

Cable-Extension Position Transducer

0/4...20 mA Output

Ranges: 0-2 to 0-50 inches

Compact Size • OEM Applications



PT1MA

Specification Summary:

GENERAL

Full Stroke Range Options 0-2 to 0-50 inches
 Output Signal Options 4...20 mA (2-wire) and 0...20 mA (3-wire)
 Accuracy $\pm 0.28\%$ to $\pm 0.15\%$ full stroke *see ordering information*
 Repeatability $\pm 0.05\%$ full stroke
 Resolution essentially infinite
 Measuring Cable019-in. dia. nylon-coated stainless steel
 Enclosure Material ABS plastic and black anodized aluminum
 Sensor plastic-hybrid precision potentiometer
 Potentiometer Cycle Life *see ordering information*
 Maximum Retraction Acceleration *see ordering information*
 Weight 1 lb. max.

ELECTRICAL

Input Voltage *see ordering information*
 Input Current 20 mA max.
 Maximum Loop Resistance (Load) (loop supply voltage - 8)/0.020
 Circuit Protection 38 mA max.
 Impedance 100M ohms@100 VDC, min.
 Output Signal Adjustment
 Zero Adjustment from factory set zero to 50% of full stroke range
 Span Adjustment from 100% down to 50% of factory set span
 Thermal Effects
 Zero 0.01% f.s./°F, max.
 Span 0.01% f.s./°F, max.

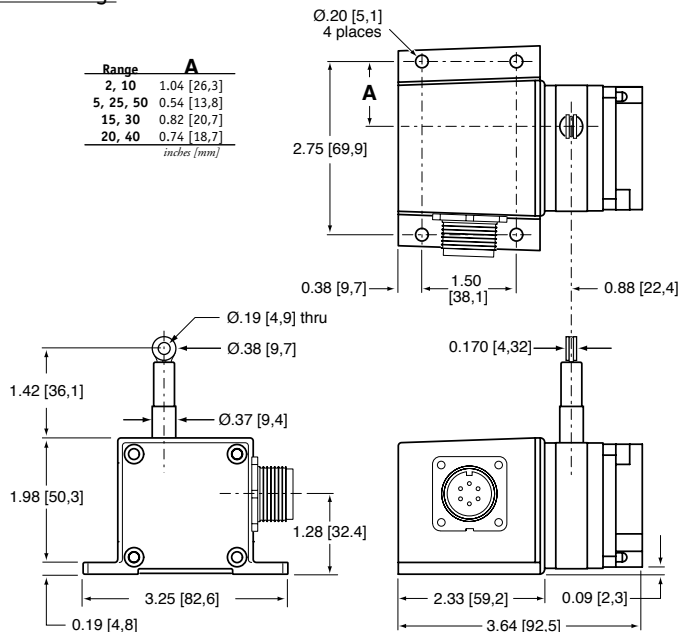
ENVIRONMENTAL

Enclosure NEMA 4, IP 67
 Operating Temperature 0° to 200°F (-17° to 90°C)
 Vibration up to 10 G's to 2000 Hz maximum

EMC COMPLIANCE PER DIRECTIVE 89/336/EEC

Emission/Immunity EN50081-2/EN50082-2

Outline Drawing



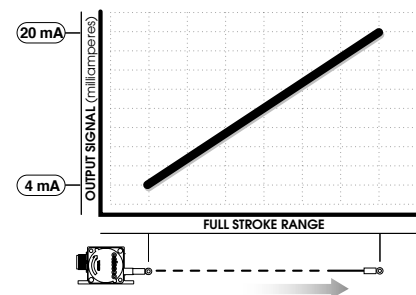
dimensions are in inches [mm], tolerances are 0.03 inches [0,8 mm]



The PT1MA adds 4...20 mA position feedback signal to Celesco's compact line of cable-extension transducers. The PT1MA is available with full stroke ranges from as little as 2 inches on up to 50 inches with adjustable zero and span settings to precisely match the full scale output to your exact measurement range.

The PT1MA offers several options including forward and reverse 0...20 and 4...20 mA output signals, alternate measuring cable exits and a couple different electrical connection options.

Output Signal



Nordic Transducer • Als Odde DK9560 Denmark

tel: +45 98581444 • fax: +45 98581866 e-mail: ntt@ntt.dk

celesco
web: www.ntt.dk

Ordering Information:

Model Number:

PT1MA - _____ - _____ - _____ - _____ - _____
order code: **R** **A** **B** **C** **D**

Sample Model Number:

PT1MA - 30 - UP - 420E - MC4 - SG

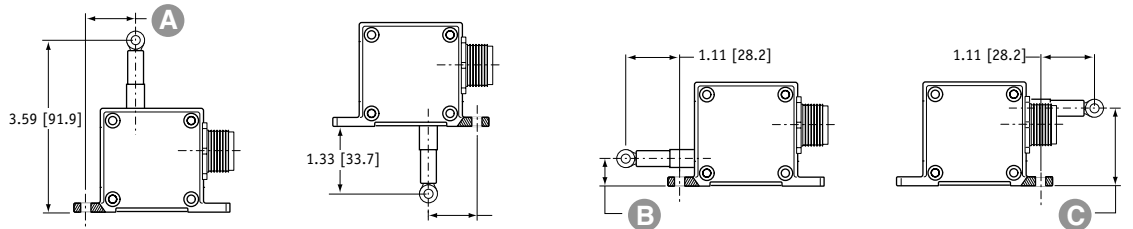
- R** range: 30 inches
- A** measuring cable exit: up
- B** output signal: 4...20mA
- C** electrical connection: 4-pin micro connector
- D** cable guide: spring-loaded guide

