

CS80

Intrinsically Safe Pressure Transducer

The CS80 pressure transducer is a high strength sensor designed for use in intrinsically safe areas. Approvals include CSA Class I, Division 1 Intrinsically Safe, Groups C, D (Class I, Zone 0 AEx ia IIB T4 Ga; Ex ia IIB T4 Ga) when used with an approved barrier. Groups A & B (Class I, Zone 0 AEx ia IIC T4 Ga; Ex ia IIC T4 Ga) approvals are available with millivolt output. All welded stainless steel construction and customizable configurations make the CS80 a versatile pressure transducer. The CS80 is an excellent solution for applications such as natural gas compression, oil exploration and Hydrogen compression and storage.



Features

- $\leq \pm 0.25\%$ BFSL accuracy
- Pressures from 50 PSI up to 30,000 PSI (See model CS81 for pressures below 50 PSI)
- One piece design
- Reverse polarity and EMI protection

Approvals:

- CSA Class I, Division 1, Groups C, D T4 (Groups A & B available with millivolt output only)
- Class I, Zone 0 AEx ia IIB T4 Ga (IIC available with millivolt output only)
- ANSI/UL 122701 Single Seal

Applications

- Natural gas compression
- Oil exploration
- Hydrogen compression / storage
- Control panels

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

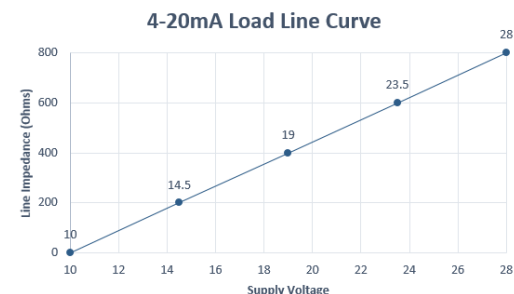
Thermal	
Operating Temperature	-40 to +80°C
Operating Temperature (Electrical connection "F", DIN 43650-A)	-20 to +80°C
Media Temperature	-40 to +125°C
Media Temperature (Electrical connection "F", DIN 43650-A)	-40 to +105°C
Storage Temperature	-40 to +125°C
Compensated Temperature	0 to +60°C
TC Zero	$\leq \pm 1\%$ 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	10 mV/V
Excitation	10-28VDC	10-28VDC	5VDC, +/-0.5V	3-5VDC, unregulated	5VDC, typical
Current Consumption	20mA, typical	<10mA	<10mA	≤ 3 mA	<5mA
Output Load	See page 2 for load line curve	5K Ohms, min	5K Ohms, min	5K Ohms, min	>1M Ohms
Frequency Response	~ 250 Hz	~ 1 kHz	~ 1 kHz	~ 1 kHz	~ 5 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	$\leq \pm 2\%$ 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	$\leq \pm 2\%$ max

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



MODEL NUMBER CONFIGURATION

CS80- X X XXXXX X X X X XXX -XX

Model Family

CS80 - IS 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
- 03 = 3 meters

Options

- 000 = No Special Options

Electrical

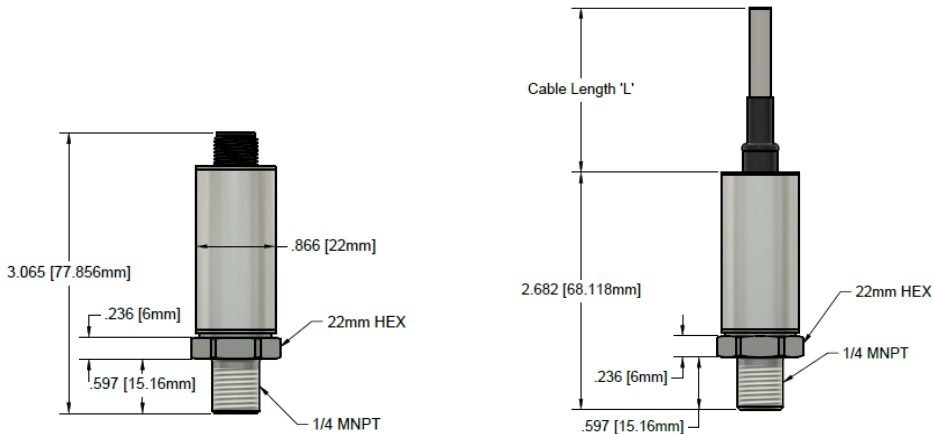
- A = M12x1
- B = Deutsch DT04-4P
- C = Packard 3-Pin
- D = Mini-DIN, Form C
- E = Deutsch DT04-3P
- F = DIN 43650, Form A
- L = Cable (See "Cable Length")
- Z = 1/2" Conduit w/ Cable Gland (See "Cable Length")

Output

- 1 = 1-5V
- 2 = 0.5-4.5V ratiometric
- 3 = 1-6V
- 4 = 4-20mA
- 8 = 0.5-2.5V non-ratiometric
- 9 = 10mV/V

* Ordering Example: CS80-2A00100PG1A000-00 (1/4" NPT Male, 316L SS, 0-100 PSI gauge, 1-5V, M12x1, Class I, Division 1 Intrinsically Safe)
* 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 CS80 in known Class I, Division 1 hazardous locations. Please review the Intrinsically Safe 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. Instruction manuals can also be found on the CS80 product web page.

