

# CS51

## Non-Incendive Low Pressure Transducer

The CS51 pressure transducer is a high strength sensor designed for low pressure measurements in hazardous areas. Approvals include CSA Class I, Division 2, Groups A, B, C, D T4. All welded stainless steel construction and customizable configurations make the CS51 a versatile pressure transducer designed to operate in the harshest conditions. The CS51 is an excellent solution for applications such as natural gas compression, external fuel tank level measurement and process control instrumentation.



### Features

- $\leq \pm 0.25\%$  BFSL accuracy
- Pressures from 2 PSI up to 50 PSI (See model CS50 for pressures above 50 PSI)
- Bi-directional pressure ranges available
- Reverse polarity and EMI protection

### Approvals

- CSA Class I, Division 2, Groups A, B, C, D T4

### Applications

- Natural gas compression
- Oil exploration
- External fuel tank level measurement
- Process Control
- Test Stands

## SPECIFICATIONS

### Performance

Accuracy*	$\leq \pm 0.25\%$ BFSL
Stability (1 Year)	$\leq \pm 0.25\%$ of FS
Pressure Cycles	100 million
Overpressure	2X minimum
Burst Pressure	5X or 245 PSI, whichever is less

\*Accuracy includes non-linearity, hysteresis and non-repeatability

### Thermal

Operating Temperature	-40 to +80°C
Operating Temperature (Electrical connection "F", DIN 43650-A)	-20 to +80°C
Media Temperature	-40 to +125°C
Media Temperature (Electrical connection "F", DIN 43650-A)	-40 to +105°C
Storage Temperature	-40 to +125°C
Compensated Temperature	0 to +60°C
TC Zero	$\leq \pm 1\%$ FS
TC Span	$\leq \pm 1\%$ FS

### Environmental

EMI/RFI Protection	Yes
IP Rating*	IP65 minimum
Vibration	10g, 20 to 2000Hz
Shock	100g, 11 msec, 1/2 sine

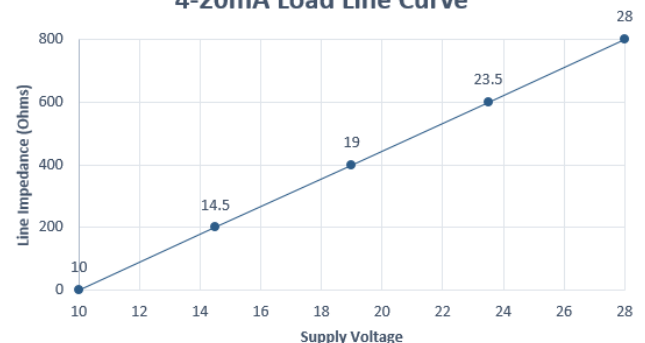
\*IP rating is dependent on electrical termination selected. Contact factory for more information.  
\*IP Rating applies when electrical connector is attached with the appropriate ingress protection.

### Electrical

Output	4-20mA	1-5V, 1-6V	0.5-4.5V ratiometric	0.5-2.5V non-ratiometric
Excitation	10-28VDC	10-28VDC	5VDC, +/-0.5V	3-5VDC, unregulated
Current Consumption	20mA, typical	<10mA	<10mA	$\leq 3$ mA
Output Load	See load line curve	5K Ohms, min	5K Ohms, min	5K Ohms, min
Frequency Response	$\sim 250$ Hz	$\sim 1$ kHz	$\sim 1$ kHz	$\sim 1$ kHz
Zero Offset (of FS)	$\leq \pm 0.5\%$ typical $\leq \pm 1\%$ max	$\leq \pm 0.5\%$ typical $\leq \pm 1\%$ max	$\leq \pm 0.5\%$ typical $\leq \pm 1\%$ max	$\leq \pm 0.5\%$ typical $\leq \pm 1\%$ max
Span Tolerance (of FS)	$\leq \pm 0.5\%$ typical $\leq \pm 1\%$ max	$\leq \pm 0.5\%$ typical $\leq \pm 1\%$ max	$\leq \pm 0.5\%$ typical $\leq \pm 1\%$ max	$\leq \pm 0.5\%$ typical $\leq \pm 1\%$ max

