

# Cable-Extension Position Transducer

- ▼ Short to Medium Range
- ▼ Industrial Grade - High Cycle Applications
- ▼ 0...20 or 4...20 mA Output Signal CE

# PT5MA



## Specification Summary:

### GENERAL

Full Stroke Ranges ..... 0-10 to 0-150 inches, see ① next page  
 Output Signal ..... 4 - 20 mA (2-wire), 0 - 20 mA (3-wire), see ④  
 Accuracy .....  $\pm 0.28$  to  $\pm 0.15\%$  full stroke, see ②  
 Repeatability .....  $\pm 0.05\%$  full stroke, max.  
 Resolution ..... essentially infinite  
 Measuring Cable ..... thermoplastic or stainless steel, see ③  
 Enclosure Material ..... hard-anodized aluminum  
 Sensor ..... plastic-hybrid precision potentiometer  
 Weight ..... 5 lbs., max.

### ELECTRICAL

Input Voltage ..... 12 to 40 VDC  
 Input Current ..... 20 mA, max.  
 Loop Resistance (Load) ..... (loop supply voltage - 12) / 0.02, max.  
 Circuit Protection ..... 38 mA maximum  
 Impedance ..... 100 M $\Omega$  @ 100 VDC, min.  
 Zero and Span Adjustment ..... 2:1 turndown

### ENVIRONMENTAL

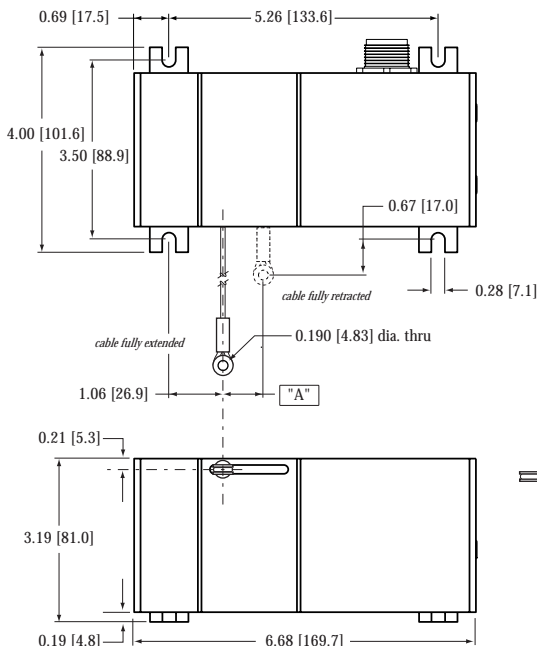
Enclosure Design ..... NEMA 4, IP 65/67, see ⑤ and ⑥  
 Operating Temperature ..... -40° F to 200° F  
 Thermal Effects  
 Zero ..... 0.01% full stroke / °F, max.  
 Span ..... 0.01% / °F, max.  
 Vibration ..... up to 10 G's to 2000 Hz max.

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

CE Emission / Immunity ..... EN50081-2 / EN50082-2

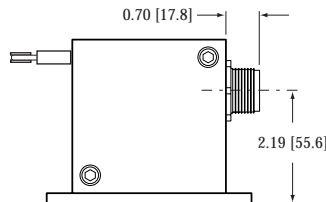
The PT5MA cable-extension transducer uses a unique thermoplastic cable that has virtually an infinite fatigue life. This cable, known as V62, has properties that are superior for high cycle and rugged applications.

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.

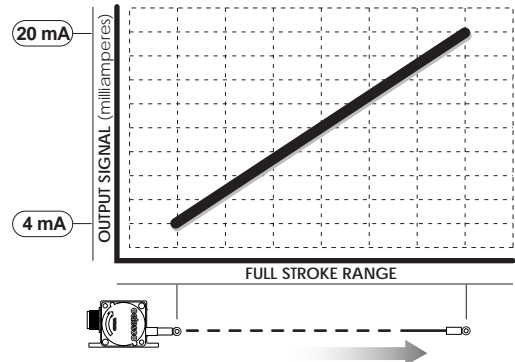


stroke range	"A" Dimension measuring cable	
	S47	V62
10	0.06 [1.5]	0.08 [2.0]
15	0.09 [2.3]	0.12 [3.1]
20	0.12 [3.1]	0.16 [4.1]
30	0.18 [4.6]	0.23 [5.8]
40	0.24 [6.1]	0.31 [7.9]
50	0.30 [7.6]	0.39 [9.9]
60	0.36 [9.1]	0.47 [11.9]
80	0.48 [12.2]	0.62 [15.7]
100	0.60 [15.2]	0.78 [19.8]
125	0.75 [19.1]	0.97 [24.6]
150	0.90 [22.9]	1.17 [29.7]

