

Cable-Extension Position Transducer

- ▼ Short to Medium Range
- ▼ Compact Size • OEM Applications
- ▼ Precision Potentiometric Output



PT1A



Specification Summary:

GENERAL

Full Stroke Ranges 0-2 to 0-50 inches, see ① next page
 Output Signal voltage divider (potentiometer)
 Accuracy ± 0.25 to 0.10% full stroke, see ②
 Repeatability $\pm 0.02\%$ full stroke
 Resolution essentially infinite
 Measuring Cable 0.019-in. dia. nylon-coated stainless steel
 Enclosure Material ABS plastic and black anodized aluminum
 Sensor plastic-hybrid precision potentiometer
 Weight 1 lb., max.

ELECTRICAL

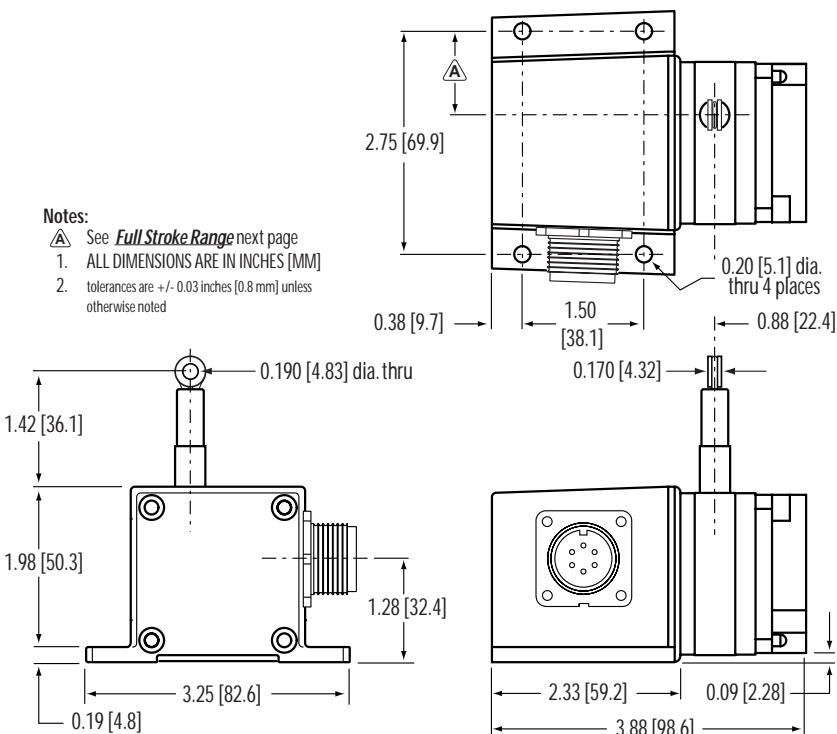
Input Resistance 500, 1K, 5K, 10K ohms ($\pm 10\%$) or adj. bridge, see ③
 Power Rating, Watts 2.0 at 70°F (derated to 0 @ 250°F)
 Recommended Maximum Input Voltage 30 V(AC or DC)
 Output Signal Change Over Measurement Range 94% $\pm 4\%$ of input voltage

ENVIRONMENTAL

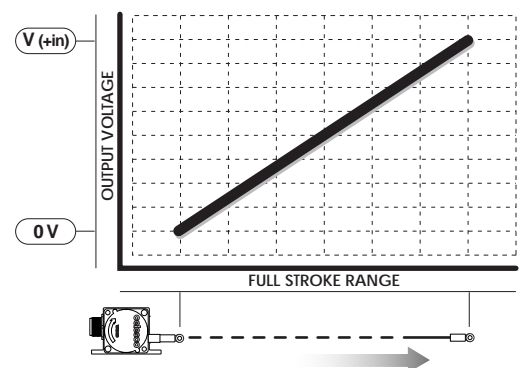
Enclosure Design NEMA 12, IP65
 Operating Temperature -40° to 200°F
 Vibration up to 10 G's to 2000 Hz maximum

The PT1A is perfect where space and money are limited. The PT1A is part of Celesco's compact line of cable-extension transducers. Using a high cycle plastic-hybrid potentiometer, the PT1A provides a precision *voltage divider* position feedback signal for full-scale measurement ranges from 2 to 50 inches.

The PT1A has many features to offer: 500 to 10K ohm potentiometer selection, adjustable bridge circuit, up to 4 different measuring cable exits and 2 types of electrical connections.



