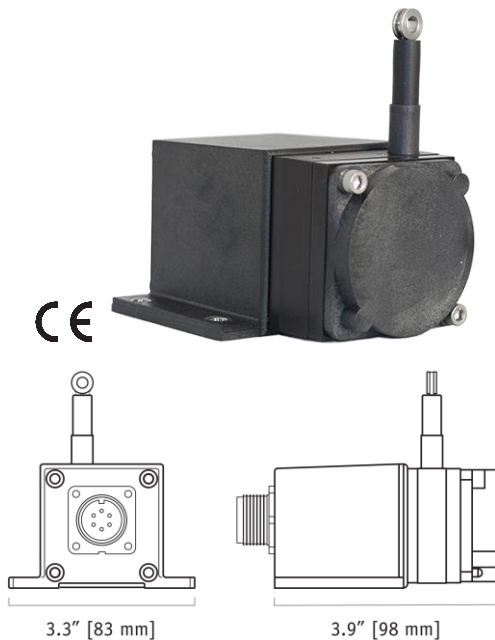
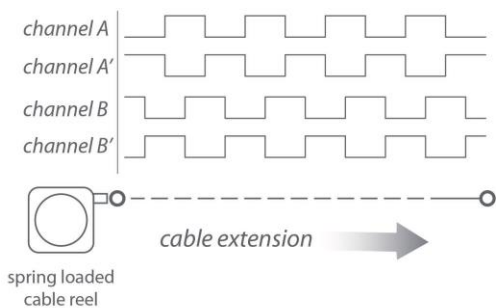




The heart of the PT1E is an incremental optical encoder which delivers a quadrature formatted digital pulse train. This compact transducer is available with several resolution options for a wide variety of applications from high accuracy position feedback to slow velocity feedback requirements.

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.