For wiring information, visit <http://www.core-sensors.com/wiring>

4-20mA Load Line Curve



# MODEL NUMBER CONFIGURATION

## CS51- X X XXXXX X X X X XXX -XX

### Model Family

CS51 - CSA C1/D2 Pressure Transducer

### Process Connection

- 1 = 1/2" NPT Male
- 2 = 1/4" NPT Male
- 4 = 7/16-20 UNF Male
- C = G1/4 Male, Form E

### Wetted Material

- A = 316L SS
- C = Hastelloy C276 (special order item)

### Pressure Range

Insert 5-digit pressure code, max 50 PSI  
(i.e. 00050 = 50 PSI)

### Pressure Unit

- P = PSI
- B = Bar
- W = Inches H2O

### Pressure Reference

- A = Absolute
- B = Bi-directional (Gauge)
- G = Gauge
- V = Vacuum (Gauge)

### Cable Length (Meters)

- 00 = No cable
- 01 = 1 meter
- 02 = 2 meters (standard)
- 03 = 3 meters

### Options

- 000 = No Special Options

### Electrical

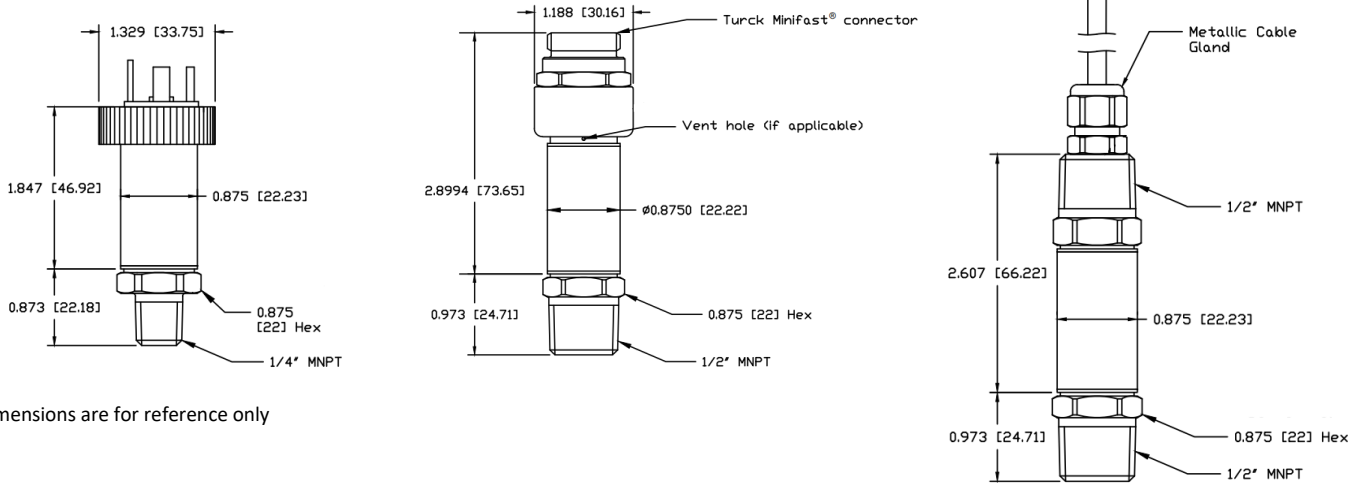
- F = DIN 43650, Form A
- H = Turck® Mini-Fast®
- Z = 1/2" MNPT Conduit w/ cable gland  
(See "Cable Length")

### Output

- 1 = 1-5V
- 2 = 0.5-4.5V ratiometric
- 3 = 1-6V
- 4 = 4-20mA
- 8 = 0.5-2.5V non-ratiometric

\* Ordering Example: CS51-2A00010PG4F000-00 (1/4" NPT Male, 316L SS, 0-10 PSI gauge, 4-20mA, DIN 43650, Form A, Class I, Division 2)  
\* Contact factory for custom configurations not shown

## DIMENSIONS



\*Dimensions are for reference only



We are committed to delivering the highest quality instrumentation on every order.

Core Sensors warrants that all items shipped will be free of defects in material and workmanship for a period of one (1) year from the date of shipment.

View complete warranty information online at [www.core-sensors.com](http://www.core-sensors.com).



Caution must be taken when installing and operating the CS51 in known Class I, Division 2 hazardous locations. **Please review the Non-Incendive Operating Instructions prior to installation. Call Core Sensors at (862) 245-2673** if you are unsure about any of the instructions or to request a copy. Operating instructions can also be found on the CS51 product web page.