

Cable-Extension Position Transducer

Incremental Encoder Output

Ranges: 0-25, 0-50 in. • 0-625, 0-1250 mm

Compact Size • OEM Applications

PT1E

Specification Summary:

GENERAL

Full Stroke Range Options 0-25 to 0-50 inches
 Output Signal incremental encoder (quadrature)
 Accuracy 0.04% full stroke *contact factory for higher accuracy*
 Repeatability $\pm 0.02\%$ full stroke
 Resolution Options 25 to 1250 pulses per inch
 Measuring Cable Options019-in. dia. nylon-coated stainless steel
 Enclosure Material glass-filled polycarbonate and black anodized aluminum
 Sensor optical encoder
 Maximum Retraction Acceleration *see ordering information*
 Weight 1 lb. max.

ELECTRICAL

Input Voltage *see ordering information*
 Input Current *see ordering information*

ENVIRONMENTAL

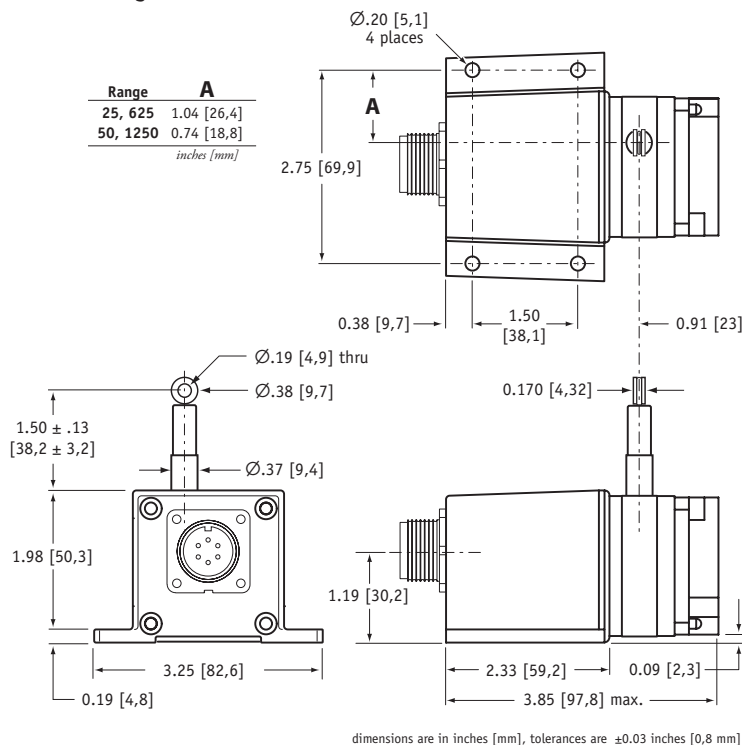
Enclosure NEMA 4, IP 65
 Operating Temperature 0° to 160°F (-17° to 71°C)
 Vibration up to 10 G's to 2000 Hz maximum



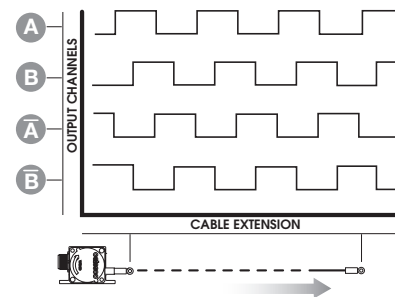
The heart of the PT1E is an incremental optical encoder which delivers a quadrature formatted digital pulse train. This compact transducer is available with several resolution options for a wide variety of applications from high accuracy position feedback to slow velocity feedback requirements.

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.

