



mm PT8510

Description

- Absolute Linear Position to 60 inches (1524 mm)
- Aluminum or Stainless Steel Enclosure Options
- VLS Option To Prevent Free-Release Damage
- IP68 • NEMA 6 Protection



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 our 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.

GENERAL

Full Stroke Range Options	0-2 to 0-60 inches
Output Signal Options	0...5, 0...10, -5...+5, -10...+10 VDC
Accuracy	see ordering information
Repeatability	± 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 (StainlessSteel) Enclosure	3 lbs. (6 lbs.) max.

ELECTRICAL

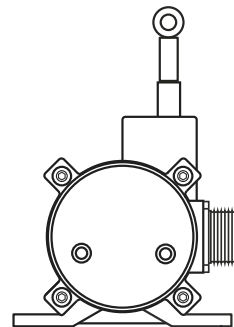
Input Voltage	see ordering information
Input Current	10 mA maximum
Output Impedence	1000 ohms
Maximum Load	5000 ohms
Zero and Span Adjustment	see ordering information

EMC COMPLIANCE PER DIRECTIVE 89/336/EEC

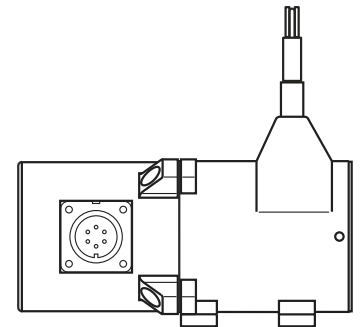
Emission/Immunity EN50081-2 / EN50082-2

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

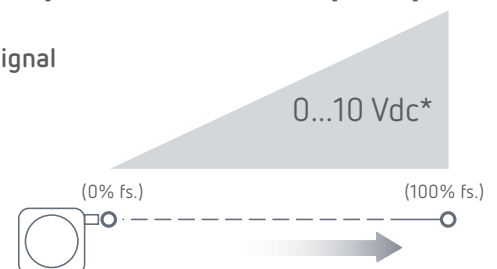


3.6" [91 mm]



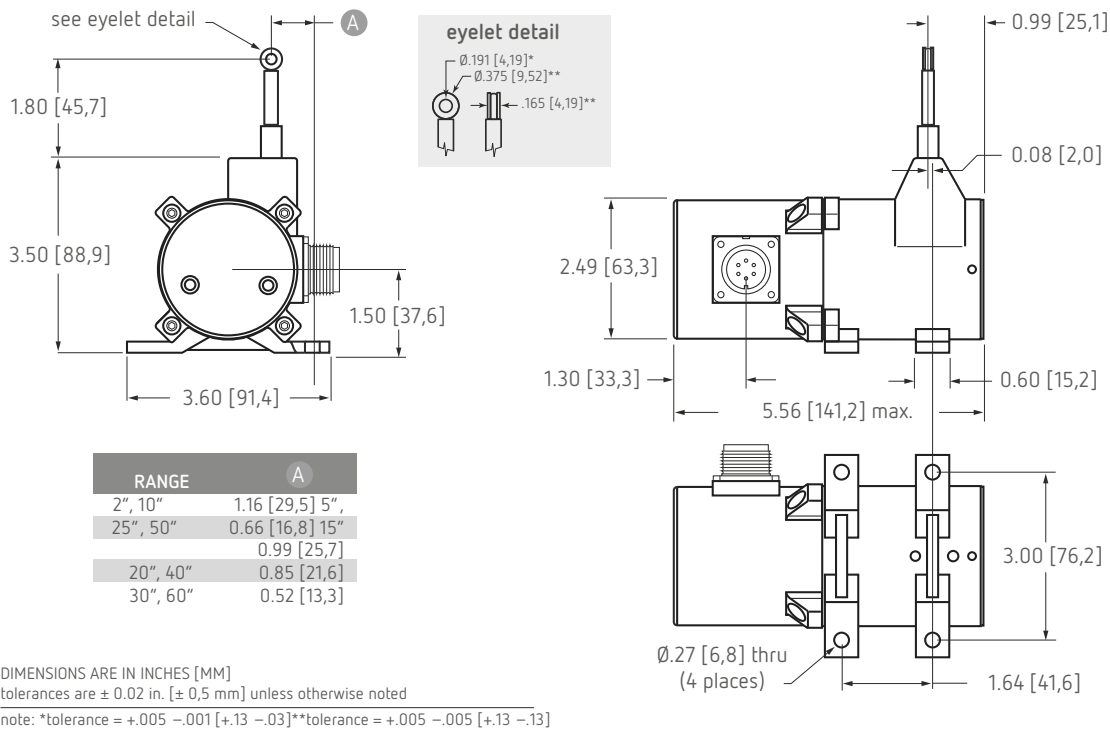
5.6" [141 mm]

