

# Cable-Extension Position Transducer

- ▼ Long Range
- ▼ Industrial Grade
- ▼ Incremental Encoder Output

EXTENDED RANGE

# PT9150

## Specification Summary:

### GENERAL

Full Stroke Ranges—on this data sheet ... 0-600 to 0-1700 inches, see ① next page  
 Output Signal ..... incremental encoder (quadrature) signal  
 Output Driver ..... TTL/CMOS, open collector or line driver, see ⑥  
 Accuracy  
 Typical ..... the lesser of 0.02% f.s. or 0.04% of measurement  $\pm 1/2$  pulse max.  
 Best ..... not less than 0.001 in. (0.03 mm)  
 Repeatability ..... 0.02% of measurement  $\pm 1/2$  pulse max.  
 Resolution ..... 10 to 100 pulses per inch, see ⑦ and ⑧  
 Measuring Cable ..... stainless steel, nylon-coated or thermoplastic, see ②  
 Enclosure Material ..... powder-painted aluminum or stainless steel, see ③  
 Sensor ..... optical encoder  
 Maximum Retraction Acceleration ..... see ⑤  
 Maximum Velocity ..... see ④  
 Weight, Aluminum (Stainless Steel) Enclosure ..... 14 lbs. (28 lbs.), max.

### ENVIRONMENTAL

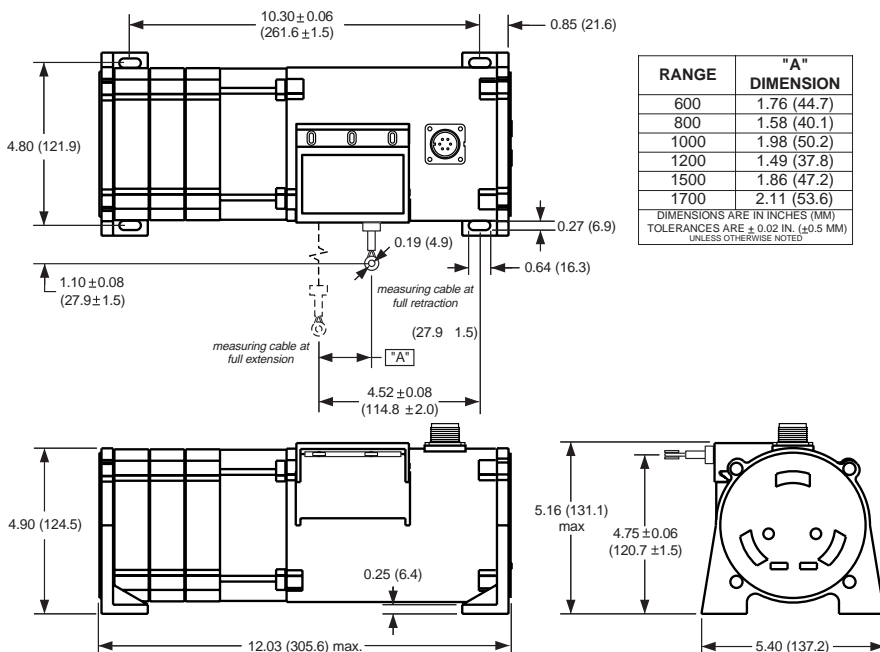
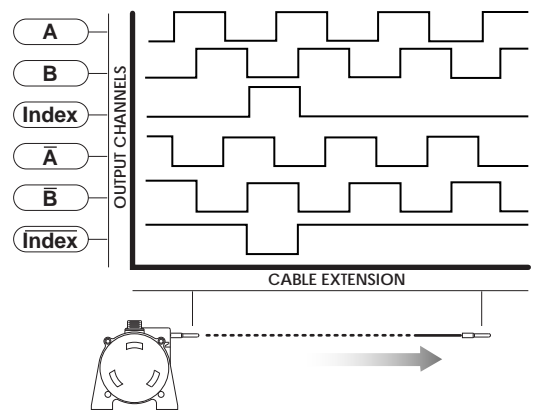
Enclosure Design ..... NEMA 4/4X/6, IP 65/67/68, see ⑨ and ⑩  
 Operating Temperature ..... 0° to 160°F  
 Vibration ..... up to 10 G's to 2000 Hz maximum



With its incremental optical encoder and industrial design this rugged transducer provides the highest accuracy and longest life of any measurement device of its kind. This model is available in a wide variety of resolutions and output stages to fit virtually any requirement.

It can measure up to 1700", yet when its cable is retracted it is only 6" long. Its small size and low-cost-to-measurement ratio offers remarkable flexibility and value.

## Electrical Output Signal:



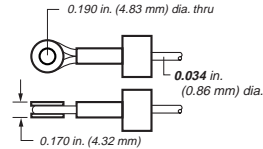
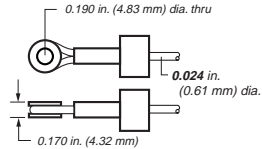
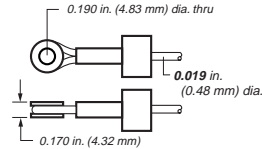
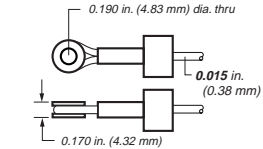
# PT9150 • Extended Range • Cable-Extension Transducer • Incremental Encoder Output

