

# Cable-Extension Position Transducer

- ▼ Short to Medium Range
- ▼ Industrial Grade - High Cycle Applications
- ▼ Incremental Encoder Output

# PT5E

## Specification Summary:

### GENERAL

Full Stroke Ranges ..... 0-50 to 0-250 inches, see ① next page  
 Output Signal ..... incremental encoder (quadrature) signal  
 Output Driver ..... TTL/CMOS, open collector or line driver, see ④  
 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 250 pulses per inch, see ③  
 Measuring Cable ..... thermoplastic or stainless steel, see ②  
 Enclosure Material ..... hard-anodized aluminum  
 Sensor ..... optical encoder  
 Weight ..... 5 lbs., max.

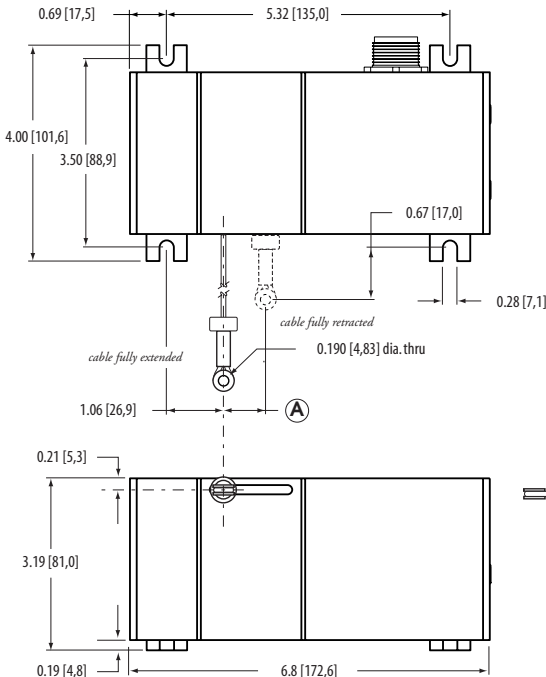
### ENVIRONMENTAL

Enclosure Design ..... NEMA 4, IP 65/67, see ⑤ and ⑥  
 Operating Temperature ..... 0° to 160°F  
 Vibration ..... up to 10 G's to 2000 Hz maximum



The PT5E encoder-based cable-extension transducer uses a unique thermoplastic cable that has virtually an infinite fatigue life. This cable, known as V62, has properties that are superior for high cycle and rugged applications.

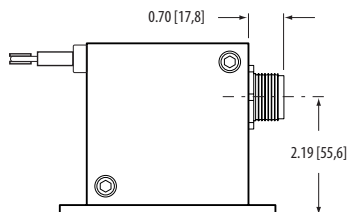
Like Celesco's other transducers, the PT5E installs in minutes, functions properly without perfectly parallel alignment, and fits easily into small areas. The PT5E offers additional installation flexibility since its cable exit can be rotated relative to the mounting surface, providing four different cable exit orientations.



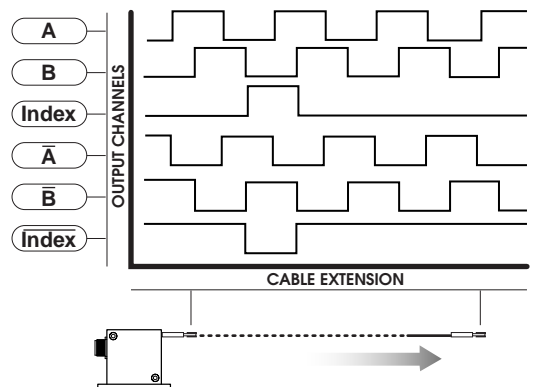
**(A) Dimension**

stroke range	measuring cable		
	S47	V62	N34
10	0.06 [1,5]	0.08 [2,0]	n/a
15	0.09 [2,3]	0.12 [3,1]	n/a
20	0.12 [3,1]	0.16 [4,1]	n/a
30	0.18 [4,6]	0.23 [5,8]	n/a
40	0.24 [6,1]	0.31 [7,9]	n/a
50	0.30 [7,6]	0.39 [9,9]	n/a
60	0.36 [9,1]	0.47 [11,9]	n/a
80	0.48 [12,2]	0.62 [15,7]	n/a
100	0.60 [15,2]	0.78 [19,8]	n/a
125	0.75 [19,1]	0.97 [24,6]	n/a
150	0.90 [22,9]	1.17 [29,7]	n/a
200	n/a	n/a	0.86 [21,9]
250	n/a	n/a	1.08 [27,4]

ALL DIMENSIONS ARE IN INCHES [MM]  
 tolerances are  $\pm 0.03$  inches [0,8 mm]  
 unless otherwise noted



## Electrical Output Signal:



Latin Tech, Inc.

