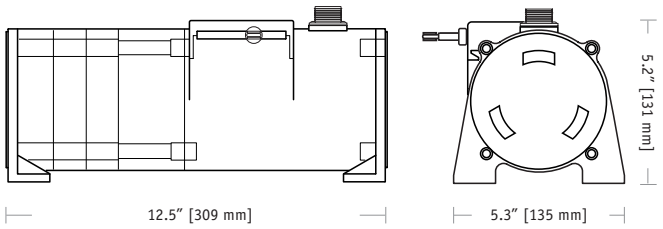
PT9101 (Extended Range)

Extended Ranges • Voltage Divider

Absolute Linear Position to 1700 inches (4300 cm)
Stroke Range Options: 0-600 to 0-1700 inches
VLS Option To Prevent Free-Release Damage
IP68 • NEMA 6 Protection

CE





GENERAL

Full Stroke Range Options (on this datasheet)	0-600 to 0-1700 inches
Output Signal	voltage divider (potentiometer)
Accuracy	± 0.10% full stroke
Repeatability	± 0.02% full stroke
Resolution	essentially infinite
Measuring Cable Options	stainless steel or thermoplastic
Enclosure Material	powder-painted aluminum or 303 stainless steel
Sensor	plastic-hybrid precision potentiometer
Potentiometer Cycle Life	≥ 250,000
Maximum Retraction Acceleration	see ordering information
Maximum Velocity	see ordering information
Weight, Aluminum (Stainless Steel) Enclosure	14 lbs. (28 lbs.) max.

ELECTRICAL

Input Resistance Options	500, 1K, 5K, 10K Ω, bridge
Power Rating, Watts	2.0 at 70°F derated to 0 at 250° F
Recommended Maximum Input Voltage	30V (AC/DC)
Output Signal Change Over Full Stroke Range	94% ±4% of input voltage

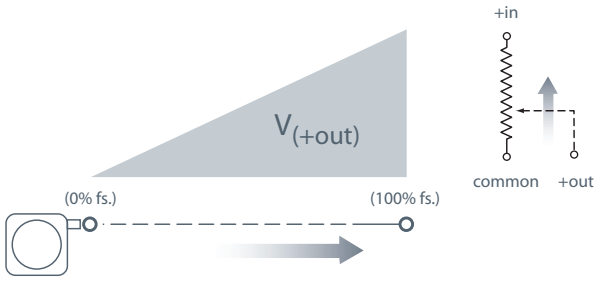
ENVIRONMENTAL

Enclosure	NEMA 4/4X/6, IP 67/68
Operating Temperature	-40° to 200°F (-40° to 90°C)
Vibration	up to 10 g to 2000 Hz maximum

The PT9101 is a work-horse for demanding long-range applications requiring a linear position measurements in ranges up to 1700 inches. Available with either a 500, 1K, 5K, or 10K ohm potentiometer, the PT9101 operates with any basic panel meter or programmable controller.

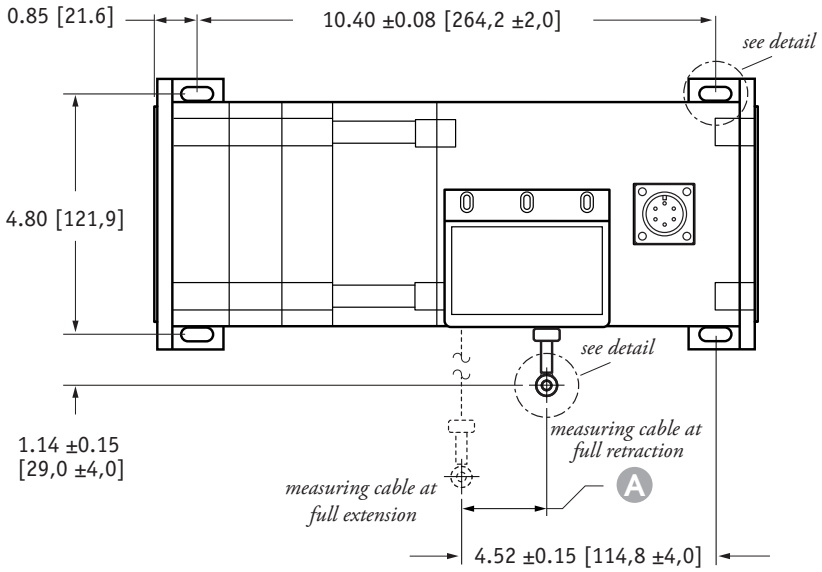
As a member of Celesco's innovative family of NEMA 4 rated cable-extension transducers, the PT9101 offers numerous benefits. It installs in minutes, works without perfect parallel alignment, and when it's stainless-steel cable is retracted, it measures only 6".

