

PT1DC

Cable Actuated Sensor

Instrument Grade • 0..10, 0..5 Vdc

Absolute Linear Position to 50 inches (1270 mm)

Aluminum and Polycarbonate Enclosure

Compact Design

IP65 • NEMA 4 Protection

General

Full Stroke Range	0-2 to 0-50 inches
Options	
Output Signal Options	0...5, 0...10, -5...+5, -10...+10 VDC
Accuracy	± 0.28% to ± 0.15% full stroke (see ordering information)
Repeatability	± 0.05% full stroke
Resolution	essentially infinite
Measuring Cable	.019-in. dia. nylon-coated stainless steel
Enclosure	glass-filled polycarbonate and black anodized aluminum
Sensor	plastic-hybrid precision potentiometer
Potentiometer Cycle Life	see ordering information
Maximum Retraction	see ordering information
Acceleration	
Weight	1 lb. max.

The PT1DC can operate from an unregulated 14.5 to 40 VDC power supply while providing an output signal that is proportional to the linear movement of its measuring cable. The PT1DC has a maximum measurement range up to 50" and has 4 output signal options to choose from: 0...10, 0...5, -10...+10 and -5...+5 Vdc.

Just like the rest of the PT1 series, the PT1DC also offers several options including forward and reverse output signals, zero and span adjustments and alternate measuring cable exits.

Electrical

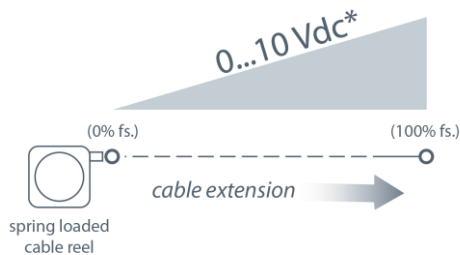
Input	14.5-40 VDC (10.5-40 VDC for 0...5 and -5...+5 volt output)
Input Current	10 mA maximum
Output Impedance	1000 ohms
Maximum Load	5000 ohms
Zero and Span Adjustment	see ordering information

Environmental

Enclosure	NEMA 4, IP 65
Operating Temperature	0° to 200°F (-17° to 90°C)
Vibration	up to 10 g to 2000 Hz maximum

EMC Compliance Per Directive 89/336/EEC

Emission/Immunity	EN50081-2 / EN50082-2
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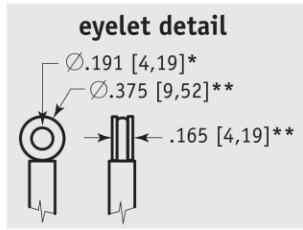


*Also Available: 0...5, -5...+5, -10...+10 Vdc

PT1DC

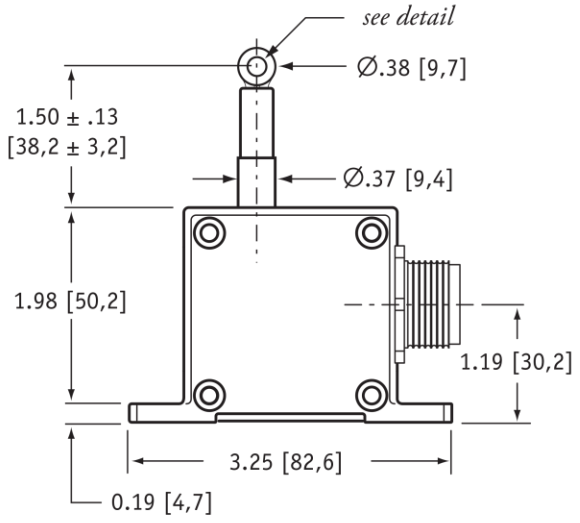
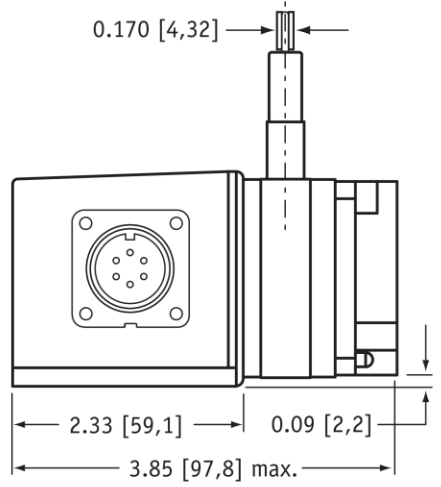
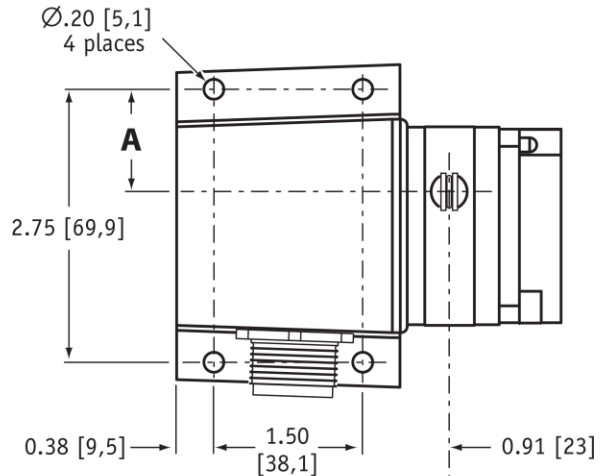
Instrument Grade • 0..10, 0..5 Vdc

