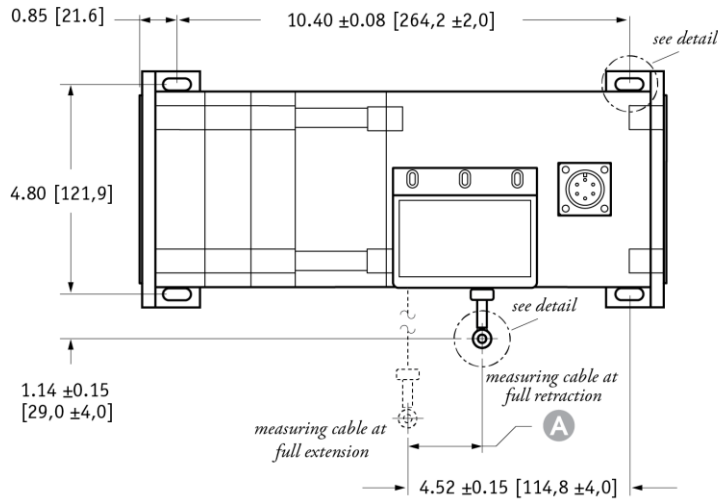
Environmental

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

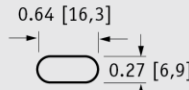
PT9150

Extended Ranges • Incremental Encoder • Extended Ranges

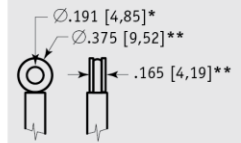
Outline Drawing



mounting hole detail

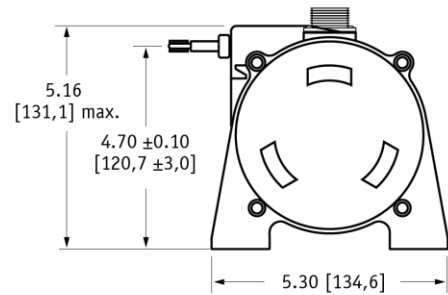
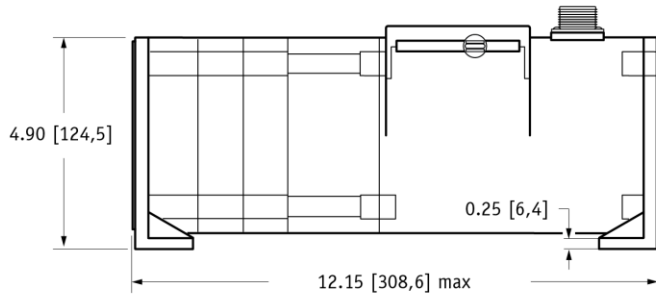


eyelet detail



A DIMENSION

RANGE	inches [mm]
600	1.76 [44,7]
800	1.58 [40,1]
1000	1.98 [50,2]
1200	1.98 [50,2]
1500	1.86 [47,2]
1700	2.11 [53,6]



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]

VLS Option - Free Release Protection

The patented Celesco Velocity Limiting System (VLS) is an option for PT9000 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.

- using guide below, select PT9150 model **PT9150-1200-111-1110**
- remove "PT" from the model number **9150-1200-111-1110**
- add "VLS"
VLS + 9150-1200-111-1110
- completed model number!
VLS9150-1200-111-1110

VLS9150 -		A	B	C	D	E	F	G
english ranges	0600	1	1	1	1	1	1	0
	to	3	2	2	2	2	2	
	1700			3	3	3	3	
metric ranges	15000			4	4	4	4	
	to							
	40000							

■ = available options.

PT9150

Extended Ranges • Incremental Encoder • Extended Ranges

Ordering Information

Model Number:

PT9150 - **R** - **A** - **B** - **C** - **D** - **E** - **F** - **0**
order code:

Sample Model Number:

PT9150 - 0800 - 111 - 1110

- R** range: 500 inches
- A** enclosure: aluminum
- B** measuring cable: nylon-coated stainless
- C** cable exit: front
- D** output signal: TTL/CMOS driver
- E** resolution: 100 ±2 pulses per inch
- F** electrical connection: 6-pin plastic connector

Full Stroke Range:

<i>english ranges</i>	R 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.

