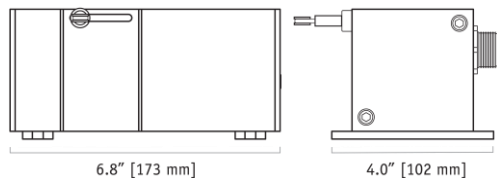




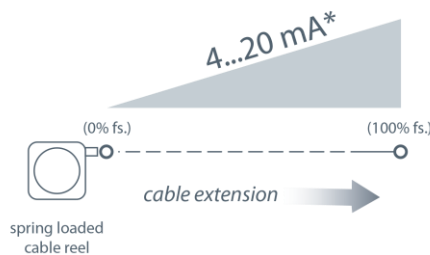
CE



The PT5MA potentiometric cable-extension transducer uses a unique thermoplastic cable that has virtually an infinite fatigue life. This cable, known as V62, has properties that are superior for high cycle and rugged applications.

Like Celesco's other transducers, the PT5MA installs in minutes, functions properly without perfectly parallel alignment, and fits easily into small areas. The PT5MA offers additional installation flexibility since its cable exit can be rotated relative to the mounting surface, providing four different cable exit orientations.

#### Output Signal



\*Optional 3-wire, 0...20mA output signal available.

## PT5MA

### Cable Actuated Sensor Industrial Grade • 0...5, 0...10 Vdc

**Absolute Linear Position to 250 inches (6350 mm)**

**Hard Anodized Aluminum Enclosure**

**High Cycle Applications**

**IP67 • NEMA 6 Protection**

#### General

<b>Full Stroke Range</b>	0-10 to 0-250 inches
<b>Options</b>	
<b>Output Signal Options</b>	4...20 mA (2-wire) and 0...20 mA (3-wire)
<b>Accuracy</b>	± 0.75% to ±0.18% full stroke (see ordering information)
<b>Repeatability</b>	±0.02% to ±0.1% f.s. (see ordering information)
<b>Resolution</b>	essentially infinite
<b>Measuring Cable</b>	stainless steel or thermoplastic
<b>Enclosure</b>	hard anodized aluminum
<b>Sensor</b>	plastic-hybrid precision potentiometer
<b>Potentiometer Cycle Life</b>	see ordering information
<b>Maximum Measuring Cable Velocity</b>	see ordering information
<b>Maximum Retraction Acceleration</b>	see ordering information
<b>Weight</b>	5 lbs. max.

#### Electrical

<b>Input</b>	see ordering information
<b>Input Current</b>	20 mA max.
<b>Maximum Loop Resistance (Load)</b>	(loop supply voltage – 8)/0.020
<b>Circuit Protection</b>	38 mA max.
<b>Impedance</b>	100 M ohms @ 100 VDC, min.
<b>Signal Adjust, Zero</b>	from factory set zero to 50% of full stroke range
<b>Signal Adjust, Span</b>	to 50% of factory set span

#### Environmental

<b>Enclosure</b>	NEMA 4/6, IP 65/67
<b>Operating Temperature</b>	-40° to 200°F (-40° to 90°C)
<b>Vibration</b>	up to 10 g to 2000 Hz maximum

