

# CTS 420 Series

## Position Transmitter System

### DESCRIPTION

The **CTS 420** is a 2-wire current loop position transmitter system especially suited to valve position indication and other position indication in process industries. The system consists of an LVDT position sensor with matching electronics to provide 4-20 mA output into 2-wire current loops. The linear position sensors are available in six ranges covering 0-0.25" to 0-10.0". The CTS 420 System is particularly well suited for sensing valve position of stem-type valves because the sensor can be coupled directly to the valve's operating shaft for exceptional reliability and accuracy. Of special interest to the process industries is that the system's inductance and capacitance are well below the levels set for intrinsic safety requirements.

The LVDT sensor is constructed of stainless steel and is hermetically sealed and uses a non-contacting movable core, so there is nothing to wear out.

The electronics portion of the CTS 420 system is contained on a 3 x 5 inch circuit board which can be installed up to 25 feet from the sensor. All external connections and

adjustment controls are mounted directly on the board. The electronics board is also available with an optional splashproof enclosure.



The CTS 420 Transmitter is incompatible with the R36AS Rotary Positioner



### specifications

Loop Supply Voltage	10-36 VDC
Max Loop Resistance	1100 @ 36 V
Output	4-20 mA
Frequency Response	100 Hz
Linearity	1.5% of full span output
Stability	0.05% of full span output
Operating Temperature Range:	
(electronics only)	-40°F to 200°F (-40°C to 95°C)
Thermal Coefficient of	
Sensitivity	±0.02%/°F (±0.04%/°C) (max)
Controls	Zero and span

### LVDT Specifications

Temperature Range	-65°F to 300°F (-55°C to 150°C)
Housing Material	AISI 400 Series stainless steel
Termination	6-pin hermetically-sealed MS connector

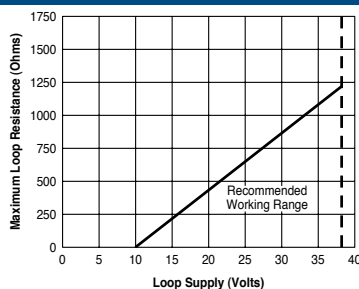
### FEATURES

- ◆ 4-20 mA, Two-wire Operation
- ◆ Measurement Ranges from 0.25" to 10.0"
- ◆ Operates in a Wide Temperature Range
- ◆ Compact Size

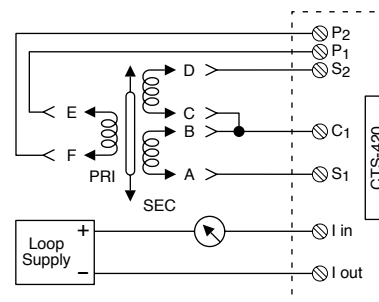
### APPLICATIONS

- ◆ Rugged Splashproof Housing for Control Electronics
- ◆ Metric Core
- ◆ Interconnecting Cable

### maximum loop resistance



### wiring



# CTS 420 Series

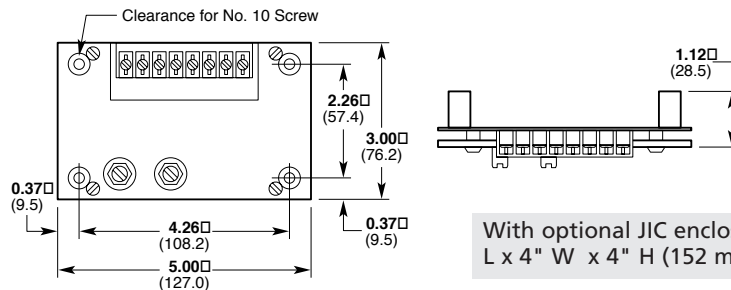
## mechanical specifications

CTS Series Model Number	Body		Weight Core		Dimensions							
	oz	gm	oz	gm	A		B		P		C	
					in	mm	in	mm	in	mm	in	mm
CTS 420-250	1.73	49	0.11	3	2.48	63.0	1.10	27.9	0.96	24.3	1.91	48.5
CTS 420-500	2.58	73	0.14	4	3.84	97.5	1.80	45.7	1.52	38.7	3.25	82.5
CTS 420-1000	2.93	83	0.28	8	5.03	127.8	3.00	76.2	2.23	56.6	4.46	113.2
CTS 420-2000	5.22	148	0.39	11	7.29	185.2	3.80	96.5	3.32	84.3	6.72	171.0
CTS 420-4000	5.65	160	0.46	13	10.68	271.3	5.00	127.0	5.05	128.3	10.20	259.1
CTS 420-10000	10.31	292	0.49	14	19.70	500.1	6.20	157.5	9.56	242.8	19.12	485.6

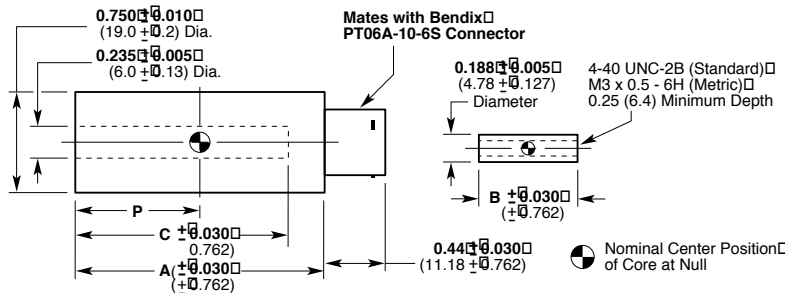
## dimensions

in (mm)

### Module



### LVDT



## ordering information

Specify the CTS model with the appropriate range. Add MC to model number for optional metric core. Optional splashproof electronics enclosure is ordered separately.

### Ordering Example:

**Model Number CTS 420-250-MC** is a CTS 420 Series LVDT transmitter with a 0 to 0.250" range and a metric core.

CTS 420 Model	Linear Range	
	inches	mm
CTS 420-250	0 to 0.250	0 to 6.35
CTS 420-500	0 to 0.500	0 to 12.7
CTS 420-1000	0 to 1.0	0 to 25.4
CTS 420-2000	0 to 2.0	0 to 50.8
CTS 420-4000	0 to 4.0	0 to 101.6
CTS 420-10000	0 to 10.0	0 to 254.0
CTS 420 90	0 to 90°	

## options

<b>Metric Core</b>	Add "MC" to model number.
<b>Interconnecting Cable</b>	Consult factory for ordering information and pricing.
<b>Electronics Enclosure</b>	To order optional JIC enclosure, specify part # 61403006-000 as a separate item.