ALL DIMENSIONS ARE IN INCHES [MM]  
 tolerances are +/- 0.03 inches [0.8 mm]  
 unless otherwise noted



## Electrical Output Signal:



**celesco**

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# PT5MA • Cable-Extension Transducer • 4...20 mA Output Signal

## ▼ Ordering Information

### Model Number:

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

### Full Stroke Range:

<b>R</b> order code:	<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>
① 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.
② accuracy (% of f.s.):	0.25 %	0.25 %	0.25 %	0.25 %	0.25 %	0.15 %	0.15 %	0.15 %	0.15 %	0.15 %	0.15 %	0.10 %
std. cable tension (±20%):	20 oz.	20 oz.	19 oz.	19 oz.	18 oz.	18 oz.	17 oz.	17 oz.	16 oz.	16 oz.	15 oz.	15 oz.
potentiometer cycle life*:	2.5 x 10 <sup>6</sup>	2.5 x 10 <sup>6</sup>	2.5 x 10 <sup>6</sup>	2.5 x 10 <sup>6</sup>	2.5 x 10 <sup>6</sup>	5 x 10 <sup>5</sup>	5 x 10 <sup>5</sup>	5 x 10 <sup>5</sup>	5 x 10 <sup>5</sup>	5 x 10 <sup>5</sup>	5 x 10 <sup>5</sup>	2.5 x 10 <sup>5</sup>

*note: \*potentiometer cycle life is defined as the minimum number of times the measuring cable can be fully extended and retracted before any measurable degradation of the output signal occurs.*

### Measuring Cable:

<b>A</b> order code:	<b>V62</b>	<b>S47</b>
③ cable construction:	.062 thermoplastic	.047 stainless steel

### Cable Exit:

<b>B</b> order code:	<b>UP</b>	<b>DN</b>	<b>FR</b>	<b>BK</b>
direction:	up	down	front	back

### Output Signals:

<b>C</b> order code:	<b>420E</b>	<b>420R</b>	<b>020E</b>	<b>020R</b>
④ output signal configuration:	4...20 mA (2-wire)	20...4 (2-wire)	0...20 mA (3-wire)	20...0 (3-wire)

# PT5MA • Cable-Extension Transducer • 4...20 mA Output Signal

## Electrical Connection:

	M6	C25	M6M										
① order code:													
electrical connection:	6-pin plastic connector and mating plug	25 ft. instrumentation cable	6-pin metal connector and mating plug										
	<p>MS3106E-14S-6S 5/16" (8 mm) max cable dia. 16 AWG max conductor size</p> <p>MS3102E-14S-6P</p> <p>~ 3.2 in. (81 mm)</p>	<p>MULTICONDUCTOR, 24 GA., SHIELDED</p> <p>~0.2 in. (5 mm) dia.</p> <p>~ 3.2 in. (81 mm)</p>	<p>MS3106E-14S-6S 5/16" (8 mm) max cable dia. 16 AWG max conductor size</p> <p>MS3102E-14S-6P</p> <p>~ 3.2 in. (81 mm)</p>										
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⑤ IP rating:	67	67	65										
⑥ NEMA rating:	6	6	4										

## ▼ Sample Model Number

**PT5MA - 30 - V62 - UP - 420E - M6**

order code:    0            0            0            0            0

Specifications:    Full Stroke Range:    30 inches  
                           Measuring Cable:    0.062-in dia. thermoplastic cable  
                           Measuring Cable Exit:    Up  
                           Output Signals:    4...20 VDC, output increasing with cable extension  
                           Electrical Connection:    6-pin plastic connector