# PT5E • Cable-Extension Transducer • Incremental Encoder Output

## ▼ Ordering Information

### Model Number:

**PT5E** - \_\_\_\_\_  
*order code:*                    **R**                    **A**                    **B**                    **C**                    **D**                    **E**

### Full Stroke Range:

<b>R</b> order code:	<b>50</b>	<b>100</b>	<b>150</b>	<b>200</b>	<b>250</b>	<b>1250</b>	<b>2500</b>	<b>3750</b>	<b>5000</b>	<b>6250</b>
① full stroke range, min:	50 in.	100 in.	150 in.	200 in.	250 in.	1250 mm	2500 mm	3750 mm	5000 mm	6250 mm
std. cable tension (±30%):	41 oz.	41 oz.	41 oz.	21 oz.	21 oz.	41 oz.	41 oz.	41 oz.	21 oz.	21 oz.

### Measuring Cable:

<b>A</b> order code:	<b>V62</b>	<b>S47</b>	<b>N34</b>
② available full stroke ranges:	all ranges up to 150 inches	all ranges up to 150 inches	200 and 250 inches only
cable construction:	.062 thermoplastic	.047 stainless steel	.034 nylon-coated stainless steel

### Cable Exit:

<b>B</b> order code:	<b>UP</b>	<b>DN</b>	<b>FR</b>	<b>BK</b>
direction:	up	down	front	back

### Resolution:

<b>C</b> order code:	<b>10</b>	<b>100</b>	<b>200</b>	<b>250</b>
③ resolution for <b>english</b> ranges:	10 ±0.2 pulses per inch	100 ±2 pulses per inch	200 ±4 pulses per inch	250 ±5 pulses per inch
<b>C</b> order code:	<b>.5</b>	<b>5</b>	<b>10</b>	<b>12.5</b>
resolution for <b>metric</b> ranges:	0.5 ±0.01 pulses per mm	5 ±0.1 pulses per mm	10 ±0.2 pulses per mm	12.5 ±0.3 pulses per mm

# PT5E • Cable-Extension Transducer • Incremental Encoder Output

## Output Signals:

④	① order code:	AB - TTL	AB - OC	ABC - LD	ABC - UD	ABZC - UD
	output driver:	TTL-CMOS compatible	Open Collector	5 volt Line Driver	Universal Line Driver	
	input voltage (V+):	4.5...13.2 VDC	10.8...26.4 VDC	5 VDC	5...30 VDC	
	input current:	80 mA max.	80 mA max.	150 mA max.	50 mA max. (no load)	
	sink / source current:	20 mA sink max.	20 mA sink max.	20 mA sink max.	20 mA source/sink max.	
	input / output signals:					

## Electrical Connection:

	② order code:	M6*	C25	M18	M6M*
	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
		 A = input power (V+) B = common (ground) C = channel A D = channel B E = channel A** F = channel B**	RED = input power (V+) BLK = common (gnd.) GRN = channel A WHT = channel B BLU = channel A** BRN = channel B** YEL = index** ORG = index**	 1 = input power (V+) 2 = common (gnd.) 3 = channel B 6 = channel A 7 = index** 11 = channel B** 12 = channel A** 15 = index**	 A = input power (V+) B = common (ground) C = channel A D = channel B E = channel A** F = channel B**
⑤	IP rating:	67	67	67	65
⑥	NEMA rating:	6	6	6	4

notes: \*-6-pin connector not available when Index channels are required  
\*\*-no signal present when TTL-CMOS or Open Collector output drivers are selected

## ▼ Sample Model Number

**PT5E - 50 - V62 - UP - 100 - AB-TTL - M6**

order code:

Specifications:	Full Stroke Range:	50 inches
	Measuring Cable:	0.062-in dia. thermoplastic cable
	Measuring Cable Exit:	Up
	Resolution:	98-102 pulses per inch
	Output Channels and Driver:	A, B - TTL/CMOS compatible
	Electrical Connection:	6-pin plastic connector