

Cable-Extension Position Transducer

0...5, 0...10, -5...+5, -10...+10 VDC Output Options
 Ranges: 0-2 to 0-60 inches
 Industrial Grade



PT8510

Specification Summary:

GENERAL

Full Stroke Range Options 0-2 to 0-60 inches
 Output Signal Options 0...5, 0...10, -5...+5, -10...+10 VDC
 Accuracy $\pm 0.28\%$ to $\pm 0.15\%$ full stroke *see ordering information*
 Repeatability $\pm 0.05\%$ 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 *see ordering information*
 Maximum Retraction Acceleration *see ordering information*
 Weight, Aluminum (Stainless Steel) Enclosure 3 lbs. (6 lbs.) max.

ELECTRICAL

Input 14.5-40 VDC (10.5-40 VDC for 0...5 and -5...+5 volt output)
 Input Current 10 mA maximum
 Output Impedance 1000 ohms
 Maximum Load 5000 ohms
 Zero and Span Adjustment *see ordering information*

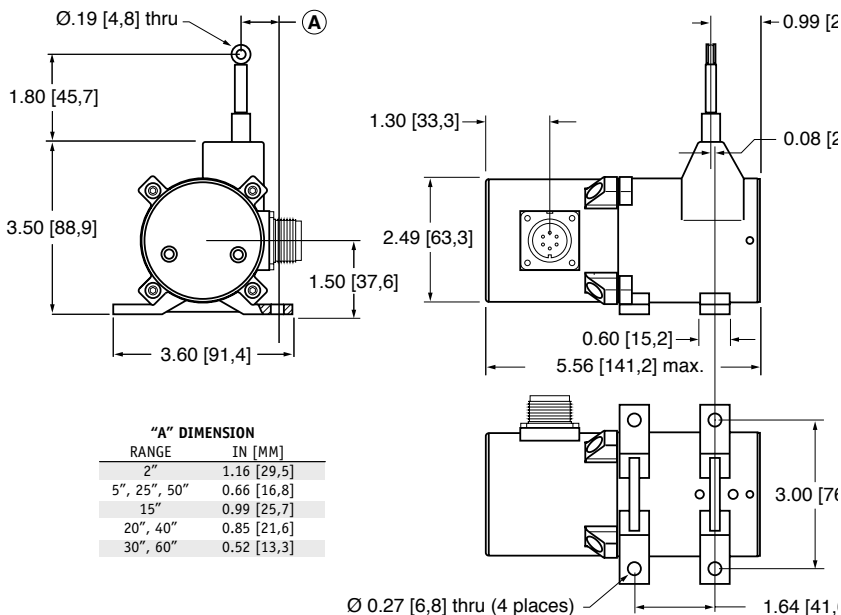
ENVIRONMENTAL

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

EMC COMPLIANCE PER DIRECTIVE 89/336/EEC

Emission/Immunity EN50081-2 / EN50082-2

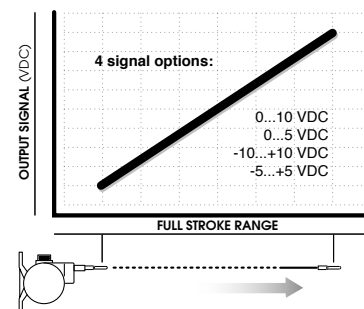
Outline Drawing



The PT8510 can operate from an unregulated 14.5 to 40 VDC power supply while providing an output signal that is proportional to the linear movement of its measuring cable. The PT8510 has a maximum measurement range up to 60" and has 4 output signal options to choose from: 0...10, 0...5, -10...+10 and -5...+5 Vdc.

As a member of Celesco's innovative family of NEMA-4 rated cable-extension transducers, the PT8510 offers numerous benefits. It installs in minutes, fits into areas unsuited for rod-type measurement devices, and works without perfectly parallel alignment.

Output Signal



Ordering Information:

Model Number:

PT8510- _____ **1** - **1** _____
order code: R A B C D E F G

Sample Model Number:

PT8510 - 0030 - 111 - 1110

- R** range: 30 inches
- A** enclosure/cable tension: aluminum/standard (9 oz.)
- B** measuring cable: .034 nylon-coated stainless
- E** output signal: 0...10 vdc
- F** electrical connection: 6-pin plastic connector
- G** cable guide option: standard nylon cable guide

Full Stroke Range:

