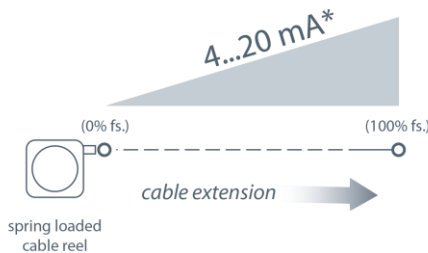


The PT5MA potentiometric cable-extension transducer uses a unique thermoplastic cable that has virtually an infinite fatigue life. This cable, known as V62, has properties that are superior for high cycle and rugged applications.

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> | $(\text{loop supply voltage} - 8)/0.020$          |
| <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 |

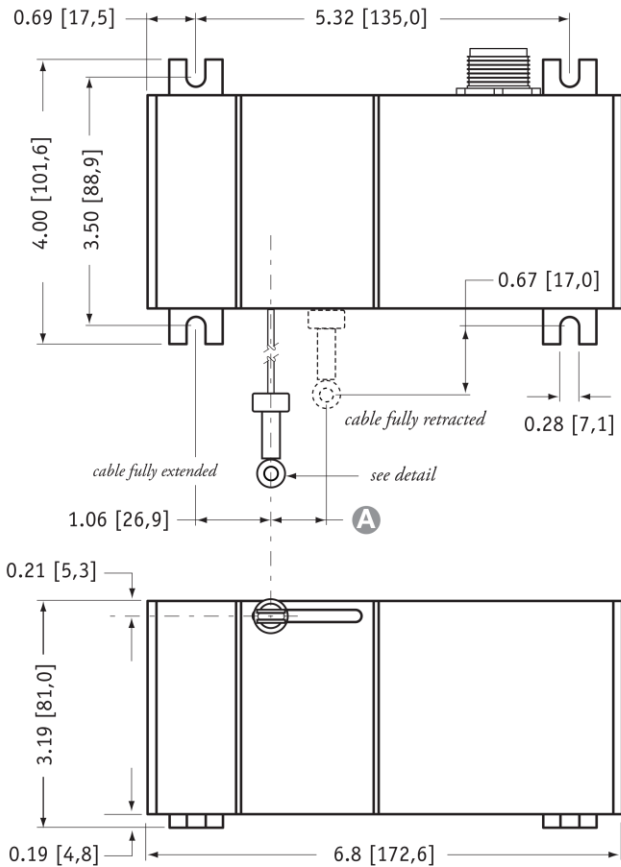
#### EMC COMPLIANCE PER DIRECTIVE 89/336/EEC

|                          |                       |
|--------------------------|-----------------------|
| <b>Emission/Immunity</b> | EN50081-2 / EN50082-2 |
|--------------------------|-----------------------|

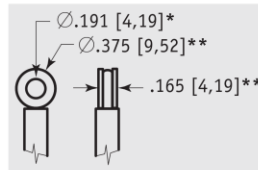
# PT5MA

Industrial Grade • 0...5, 0...10 Vdc

## Outline Drawing

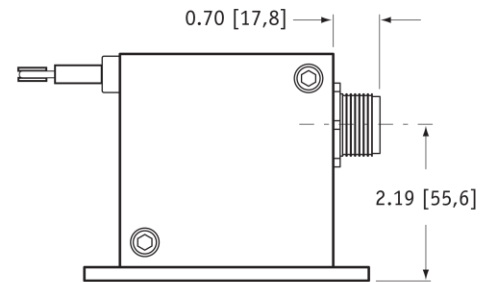


### eyelet detail



### 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**

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

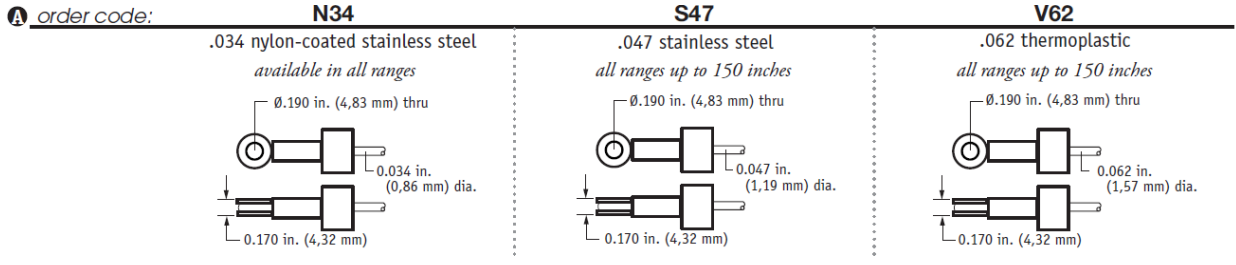
### Full Stroke Range:

| <b>R</b> order code:              | 10                | 15     | 20     | 25     | 30     | 40     | 50             | 60     | 80     | 100     | 125               | 150            | 200     | 250     |
|-----------------------------------|-------------------|--------|--------|--------|--------|--------|----------------|--------|--------|---------|-------------------|----------------|---------|---------|
| 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 |                |         |         |

