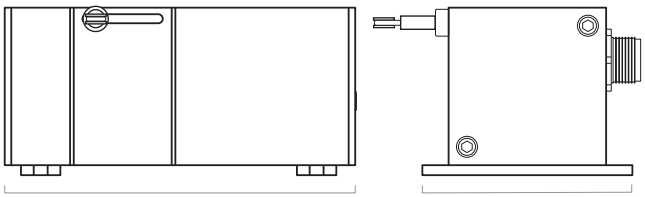
PT5A

Industrial Grade • Voltage Divider

Absolute Linear Position to 250 inches (6350 mm)
Hard Anodized Aluminum Enclosure
High Cycle Applications
IP67 • NEMA 6 Protection

CE





GENERAL

Full Stroke Range Options	0-10 to 0-250 inches
Output Signal Options	voltage divider (potentiometer)
Accuracy	see ordering information
Repeatability	see ordering information
Resolution	essentially infinite
Measuring Cable Options	stainless steel or thermoplastic
Enclosure Material	hard anodized aluminum
Sensor	plastic-hybrid precision potentiometer
Potentiometer Cycle Life	see ordering information
Maximum Measuring Cable Velocity	see ordering information
Maximum Retraction Acceleration	see ordering information
Weight	5 lbs. max.

ELECTRICAL

Input Resistance Options	500, 1K, 5K, 10K ohms or bridge
Power Rating, Watt	see ordering information
Recommended Maximum Input Voltage	see ordering information
Output Signal Change Over Full Stroke Range	94% ±4% of input voltage

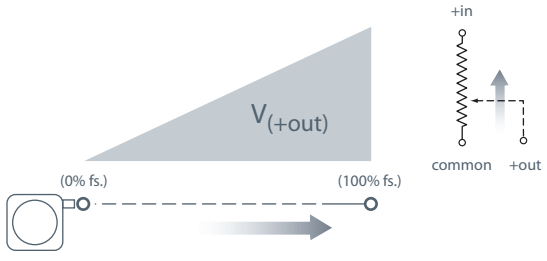
ENVIRONMENTAL

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

The PT5A 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 PT5A installs in minutes, functions properly without perfectly parallel alignment, and fits easily into small areas. The PT5A offers additional installation flexibility since its cable exit can be rotated relative to the mounting surface, providing four different cable exit orientations.

Output Signal:

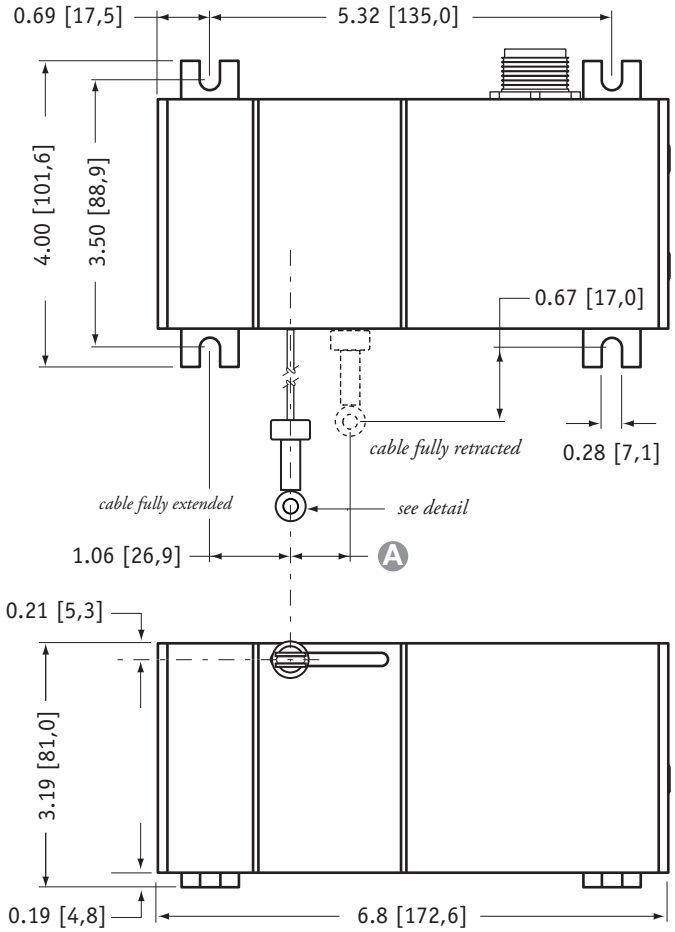


-- bridge circuit option available, see ordering information

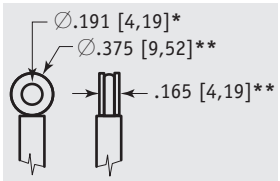
20630 Plummer Street • Chatsworth, CA 91311
tel: 800.423.5483 • +1.818.701.2750 • fax: +1.818.701.2799

celesco

Outline Drawing:

