

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

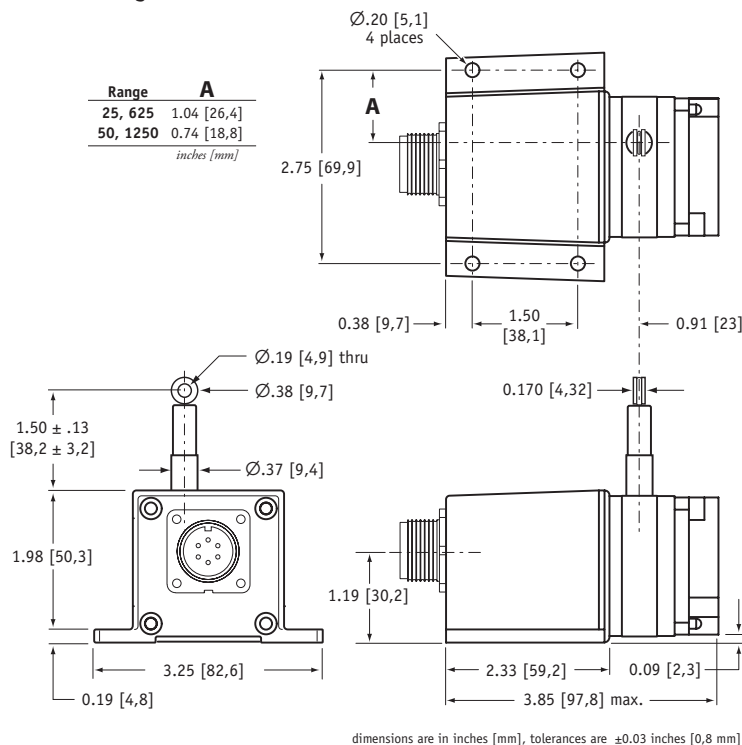
Enclosure NEMA 4, IP 65
 Operating Temperature 0° to 160°F (-17° to 71°C)
 Vibration up to 10 G's to 2000 Hz maximum



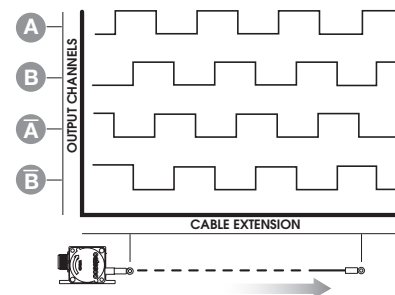
The heart of the PT1E is an incremental optical encoder which delivers a quadrature formatted digital pulse train. This compact transducer is available with several resolution options for a wide variety of applications from high accuracy position feedback to slow velocity feedback requirements.

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



PT1E • Cable-Extension Transducer: Incremental Encoder Output

Ordering Information:

Model Number:

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

Sample Model Number:

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

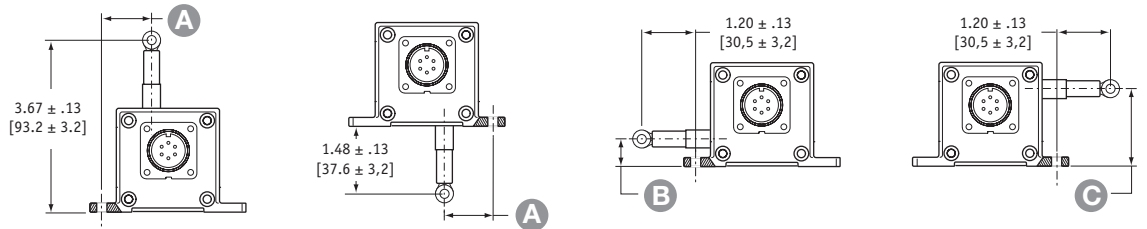
R range: 25 inches
A measuring cable exit: up
B resolution: 50 pulses per inch
C electrical connection: 4-pin micro connector
D output signal: TTL/CMOS driver, Channels A,B
E cable guide: spring-loaded guide

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 ($\pm 20\%$):	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:* direction: **UP** up **DN** down **FR** front **BK** 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

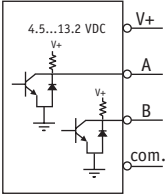
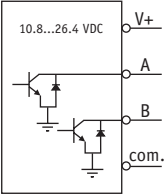
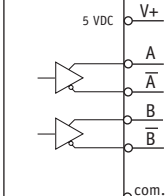
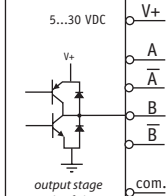
B *order code:* **25** **250** **500** **625**
50-inch full stroke range: 25 ± 0.5 pulses per inch 250 ± 5 pulses per inch 500 ± 10 pulses per inch 625 ± 12 pulses per inch

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

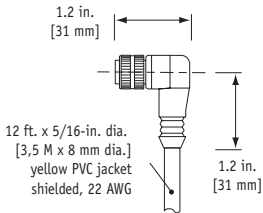
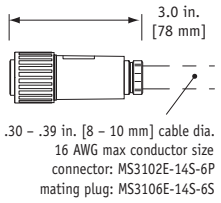
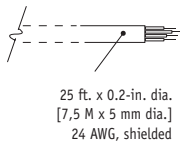

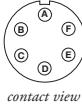
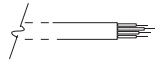
B *order code:* **1** **10** **20** **25**
1250 mm full stroke range: 1 $\pm 0,02$ pulses per mm 10 $\pm 0,2$ pulses per mm 20 $\pm 0,4$ pulses per mm 25 $\pm 0,5$ pulses per mm

Ordering Information (cont.)

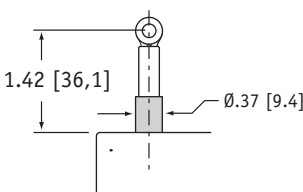
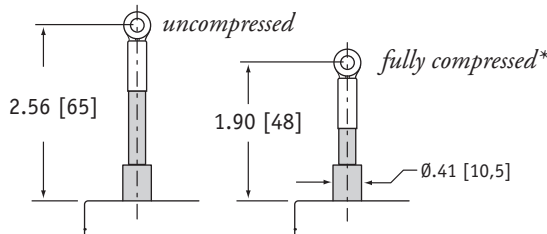
Output Signals:

ⓐ order code:	AB-TTL	AB-OC	ABC-LD	ABC-UD
output driver:	TTL - CMOS	Open Collector	5 V - Line Driver	Universal Line Driver
Input voltage (V+):	4.5...13.2 Vdc	10.8...26.4 Vdc	5 Vdc	5...30 VDC
Sink current:	20 mA max.	20 mA max.	20 mA max.	20 mA max.
Input current:	80 mA max.	80 mA max.	150 mA max.	100 mA max, no load
				

Electrical Connection:

ⓑ 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:

ⓐ order code:	blank	SG
	standard cable guide	spring-loaded guide
		
		<i>cushions impact from accidental free release</i>
		<i>*note: start of full stroke range begins at full compression point</i>

version: 4.0 last updated: April 28, 2010