

Cable-Extension Position Transducer

Medium to Long Range

Industrial Grade

Output Signal Options: 0...5, 0...10, -5...+5, -10...+10 VDC



PT9510



Specification Summary:

GENERAL

Full Stroke Ranges-*on this datasheet* 0-75 to 0-550 inches, see ① next page
 Output Signal 0...10, 0...5, -5...+5, -10...+10 VDC, see ⑦
 Accuracy $\pm 0.12\%$ full stroke
 Repeatability $\pm 0.05\%$ full stroke
 Resolution essentially infinite
 Measuring Cable nylon-coated stainless steel or thermoplastic, see ⑥
 Enclosure Material powder-painted aluminum or stainless steel, see ②
 Sensor plastic-hybrid precision potentiometer
 Potentiometer Cycle Life* 250,000, min.
 Maximum Retraction Acceleration see ⑤
 Maximum Velocity see ④
 Weight, Aluminum (Stainless Steel) Enclosure 8 lbs. (16 lbs.) max.

ELECTRICAL

Input Voltage 14.5-40VDC (10.5-40VDC for 0-5 volt output)
 Input Current 10 mA maximum
 Output Impedance 1000 ohms
 Maximum Output Load 5000 ohms
 Zero and Span Adjustment 2:1 turndown

ENVIRONMENTAL

Enclosure Design NEMA 4/4X/6, IP65/67/68, see ⑧ and ⑨
 Operating Temperature -40° to 200° F
 Vibration up to 10 G's to 2000 Hz maximum

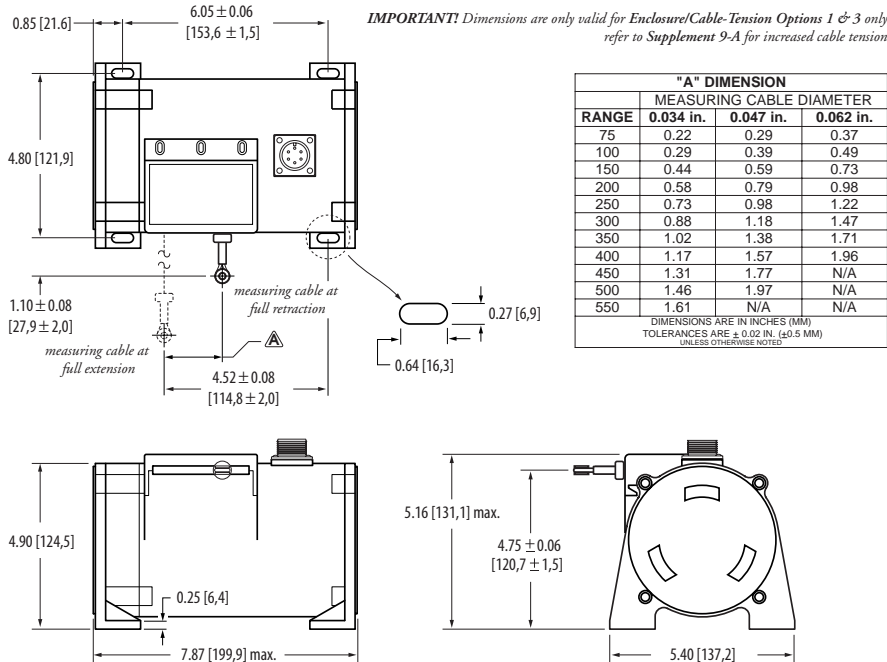
EMC COMPLIANCE PER DIRECTIVE 89/336/EEC

Emission / Immunity EN50081-2 / EN50082-2

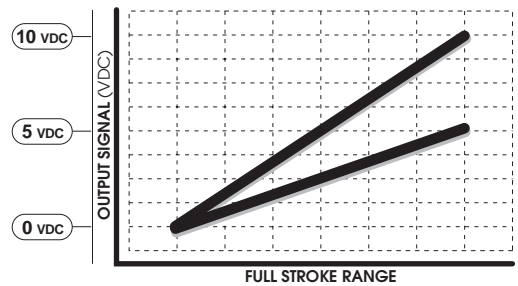
*note: **potentiometer cycle life** is defined as the minimum number of times the measuring cable can be fully extended and retracted before any measurable degradation of the output signal occurs.