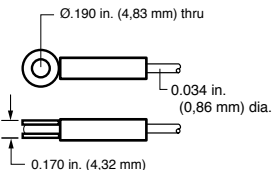
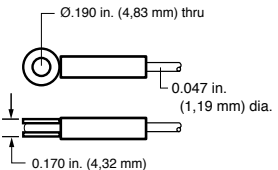
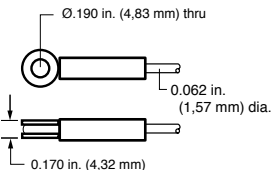
R order code:	0002	0005	0010	0015	0020	0025	0030	0040	0050	0060
full stroke range, min:	2 in.	5 in.	10 in.	15 in.	20 in.	25 in.	30 in.	40 in.	50	60
accuracy (% of f.s.):	0.28%	0.28%	0.18%	0.18%	0.18%	0.18%	0.18%	0.15%	0.15%	0.15%
potentiometer cycle life*:	2.5 x 10 ⁶	2.5 x 10 ⁶	5 x 10 ⁵	5 x 10 ⁵	5 x 10 ⁵	5 x 10 ⁵	5 x 10 ⁵	2.5 x 10 ⁵	2.5 x 10 ⁵	2.5 x 10 ⁵

*-1 cycle is defined as the travel of the measuring cable from full retraction to full extension and back to full retraction









Enclosure Material and Measuring Cable Tension:

A order code:	1	3	8	5	6	7	2	4	9
enclosure:	aluminum	303 stainless	316 stainless	aluminum	303 stainless	316 stainless	aluminum	303 stainless	316 stainless
cable tension (±20%)	standard tension			medium tension			high tension		
2, 10-inch ranges:	28 oz. [25 G max. acceleration]			45 oz. [37 G max. acceleration]			84 oz. [75 G max. acceleration]		
15-inch range:	19 oz. [10 G max. acceleration]			30 oz. [16 G max. acceleration]			57 oz. [30 G max. acceleration]		
4, 20, 40-inch ranges:	15 oz. [8 G max. acceleration]			24 oz. [12 G max. acceleration]			45 oz. [24 G max. acceleration]		
5, 25, 50-inch ranges:	12 oz. [5 G max. acceleration]			19 oz. [8 G max. acceleration]			36 oz. [15 G max. acceleration]		
30, 60-inch ranges:	9 oz. [3 G max. acceleration]			14 oz. [5 G max. acceleration]			27 oz. [9 G max. acceleration]		

Measuring Cable:

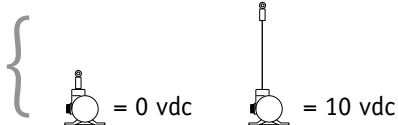
B order code:	1	2	3
	.034 nylon-coated stainless steel <i>available in all ranges</i>	.047 stainless steel <i>5, 15, 20, 25, 30-inch ranges only</i>	.062 thermoplastic <i>all ranges up to 30 inches only</i>
			

Output Signals:

E order code:	1	2	3	4	5	6	7	8
output signal options:	0...10 VDC 	10...0 VDC 	0...5 VDC 	5...0 VDC 	-10...+10 VDC 	+10...-10 VDC 	-5...+5 VDC 	+5...-5 VDC 
input voltage:	14.5 - 40 vdc		10.5 - 40 vdc		14.5 - 40 vdc		10.5 - 40 vdc	
span adjustment:	from 100% to 50% of full stroke range				from 100% to 75% of full stroke range			
zero adjustment:	from factory set zero to 50% of full stroke range				from factory set zero to 25% of full stroke range			

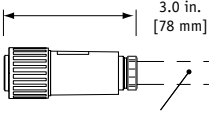
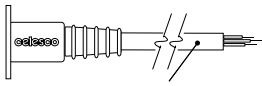
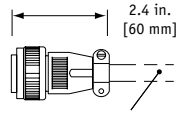
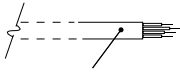
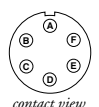
Example:

ordercode = **1** = 0...10 vdc



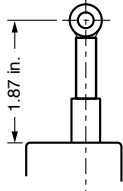
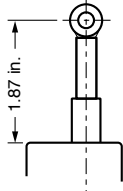
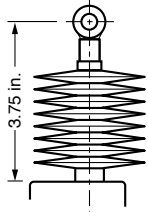
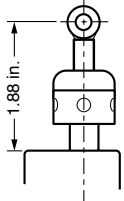
Ordering Information:

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
					
		.30 - .39 in. [8 - 10 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:		10-ft. waterproof cable:		25-ft. instrumentation cable:	
pin	signal	color code	signal	color code	signal
A	input voltage	WHITE	input voltage	RED	input voltage
B	output signal	GREEN	output signal	GREEN	output signal
C	common	BLACK	common	BLACK	common
					
<i>contact view</i>					

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

Cable Guide Options:

① order code:		0	1	2*	3
		standard cable guide	stainless steel cable guide	polyurethane cable bellows	integral cable brush
					

*note: all ranges up to 25 inches only