## ▼ Ordering Information

### Model Number:

**PT9150-** \_\_\_\_\_ **1** \_\_\_\_\_ **0**  
 order code:                      **R**                      **A**                      **B**                      **C**                      **D**                      **E**                      **F**                      **G**

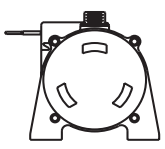
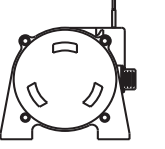
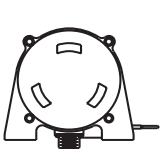
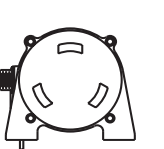
### Full Stroke Range:

<b>R</b> order code:	<b>0600</b>	<b>0800</b>	<b>1000</b>	<b>1200</b>	<b>1500</b>	<b>1700</b>
① full stroke <b>english</b> range, min:	600 inches	800 inches	1000 inches	1200 inches	1500 inches	1700 inches
<b>R</b> order code:	<b>15000</b>	<b>20000</b>	<b>25000</b>	<b>30000</b>	<b>35000</b>	<b>40000</b>
full stroke <b>metric</b> range, min:	15,000 mm	20,000 mm	25,000 mm	30,000 mm	35,000 mm	40,000 mm
② cable tension (±30%):	25 oz.	25 oz.	24 oz.	24 oz.	23 oz.	23 oz.
cable construction:	nylon-coated stainless steel				stainless steel	
						

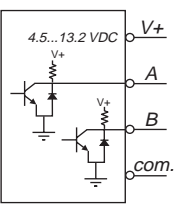
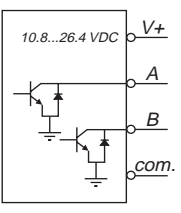
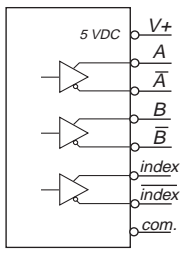
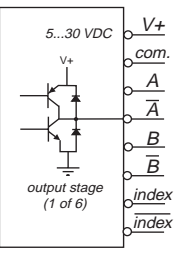
### Enclosure Material:

<b>A</b> order code:	<b>1</b>	<b>3</b>
③ enclosure material:	powder-painted aluminum	303 stainless steel
④ maximum velocity:	60 inches per second	20 inches per second
⑤ max. retraction acceleration:	1 G	0.33 G

### Cable Exit:

<b>G</b> order code:	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
direction:	front	top	rear	bottom
				

### Output Signals:

<b>I</b> order code:	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
⑥ output driver:	TTL - CMOS	Open Collector	5 V - Line Driver	Universal Line Driver
	Input voltage (V+): 4.5...13.2 Vdc Sink current: 20 mA max. Input current: 80 mA max.	Input voltage (V+): 10.8...26.4 Vdc Sink current: 20 mA max. Input current: 80 mA max.	Input voltage (V+): 5 Vdc Sink current: 20 mA max. Input current: 150 mA max.	Input voltage (V+): 5...30 VDC Source/Sink: 20 mA max. Input current: 100 mA max, no load
				

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## Resolution:

order code:	1	2	3	4
⑦ resolution for <b>english</b> ranges:	100 ±2 pulses per inch	200 ±4 pulses per inch	250 ±5 pulses per inch	10 ±0.2 pulses per inch
⑧ resolution for <b>metric</b> ranges:	5 ±0.1 pulses per mm	10 ±0.2 pulses per mm	12.5 ±0.25 pulses per mm	0.5 ±0.01 pulses per mm

## Electrical Connection:

order code:	1 <sup>(*)</sup>	2	3	4 <sup>(*)</sup>
electrical connection:	6-pin plastic connector and mating plug	25 ft. instrumentation cable	18-pin plastic connector and mating plug	6-pin metal connector and mating plug
	connections	connections	connections	connections
	<p>A = input power (V+)                      B = common (ground)                      C = channel A                      D = channel B                      E = channel A (*2)                      F = channel B (*2)</p>	<p>RED = input power (V+) BLU = channel A (*2)                      BLK = common (gnd.) BRN = channel B (*2)                      GRN = channel A YEL = index (*2)                      WHT = channel B ORG = index (*2)</p>	<p>1 = input power (V+)                      2 = common (gnd.)                      3 = channel B                      6 = channel A                      7 = index                      11 = channel B (*2)                      12 = channel A (*2)                      15 = index (*2)</p>	<p>A = input power (V+)                      B = common (ground)                      C = channel A                      D = channel B                      E = channel A (*2)                      F = channel B (*2)</p>
⑨ IP rating:	67	67, 68 <sup>(*)</sup>	67	65
⑩ NEMA rating:	6, 4X <sup>(*)</sup>	6, 4X <sup>(*)</sup>	6	4

notes: \*1-6-pin connector not available when Index channels are required

\*2-no signal present when TTL-CMOS or Open Collector output drivers are selected

\*3-requires factory submersion test

\*4-applies to stainless steel enclosure,

## ▼ Sample Model Number

**PT9150-1500-111-1110**  
order code: ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭

Specifications: Full Stroke Range: 200 inches  
 Enclosure Material: powder-painted aluminum  
 Measuring Cable: 0.015-in dia. stainless steel cable  
 Cable Exit: front  
 Output Driver: TTL/CMOS, 4.5...13.2 VDC  
 Resolution: 98 - 102 pulses per inch  
 Electrical Connection: 6-pin plastic connector

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