

# PT1E

## Cable Actuated Sensor Industrial Grade • Incremental Encoder

**Linear Position to 50 inches (1270 mm)**

**Aluminum and Polycarbonate Enclosure**

**Compact Design • Incremental Encoder Output Signal**

**IP65 • NEMA 4 Protection**

### General

**Full Stroke Range** 0-2 to 0-50 inches  
**Output Signal** incremental encoder (quadrature)

**Accuracy** ± 0.04% full stroke

**Repeatability** ± 0.02% full stroke

**Resolution Options** 25 to 1250 pulses per inch

**Measuring Cable** .019-in. dia. nylon-coated stainless steel

**Enclosure** glass-filled polycarbonate and black anodized aluminum

**Sensor** optical encoder

**Maximum Retraction** see ordering information

**Acceleration**

**Weight** 1 lb. max.

### Electrical

**Input Voltage** see ordering information

**Input Current** see ordering information

### Environmental

**Enclosure** NEMA 4, IP 65

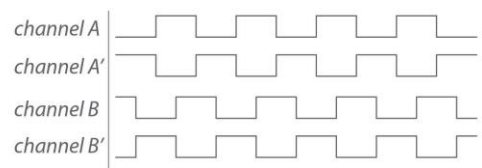
**Operating Temperature** 0° to 160°F (-17° to 71°C)

**Vibration** up to 10 g to 2000 Hz maximum

The heart of the PT1E is an incremental optical encoder which delivers a quadrature formatted digital pulse train. This compact transducer is available with several resolution options for a wide variety of applications from high accuracy position feedback to slow velocity feedback requirements.

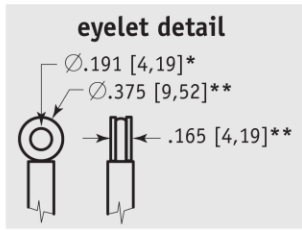
The PT1E has many options available including full stroke measurement ranges from 0-2 inches up to 0-50 inches, different output drivers and alternate measuring cable exits.

### Output Signal

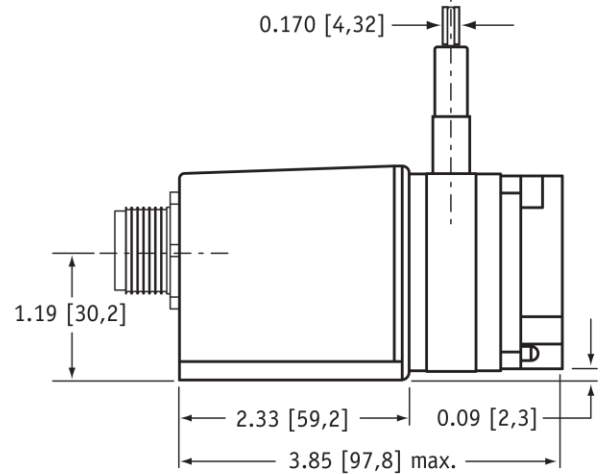
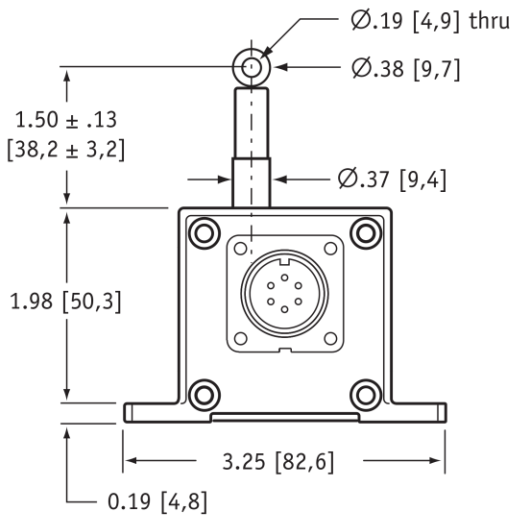
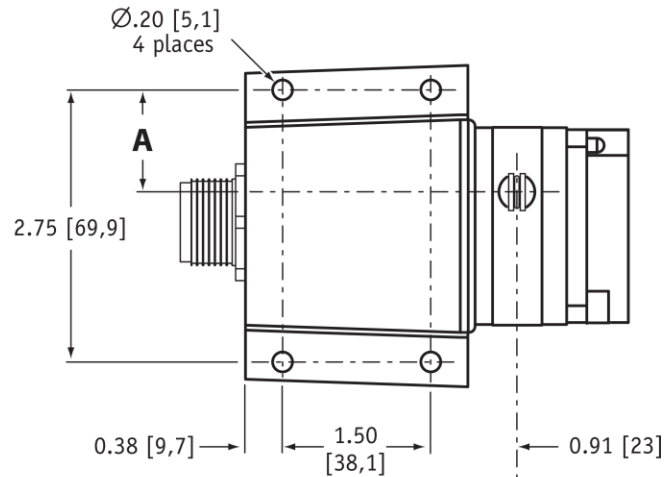


