

Cable-Extension Position Transducer

Precision Potentiometric Output
Ranges: 0-600 to 0-1700 inches
Industrial Grade



< Extended Range >

PT9101



Specification Summary:

GENERAL

Full Stroke Range Options—on this datasheet 0-600 to 0-1700 inches
 Output Signal voltage divider (potentiometer)
 Accuracy $\pm 0.10\%$ full stroke
 Repeatability $\pm 0.02\%$ full stroke
 Resolution essentially infinite
 Measuring Cable stainless steel *see ordering information*
 Enclosure Material powder-painted aluminum or stainless steel
 Sensor plastic-hybrid precision potentiometer
 Potentiometer Cycle Life 250,000 *before signal degradation can occur*
 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, *see ordering information*
 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% $\pm 4\%$ of input voltage

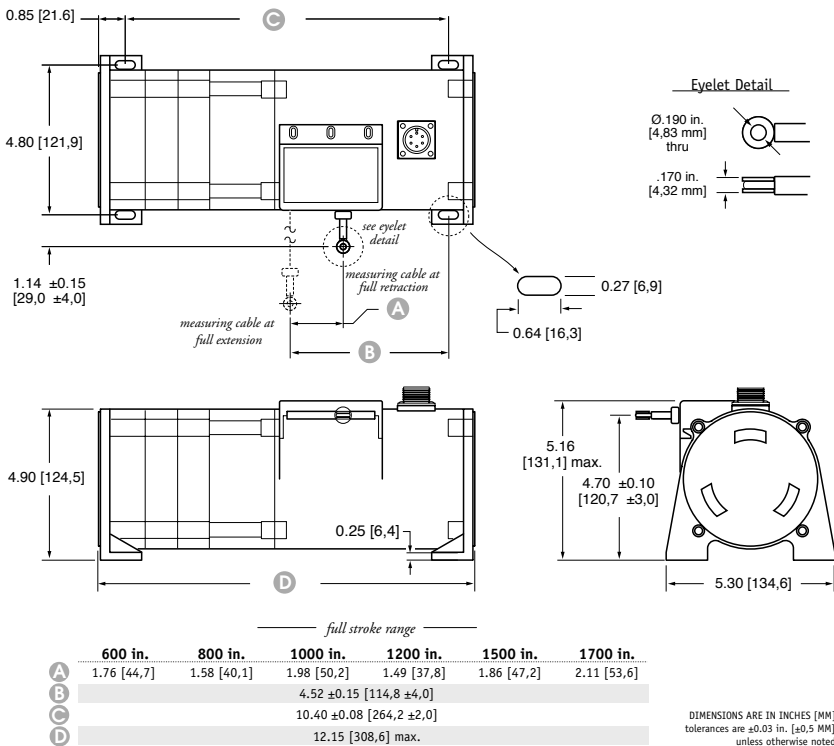
ENVIRONMENTAL

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

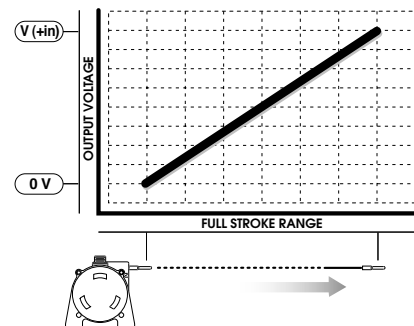
The PT9101 is a work-horse for demanding long-range applications requiring a linear position measurements in ranges up to 1700 inches. Available with either a 500, 1K, 5K, or 10K ohm potentiometer, the PT9101 operates with any basic panel meter or programmable controller.

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".

Fig. 1 - Outline Drawing for Output Signal Options 1-4 (500-10K ohms)



Output Signal



Ordering Information:

Model Number:

PT9101 - - **1** - **1** - **0**
order code: R A B C D E F G

Sample Model Number:

PT9101 - 1200 - 111 - 1110

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

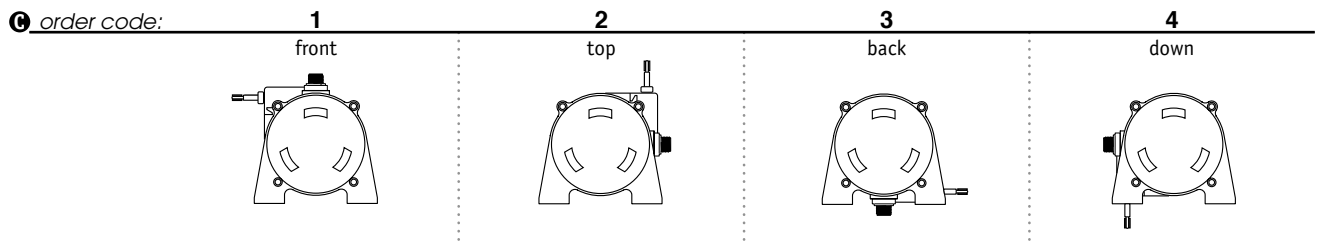
Full Stroke Range:

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 (30%):	25 oz.	25 oz.	24 oz.	24 oz.	23 oz.	23 oz.
measuring cable:	.034-in. dia. nylon-coated stainless	.024-in. dia. nylon-coated stainless	.024-in. dia. nylon-coated stainless	.019-in. dia. nylon-coated stainless	.015-in. dia. non-coated stainless	.015-in. dia. non-coated stainless

Enclosure Material:

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

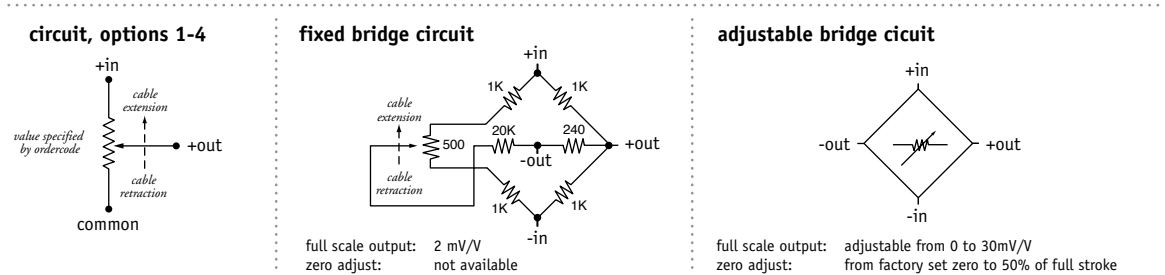
Cable Exit:



Output Signals:

D 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%					
			enclosure outline drawing see fig 1.		
			enclosure outline drawing see fig 2.		



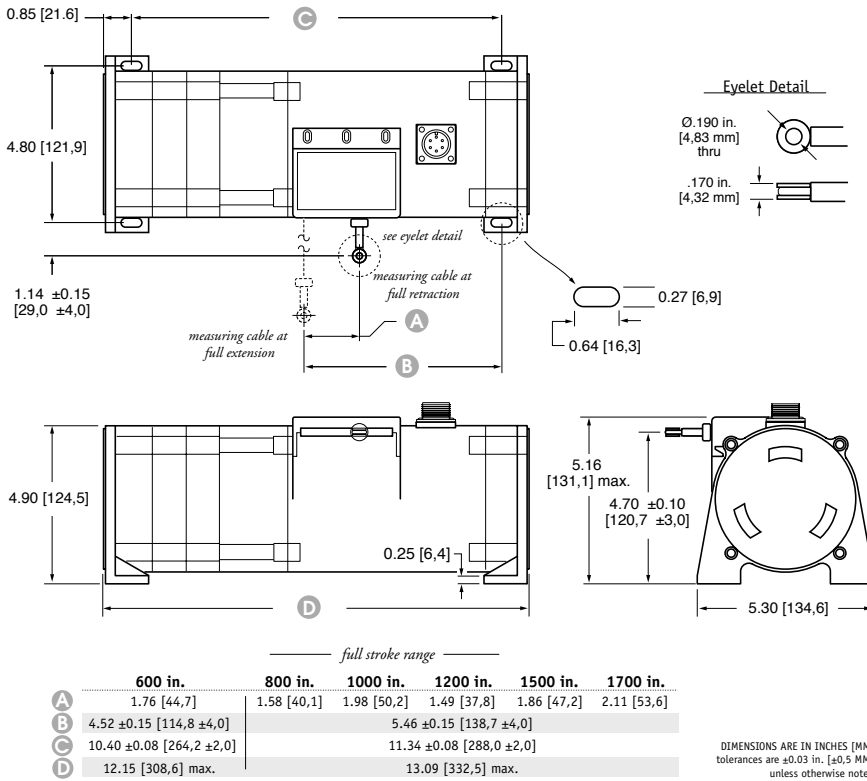
Ordering Information:

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: <table border="1"> <thead> <tr> <th>pin</th> <th>standard</th> <th>bridge</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>+ in</td> <td>+ in</td> </tr> <tr> <td>B</td> <td>common</td> <td>- in</td> </tr> <tr> <td>C</td> <td>+ out</td> <td>- out</td> </tr> <tr> <td>D</td> <td>-</td> <td>+ out</td> </tr> </tbody> </table>		pin	standard	bridge	A	+ in	+ in	B	common	- in	C	+ out	- out	D	-	+ out	10-ft. waterproof cable: <table border="1"> <thead> <tr> <th>color code</th> <th>standard</th> <th>bridge</th> </tr> </thead> <tbody> <tr> <td>WHITE</td> <td>+ in</td> <td>n/a</td> </tr> <tr> <td>BLACK</td> <td>common</td> <td>n/a</td> </tr> <tr> <td>GREEN</td> <td>+ out</td> <td>n/a</td> </tr> </tbody> </table>		color code	standard	bridge	WHITE	+ in	n/a	BLACK	common	n/a	GREEN	+ out	n/a	25-ft. instrumentation cable: <table border="1"> <thead> <tr> <th>color code</th> <th>standard</th> <th>bridge</th> </tr> </thead> <tbody> <tr> <td>RED</td> <td>+ in</td> <td>+ in</td> </tr> <tr> <td>BLACK</td> <td>common</td> <td>- in</td> </tr> <tr> <td>GREEN</td> <td>+ out</td> <td>+ out</td> </tr> <tr> <td>WHITE</td> <td>-</td> <td>- out</td> </tr> </tbody> </table>		color code	standard	bridge	RED	+ in	+ in	BLACK	common	- in	GREEN	+ out	+ out	WHITE	-	- out
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*-applies to stainless steel enclosure only **-requires factory submersion test

Fig. 2 – Outline Drawing for Output Signal Options 5-6 (bridge, adj. bridge)



version: 1.0 last updated: March 23, 2005