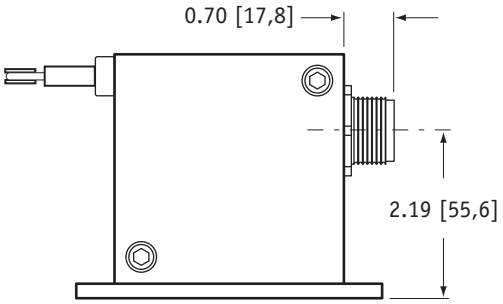


eyelet detail



A DIMENSION (inches[mm])

RANGE	N34 *measuring cable*	S47 & V62 *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:

PT5A - _____ - ___ - ___ - ___ - ___
order code: Ⓡ Ⓐ Ⓑ Ⓒ Ⓓ

Sample Model Number:

PT5A - 100 - N34 - FR - 500 - M6

Ⓡ	range:	100 inches
Ⓐ	measuring cable:	.034 nylon-coated stainless
Ⓑ	cable exit:	front
Ⓒ	output signal:	500 ohm potentiometer
Ⓓ	electrical connection:	6-pin plastic connector

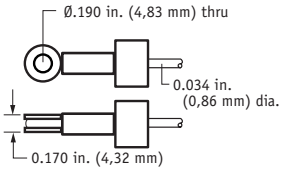
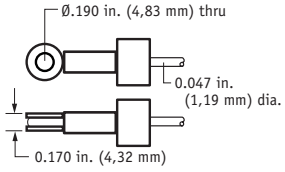
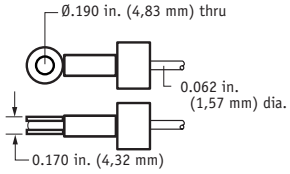
Full Stroke Range:

Ⓡ *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	

Ordering Information (cont.):

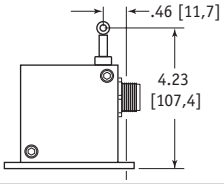
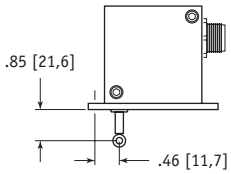
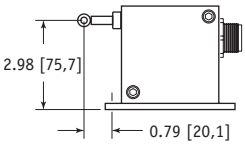
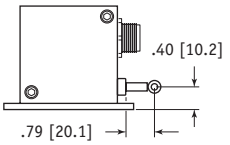
Measuring Cable:

Ⓐ 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:

Ⓑ order code:

UP	DN	FR	BK
up	down	front	back
			

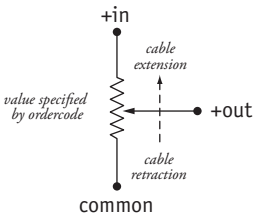
inches [mm]

Output Signals:

Ⓒ order code:

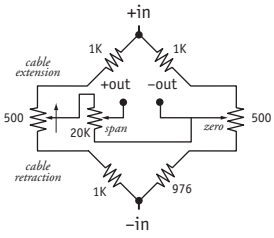
500	1K	5K	10K	B
500 ohm*	1000 ohm*	5000 ohm*	10,000 ohm*	adjustable bridge (0...30 mV/V)

*tolerance = ±10%



max. input voltage and power rating

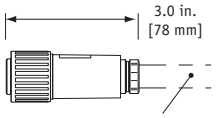
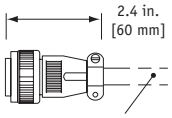
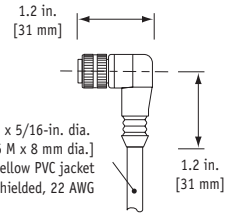
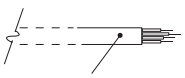
	10 to 30-inch range	*40 to 250-inch range*
500-ohms:	20 V AC/DC (1 W)	30 V AC/DC (2 W)
1K to 10K-ohms:	30 V AC/DC (1 W)	30 V AC/DC (2 W)



full scale output: adjustable from 0 to 30mV/V
zero adjust: to 50% of full stroke

Electrical Connection:

Ⓓ 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:



contact view

pin	standard	bridge
A	+IN	+IN
B	COMMON	-IN
C	+OUT	-OUT
D	-	+OUT

4-pin mating plug and cord set:



contact view

pin	color code	standard	bridge
1	RED-BLK TR.	+IN	+IN
2	RED-WHT TR.	COMMON	-IN
3	RED	+OUT	+OUT
4	GREEN	-	-OUT

25-ft. cable:

color code	standard	bridge
RED	+IN	+IN
BLACK	COMMON	-IN
GREEN	+OUT	+OUT
WHITE	-	-OUT

version: **5.0** last updated: **March 18, 2014**