

Cable-Extension Position Transducer

- ▼ Short to Medium Range
- ▼ Industrial Grade - High Cycle Applications
- ▼ Precision Potentiometric Output



PT5A



Specification Summary:

GENERAL

Full Stroke Ranges 0-10 to 0-250 inches, see ① next page
 Output Signal voltage divider (potentiometer)
 Accuracy ± 0.25 to ± 0.10 full stroke, max., see ②
 Repeatability $\pm 0.02\%$ full stroke, max.
 Resolution essentially infinite
 Measuring Cable thermoplastic or stainless steel, see ③
 Enclosure Material hard-anodized aluminum
 Sensor plastic-hybrid precision potentiometer
 Maximum Measuring Cable Velocity 300 inches per second
 Maximum Measuring Cable Acceleration 5 g
 Weight 5 lbs., max

ELECTRICAL

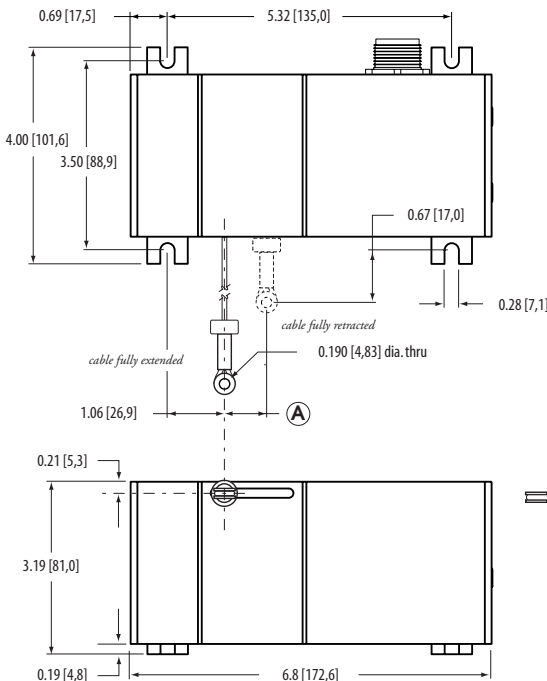
Input Resistance .. 500, 1K, 5K & 10K ohms ($\pm 10\%$) or adjustable bridge, see ④
 Power Rating, Watts 2.0 at 70°F (derated to 0 @ 250°F)
 Recommended Maximum Voltage 30 V
 Output Signal Change Over Measurement Range 93% $\pm 4\%$ of input voltage
 Temperature Coefficient of Sensing Element 88 P.P.M./°F

ENVIRONMENTAL

Enclosure Design NEMA 4, IP65/67, see ⑤ and ⑥
 Operating Temperature -30° F to +200°F
 Vibration up to 10 G's to 2000 Hz

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.

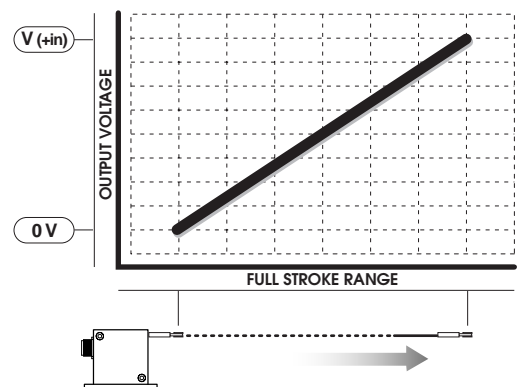


(A) Dimension

stroke range	measuring cable		
	S47	V62	N34
10	0.06 [1,5]	0.08 [2,0]	n/a
15	0.09 [2,3]	0.12 [3,1]	n/a
20	0.12 [3,1]	0.16 [4,1]	n/a
30	0.18 [4,6]	0.23 [5,8]	n/a
40	0.24 [6,1]	0.31 [7,9]	n/a
50	0.30 [7,6]	0.39 [9,9]	n/a
60	0.36 [9,1]	0.47 [11,9]	n/a
80	0.48 [12,2]	0.62 [15,7]	n/a
100	0.60 [15,2]	0.78 [19,8]	n/a
125	0.75 [19,1]	0.97 [24,6]	n/a
150	0.90 [22,9]	1.17 [29,7]	n/a
200	n/a	n/a	0.86 [21,9]
250	n/a	n/a	1.08 [27,4]

ALL DIMENSIONS ARE IN INCHES [MM]
 tolerances are ± 0.03 inches [0,8 mm]
 unless otherwise noted

Electrical Output Signal:



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▼ Ordering Information

Model Number:

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

Full Stroke Range:

R order code:	10	15	20	25	30	40	50	60	80	100	125	150	200	250
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.	200 in.	250 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%	0.10%	0.10%
std. cable tension (±30%):	42 oz.	42 oz.	42 oz.	42 oz.	42 oz.	42 oz.	42 oz.	42 oz.	42 oz.	42 oz.	42 oz.	42 oz.	21 oz.	21 oz.
potentiometer cycle life*:	2.5 x 10 ⁶	2.5 x 10 ⁶	2.5 x 10 ⁶	2.5 x 10 ⁶	2.5 x 10 ⁶	5 x 10 ⁵	5 x 10 ⁵	5 x 10 ⁵	5 x 10 ⁵	5 x 10 ⁵	5 x 10 ⁵	2.5 x 10 ⁵	2.5 x 10 ⁵	2.5 x 10 ⁵

*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:

A order code:	V62	S47	N34
③ available full stroke ranges:	all ranges up to 150 inches	all ranges up to 150 inches	200 and 250 inches only
cable construction:	.062 thermoplastic	.047 stainless steel	.034 nylon-coated stainless steel

Cable Exit:

B order code:	UP	DN	FR	BK
direction:	up	down	front	back

Output Signals:

G order code:	500	1K	5K	10K	B
④ sensing circuit:	500 ohm	1K ohm	5K ohm	10K ohm	0...30 mV/V bridge
					full scale output: adjustable from 0 to 30mV/V zero adjust: from full retraction to 50% of full stroke

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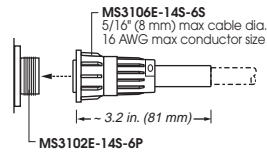
Electrical Connection:

① order code:

electrical connection:

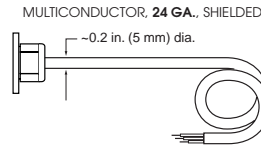
M6

6-pin plastic connector and mating plug



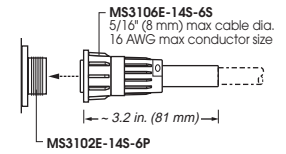
C25

25 ft. instrumentation cable



M6M

6-pin metal connector and mating plug



contact view	connections		connections		contact view	connections	
	standard	bridge	standard	bridge		standard	bridge
	A = +IN B = COMMON C = +OUT	A = +IN B = -IN C = -OUT D = +OUT	RED = +IN BLK = COMMON GRN = OUT	RED = +IN BLK = -IN WHT = -OUT GRN = +OUT		A = +IN B = COMMON C = +OUT	A = +IN B = -IN C = -OUT D = +OUT
IP rating:	67		67		65		
NEMA rating:	6		6		4		

⑤

⑥

▼ Sample Model Number

PT5A - 30 - V62 - UP - 10K - M6

Specifications: Full Stroke Range: 30 inches
 Measuring Cable: 0.062-in dia. thermoplastic cable
 Measuring Cable Exit: Up
 Output Signals: 10K ohm potentiometer sensor
 Electrical Connection: 6-pin plastic connector