

Cable-Extension Position Transducer

Precision Potentiometric Output
Ranges: 0-75 to 0-550 inches
Industrial Grade

PT9101



Specification Summary:

GENERAL

Full Stroke Range Options—on this datasheet 0-75 to 0-550 inches
 Output Signal voltage divider (potentiometer)
 Accuracy $\pm 0.10\%$ full stroke
 Repeatability $\pm 0.02\%$ full stroke
 Resolution essentially infinite
 Measuring Cable Options nylon-coated stainless steel or thermoplastic
 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 8 lbs. (16 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".

Output Signal

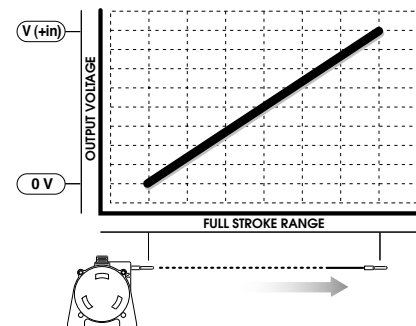
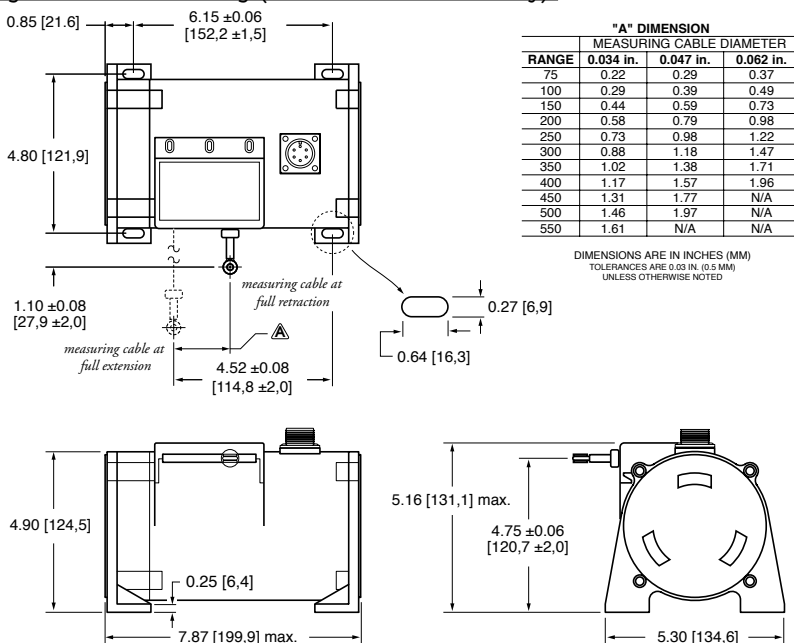


Fig. 1 – Outline Drawing (26 oz. cable tension only)



Ordering Information:

Model Number:

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

Sample Model Number:

PT9101 - 0500 - 111 - 1110

- R** range: 500 inches
- A** enclosure/cable tension: aluminum/26 oz.
- B** measuring cable: .034 nylon-coated stainless
- C** cable exit: front
- D** output signal: 500 ohm potentiometer
- F** electrical connection: 6-pin plastic connector

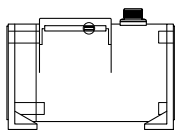
Full Stroke Range:

R <i>order code:</i>	0075	0100	0150	0200	0250	0300	0350	0400	0450*	0500*	0550*
full stroke range, min:	75 in.	100 in.	150 in.	200 in.	250 in.	300 in.	350 in.	400 in.	450 in.	500 in.	550 in.

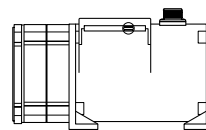
* - 42 oz. cable tension strongly recommended

Enclosure Material and Measuring Cable Tension:

A <i>order code:</i>	1	3	2	4
tension ($\pm 30\%$):	26 oz.		52 oz.	
enclosure material:	<i>powder-painted aluminum</i>	<i>303 stainless steel</i>	<i>powder-painted aluminum</i>	<i>303 stainless steel</i>
max. acceleration:	1 G	.33 G	5 G	2 G
max. velocity:	60 inches/sec	20 inches/sec	200 inches/sec	80 inches/sec



standard housing
see fig 1.



dual-spring housing
see fig 2.

