

# Cable-Extension Position Transducer

- ▼ Short to Medium Range
- ▼ Industrial Grade
- ▼ Incremental Encoder Output

## Specification Summary:

### GENERAL

Full Stroke Ranges ..... 625mm / 1250mm, see ① next page  
 Output Signal ..... incremental encoder (quadrature) signal  
 Output Driver ..... TTL/CMOS, open collector or line driver, see ⑤  
 Accuracy  
 Typical ..... the lesser of 0.02% f.s. or 0.04% of measurement  $\pm 1/2$  pulse max.  
 Best ..... not less than 0.03 mm  
 Repeatability ..... 0.02% of measurement  $\pm 1/2$  pulse max.  
 Resolution ..... 0.5 to 0.02 pulses per mm, see ⑥ and ⑦  
 Measuring Cable ..... stainless steel, nylon-coated or thermoplastic, see ④  
 Enclosure Material ..... powder-painted aluminum or stainless steel, see ③  
 Sensor ..... optical encoder  
 Weight, Aluminum (Stainless Steel) Enclosure ..... 1.5 kg (3kg), max.

### ENVIRONMENTAL

Enclosure Design ..... NEMA 4/4X, IP 65/67/68, see ⑧ and ⑨  
 Operating Temperature .....  $-10^{\circ}$  to  $70^{\circ}\text{C}$   
 Vibration ..... up to 10 G's to 2000 Hz maximum

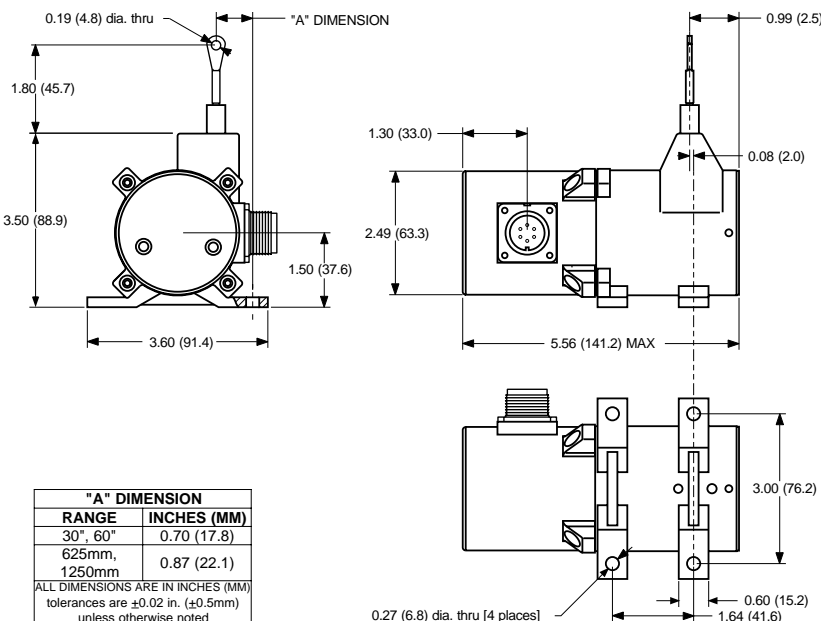
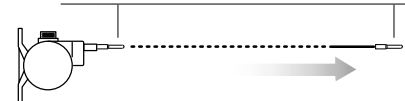
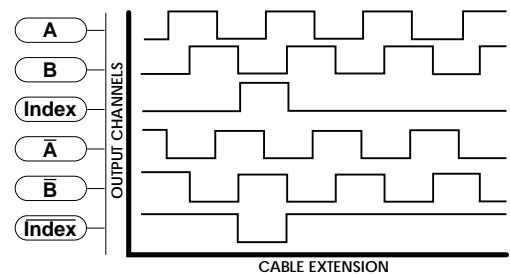
# PT8150

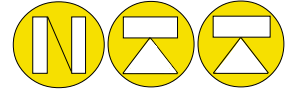


With its incremental optical encoder and industrial design, this rugged transducer provides the highest accuracy and longest life of any measurement device of its kind. For measurements up to 1250mm, this model is available in a variety of resolutions and output stages to fit virtually any requirement.

The PT8150 offers numerous advantages over other industrial-grade sensors: It installs in minutes by mounting its body to a fixed surface and attaching its cable to the movable object, fits into areas unsuited for rod-type measurement devices, and works without perfect parallel alignment.