Outline Drawing



Range	A
2, 10	1.04 [26,4]
5, 25, 50	0.58 [14,7]
15, 30	0.82 [20,8]
20, 40	0.74 [18,8]

inches [mm]



DIMENSIONS ARE IN INCHES [MM]
tolerances are 0.03 IN. [0.5 MM] unless otherwise noted.

* tolerance = +.005 -.001 [+.13 -.03]
** tolerance = +.005 -.005 [+.13 -.13]

Ordering Information

Model Number:

PT1DC - - - - -
order code: **R** **A** **B** **C** **D**

Sample Model Number:

PT1DC - 30 - UP - Z10 - MC4 - SG

- R** range: 30 inches
- A** measuring cable exit: up
- B** output signal: 0...10 VDC
- C** electrical connection: 4-pin micro connector
- D** cable guide: spring-loaded guide

Full Stroke Range:

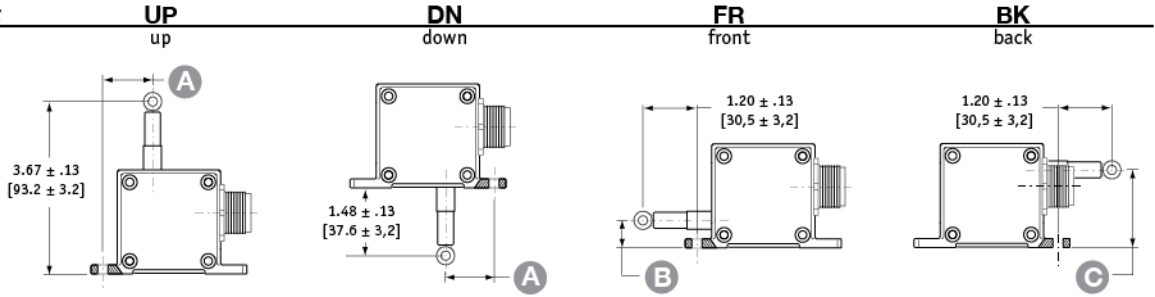
R order code:	2	5	10	15	20	25	30	40	50
full stroke range, min:	2 in.	5 in.	10 in.	15 in.	20 in.	25 in.	30 in.	40 in.	50 in.
accuracy (% of f.s.):	0.28%			0.18%			0.15%		
potentiometer cycle life:	2,500,000 cycles			500,000 cycles			250,000 cycles		
cable tension (20%):	12 oz.	5 oz.	12 oz.	9 oz.	6 oz.	5 oz.	9 oz.	6 oz.	5 oz.
max. cable acceleration:	11 g	3 g	11 g	5 g	4 g	3 g	5 g	4 g	3 g

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Cable Exit:

A order code:
direction:



measurement range	2	5	10	15	20	25	30	40	50
A	1.04 in. 26,4 mm	0.58 in. 14,7 mm	1.04 in. 26,4 mm	0.82 in. 20,8 mm	0.74 in. 18,8 mm	0.58 in. 14,7 mm	0.82 in. 20,8 mm	0.74 in. 18,8 mm	0.58 in. 14,7 mm
B	0.75 in. 19,1 mm	0.29 in. 6,1 mm	0.75 in. 19,1 mm	0.53 in. 13,5 mm	0.45 in. 11,5 mm	0.29 in. 6,1 mm	0.53 in. 13,5 mm	0.45 in. 11,5 mm	0.29 in. 6,1 mm
C	1.43 in. 36,3 mm	1.89 in. 48,0 mm	1.43 in. 36,3 mm	1.65 in. 41,9 mm	1.73 in. 43,9 mm	1.89 in. 48,0 mm	1.65 in. 41,9 mm	1.73 in. 43,9 mm	1.89 in. 48,0 mm

Output Signals:

B order code:

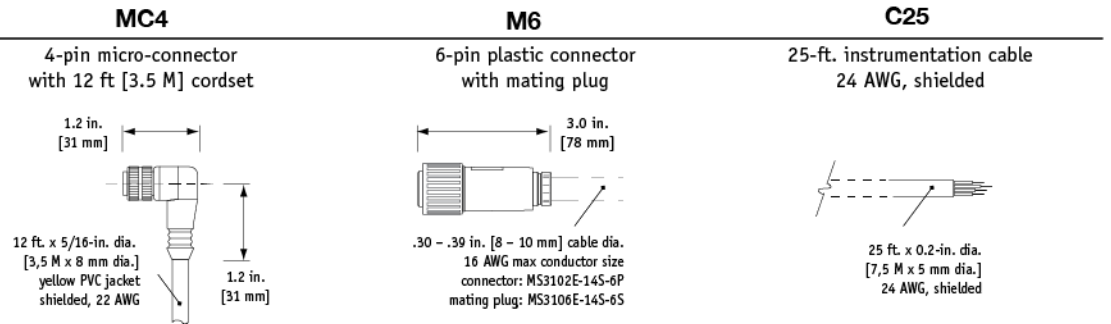
output signal options:	Z10	10Z	Z5	5Z	M0P0	P0M0	M5P5	P5M5
	0...10 VDC	10...0 VDC	0...5 VDC	5...0 VDC	-10...+10 VDC	+10...-10 VDC	-5...+5 VDC	+5...-5 VDC
input voltage:	14.5 – 40 vdc		10.5 – 40 vdc		14.5 – 40 vdc		10.5 – 40 vdc	
span adjustment:	from 100% to 50% of full stroke range				from 100% to 75% of full stroke range			
zero adjustment:	from factory set zero to 50% of full stroke range				from factory set zero to 25% of full stroke range			

example:



Electrical Connection:

C order code:

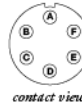


4-pin mating plug and cord sets:



pin	color code	signals
1	RED-BLK TR.	input voltage
2	RED-WHT TR.	output signal
3	RED	common

6-pin mating plug:



pin	signals
A	input voltage
B	output signal
C	common

25-ft. cable:

color code	standard
RED	input voltage
BLACK	common
GREEN	output signal

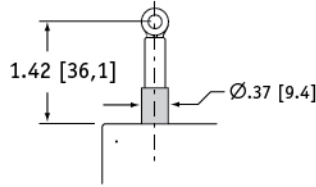
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Cable Guide:

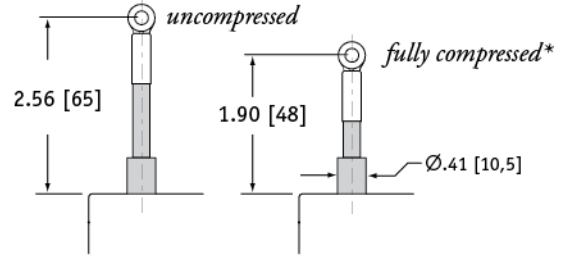
① *order code:*

blank
standard cable guide



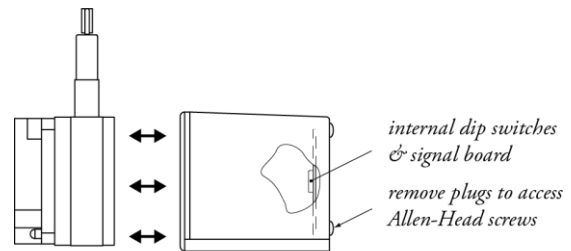
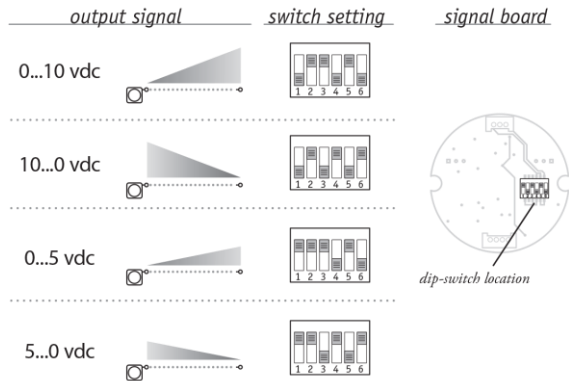
SG
spring-loaded guide

cable-guide cushions impact from accidental free release



**note: start of full stroke range begins at full compression point (except 2-inch and 5-inch ranges).*

Output Signal Selection (does not apply to -5...+5 & -10...+10 VDC options):



to gain access to the signal board, remove the two Allen-Head Screws and remove rear cover.

The output signal direction can be reversed at any time by simply changing the dip-switch settings found on the internal signal board. After the settings have been changed, adjustment of the Zero and Span trimpots will be required to precisely match signal values to the beginning and end points of the stroke.

NORTH AMERICA

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