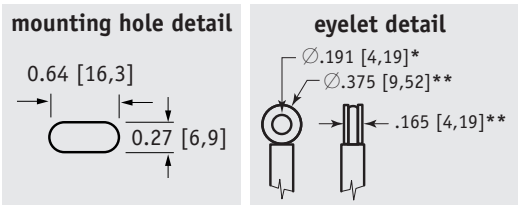
Output Signal:



-- bridge circuit option available, see ordering information

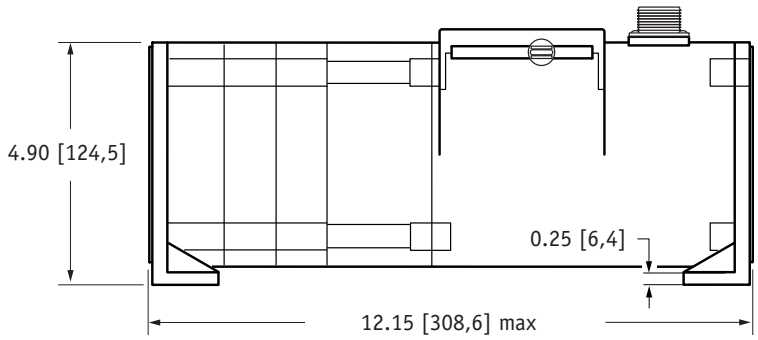
Outline Drawing

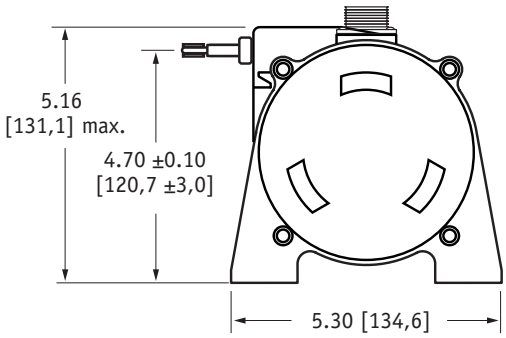




A DIMENSION

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 for the single spring option and 40 to 80 inches per second for the higher tension dual spring option.

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.

How To Configure Model Number for VLS Option:

VLS 9101- ____ **-** ____ ____ ____ **-** ____ ____ ____ ____
R A B C D E F G

creating VLS model number (example)...

1. select PT9101 model — **PT9101-1200-111-1110**
2. remove "PT" from the model number — **~~PT~~ 9101-1200-111-1110**
3. add "VLS" — **VLS + 9101-1200-111-1110**
4. completed model number ! — **VLS9101-1200-111-1110**

Ordering Information:

Model Number:

PT9101- ____ **-** ____ ____ ____ **-** ____ **1** ____ **0**

order code: Ⓡ Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ Ⓖ

Sample Model Number:

PT9101 - 1200 - 111 - 1110

Ⓡ	range:	1200 inches
Ⓐ	enclosure:	aluminum
Ⓑ	measuring cable:	nylon-coated stainless
Ⓒ	cable exit:	front
Ⓓ	output signal:	500 ohm potentiometer
Ⓕ	electrical connection:	6-pin plastic connector

Full Stroke Range:

Ⓡ 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.

Enclosure Material:

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

Measuring Cable:

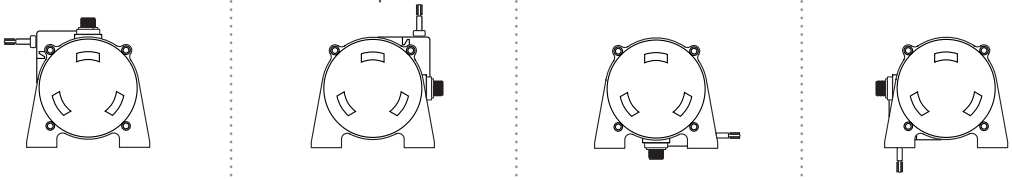
Ⓑ order code:	1	2
	nylon-coated stainless steel*	un-coated stainless steel*

*cable diameter:

stroke range:	0600	0800	1000	1200	1500	1700
nylon-coated cable:	.034 in.	.019 in.	.019 in.	.019 in.	.014 in.	.014 in.
un-coated cable:	.031 in.	.018 in.	.018 in.	.018 in.	.015 in.	.015 in.