Output signal



*Additional Output Options: 0...5, -5...+5, -10...+10 Vdc

Outline Drawing



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 in.	60 in.
accuracy (% of f.s.):	1.00%	1.00%	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	5	2	3	6	4	8	7	9
enclosure:	aluminum				303 stainless			316 stainless	
cable tension:	standard medium		high standard medium		high standard medium	high 15 g		25 g	40 g
max. acceleration:		6 g	12 g	18 g	6 g	12 g	18 g		

cable tension option specifications	Range:	2 in.	5 in.	10 in.	15 in.	20 in.	25 in.	30 in.	40 in.	50 in.	60 in.
	Standard:	39 oz.	16 oz.	39 oz.	26 oz.	20 oz.	16 oz.	13 oz.	20 oz.	16 oz.	13 oz.
	Medium:	65 oz.	26 oz.	65 oz.	43 oz.	33 oz.	26 oz.	22 oz.	33 oz.	26 oz.	22 oz.
	High:	116 oz.	47 oz.	116 oz.	77 oz.	60 oz.	47 oz.	40 oz.	60 oz.	47 oz.	40 oz.









tension tolerance: ± 50%

Ordering Information (cont.)

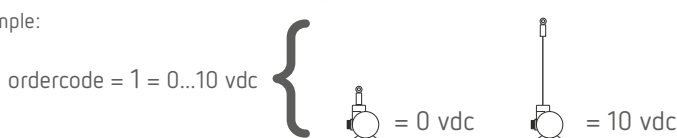
Measuring Cable

B order code:	1	2	3	4
cable construction:	Ø.034-inch nylon-coated stainless steel rope	Ø.047-inch bare stainless steel rope	Ø.058-inch PVC jacketed vectra fiber rope	Ø.031-inch bare stainless steel rope
available ranges:	all ranges	5, 15, 20, 25, 30-inch only	thru 30 inches only	40, 50, 60-inch only
general use:	indoor	outdoor, debris, high temperature	high voltage or magnetic field	outdoor, debris, high temperature

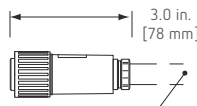
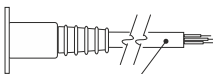
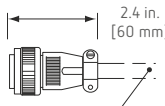

Output Signals

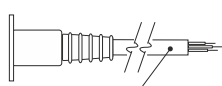
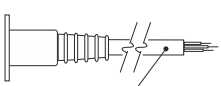
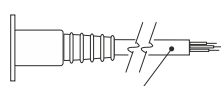
E order code:	1	2	3	4	5	6	7	8
output signal options:	0...10 VDC	10...0 VDC	0...5 VDC	5...0 VDC	-10...+10 VDC	+10...-10 VDC	-5...+5 VDC	+5...-5 VDC
input voltage: span adjustment: zero adjustment:	 14.5 – 40 vdc to 50% of factory set span from factory set zero to 50% of full stroke range	 10.5 – 40 vdc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

Example:



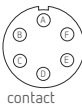
Electrical Connection

F order code:	1	2	3	4
	6-pin plastic connector w/ mating plug IP 67, NEMA 4X**,6	10-ft. [3 M] waterproof IP 67, NEMA 4X**, 6	6-pin metal connector w/ mating plug IP 65, NEMA 4	25-ft. [7.5 M] instrumentation cable 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.] 3-conductor, 18 AWG type SJTOW	 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.] 6-conductor, 24 AWG shielded