Electrical Output Signal:



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 Als Oddevej 85 DK9560 Hadsund Denmark
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www.ntt.dk • kd@ntt.dk

PT1A • Cable-Extension Transducer • Potentiometric Output

▼ Ordering Information

Model Number:

PT1A - - - - -
 order code: **B** **A** **B** **C**

Full Stroke Range:

	B order code:	2	5	10	15	20	25	30	40	50
①	full stroke range, min:	2 in.	5 in.	10 in.	15 in.	20 in.	25 in.	30 in.	40 in.	50 in.
②	accuracy (% of f.s.):	0.25%	0.25%	0.15%	0.15%	0.15%	0.15%	0.10%	0.10%	0.10%
	maximum cable acceleration:	11 G's	5 G's	11 G's	5 G's	4 G's	5 G's	3 G's	4 G's	2 G's
	std. cable tension (±30%):	12 oz.	5 oz.	12 oz.	9 oz.	6 oz.	5 oz.	9 oz.	6 oz.	5 oz.
	potentiometer cycle life*:	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	2.5 x 10 ⁵	2.5 x 10 ⁵
③	A - inches [mm]**:	1.04 [26.3]	0.54 [13.8]	1.04 [26.3]	0.82 [20.7]	1.04 [26.3]	0.54 [13.8]	0.82 [20.7]	0.74 [18.7]	0.54 [13.8]
④	B - inches [mm]**:	0.75 [19.1]	0.29[6.1]	0.75 [19.1]	0.53 [13.5]	0.75 [19.1]	0.29[6.1]	0.53 [13.5]	0.45 [11.5]	0.29 [6.1]
⑤	C - inches [mm]**:	1.43 [36.3]	1.89 [48.0]	1.43 [36.3]	1.65 [41.9]	1.43 [36.3]	1.89 [48.0]	1.65 [41.9]	1.73 [43.7]	1.89 [48.0]

*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.

note: refer to **Cable Exit below.

Cable Exit:

A order code:	UP	DN	FR	BK
direction:	up	down	front	back
note:	A — see ③ above	B — see ④ above	C — see ⑤ above	

Output Signals:

B order code:	500	1K	5K	10K	AB
⑥ sensing circuit:	500 Ω	1K Ω	5K Ω	10K Ω	adjustable bridge
					f.s. output: adjustable 0...30mV/V
					zero adjust: from 0 to 50% of full range

PT1A • Cable-Extension Transducer • Potentiometric Output

▼ Ordering Information (cont.)

Electrical Connections:

① *order code:*

electrical connection:

		MC4	M6	C25																																									
		4-pin micro-connector and 12 ft. [3.7 m] cable assembly	6-pin plastic connector and mating plug	25 ft. [7.6 m] instrumentation cable																																									
		<p>4-pin dual keyway receptacle (male)</p> <p>0.3 in [8 mm] dia. cable yellow PVC jacket shielded, 22 AWG 4-conductor</p>	<p>MS3106E-14S-6S</p> <p>MS3102E-14S-6P</p> <p>5/16" (8 mm) max cable dia. 16 AWG max conductor size</p>	<p>25 ft. [7.6 m]</p> <p>0.2 in. (5 mm) dia. shielded, 24 AWG multiconductor</p>																																									
	<table border="1"> <thead> <tr> <th rowspan="2">pin</th> <th rowspan="2">color-code</th> <th colspan="2">i/o signals</th> </tr> <tr> <th>standard</th> <th>adj. bridge</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>RED-BLK. TR.</td> <td>+IN</td> <td>+IN</td> </tr> <tr> <td>2</td> <td>RED-WHT. TR.</td> <td>COMMON</td> <td>-IN</td> </tr> <tr> <td>3</td> <td>RED</td> <td>+OUT</td> <td>+OUT</td> </tr> <tr> <td>4</td> <td>GREEN</td> <td>-</td> <td>-OUT</td> </tr> </tbody> </table>	pin	color-code	i/o signals		standard	adj. bridge	1	RED-BLK. TR.	+IN	+IN	2	RED-WHT. TR.	COMMON	-IN	3	RED	+OUT	+OUT	4	GREEN	-	-OUT	<p><i>mating plug (contact view)</i></p> <table border="1"> <thead> <tr> <th>standard</th> <th>bridge</th> </tr> </thead> <tbody> <tr> <td>A = +IN</td> <td>A = +IN</td> </tr> <tr> <td>B = COMMON</td> <td>B = -IN</td> </tr> <tr> <td>C = +OUT</td> <td>C = -OUT</td> </tr> <tr> <td></td> <td>D = +OUT</td> </tr> </tbody> </table>	standard	bridge	A = +IN	A = +IN	B = COMMON	B = -IN	C = +OUT	C = -OUT		D = +OUT	<table border="1"> <thead> <tr> <th>standard</th> <th>bridge</th> </tr> </thead> <tbody> <tr> <td>RED = +IN</td> <td>RED = +IN</td> </tr> <tr> <td>BLK = COMMON</td> <td>BLK = -IN</td> </tr> <tr> <td>GRN = OUT</td> <td>WHT = -OUT</td> </tr> <tr> <td></td> <td>GRN = +OUT</td> </tr> </tbody> </table>	standard	bridge	RED = +IN	RED = +IN	BLK = COMMON	BLK = -IN	GRN = OUT	WHT = -OUT		GRN = +OUT
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▼ Sample Model Number:

PT1A - 30 - UP - 500 - MC4

Specifications: Full Stroke Range: 30 inches
 Measuring Cable Exit: Up
 Output Signals: 10 K ohm potentiometer sensor
 Electrical Connection: 4-pin micro-connector