The PT9510 can operate from an unregulated 14.5 to 40 VDC power supply while providing a regulated output signal over it's full extended range of up to 1700". It provides a 0 - 10 VDC position feedback signal proportional to the linear movement of it's stainless steel measuring cable.

As a member of Celesco's innovative family of NEMA-4 rated cable-extension transducers, the PT9510 offers numerous benefits. It installs in minutes, functions properly without perfectly parallel alignment, and when its cable is retracted, it measures only 6".



Electrical Output Signal:



Latin Tech, Inc.

▼ **Ordering Information**

Model Number:

PT9510- _____ **-** _____ **-** **1** _____ **-** _____ **0**
order code: **R** **A** **B** **C** **D** **E** **F** **G**

Full Stroke Range:

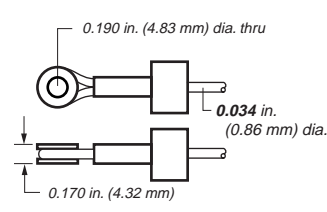
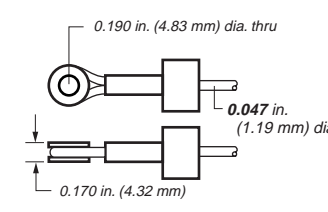
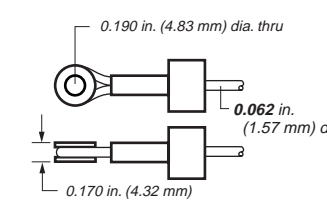
	R <i>order code:</i>	0075	0100	0150	0200	0250	0300
①	full stroke range, min:	75 inches	100 inches	150 inches	200 inches	250 inches	300 inches
	R <i>order code:</i>	0350	0400	0450*	0500*	0550*	
	full stroke range, min:	350 inches	400 inches	450 inches	500 inches	550 inches	

*note: *42 oz. cable tension (see ③ below) for these ranges is strongly recommended!*

Enclosure Material and Measuring Cable Tension:

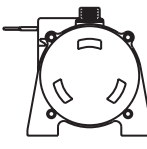
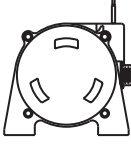
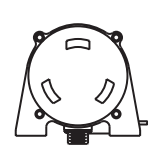
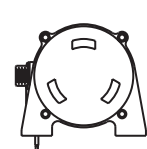
	A <i>order code:</i>	1	2	3	4
	enclosure:	see drawing (front page)	see Supplement 9-A	see drawing (front page)	see Supplement 9-A
②	enclosure material:	powder-painted aluminum		303 stainless steel	
③	cable tension (±30%):	26 oz.	42 oz.	26 oz.	42 oz.
④	maximum velocity:	60 inches per second	200 inches per second	20 inches per second	80 inches per second
⑤	max. retraction acceleration:	1 G	5 G's	0.33 G	2 G's

Measuring Cable:

	B <i>order code:</i>	1*	2**	3***
⑥	cable construction:	.034 nylon-coated stainless steel	.047 stainless steel	.062 thermoplastic
				

notes: *available in all ranges **available in ranges up to 500-inches only ***available in ranges up to 400-inches only

Cable Exit:

	C <i>order code:</i>	1	2	3	4
	direction:	front	top	rear	bottom
					

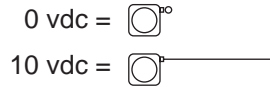
PT9510 • Cable-Extension Transducer: 0...10 • -10...10 VDC Output Signal Options

Output Signals:

⑦	⑧ 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

option example:

0...10 Vdc



Electrical Connection:

	⑧ order code:	1	2	3	4
	electrical connection:	6-pin plastic connector and mating plug	10 ft. waterproof cable	6-pin metal connector and mating plug	25 ft. instrumentation cable
			connections	connections	connections
		A = input voltage B = output signal C = common	WHT = input voltage GRN = output signal BLK = common	A = input voltage B = output signal C = common	RED = input voltage GRN = output signal BLK = common
⑧	IP rating:	67	67, 68*	65	67
⑨	NEMA rating:	6, 4X**	6, 4X**	4	6

note: *requires factory submersion test **applies to stainless steel enclosure, see ②

▼ Sample Model Number

PT9510-0200 - 1 1 1 - 1 1 1 0

order code:

Specifications:	Full Stroke Range:	200 inches
	Enclosure Material:	powder-painted aluminum
	Measuring Cable:	0.034-in dia. nylon coated stainless steel cable
	Cable Exit:	front
	Output Signals:	0-10 VDC, output increasing with cable extension
	Electrical Connection:	6-pin plastic connector

