

PTS-420 SERIES

4 to 20mA Position Transmitter

SPECIFICATIONS

- **Process controls transmitter**
- **4-20mA, 2-wire current loop operation**
- **Measurement ranges from 0.25 to 10 inch**
- **Self contained electronics**
- **Zero and span adjustable**
- **Rugged splash-proof housing**
- **Pipe thread ports for electrical conduits**

The PTS-420 Series Position Transmitter combines a linear position sensor with custom electronics and a rugged splash-proof housing. Designed specifically for operation in demanding environments, the PTS-420 delivers a 4-20mA current loop output, making it the ideal choice for process control applications.

The PTS-420 operates on a +10.5 to +28VDC loop voltage. The integral conditioning electronics convert the DC input voltage into the required AC excitation voltage for the position sensor, and demodulates the AC voltage output into a smooth 4-20mA signal. Zero and span adjustment with 10-turn potentiometers, as well as the barrier type terminal strip, are all easily accessible by removing the top cover, thereby simplifying installation and calibration.

Available in a number of linear measurement ranges from 0.25 to 10 inches, the rugged construction and reliable performance of the PTS-420 satisfies the most challenging application requirements such as in power generation, rolling mills and water treatment plants. The 4-20mA current loop output is compatible with most PLCs and allows operation with long cables.

Like in most of our LVDTs, the PTS-420 windings are vacuum impregnated with a specially formulated, high temperature, flexible resin, and the coil assembly is potted inside its housing with a two-component epoxy. This provides excellent protection against hostile environments such as high humidity, vibration and shock.

FEATURES

- Compatible with most process controllers
- Ideal for electrically noisy environments
- 2-wire current loop operation
- Screwdriver adjustments for ease of calibration
- Rain-tight, splash-proof housing
- Imperial or metric threaded core
- Calibration certificate supplied with all units

APPLICATIONS

- Process control
- Power generation
- Air-handling systems
- Valve position monitoring
- Waste water sluice gate control
- Water filtration/treatment plants
- Rolling mill roller gap feedback

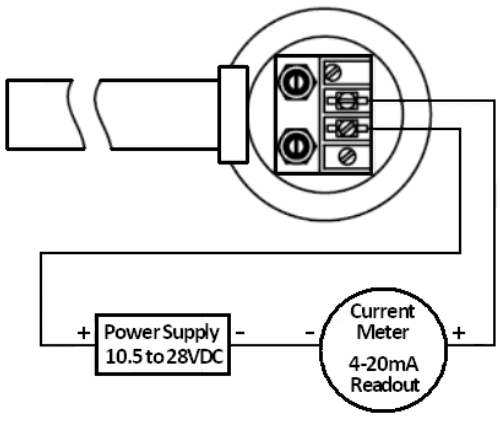
PERFORMANCE SPECIFICATIONS

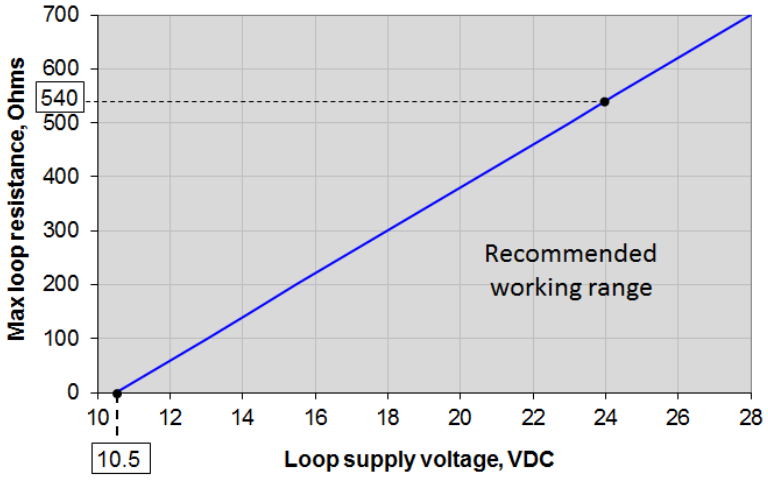
ELECTRICAL SPECIFICATIONS						
Parameter	**PTS-420 250**	**PTS-420 500**	**PTS-420 1000**	**PTS-420 2000**	**PTS-420 5000**	**PTS-420 10000**
Stroke range	0.25 [6.35]	0.5 [12.7]	1 [25.4]	2 [50.8]	5 [127]	10 [254]
Sensitivity, mA/in [mm]	64 [2.52]	32 [1.26]	16 [0.63]	8 [0.315]	3.2 [0.126]	1.6 [0.063]
Non-linearity, max.	0.5% of FR				0.75% of FR	1.25% of FR
Temperature coefficient of sensitivity	0.022%/°F [0.04%/°C]					
Loop supply voltage	10.5 to 28VDC					
Output	4 to 20mA (Increases when the core is displaced towards the electrical connections)					
Output at null position	12mA (null position is defined as the mid-stroke position)					
Max loop resistance	540 ohms @ 24VDC (see loop resistance chart below)					
Output noise & ripple	25 µA peak-to-peak, maximum					
Stability	0.05% of FSO, after 30 minute warm up					
Frequency response	50Hz @ -3db					
Controls	Zero and span potentiometers, 10 turn					