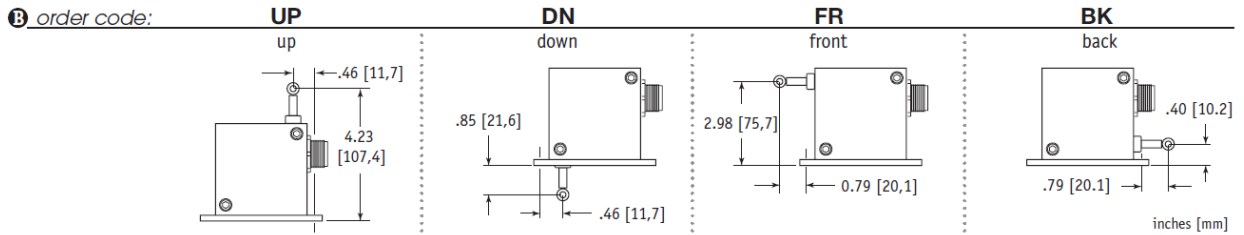
# PT5MA

Industrial Grade • 0...5, 0...10 Vdc

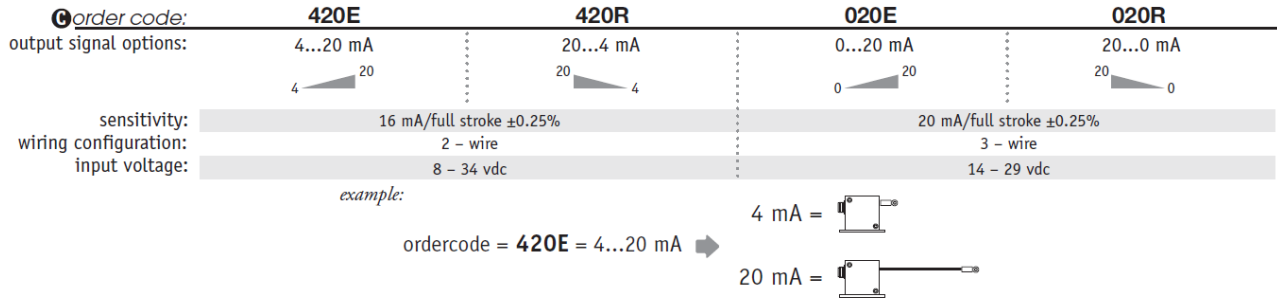
## Measuring Cable:



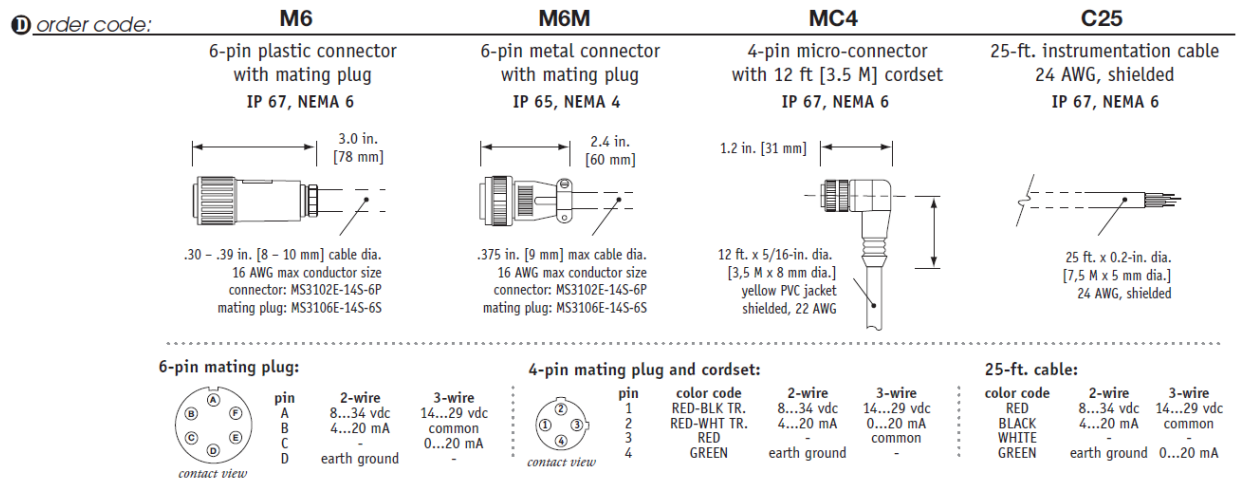
## Cable Exit:



## Output Signals:

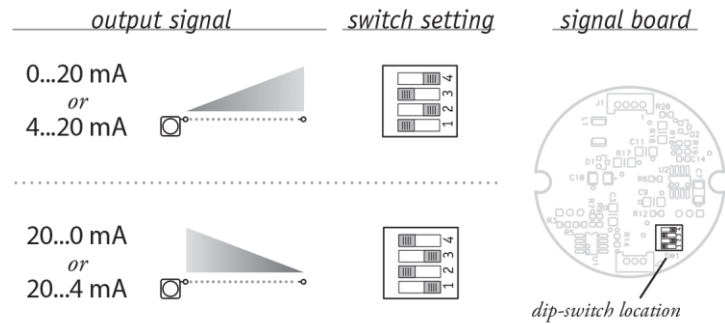


## Electrical Connection:

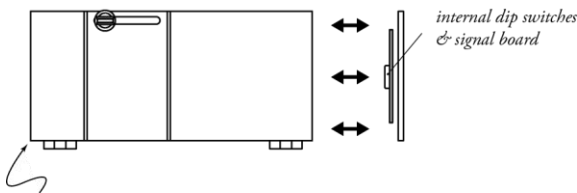



**Output Signal Selection:**

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.

**NORTH AMERICA**

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