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

6-pin Mating Plug

pin	signal
A	input voltage
B	output signal
C	common



Waterproof Cable

color code	signal
WHITE	input voltage
GREEN	output signal
BLACK	common

Instrumentation Cable

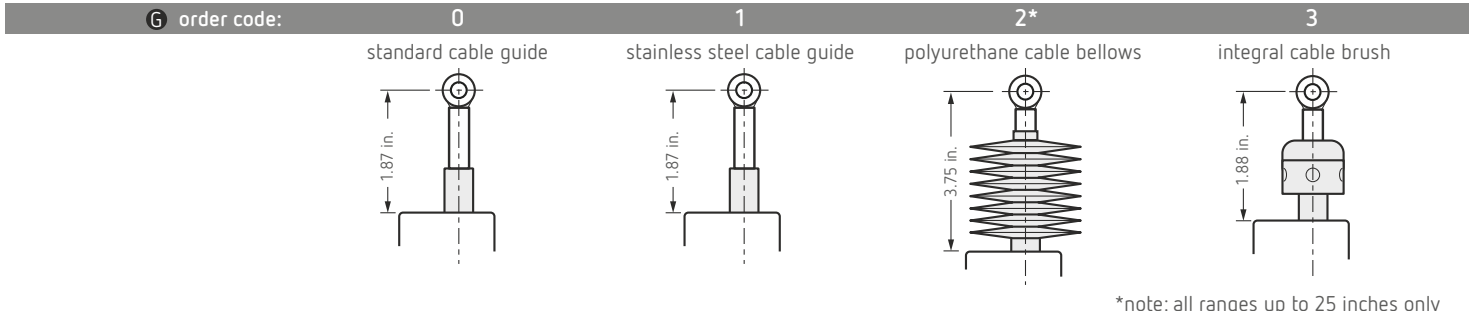
color code	signal
RED	input voltage
GREEN	output signal
BLACK	common

Note: WHITE, BLUE, BROWN are not used.

*-Test pressure: 100 feet [30 meters] H₂O (40 PSID); Test Medium: Air; Duration: 2 hours. ** -Applies to stainless steel enclosure only.

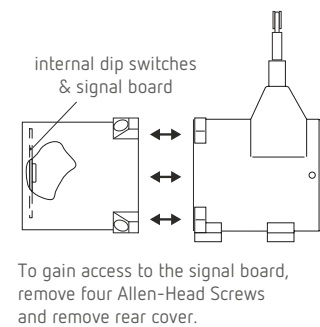
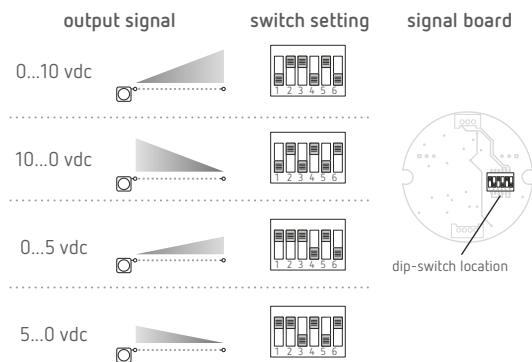
Ordering Information (cont.)

Cable Guide Options



Output Signal Selection (does not apply to -5...+5 & -10...+10 vdc options)

The output signal direction can be reversed at any time by simply changing the dip-switch settings found on the internal signal board. After the settings have been changed, adjustment of the Zero and Span trimpots will be required to precisely match signal values to the beginning and end points of the stroke.



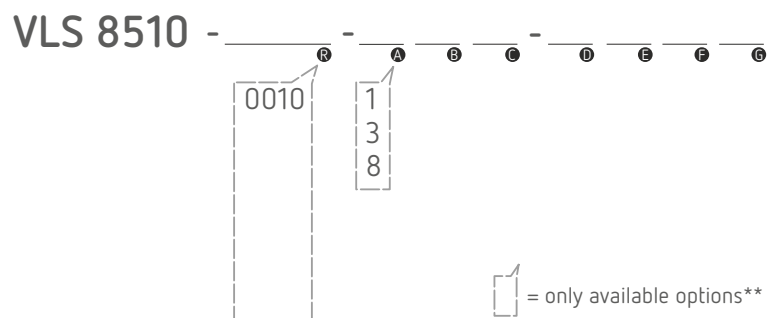
VLS Option - Free Release Protection

The patented Velocity Limiting System (VLS) is an option for PT8000 Series cable extension transducers that limits cable retraction to a safe 40 to 55 inches per second.

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.

VLS is NOT available for medium and high cable tension options or 2, 5 and 15-inch stroke ranges.

How To Configure Model Number for VLS Option:



creating VLS model number (example):

- | | |
|--------------------------------------|----------------------------------|
| 1. select PT8420 model | PT8510-0060-111-1110 |
| 2. remove "PT" from the model number | PT 8510-0060-111-1110 |
| 3. add "VLS" | VLS + 8510-0060-111-1110 |
| 4. completed model number ! | VLS8510-0060-111-1110 |

**Note: please contact factory for a solution to options not supported.

The information provided herein is to the best of our knowledge true and accurate, it is provided for guidance only. All specifications are subject to change without prior notification.