Cable Exit:

Ⓒ order code:	1	2	3	4
	front	top	back	down

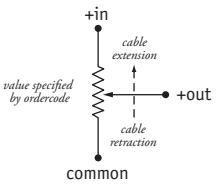


Output Signals:

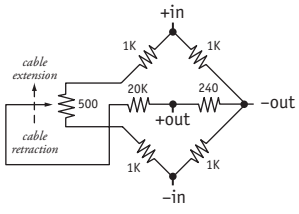
Ⓓ order code:	1	2	3	4	5	6
	500 ohm*	1000 ohm*	5000 ohm*	10,000 ohm*	fixed bridge (2 mV/V)	adjustable bridge (0...30 mV/V)

*tolerance = ±10%

circuit, options 1-4

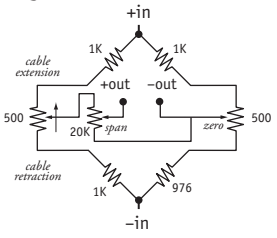


fixed bridge circuit



full scale output: 2 mV/V
zero adjust: not available

adjustable bridge cicuit

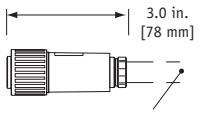
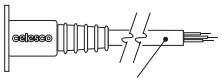
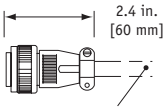
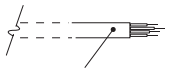


full scale output: adjustable from 0 to 30mV/V
zero adjust: to 50% of full stroke

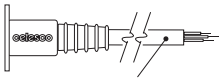
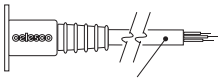
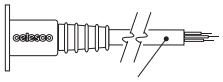
Ordering Information (cont.):

Electrical Connection:

F *order code:*

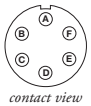
1	2	3	4
6-pin plastic connector w/mating plug	10-ft. [3 M] waterproof cable	6-pin metal connector w/mating plug	25-ft. [7.5 M] instrumentation cable
IP 67, NEMA 4X,6**	**IP 67, NEMA 4X**, 6**	**IP 65, NEMA 4**	**IP 67, NEMA 6**
			
1/2 - 5/16" [14 - 8 mm] cable dia. 16 AWG max conductor size connector: MS3102E-14S-6P mating plug: MS3106E-14S-6S	10 ft. x 0.4-in. dia. [3 M x 10 mm dia.] 18 AWG, type SJTW	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

F *order code:*

5	6	7
100-ft. [30 M] waterproof cable	10-ft. [3 M] **pressure tested*** waterproof cable	100-ft. [30 M] **pressure tested*** waterproof cable
IP 67, NEMA 4X,6**	**IP 68, NEMA 4X**, 6P**	**IP 68, NEMA 4X**, 6P**
		
100 ft. x 0.4-in. dia. [30 M x 10 mm dia.] 18 AWG, type SJTW	10 ft. x 0.4-in. dia. [3 M x 10 mm dia.] 18 AWG, type SJTW	100 ft. x 0.4-in. dia. [30 M x 10 mm dia.] 18 AWG, type SJTW

6-pin Mating Plug

pin	standard	bridge
A	+ in	+ in
B	common	– in
C	+ out	– out
D	-	+ out



contact view

Waterproof Cable

color code	standard	bridge
WHITE	+ in	n/a
BLACK	common	n/a
GREEN	+ out	n/a

Instrumentation Cable

color code	standard	bridge
RED	+ in	+ in
BLACK	common	– in
GREEN	+ out	+ out
WHITE	-	– out

*Notes: *–Test pressure: 100 feet [30 meters] H_2O (40 PSID); Test Medium: Air; Duration: 2 hours. ** –NEMA 4X applies to stainless steel enclosure only.*

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