

Cable-Extension Position Transducer

- Short to Medium Range
- 4...20 mA Output



PT420

The PT420 is available with full-scale measurement ranges from 2 to 100 inches, providing a 0/4-20 mA feedback signal that is linearly proportional to the position of a traveling stainless-steel extension cable. Use the PT420 to provide position feedback on hydraulic cylinders in factories and utilities, gate position in fresh or wastewater distribution systems, or valve opening in process-related applications.

The PT420 installs in minutes by mounting its base to a fixed surface and attaching its cable to the movable object. The PT420 works without perfect parallel alignment, and when its stainless steel cable is retracted, its height is less than 5".

GENERAL

Full Stroke Ranges 0-2 to 0- 100 inches, see ordering info.
 Output Signal 4 - 20 mA (2-wire), 0 - 20 mA (3-wire), see ordering info.
 Accuracy
 2 and 5 Inch Ranges ±0.28% full stroke
 10, 15, 25 Inch Ranges ±0.18% full stroke
 20, 30 Inch Ranges and Greater ±0.15% full stroke
 Repeatability greater of ±0.001 inches or 0.02% full stroke
 Resolution essentially infinite
 Measuring Cable 0.019-in. dia. nylon-coated stainless steel
 Cable Fitting crimp and swivel
 Enclosure Material powder coated and anodized aluminum
 Sensor plastic-hybrid precision potentiometer
 Weight 2 lbs., max.

ELECTRICAL

Input Voltage 12 to 40 VDC
 Input Current 20 mA, max.
 Loop Resistance (Load) (loop supply voltage - 12) / 0.02, max.
 Circuit Protection 38 mA maximum
 Impedance 100 MΩ @ 100 VDC, min.
 Zero and Span Adjustment 2:1 turndown
 Electrical Connector MS3102E-14S-6P
 Mating Plug (included) MS3106E-14S-6S

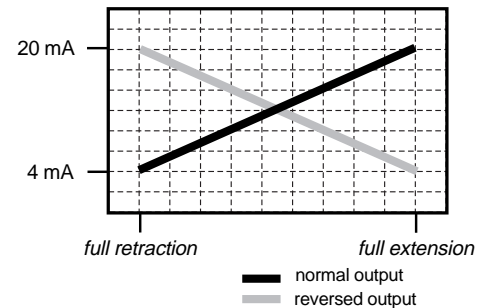
ENVIRONMENTAL

Enclosure Design NEMA 1
 Operating Temperature -40° F to 180°F
 Thermal Effects
 Zero 0.01% full stroke / °F, max.
 Span 0.01% / °F, max.
 Vibration up to 10 G's to 2000 Hz max.

MECHANICAL

Measurement Range (Inches)	Cable Tension (Ounces, ±30%)	Max. Cable Acceleration (Gravities)
0- 2, -10, -20	12	11
0- 5, -25, -50	5	2
0-15, -30	8	3
0-40	6	4
0-60	13	4
0-75	10	3
0-100	13	2

Electrical Output:



Latin Tech, Inc.

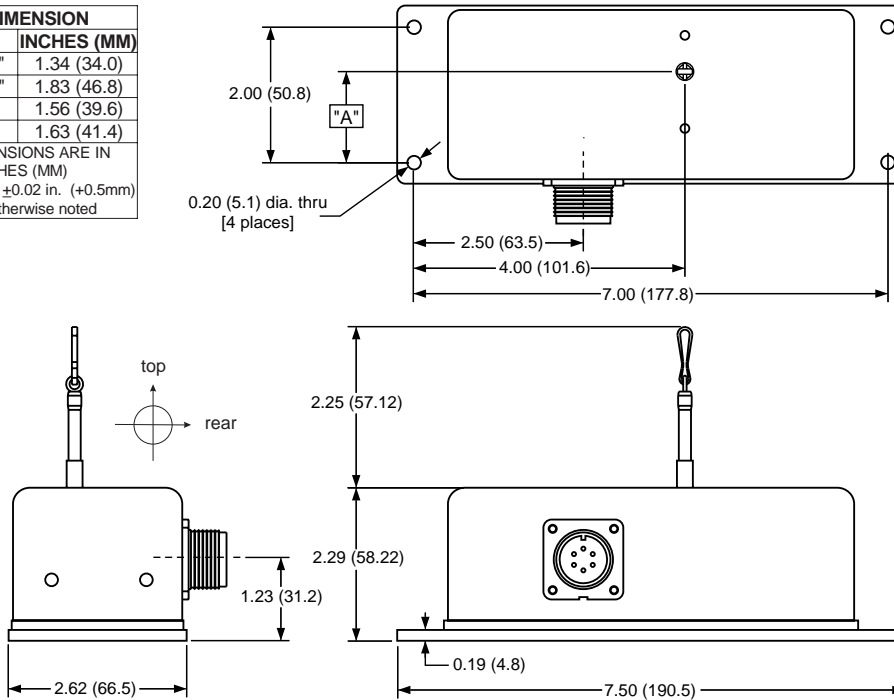
www.lt-automation.com info@lt-automation.com

