

# PT1MA

Industrial Grade • 4...20mA • 0...20mA

Absolute Linear Position to 50 inches (1270 mm)

Aluminum and Polycarbonate Enclosure

Compact Design

IP65 • NEMA 4 Protection



## GENERAL

Full Stroke Range Options	0-2 to 0-50 inches
Output Signal Options	4...20 mA (2-wire) and 0...20 mA (3-wire)
Accuracy	see ordering information
Repeatability	± 0.05% full stroke
Resolution	essentially infinite
Measuring Cable	.019-in. dia. nylon-coated stainless steel
Enclosure Material	glass-filled polycarbonate and anodized aluminum
Sensor	plastic-hybrid precision potentiometer
Potentiometer Cycle Life	see ordering information
Maximum Retraction Acceleration	see ordering information
Weight	1 lb. max.

## ELECTRICAL

Input Voltage	see ordering information
Input Current	20 mA max.
Maximum Loop Resistance (Load)	(loop supply voltage - 8)/0.020
Circuit Protection	38 mA max.
Impedance	100M ohms@100 VDC, min.
Signal Adjust, Zero	from factory set zero to 50% of full stroke range
Signal Adjust, Span	to 50% of factory set span
Thermal Effects	
Zero	0.01% f.s./°F, max.
Span	0.01% f.s./°F, max.

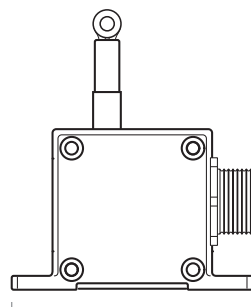
## ENVIRONMENTAL

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

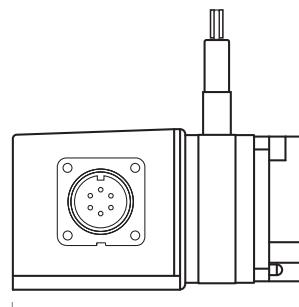
## EMC COMPLIANCE PER DIRECTIVE 89/336/EEC

Emission/Immunity	EN50081-2/EN50082-2
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3.3" [83 mm]

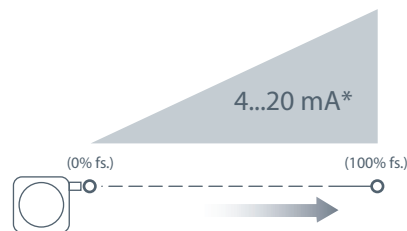


3.9" [98 mm]

The PT1MA adds 4...20 mA position feedback signal to Celesco's compact line of cable-extension transducers. The PT1MA is available with full stroke ranges from as little as 2 inches on up to 50 inches with adjustable zero and span settings to precisely match the full scale output to your exact measurement range.

The PT1MA offers several options including forward and reverse 0...20 and 4...20 mA output signals, alternate measuring cable exits and a couple different electrical connection options.

### Output Signal:

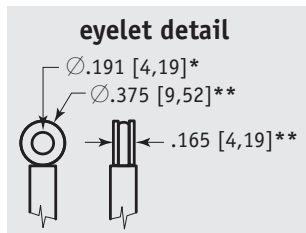


\*Optional 3-wire, 0...20mA output signal available.