- ▼ All High Acceleration Applications
- ▼ 450-550 inch Full Stroke Applications

General:

Celeco strongly recommends increased cable tension for:

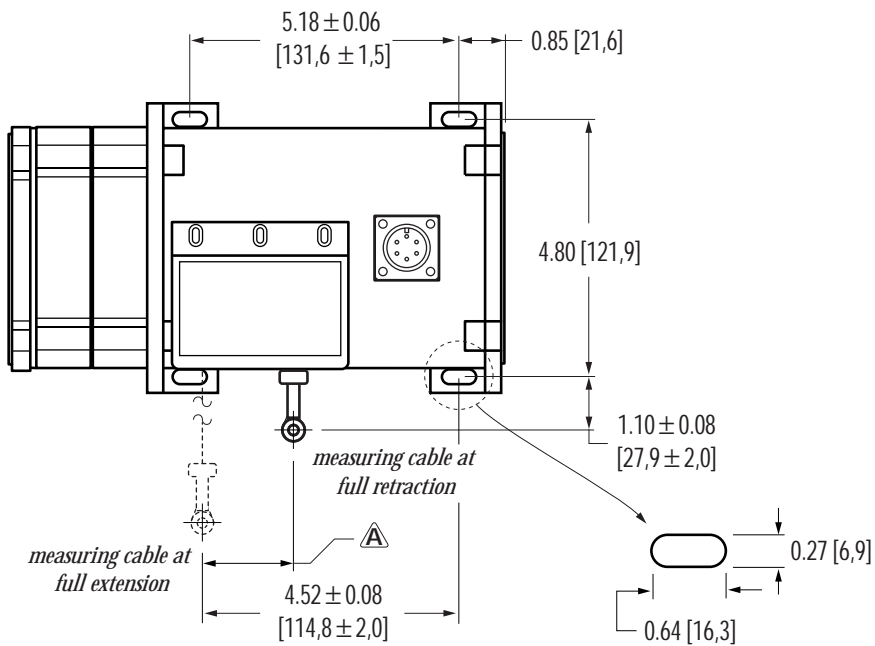
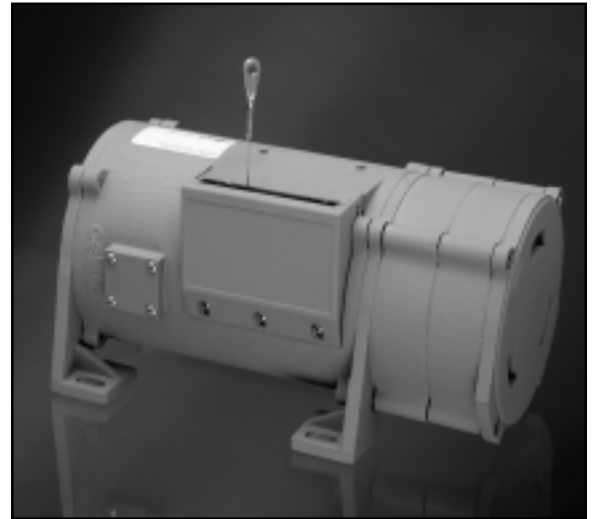
- Cable velocities greater than 60 inches per second
- Cable retraction accelerations exceeding:
 - 1 G (for aluminum enclosure)
 - 0.33 G (for stainless-steel enclosure)
- Applications with ranges 450 inches and greater to minimize cable sag and maintain dynamic capabilities.

Transducer Models:

PT9101	PT9150	PT9301
PT9420	PT9510	PT9600

Available Ranges:

75 to 550 inches



"A" DIMENSION			
MEASURING CABLE DIAMETER			
RANGE	0.034 in.	0.047 in.	0.062 in.
75	0.22	0.29	0.37
100	0.29	0.39	0.49
150	0.44	0.59	0.73
200	0.58	0.79	0.98
250	0.73	0.98	1.22
300	0.88	1.18	1.47
350	1.02	1.38	1.71
400	1.17	1.57	1.96
450	1.31	1.77	N/A
500	1.46	1.97	N/A
550	1.61	N/A	N/A

DIMENSIONS ARE IN INCHES (MM)
TOLERANCES ARE ± 0.02 IN. (± 0.5 MM)
UNLESS OTHERWISE NOTED

