

HCT IS Series

Intrinsically Safe 2-wire 4-20 mA Position Transmitter

DESCRIPTION

The **HCT** is a breakthrough position transmitter for use in hazardous locations. The two-wire loop configuration allows use with a single barrier and a minimum of wire or cable. True hermetic packaging of the coil assembly and electronics provides the maximum protection against adverse environments. 4-20 mA transmitter output is the favored configuration for process industries and power plants. Six standard ranges are available from 0 to 0.25 inches (6.35 mm), to 0 to 10 inches (250 mm). Custom scaling is available for OEM requirements. Small quantities are generally available for same day/next day delivery.



FEATURES

- ◆ FM, CSA and LCIE Approved
- ◆ Entity approved – with Appropriate Barriers
- ◆ 4–20 mA, Two-wire Operation
- ◆ Measurement Ranges from 0.25" (6.35 mm) to 10.0" (250 mm)
- ◆ Self-contained Electronics
- ◆ Hermetically-sealed Housing
- ◆ Nonlinearity: $\leq 0.5\%$ Full Range
- ◆ Calibration Certificate Supplied with All Models

APPLICATIONS

- ◆ Valve Position Indication
- ◆ Outdoor Use with Long Cable
- ◆ Control Roller Gap in Rolling Mills
- ◆ Process Industries
- ◆ Ideal for Noisy Environments

OPTIONS

- ◆ Metric Thread Core
- ◆ Captive Core Option for Convenient Installation

specifications

Linear Range	0.25", 0.50", 1.0", 2.0", 5.0", 10"
Nonlinearity	
0.25"–5.0" (6.36–127 mm)	$\leq 0.5\%$
10.0" (254 mm)	$\leq 1.0\%$
Output	4-20 mA, two-wire loop
Loop Supply	12.75 to 28.0 VDC
Max Loop Resistance	600 @ 28 VDC
Output Noise & Ripple	25 μ A Pk-Pk (max)
Operating	
Temperature Range	-13°F to 185°F (-25°C to 85°C)
Temperature Coefficient	
of Sensitivity	0.04%/°C (max)
Stability	0.10% after 30 minute warm up
Frequency Response	50 Hz min (-3dB)
Controls	None required
Termination	6-pin hermetically-sealed MS connector

intrinsically safe approval classification

- ◆ Class I, Div. 1, Group A, B, C, D
- ◆ Class II, Div. 1, Group G
- ◆ Class III

intrinsically safe maximum entity parameters

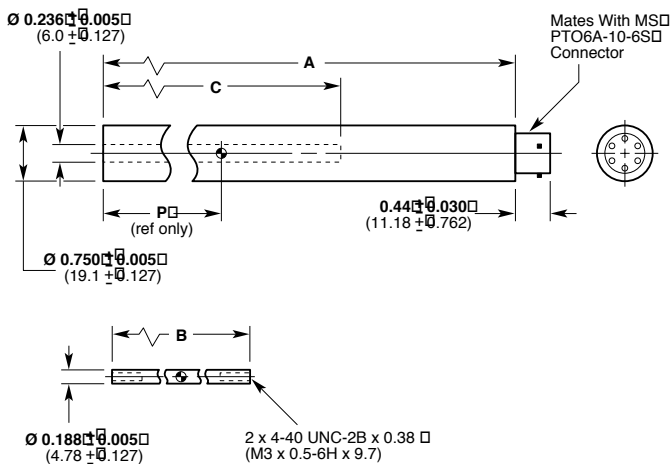
- ◆ $V_{max} = 32$ VDC $C_i = 12$ nF
 - ◆ $I_{max} = 110$ mA $L_i = 0$
- * Suggested barrier supplier: R Stahl, Phone: 800/782-4357 or 9002/13-280-110-00

HCT IS Series

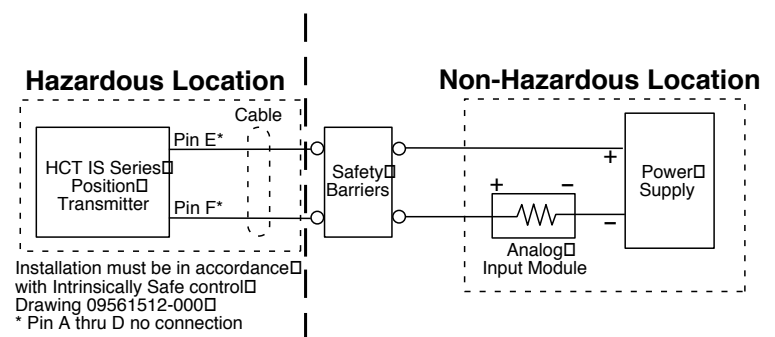
mechanical specifications

HCT Series Model	Weight		Dimensions											
	Body		Core				A		B		C		P	
Number	oz	gm	oz	gm	in	mm	in	mm	in	mm	in	mm	in	mm
HCT 250 IS	3.04	86	0.11	3	4.39	111.5	1.25	31.75	1.91	48.5	0.96	24.3		
HCT 500 IS	3.63	103	0.18	5	5.51	140.0	1.80	45.7	3.11	79.0	1.52	38.7		
HCT 1000 IS	4.38	124	0.29	8	6.92	175.8	3.00	76.2	4.46	113.3	2.23	56.6		
HCT 2000 IS	5.38	153	0.38	11	9.18	233.2	3.80	96.5	6.72	170.7	3.36	85.2		
HCT 5000 IS	6.51	185	0.38	11	12.28	311.9	3.80	96.5	9.90	251.5	4.91	124.6		
HCT 10000 IS	12.93	367	0.62	18	21.59	548.4	6.20	157.5	19.22	488.2	9.56	242.8		

dimensions



wiring



ordering information

Specify the HCT IS model with the appropriate range followed by the desired option number(s) added together.

Ordering Example:

Model Number HCT 250 IS-206 is an HCT IS Series LVDT transmitter with a 0 to 0.250" range (HCT 250 IS), with a Metric thread core (006) and the captive core option (200).

HCT IS Model	Linear Range	
	inches	mm
HCT 250 IS	0 to 0.250	0 to 6.35
HCT 500 IS	0 to 0.500	0 to 12.7
HCT 1000 IS	0 to 1.0	0 to 25.4
HCT 2000 IS	0 to 2.0	0 to 50.8
HCT 5000 IS	0 to 5.0	0 to 127.0
HCT 10000 IS	0 to 10.0	0 to 254.0

options

Number	Description
006	Metric Thread Core200 Captive Core ¹

¹ Available on HCT 250 IS through HCT 5000 IS models only.

new captive core option

The HCT IS features a captive core design that greatly simplifies installation. The design utilizes a core rod and bearing assembly that is captured and guided within the LVDT providing low friction travel throughout the stroke length. The assembly incorporates two Delrin bearings on the core rod traveling through the stainless steel boreliner. A bronze bearing on the front end utilizes a self-aligning feature to accommodate lateral LVDT movement during operation. The core rod and bearing assembly are field replaceable.



maximum loop resistance