-- see ordering information for available channels

Outline Drawing



Range	A	
25, 625	1.04 [26,4]	
50, 1250	0.74 [18,8]	
		<i>inches [mm]</i>



DIMENSIONS ARE IN INCHES [MM]  
tolerances are 0.03 IN. [0.5 MM] unless otherwise noted.

\* tolerance = +.005 -.001 [+.13 -.03]  
\*\* tolerance = +.005 -.005 [+.13 -.13]

Ordering Information

Model Number:

**PT1E** -      -      -      -      -      -       
order code:    **R**        **A**        **B**        **C**        **D**        **E**

Sample Model Number:

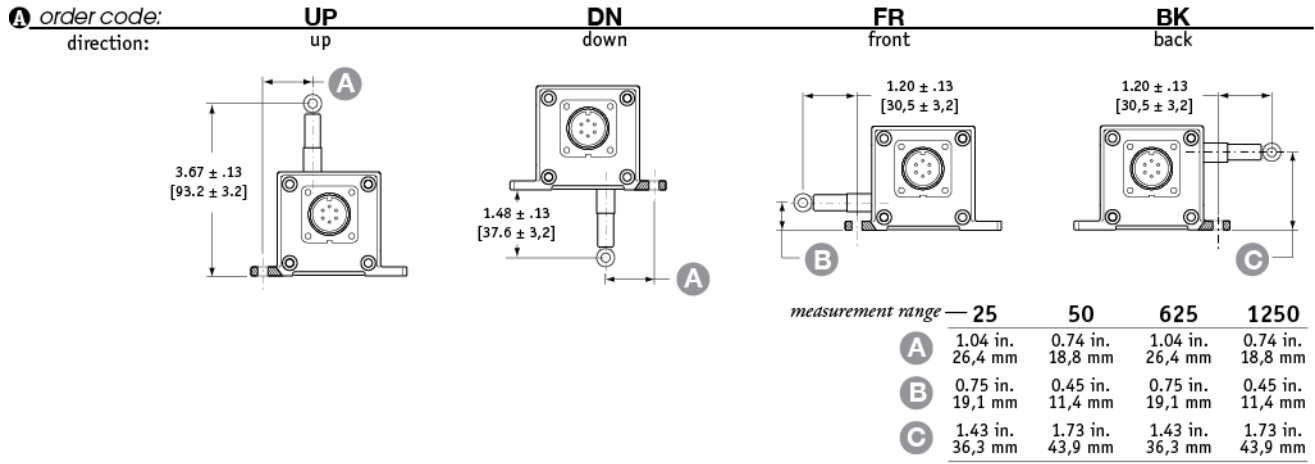
**PT1E - 25 - UP - 50 - AB-TTL - MC4 - SG**

- R** range: 25 inches
- A** measuring cable exit: up
- B** resolution: 50 pulses per inch
- C** electrical connection: 4-pin micro connector
- D** output signal: TTL/CMOS driver, Channels A,B
- E** cable guide: spring-loaded guide

Full Stroke Range:

<b>R</b> order code:	25	50	625	1250
full stroke range, min:	25 in.	50 in.	625 mm	1250 mm
cable tension (±20%):	12 oz.	6 oz.	3,3 N	1,6 N
cable acceleration, max.:	11 g	4 g	11 g	4 g
resolution options:	50, 500, 1000, 1250 pulses per inch	25, 250, 500, 625 pulses per inch	2, 20, 40, 50 pulses per mm	1, 10, 20, 25 pulses per mm

