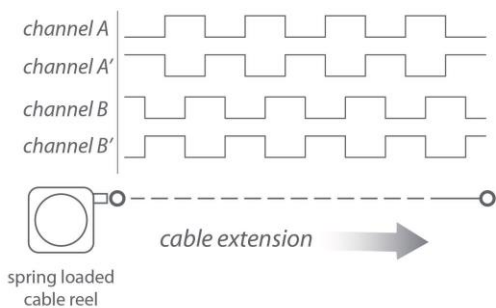


The heart of the PT1E is an incremental optical encoder which delivers a quadrature formatted digital pulse train. This compact transducer is available with several resolution options for a wide variety of applications from high accuracy position feedback to slow velocity feedback requirements.

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

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.

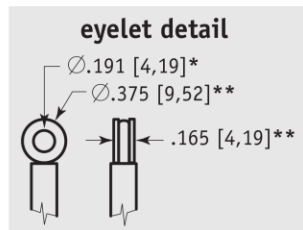
Electrical

Input Voltage	see ordering information
Input Current	see ordering information

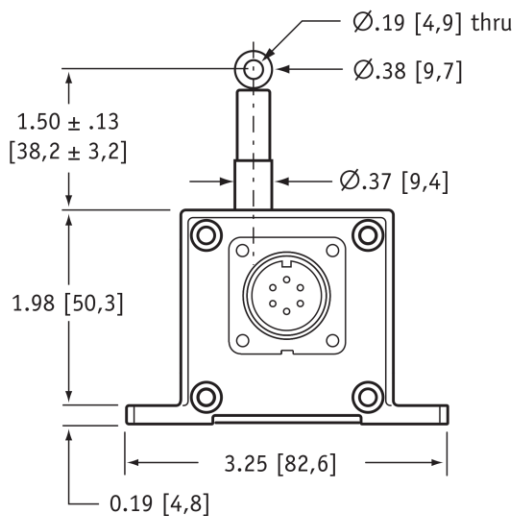
Environmental

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

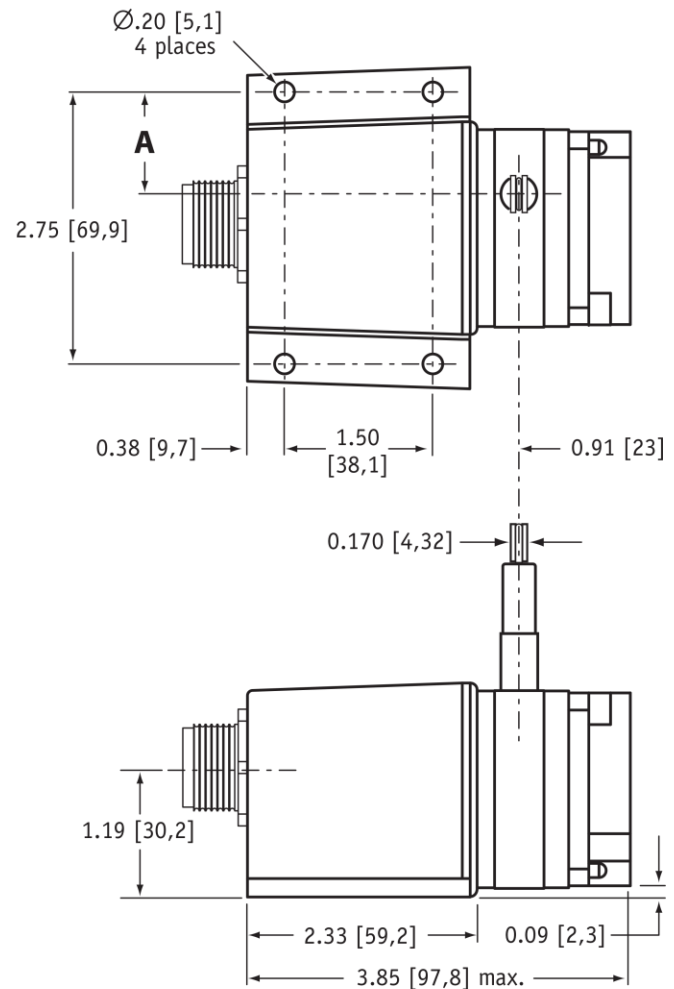
Outline Drawing



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 = $+.005 - .001$ [+0.13 -0.03]
 ** tolerance = $+.005 - .005$ [+0.13 -0.13]