Measuring Cable:

B <i>order code:</i>	1	2	3
	.034 nylon-coated stainless steel <i>available in all ranges</i>	.047 stainless steel <i>all ranges up to 500 inches</i>	.062 thermoplastic <i>all ranges up to 400 inches</i>

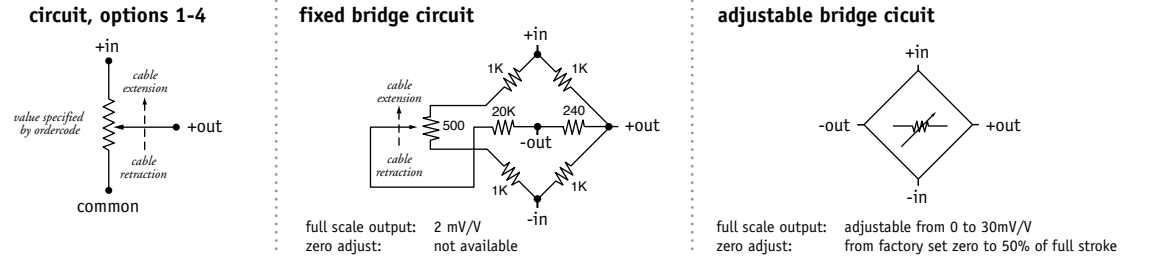
Cable Exit:

C <i>order code:</i>	1	2	3	4
	front	top	back	down

Ordering Information:

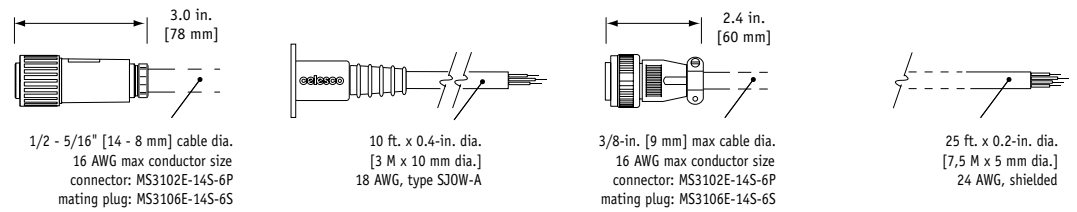
Output Signals:

① 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%					

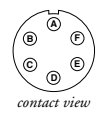


Electrical Connection:

① order code:	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

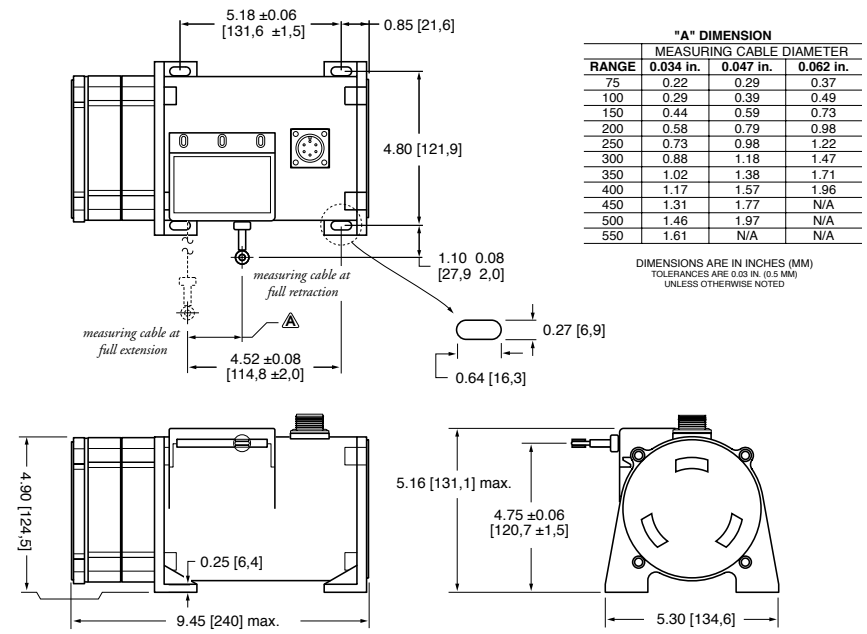


6-pin mating plug:			10-ft. waterproof cable:			25-ft. instrumentation cable:		
pin	standard	bridge	color code	standard	bridge	color code	standard	bridge
A	+ in	+ in	WHITE	+ in	n/a	RED	+ in	+ in
B	common	- in	BLACK	common	n/a	BLACK	common	- in
C	+ out	- out	GREEN	+ out	n/a	GREEN	+ out	+ out
D	-	+ out				WHITE	-	- out



*-applies to stainless steel enclosure only **-requires factory submersion test

Fig. 2 – Outline Drawing (42 oz. cable tension only)



version: 3.0 last updated: June 7, 2005