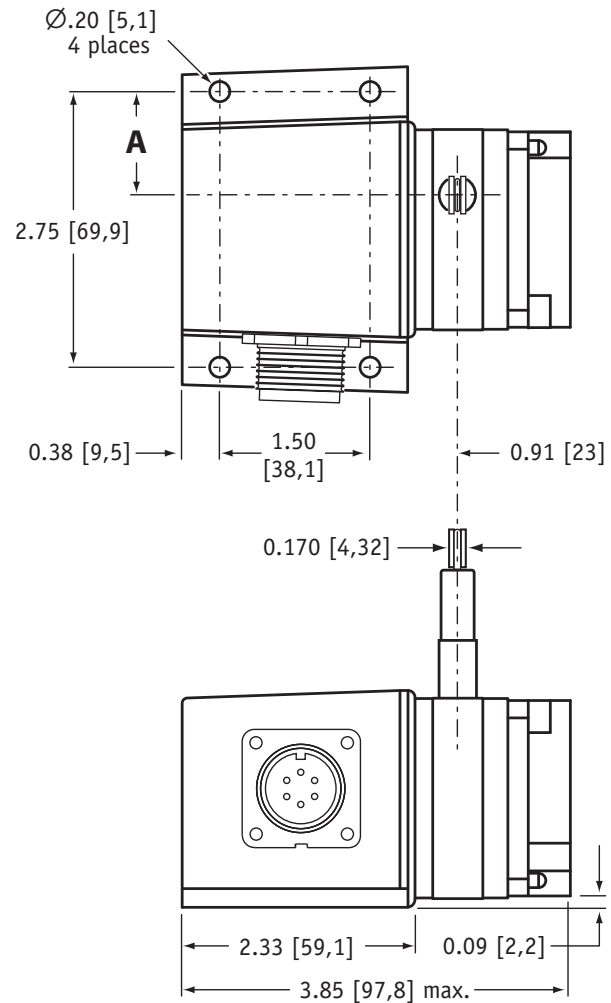
**celesco**

celesco.com • info@celesco.com

## 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]
<i>inches [mm]</i>	



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:

**PT1MA** -                                
order code:      **R**      **A**      **B**      **C**      **D**

Sample Model Number:

**PT1MA - 30 - UP - 420E - MC4 - SG**

**R** range: 30 inches  
**A** measuring cable exit: up  
**B** output signal: 4...20mA  
**C** electrical connection: 4-pin micro connector  
**D** cable guide: spring-loaded guide

### Full Stroke Range:

<b>R</b> 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

### ***Cable Exit:***

### ***Output Signals:***

### ***Electrical Connection:***

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## Cable Guide:

① order code:

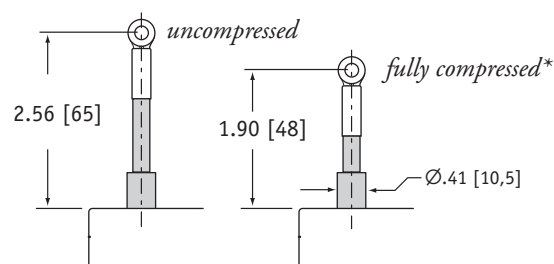
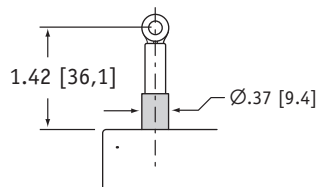
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**SG**

standard cable guide

spring-loaded guide

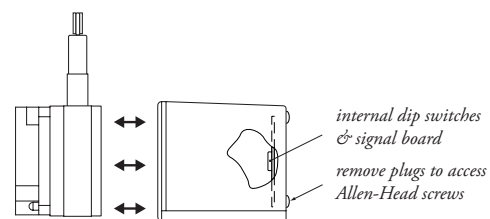
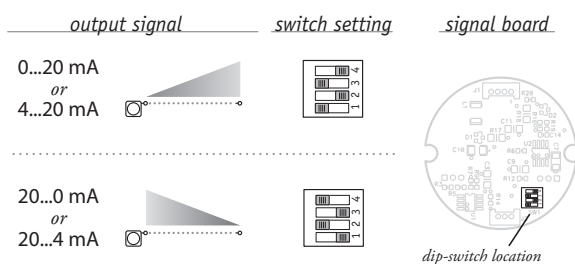
*cable-guide cushions impact from accidental free release*



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

## Output Signal Selection:

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 the two Allen-Head Screws and remove rear cover.

version: **9.0** last updated: **March 12, 2014**