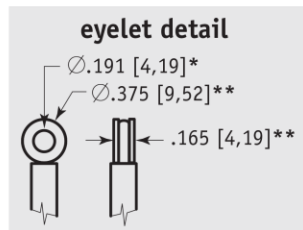
Electrical

Input Voltage	see ordering information
Input Current	see ordering information

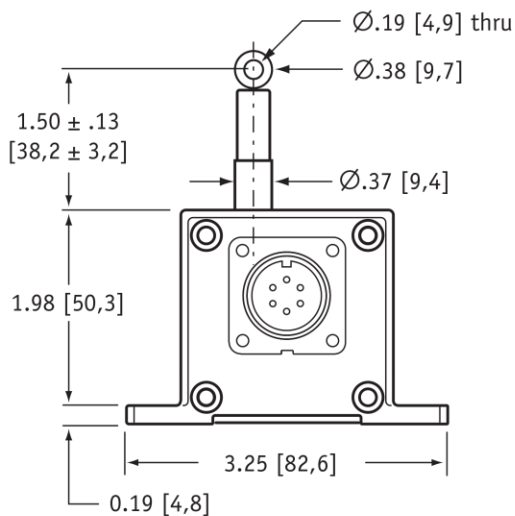
Environmental

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

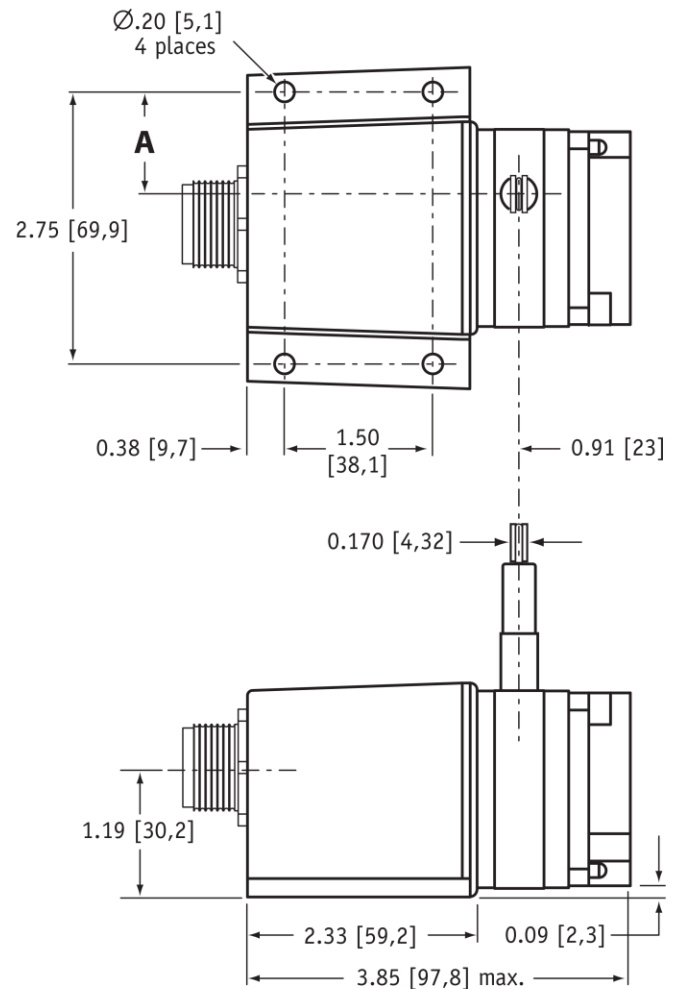
Outline Drawing



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 = $+0.005 -0.001$ [+0.13 -0.03]
 ** tolerance = $+0.005 -0.005$ [+0.13 -0.13]

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 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

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

Technical drawings of the 25, 50, 625, and 1250 series actuators. The drawings show the front and back views of the actuators. The front view (FR) shows the actuator body with a central circular port and four mounting holes. The back view (BK) shows the mounting bracket with a central circular port and four mounting holes. The drawings include dimensions for the mounting bracket height (A), the actuator body height (B), and the mounting bracket width (C). The dimensions are given in inches and millimeters.

	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

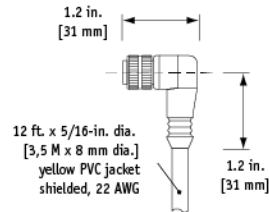
B <i>order code:</i>	50	500	1000	1250
25-inch full stroke range:	50 ±1 pulses per inch	500 ±10 pulses per inch	1000 ±20 pulses per inch	1250 ±24 pulses per inch
B <i>order code:</i>	25	250	500	625
50-inch full stroke range:	25 ±0.5 pulses per inch	250 ±5 pulses per inch	500 ±10 pulses per inch	625 ±12 pulses per inch
B <i>order code:</i>	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 <i>order code:</i>	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

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

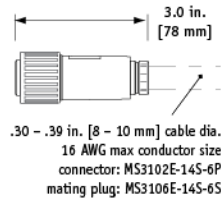
Electrical Connection:

① *order code:*

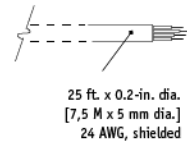
MC4

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



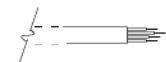
pin	color code	TTL/CMOS Open Collector input voltage
1	RED-BLK TR.	channel A
2	RED-WHT TR.	channel B
3	RED	common
4	GREEN	common

6-pin mating plug



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	channel A'
D	common	channel B'
E	-	-
F	-	-

25-ft. cable



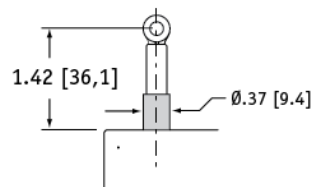
color	TTL/CMOS Open Collector input voltage	5 V Line Driver Universal Line Driver input voltage
red	channel A	channel A
green	channel B	channel B
white	common	channel A'
blue	-	channel B'
brown	-	channel B'

Cable Guide:

② *order code:*

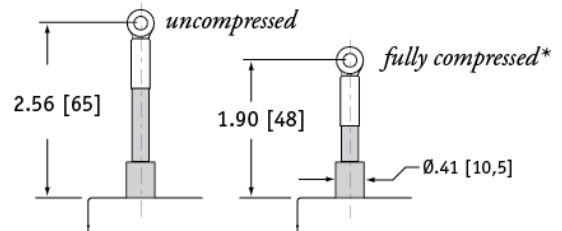
blank

standard cable guide



SG

spring-loaded guide

cushions impact from accidental free release**note: start of full stroke range begins at full compression point*

NORTH AMERICA

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PT1E 12/01/2015