Outline Drawing



Output Signal



Ordering Information:

Model Number:

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

Sample Model Number:

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

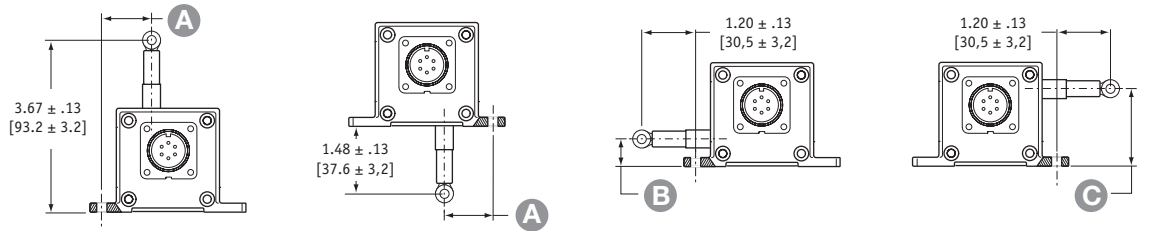
- R** range: 25 inches
- A** measuring cable exit: up
- B** resolution: 50 pulses per inch
- C** electrical connection: 4-pin micro connector
- D** output signal: TTL/CMOS driver, Channels A,B
- E** cable guide: spring-loaded guide

Full Stroke Range:

R <i>order code:</i>	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's	4 G's	11 G's	4 G's
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:

A *order code:* **UP** **DN** **FR** **BK**
 direction: up down front back



measurement range	25	50	625	1250
A	1.04 in. 26,4 mm	0.74 in. 18,8 mm	1.04 in. 26,4 mm	0.74 in. 18,8 mm
B	0.75 in. 19,1 mm	0.45 in. 11,4 mm	0.75 in. 19,1 mm	0.45 in. 11,4 mm
C	1.43 in. 36,3 mm	1.73 in. 43,9 mm	1.43 in. 36,3 mm	1.73 in. 43,9 mm

Resolution:

B *order code:* **50** **500** **1000** **1250**
 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 *order code:* **25** **250** **500** **625**
 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

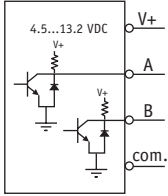
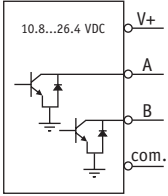
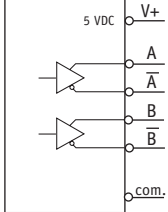
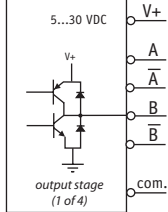
B *order code:* **2** **20** **40** **50**
 625 mm full stroke range: 2 ±0,04 pulses per mm 20 ±0,4 pulses per mm 40 ±0,8 pulses per mm 50 ±1 pulses per mm

B *order code:* **1** **10** **20** **25**
 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

Ordering Information (cont.)

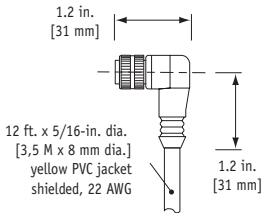
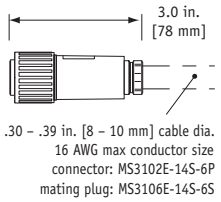
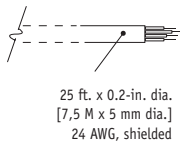

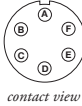
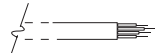
Output Signals:

④ *order code:*
output driver:

AB-TTL	AB-OC	ABC-LD	ABC-UD
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
			

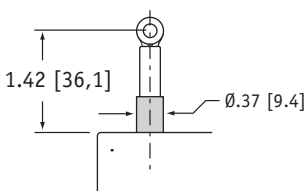
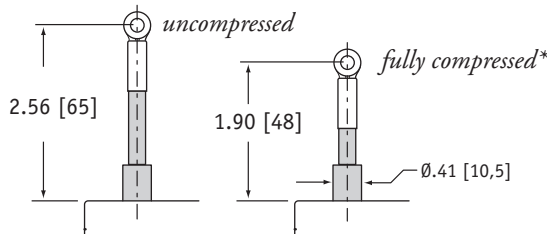
Electrical Connection:

① *order code:*

MC4	M6	C25																																																									
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																																																									
																																																											
4-pin mating plug and cordset 	6-pin mating plug 	25-ft. cable 																																																									
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Cable Guide:

⑤ *order code:*

blank	SG
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
version: 4.0 last updated: April 28, 2010