Full Stroke Range:

R order code:	2	5	10	15	20	25	30	40	50
full stroke range, min:	2 in.	5 in.	10 in.	15 in.	20 in.	25 in.	30 in.	40 in.	50 in.
accuracy (% of f.s.):	0.28%		0.18%			0.15%			
potentiometer cycle life:	2,500,000 cycles		500,000 cycles			250,000 cycles			
cable tension (20%):	12 oz.	5 oz.	12 oz.	9 oz.	6 oz.	5 oz.	9 oz.	6 oz.	5 oz.
maximum cable acceleration:	11 G's	3 G's	11 G's	5 G's	4 G's	3 G's	5 G's	4 G's	3 G's

Cable Exit:

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



measurement range	2	5	10	15	20	25	30	40	50
A	1.04 in. 26,3 mm	0.54 in. 13,8 mm	1.04 in. 26,3 mm	0.82 in. 20,7 mm	0.74 in. 18,7 mm	0.54 in. 13,8 mm	0.82 in. 20,7 mm	0.74 in. 18,7 mm	0.54 in. 13,8 mm
B	0.75 in. 19,1 mm	0.29 in. 6,1 mm	0.75 in. 19,1 mm	0.53 in. 13,5 mm	0.45 in. 11,5 mm	0.29 in. 6,1 mm	0.53 in. 13,5 mm	0.45 in. 11,5 mm	0.29 in. 6,1 mm
C	1.43 in. 36,3 mm	1.89 in. 48,0 mm	1.43 in. 36,3 mm	1.65 in. 41,9 mm	1.73 in. 43,7 mm	1.89 in. 48,0 mm	1.65 in. 41,9 mm	1.73 in. 43,7 mm	1.89 in. 48,0 mm

Output Signals:

B order code:	420E	420R	020E	020R
output signal options:	4...20 mA	20...4 mA	0...20 mA	20...0 mA
sensitivity:	16 mA/full stroke ±0.25%		20 mA/full stroke ±0.25%	
wiring configuration:	2 - wire		3 - wire	
input voltage:	8 - 40 vdc		12 - 40 vdc	

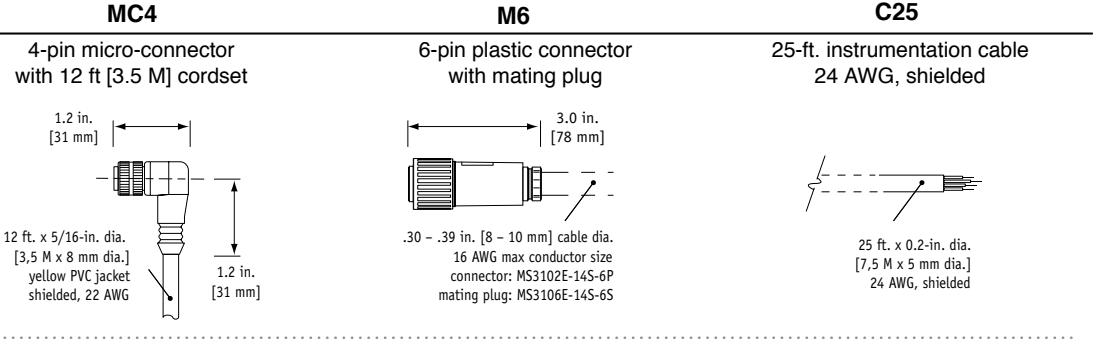
example:

ordercode = **420E** = 4...20 mA →
 4 mA =
 20 mA =

Ordering Information (cont.)

Electrical Connection:

Ⓒ order code:

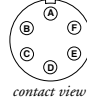


4-pin mating plug and cordset:



pin	color code	2-wire	3-wire
1	RED-BLK TR.	8...40 vdc	12...40 vdc
2	RED-WHT TR.	4...20 mA	0...20 mA
3	RED	-	common
4	GREEN	-	-

6-pin mating plug:



pin	2-wire	3-wire
A	8...40 vdc	12...40 vdc
B	4...20 mA	common
C	-	0...20 mA
D	-	-

25-ft. cable:

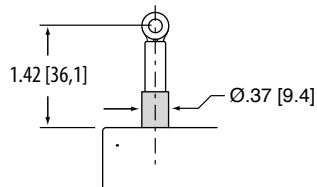
color code	2-wire	3-wire
RED	8...40 vdc	12...40 vdc
BLACK	4...20 mA	0...20 mA
WHITE	-	common
GREEN	-	-

Cable Guide:

Ⓓ order code:

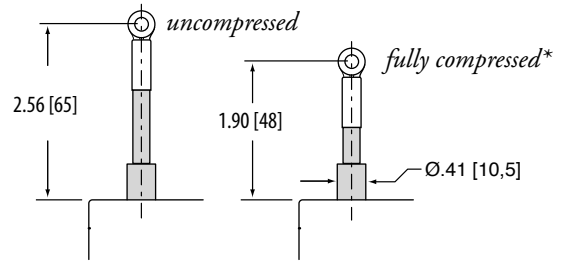
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standard cable guide



SG

spring-loaded guide



cable-guide cushions impact from accidental free release

*note: start of full stroke range begins at **full compression** point