## Electrical Output Signal:





# PT8150 • Cable-Extension Transducer • Incremental Encoder Output

## ▼ Ordering Information

### Model Number:

**PT8150-** \_\_\_\_\_ **1** - \_\_\_\_\_  
order code:                      R                      A                      B                      C                      D                      E                      F                      G

### Full Stroke Range:

	<b>0030</b>	<b>0060</b>	<b>0625</b>	<b>1250</b>
① full stroke range, min:	30 in.	60 in.	625 mm	1250 mm
accuracy (% of f.s.):	0.04 %	0.04%	0.04%	0.04%
maximum cable acceleration:	5 G's	5 G's	5 G's	5 G's
② std. cable tension (±20%):	12 oz.	12 oz.	15 oz. (420gram)	15 oz. (420gram)

### Enclosure Material and Measuring Cable Tension:

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
③ enclosure material:	powder-painted aluminum		303 stainless steel	
cable tension* multiplier:	1x	3x	1x	3x

note: \*refer to ② above

### Measuring Cable:

	<b>1*</b>	<b>2**</b>	<b>3***</b>
④ cable construction:	nylon-coated stainless steel	stainless steel	thermoplastic

notes: \*available in all ranges

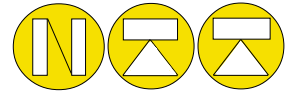
\*\*30-inch and 625-mm ranges only

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### Output Signals:

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
⑤ output driver:	TTL - CMOS	Open Collector	5 V - I-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: 50 mA max. (no load)





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## Resolution:

⑥ order code:	1	2	3	4
⑥ resolution for <b>english</b> ranges:	200 ±4 pulses per inch	400 ±8 pulses per inch	500 ±10 pulses per inch	20 ±0.4 pulses per inch
⑦ resolution for <b>metric</b> ranges:	10 ±0.2 pulses per mm	20 ±0.4 pulses per mm	25 ±0.5 pulses per mm	1 ±0.02 pulse per mm

## Electrical Connection:

⑧ 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
IP rating:	67	67, 68 <sup>(*)3</sup>	67	67
NEMA rating:	4, 4X <sup>(*)4</sup>	4, 4X <sup>(*)4</sup>	4	4

notes: <sup>\*</sup>1-6-pin connector not available when Index channels are required <sup>\*</sup>2-no signal present when TTL-CMOS or Open Collector output drivers are selected <sup>\*</sup>3-requires factory submersion test <sup>\*</sup>4-applies to stainless steel enclosure, see ③

## Cable Guide Options:

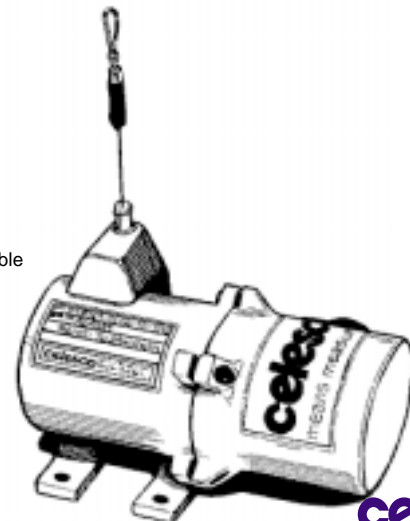
⑨ order code:	0	1	2*	3
	standard nylon cable guide	stainless steel cable guide	polyurethane cable bellows	integral cable brush

note: \*-will limit measurement range to 25 inches (635 mm) maximum

## ▼ Sample Model Number

**PT8150-0030** - 1 1 1 - 1 1 1 0  
order code: ⑥ ④ ③ ② ① ⑦ ⑧ ⑨

Specifications: Full Stroke Range: 30 inches  
 Enclosure Material: powder-painted aluminum  
 Measuring Cable: 0.034-in dia. nylon coated stainless steel cable  
 Output Driver: TTL/CMOS, 4.5...13.2 VDC  
 Resolution: 200 (±4) pulses per inch  
 Electrical Connection: 6-pin plastic connector  
 Cable Guide: standard nylon



**celesco**

Nordisk Transducer Teknik • Als Odde DK9560 Hadsund Denmark  
 tel.: +4598581444 • fax: +4598581866 • www.ntt.dk • kd@ntt.dk