

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

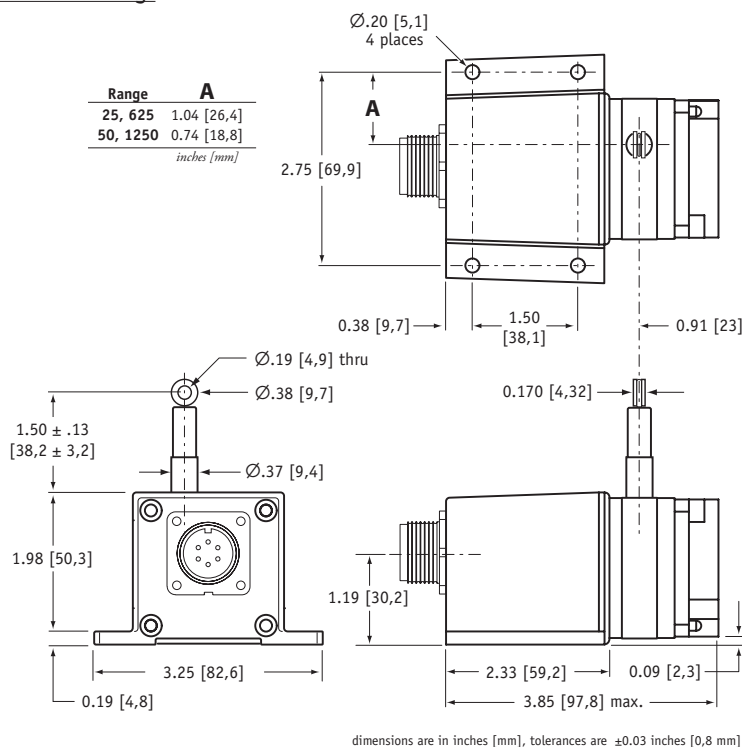
Enclosure NEMA 4, IP 65
Operating Temperature 0° to 160°F (-17° to 71°C)
Vibration up to 10 G's to 2000 Hz maximum



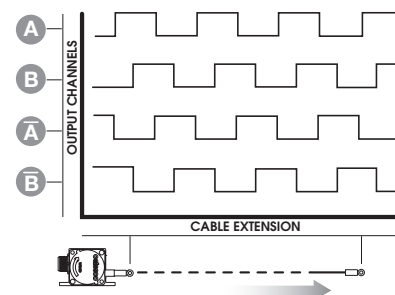
The heart of the PT1E is an incremental optical encoder which delivers a quadrature formatted digital pulse train. This compact transducer is available with several resolution options for a wide variety of applications from high accuracy position feedback to slow velocity feedback requirements.

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:

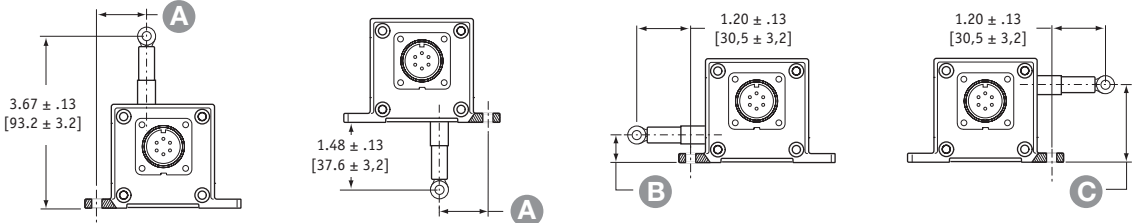
PT1E - 25 - UP - 50 - AB-TTL - MC4 - SG

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 order code:	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:	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 $\pm 0,04$ 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:

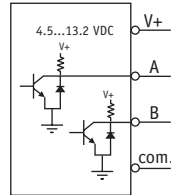
⑥ order code:

output driver:

AB-TTL

TTL - CMOS

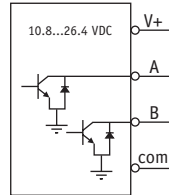
Input voltage (V+): 4.5...13.2 Vdc
Sink current: 20 mA max.
Input current: 80 mA max.



AB-OC

Open Collector

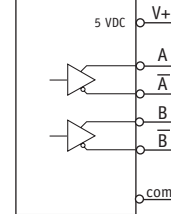
Input voltage (V+): 10.8...26.4 Vdc
Sink current: 20 mA max.
Input current: 80 mA max.



ABC-LD

5 V - Line Driver

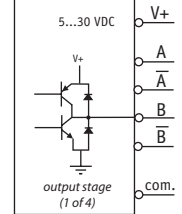
Input voltage (V+): 5 Vdc
Sink current: 20 mA max.
Input current: 150 mA max.



ABC-UD

Universal Line Driver

Input voltage (V+): 5...30 VDC
Source/Sink: 20 mA max.
Input current: 100 mA max, no load

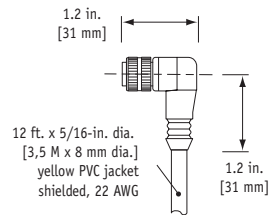


Electrical Connection:

⑦ order code:

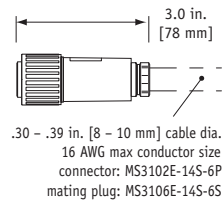
MC4

4-pin micro-connector
with 12 ft [3.5 M] cordset



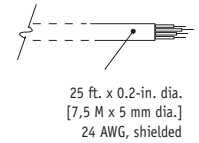
M6

6-pin plastic connector
with mating plug



C25

25-ft. instrumentation cable
24 AWG, shielded

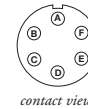


4-pin mating plug and cordset



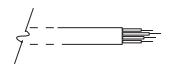
pin	color code	TTL/CMOS Open Collector input voltage channel A channel B common
1	RED-BLK TR.	
2	RED-WHT TR.	
3	RED	
4	GREEN	

6-pin mating plug



pin	TTL/CMOS Open Collector input voltage channel A channel B common	5 V Line Driver Universal Line Driver input voltage channel A channel B channel A' channel B'
A		
B		
C		
D		
E		
F		

25-ft. cable



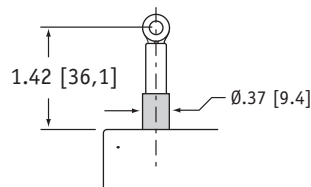
color	TTL/CMOS Open Collector input voltage channel A channel B common	5 V Line Driver Universal Line Driver input voltage channel A channel B channel A' channel B'
red		
black		
green		
white		
blue		
brown		

Cable Guide:

⑧ order code:

blank

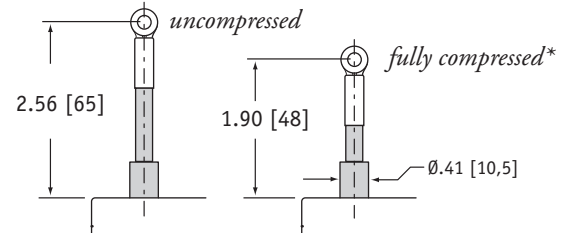
standard cable guide



SG

spring-loaded guide

cushions impact from accidental free release



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

version: 4.0 last updated: April 28, 2010