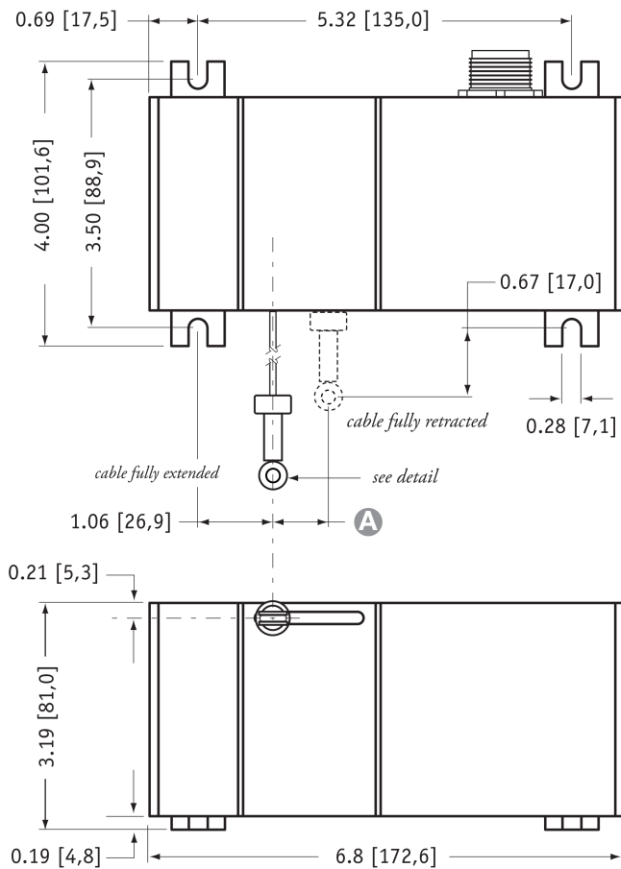
#### EMC COMPLIANCE PER DIRECTIVE 89/336/EEC

<b>Emission/Immunity</b>	EN50081-2 / EN50082-2
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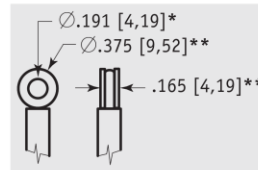
# PT5MA

Industrial Grade • 0...5, 0...10 Vdc

## Outline Drawing

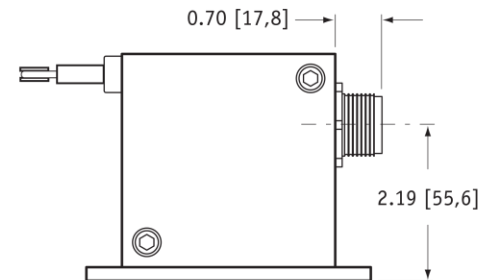


### eyelet detail



### A DIMENSION (inches[mm])

RANGE	N34	S47 & V62
	measuring cable	measuring cable
10	0.05 [1,2]	0.08 [2,0]
15	0.07 [1,8]	0.12 [3,0]
20	0.09 [2,4]	0.16 [3,9]
30	0.14 [3,5]	0.23 [5,9]
40	0.19 [4,7]	0.31 [7,9]
50	0.23 [5,9]	0.39 [9,9]
60	0.28 [7,0]	0.47 [11,8]
80	0.37 [9,4]	0.62 [15,8]
100	0.46 [11,7]	0.78 [19,7]
125	0.58 [14,7]	0.97 [24,7]
150	0.69 [17,6]	1.16 [29,6]
200	0.92 [23,5]	n/a
250	1.16 [29,3]	n/a



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:

**PT5MA** -                           
order code:      **R**      **A**      **B**      **C**      **D**

### Sample Model Number:

**PT5MA - 100 - N34 - FR - 420E - M6**

<b>R</b> range:	100 inches
<b>A</b> measuring cable:	.034 nylon-coated stainless
<b>B</b> cable exit:	front
<b>C</b> output signal:	4...20 mA
<b>D</b> electrical connection:	6-pin plastic connector

### Full Stroke Range:

<b>® <i>order code:</i></b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>40</b>	<b>50</b>	<b>60</b>	<b>80</b>	<b>100</b>	<b>125</b>	<b>150</b>	<b>200</b>	<b>250</b>	
full stroke range, min:	10 in.	15 in.	20 in.	25 in.	30 in.	40 in.	50 in.	60 in.	80 in.	100 in.	125 in.	150 in.	200 in.	250 in.	
accuracy (±% of f.s.):	.75%	.6%	.5%	.5%	.5%	.3%	.3%	.25%	.25%	.25%	.25%	.18%	.18%	.18%	
repeatability (±% of f.s.):	.1%	.1%	.05%	.05%	.05%	.05%	.05%	.02%	.02%	.02%	.02%	.02%	.02%	.02%	
potentiometer cycle life:	2,500,000 cycles							500,000 cycles					250,000 cycles		
cable tension (20%):	41 ounces														21 ounces
max. cable velocity/acceleration:	300 in./sec • 5 g														120 in./sec • 2 g