<i>metric ranges</i>	R order code:	15000	20000	25000	30000	35000	40000
full stroke range, min:		15.000 mm	20.000 mm	25.000 mm	30.000 mm	35.000 mm	40.000 mm
cable tension (±35%):		7,5 N	6,7 N	5,6 N	5,3 N	5,0 N	4,7 N

Enclosure Material:

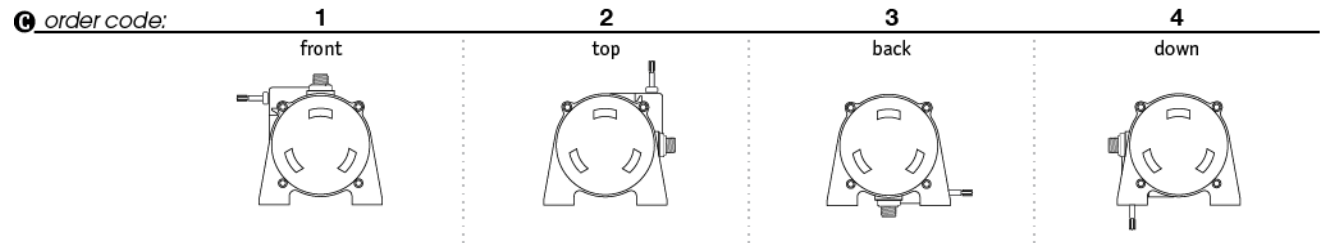
A order code:	1	3
enclosure material:	powder-painted aluminum	303 stainless steel
max. acceleration:	1g	1g
max. velocity:	60 inches/sec.	60 inches/sec.

Measuring Cable:

B order code:	1	2
cable construction:	nylon-coated stainless steel rope*	bare stainless steel rope*
general use:	indoor	outdoor, debris, high temperature

<i>*cable diameter:</i>	stroke range:	0600	0800	1000	1200	1500	1700
	nylon-coated stainless:	.034 in.	.019 in.	.019 in.	.019 in.	.014 in.	.014 in.
	bare stainless:	.031 in.	.018 in.	.018 in.	.018 in.	.015 in.	.015 in.

Cable Exit:



Output Signals:

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

Resolution:

1	2	3	4
order code: english ranges: 100 ±2 pulses per in. metric ranges: 5 ±0,1 pulses per mm	200 ±4 pulses per in. 10 ±0,2 pulses per mm	250 ±5 pulses per in. 12,5 ±0,25 pulses per mm	10 ±0,2 pulses per in. 0,5 ±0,01 pulses per mm

Electrical Connection:

1	2	3	4																																																																										
order code: 6-pin plastic connector with mating plug IP 67, NEMA 4X*,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. instrumentation cable 24 AWG, shielded IP 67, NEMA 6 25 ft. x 0.2-in. dia. [7,5 M x 5 mm dia.] 24 AWG, shielded	18-pin plastic connector with mating plug IP 65, NEMA 4 .26 - .30 in. [6,6 - 7,6 mm] cable dia. 20 - 24 AWG conductor size connector: Conxall 14282-18PG-300-K mating plug: Conxall 13282-18SG-326-K	6-pin metal connector with mating plug IP 67, NEMA 6 3/8-in. [9 mm] max cable dia. 16 AWG max conductor size connector: MS3102E-14S-6P mating plug: MS3106E-14S-6S																																																																										
6-pin mating plug: <table border="1"> <thead> <tr> <th>pin</th> <th>TTL/CMOS</th> <th>5 V Line Driver</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>input voltage</td> <td>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> </tbody> </table>	pin	TTL/CMOS	5 V Line Driver	A	input voltage	input voltage	B	common	common	C	channel A	channel A	D	channel B	channel B	E	-	channel A'	F	-	channel B'	18-pin mating plug: <table border="1"> <thead> <tr> <th>pin</th> <th>TTL/CMOS</th> <th>5 V Line Driver</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>input voltage</td> <td>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> </tbody> </table>	pin	TTL/CMOS	5 V Line Driver	1	input voltage	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'	25-ft. instrumentation cable: <table border="1"> <thead> <tr> <th>color</th> <th>TTL/CMOS</th> <th>5 V Line Driver</th> </tr> </thead> <tbody> <tr> <td>red</td> <td>input voltage</td> <td>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> </tbody> </table>	color	TTL/CMOS	5 V Line Driver	red	input voltage	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'
pin	TTL/CMOS	5 V Line Driver																																																																											
A	input voltage	input voltage																																																																											
B	common	common																																																																											
C	channel A	channel A																																																																											
D	channel B	channel B																																																																											
E	-	channel A'																																																																											
F	-	channel B'																																																																											
pin	TTL/CMOS	5 V Line Driver																																																																											
1	input voltage	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'																																																																											
color	TTL/CMOS	5 V Line Driver																																																																											
red	input voltage	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'																																																																											

* -applies to stainless steel enclosure only.

PT9150

Extended Ranges • Incremental Encoder • Extended Ranges

NORTH AMERICA

Measurement Specialties, Inc.,
a TE Connectivity company
20630 Plummer Street
Chatsworth, CA 91311
Tel +1 800 423 5483
Tel +1 818 701 2750
Fax +1 818 701 2799
info@celesco.com

TE.com/sensorsolutions

Measurement Specialties, Inc., a TE Connectivity company.

Measurement Specialties, TE Connectivity, TE Connectivity (logo) and EVERY CONNECTION COUNTS are trademarks. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

© 2015 TE Connectivity Ltd. family of companies All Rights Reserved.

PT9150 Extended Range 12/01/2015