ENVIRONMENTAL AND MATERIAL SPECIFICATIONS	
Operating temperature range	-13ºF to +185ºF [-25ºC to +85ºC]
Housing material	Aluminum alloy
Electrical connection	Barrier type terminal strip with two #8-32 screws
IEC 60529 rating	IP65

Notes:
All values are nominal unless otherwise noted
Dimensions are in inch [mm] unless otherwise noted
FR: Full Range is the stroke range, end to end; FR=S for a 0 to S stroke range
FSO (Full Scale Output): Largest absolute value of the outputs measured at the ends of the range

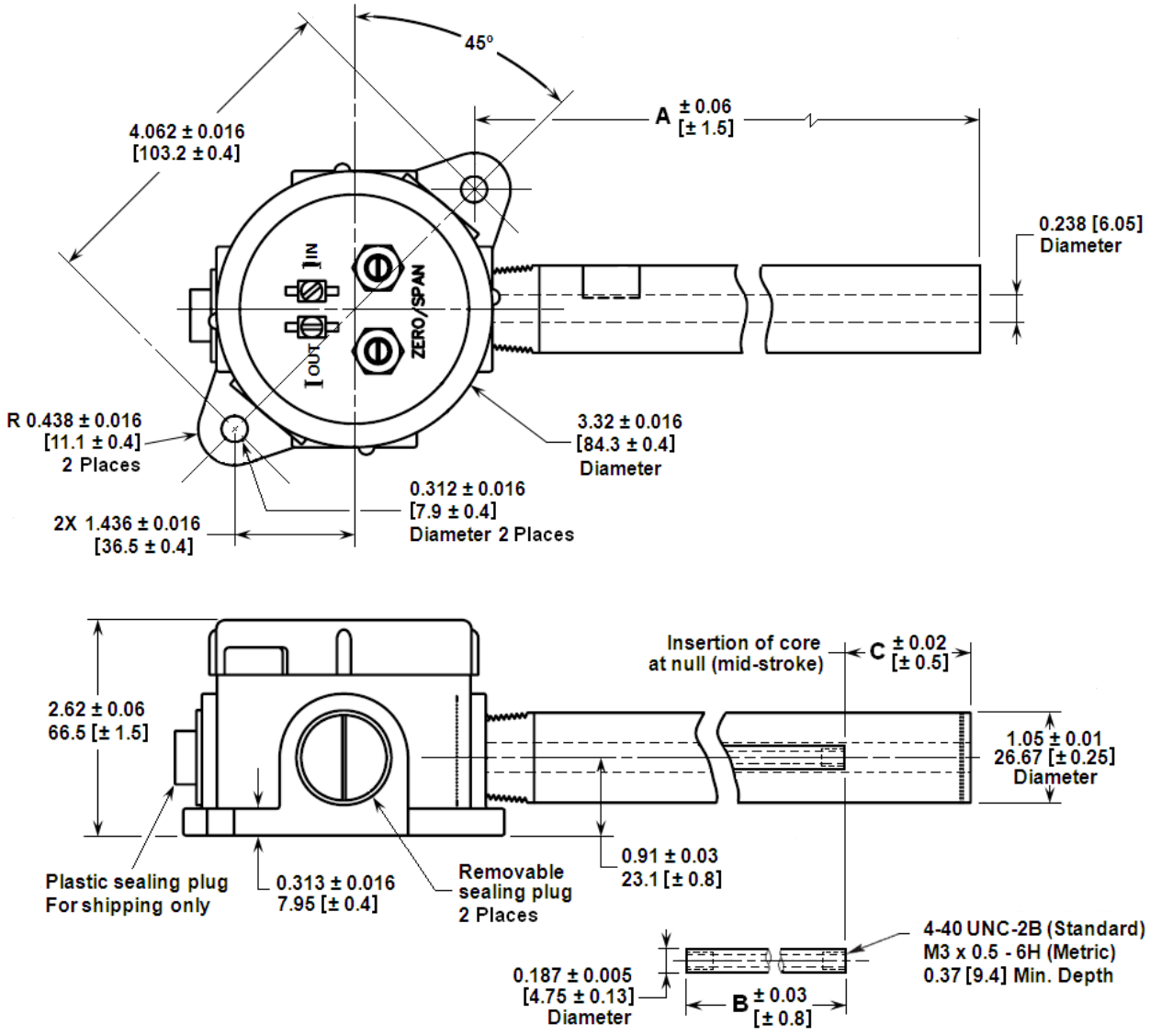
WIRING SCHEMATIC & LOOP RESITANCE





MECHANICAL SPECIFICATIONS

Parameter	PTS-420 250	PTS-420 500	PTS-420 1000	PTS-420 2000	PTS-420 5000	PTS-420 10000
Main body length “A”	3.53 [89.7]	4.66 [118.4]	6.07 [154.2]	8.34 [211.8]	11.46 [291.1]	20.77 [527.6]
Core length “B”	1.10 [27.9]	1.80 [45.7]	3.00 [76.2]	3.80 [96.5]	3.80 [96.5]	6.20 [157.5]
Insertion of core at null (mid-stroke) “C”	0.44 [11.2]	0.65 [16.5]	0.75 [19.1]	1.48 [37.6]	3.05 [77.5]	6.48 [164.6]
Weight, body, lb [kg]	1.6 [0.74]	1.8 [0.81]	2.0 [0.91]	2.3 [1.05]	2.5 [1.14]	2.9 [1.30]