## Measuring Cable:

A order code:		N34	S47	V62
		.034 nylon-coated stainless steel available in all ranges	.047 stainless steel all ranges up to 150 inches	.062 thermoplastic all ranges up to 150 inches

## Cable Exit:

B order code:		UP	DN	FR	BK
		up	down	front	back
		inches [mm]			

## Output Signals:

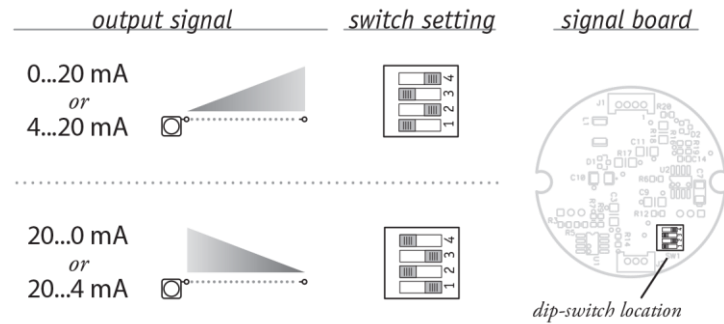
C order code:		420E	420R	020E	020R
output signal options:		4...20 mA	20...4 mA	0...20 mA	20...0 mA
sensitivity:		16 mA/full stroke $\pm 0.25\%$		20 mA/full stroke $\pm 0.25\%$	
wiring configuration:		2 - wire		3 - wire	
input voltage:		8 - 34 vdc		14 - 29 vdc	
example:					
ordercode = 420E = 4...20 mA ➡			 4 mA =		
			 20 mA =		

## Electrical Connection:

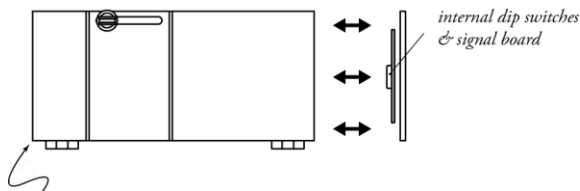
D order code:		M6	M6M	MC4	C25
		6-pin plastic connector with mating plug IP 67, NEMA 6	6-pin metal connector with mating plug IP 65, NEMA 4	4-pin micro-connector with 12 ft [3.5 M] cordset IP 67, NEMA 6	25-ft. instrumentation cable 24 AWG, shielded IP 67, NEMA 6
		.30 - .39 in. [8 - 10 mm] cable dia. 16 AWG max conductor size connector: MS3102E-14S-6P mating plug: MS3106E-14S-6S	.375 in. [9 mm] max cable dia. 16 AWG max conductor size connector: MS3102E-14S-6P mating plug: MS3106E-14S-6S	12 ft. x 5/16-in. dia. [3.5 M x 8 mm dia.] yellow PVC jacket shielded, 22 AWG	25 ft. x 0.2-in. dia. [7.5 M x 5 mm dia.] 24 AWG, shielded
6-pin mating plug:					
		pin A B C D	2-wire 8...34 vdc 4...20 mA - earth ground	3-wire 14...29 vdc common 0...20 mA -	
4-pin mating plug and cordset:					
		pin 1 2 3 4	color code RED-BLK TR. RED GREEN	2-wire 8...34 vdc 4...20 mA - earth ground	3-wire 14...29 vdc common 0...20 mA
25-ft. cable:					
		color code RED BLACK WHITE GREEN	2-wire 8...34 vdc 4...20 mA - earth ground	3-wire 14...29 vdc common 0...20 mA	

## Output Signal Selection:

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.



To gain access to the signal board, remove four Allen-Head Screws and remove end cover bracket.



Caution! Do Not Remove Spring-Side End Cover  
 Removing spring-side end cover could cause spring to become unseated and permanently damaged.