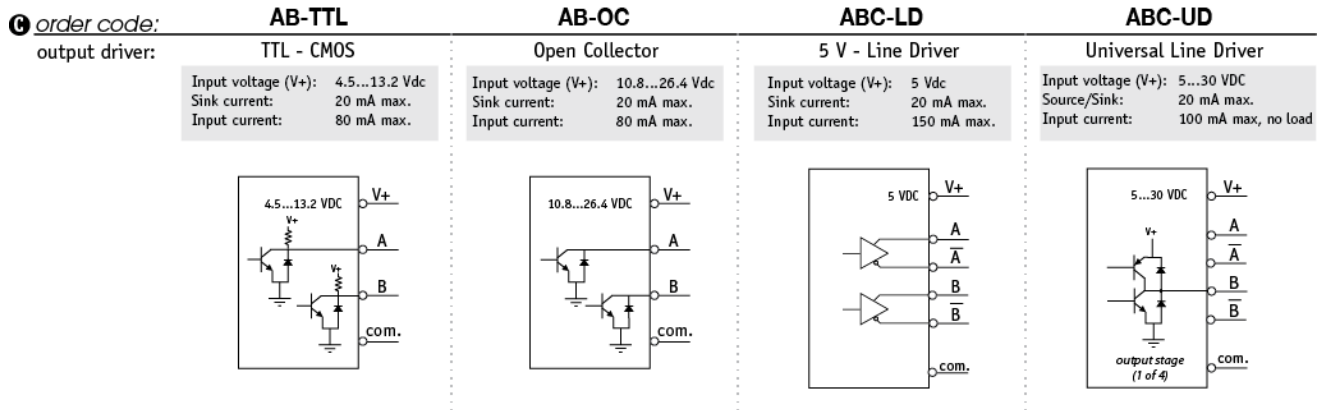
**Cable Exit:**



**Resolution**

<b>B</b> order code:	<b>50</b>	<b>500</b>	<b>1000</b>	<b>1250</b>
25-inch full stroke range:	50 ±1 pulses per inch	500 ±10 pulses per inch	1000 ±20 pulses per inch	1250 ±24 pulses per inch
<b>B</b> order code:	<b>25</b>	<b>250</b>	<b>500</b>	<b>625</b>
50-inch full stroke range:	25 ±0.5 pulses per inch	250 ±5 pulses per inch	500 ±10 pulses per inch	625 ±12 pulses per inch
<b>B</b> order code:	<b>2</b>	<b>20</b>	<b>40</b>	<b>50</b>
625 mm full stroke range:	2 ±0,04 pulses per mm	20 ±0,4 pulses per mm	40 ±0,8 pulses per mm	50 ±1 pulses per mm
<b>B</b> order code:	<b>1</b>	<b>10</b>	<b>20</b>	<b>25</b>
1250 mm full stroke range:	1 ±0,02 pulses per mm	10 ±0,2 pulses per mm	20 ±0,4 pulses per mm	25 ±0,5 pulses per mm

**Output Signal**



**Electrical Connection:**

① *order code:*

<b>MC4</b>			<b>M6</b>			<b>C25</b>		
4-pin micro-connector with 12 ft [3.5 M] cordset			6-pin plastic connector with mating plug			25-ft. instrumentation cable 24 AWG, shielded		
<b>4-pin mating plug and cordset</b>  <i>contact view</i>			<b>6-pin mating plug</b>  <i>contact view</i>			<b>25-ft. cable</b> 		
pin	color code	TTL/CMOS	pin	TTL/CMOS	5 V Line Driver	color	TTL/CMOS	5 V Line Driver
1	RED-BLK TR.	Open Collector	A	Open Collector	Universal Line Driver	red	Open Collector	Universal Line Driver
2	RED-WHT TR.	input voltage	B	input voltage	input voltage	black	input voltage	input voltage
3	RED	channel A	C	common	common	green	channel A	channel A
4	GREEN	channel B	D	channel A	channel A	white	channel B	channel B
		common	E	channel B	channel B	blue	-	channel A'
			F	-	channel A'	brown	-	channel B'
				-	channel B'			

**Cable Guide:**

② *order code:*

<b>blank</b>	<b>SG</b>
standard cable guide	spring-loaded guide
	<i>cushions impact from accidental free release</i> 

\*note: start of full stroke range begins at full compression point

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