Weight, core, oz [gram]	0.11 [3]	0.14 [4]	0.25 [7]	0.35 [10]	0.46 [13]	0.49 [14]



Dimensions are in inch [mm]

ORDERING INFORMATION

Description	Model	Part Number
0.25 inch stroke transmitter	PTS-420 250	02560967-000
0.5 inch stroke transmitter	PTS-420 500	02560967-001
1 inch stroke transmitter	PTS-420 1000	02560967-002
2 inch stroke transmitter	PTS-420 2000	02560967-003
5 inch stroke transmitter	PTS-420 5000	02560967-004
10 inch stroke transmitter	PTS-420 10000	02560967-005
OPTIONS		
Metric threaded core (M3 x 0.5 – 6H)		02560967-60X

Example: PTS-420 with 0.5 inch stroke and metric threaded core, part number 02560967-601

ACCESSORIES	
DC power supply (15VDC), Model PSD 40-15	02291339-000
Core connecting rod, 6 inches long, 4-40 threads	05282946-006
Core connecting rod, 12 inches long, 4-40 threads	05282946-012
Core connecting rod, 24 inches long, 4-40 threads	05282946-024
Core connecting rod, 36 inches long, 4-40 threads	05282946-036
Core connecting rod, 6 inches long, M3x0.5 metric threads	05282977-006
Core connecting rod, 12 inches long, M3x0.5 metric threads	05282977-012

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