

CS50

Non-Incendive Pressure Transducer

The CS50 pressure transducer is a high strength sensor designed for use in hazardous areas. Approvals include CSA Class I, Division 2, Groups A, B, C, D T4 and ANSI/UL 122701 Single Seal. All welded stainless steel construction and customizable configurations make the CS50 a versatile pressure transducer designed to operate in the harshest conditions. The CS50 is an excellent solution for applications such as natural gas compression, hydrogen compression and storage, and process control instrumentation.



Features

- $\leq \pm 0.25\%$ BFSL accuracy
- Pressures from 50 PSI up to 30,000 PSI (See model CS51 for pressures below 50 PSI)
- One piece design
- Reverse polarity and EMI protection

Approvals

- CSA Class I, Division 2, Groups A, B, C, D T4
- ANSI/UL 122701 Single Seal
- ABS (American Bureau of Shipping)

Applications

- Natural gas compression
- Oil exploration
- Hydrogen compression / storage
- 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 60,000 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

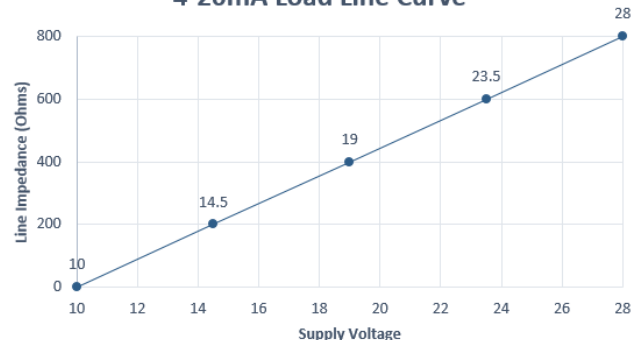
EMI/RFI Protection	Yes
IP Rating*	IP65 minimum
Vibration	10g, 20 to 2000Hz
Shock	100g, 11 msec, 1/2 sine

*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	≤ 3 mA
Output Load	See load line curve	5K Ohms, min	5K Ohms, min	5K Ohms, min
Frequency Response	~ 250 Hz	~ 1 kHz	~ 1 kHz	~ 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

4-20mA Load Line Curve



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

MODEL NUMBER CONFIGURATION

CS50- X X XXXXX X X X X XXX -XX

Model Family

CS50 - CSA C1/D2 Pressure Transducer

Process Connection

- 1 = 1/2" NPT Male
- 2 = 1/4" NPT Male
- 4 = 7/16-20 UNF Male
- 8 = F250C Female Autoclave (≥ 10,000 PSI)
- C = G1/4 Male, Form E

Wetted Material

- A = 316L SS
- B = 17-4PH
- C = Hastelloy C276 (special order item)
- D = Inconel 718 (special order item)

Pressure Range

Insert 5-digit pressure code, max 30,000 PSI
(i.e. 30000 = 30,000 PSI)
Consult factory for pressures above 10,000 PSI

Pressure Unit

- P = PSI
- B = Bar

Pressure Reference

- G = Gauge
- V = Vacuum (Gauge)
- C = Vacuum (Sealed Gauge)
- S = Sealed Gauge

Cable Length (Meters)

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

Options

- 000 = No Special Options

Electrical

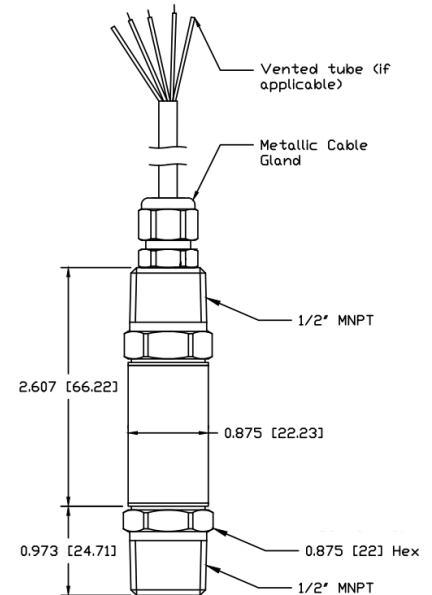
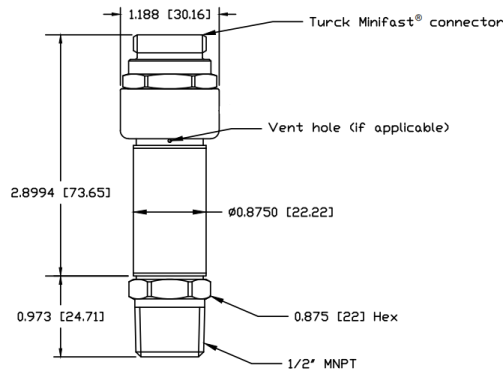
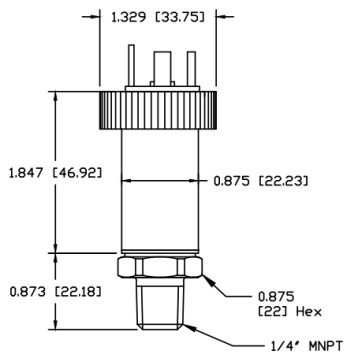
- F = DIN 43650, Form A
- H = Turck® Mini-Fast®
- Z = 1/2" MNPT Conduit w/ cable gland
(See "Cable Length")

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: CS50-2A01000P54F000-00 (1/4" NPT Male, 316L SS, 0-1,000 PSI sealed 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.



Caution must be taken when installing and operating the CS50 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 CS50 product web page.