PT420 Short to Medium Range • 4...20 mA Output Signal

outline drawing (2 thru 50 inch f.s. ranges)

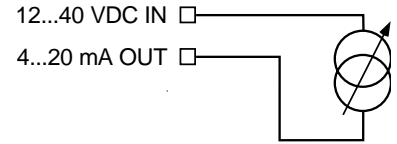
"A" DIMENSION	
RANGE	INCHES (MM)
2", 10", 20"	1.34 (34.0)
5", 25", 50"	1.83 (46.8)
15", 30"	1.56 (39.6)
40"	1.63 (41.4)

ALL DIMENSIONS ARE IN INCHES (MM)
tolerances are ±0.02 in. (+0.5mm) unless otherwise noted

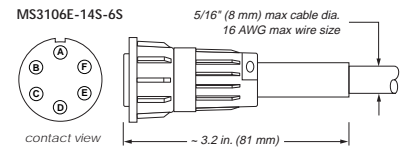


Electrical:

Sensing Circuit



Mating Plug



Ordering Information / Model Number:

PT420 - - **A** **1** - **B** **1** - **C** **1** - **D** **1** - **E** **1** - **F** **0** - **G**

order code: A B C D E F G

sample: PT420-0025-111-1110

- Full Stroke Range**
- | | |
|------------------|-------------------|
| 0002 = 2 inches | 0030 = 30 inches |
| 0005 = 5 inches | 0040 = 40 inches |
| 0010 = 10 inches | 0050 = 50 inches |
| 0015 = 15 inches | 0060 = 60 inches |
| 0020 = 20 inches | 0075 = 75 inches |
| 0025 = 25 inches | 0100 = 100 inches |

A Measuring Cable Tension

1 = standard (see MECHANICAL specifications)

NOTE: options 2, 3, and 7 below are available for RE-ORDER only!

2 = increased (approx. 4 x standard cable tension, 0.024 inch dia. measuring cable)*

3 = high (approx. 8 x standard cable tension, 0.024 inch dia. measuring cable)*

7 = decreased (same as standard cable tension)

C Measuring Cable Exit

NOTE: options 2, 3, and 4 below are available for RE-ORDER only!

1 = top exit 2 = front exit 3 = rear exit 4 = bottom exit

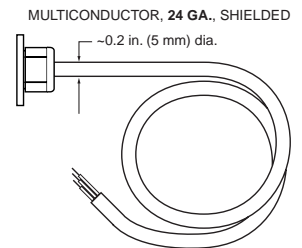
E Output

- 1 = 4-20 mA, 2-wire, output increasing with cable extension
 2 = 20-4 mA, 2-wire, output decreasing with cable extension
 3 = 0-20 mA, 3-wire, output increasing with cable extension
 4 = 20-0 mA, 3-wire, output decreasing with cable extension

F Electrical Connection

- 1 = 6-pin plastic connector and mating plug
 2 = terminal strip
 3 = 6-pin metal connector and mating plug
 4 = 25 ft. instrumentation cable

Instrumentation Cable



Electrical Connections

		2-wire	3-wire
6-pin conn.	A	12...40 VDC	12...40 VDC
	B	4...20 mA out	common
	C		0...20 mA out
	D	case ground	
	E		
	F		
instr. cable	RED	12...40 VDC	12...40 VDC
	BLK	4...20 mA out	0...20 mA out
	WHT	n/a	common
	GRN	case ground	n/a

* note: mechanical dimensions may vary from outline drawing above. 113