Ordering Information

Model Number:

PT1E - - - - - -

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

Sample Model Number:

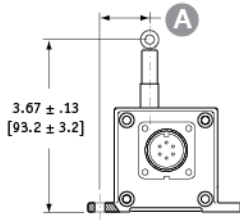
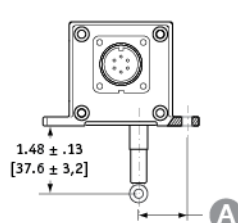
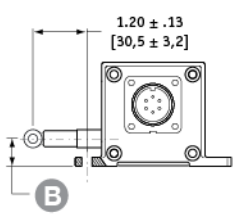
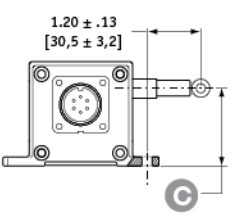
PT1E - 25 - UP - 50 - AB-TTL - MC4 - SG

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:

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	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

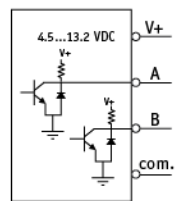
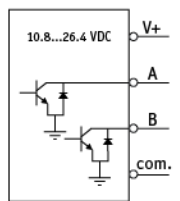
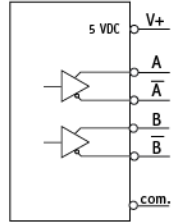
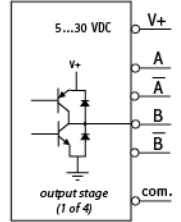
Cable Exit:

A order code:	UP	DN	FR	BK	
direction:	up	down	front	back	
					
	$3.67 \pm .13$ [93.2 \pm 3.2]	$1.48 \pm .13$ [37.6 \pm 3.2]	$1.20 \pm .13$ [30.5 \pm 3.2]	$1.20 \pm .13$ [30.5 \pm 3.2]	
		A	B	C	
	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

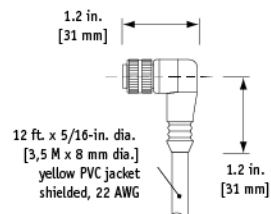
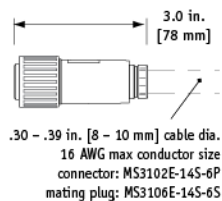
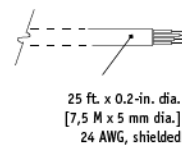
Resolution

B order code:	50	500	1000	1250
25-inch full stroke range:	50 \pm 1 pulses per inch	500 \pm 10 pulses per inch	1000 \pm 20 pulses per inch	1250 \pm 24 pulses per inch
B order code:	25	250	500	625
50-inch full stroke range:	25 \pm 0.5 pulses per inch	250 \pm 5 pulses per inch	500 \pm 10 pulses per inch	625 \pm 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 \pm 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

Output Signal

C 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 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**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**

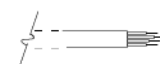
contact view

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

6-pin mating plug

contact view

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

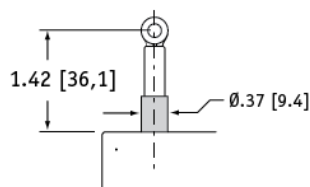
25-ft. cable

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

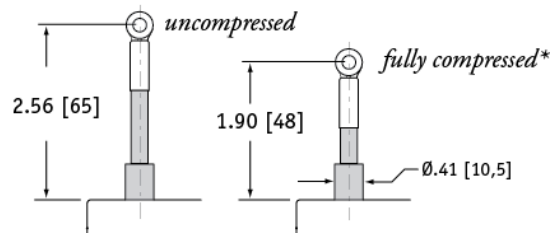
Cable Guide:

② *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*