

CS54

Non-Incendive Differential Pressure Transducer

FEATURES

- Differential pressures from 0.5 PSID up to 50 PSID
- Line pressures up to 500 PSI
- Bi-directional pressure ranges available
- Wet/Wet

APPROVALS/CERTIFICATIONS

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

GREAT FOR....

- Filtration
- Cryogenic bulk tank level measurement
- Compression systems
- Test stands



About the CS54

The **CS54 Non-Incendive Differential Pressure Transducer** is a high strength sensor designed for differential pressure measurements of liquids and gases in Class I, Division 2 hazardous locations. A 316L SS oil filled sensor element provides excellent stability over a wide operating temperature range while offering corrosion resistance against various liquids and gases. Differential pressure ranges up to 50 PSI are available with 1/4" MNPT or FNPT process connections.



Available With A Turck Minifast Connection

In an effort to simplify installation in Class I, Division 2 hazardous locations, the **CS54 Non-Incendive Differential Pressure Transducer** is offered with an integral Turck Minifast electrical connection.

When combined with a CSA Division 2 approved Turck cordset and a Turck Lokfast Guard, **there is no requirement for conduit to be installed over the cable***. This not only makes installation easy but also makes switching out sensors less cumbersome. Core Sensors can supply all components as a complete package.

*Core Sensors recommends confirming hazardous location installation requirements with your local inspector as each installation is unique.

SPECIFICATIONS

Performance

| | |
|-----------------------------------|---|
| Accuracy @ 25°C:* | ≤ ± 0.25% BFSL ≤ ± 0.5% BFSL (2 PSI & below) |
| Stability (1 Year): | ≤ ±0.25% of FS |
| Pressure Cycles: | 4 million |
| Max Line Pressure:** | 500 PSI |
| Max Differential Pressure: | 50 PSI |
| Overpressure:*** | 2X or 500 PSI, whichever is less, configured differential pressure |
| Burst Pressure:*** | 3X configured differential pressure |

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

** Max line pressure is the highest common mode pressure that can be applied to the sensor without damage.

*** Overpressure and burst pressure are the maximum differential pressure that can be applied to the high or low side before damage to the sensor will occur.

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 |
| Compensated Temperature: | -15 to +65°C |
| Storage Temperature: | -40 to +125°C |
| TC Zero: | ≤ ± 1% of FS ≤ ± 2% of FS (2 PSI & below) |
| TC Span: | ≤ ± 1% of FS ≤ ± 2% of FS (2 PSI & below) |

Environmental

| | |
|----------------------------|------------------------|
| EMI/RFI Protection: | Yes |
| IP Rating:* | IP65 minimum |
| Vibration: | 10g, 20 to 5000Hz |
| Shock: | 100g, 11msec, 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 (Current)

| | |
|----------------------------------|------------------------------|
| Outputs: | 4-20mA |
| Excitation: | 10-28VDC |
| Current Consumption: | 20mA, typical |
| Output Load: | 0-800 Ohms @ 10-28VDC |
| Frequency Response (min): | ~250Hz |
| Zero Offset (of FS): | ≤ ± 0.5% typical ± 1% max |
| Span Tolerance (of FS): | ≤ ± 0.5% typical ± 1% max |

Electrical (Voltage)

| | |
|----------------------------------|------------------------------|
| Outputs: | 1-5V 1-6V |
| Excitation: | 10-28VDC |
| Current Consumption: | <10mA |
| Output Load: | 5K Ohms, min |
| Frequency Response (min): | ~1kHz |
| Zero Offset (of FS): | ≤ ± 0.5% typical ± 1% max |
| Span Tolerance (of FS): | ≤ ± 0.5% typical ± 1% max |

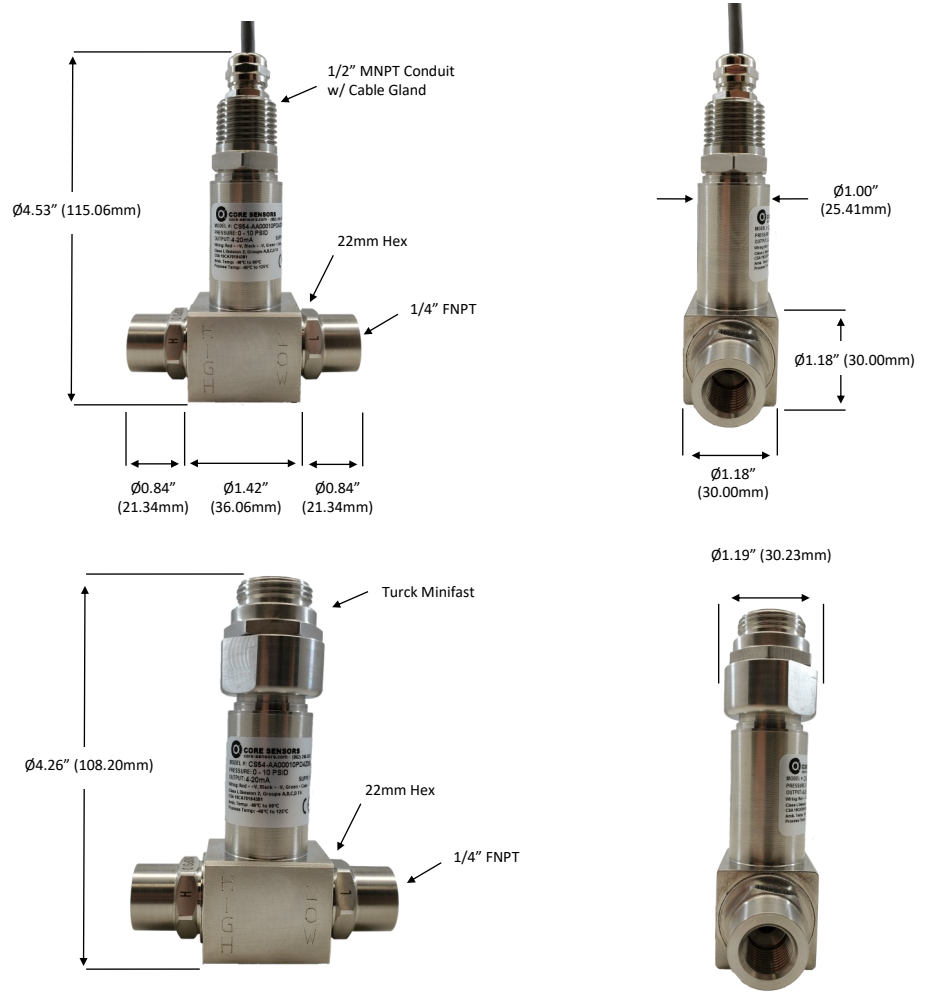
Electrical (Ratiometric Voltage)

| | |
|----------------------------------|------------------------------|
| Outputs: | 0.5-4.5V ratiometric |
| Excitation: | 5VDC +/- 0.5V |
| Current Consumption: | <10mA |
| Output Load: | 5K Ohms, min |
| Frequency Response (min): | ~1kHz |
| Zero Offset (of FS): | ≤ ± 0.5% typical ± 1% max |
| Span Tolerance (of FS): | ≤ ± 0.5% typical ± 1% max |

Electrical (Low Power Voltage)

| | |
|----------------------------------|------------------------------|
| Outputs: | 0.5-2.5V non-ratiometric |
| Excitation: | 3-5VDC unregulated |
| Current Consumption: | ≤ 3mA |
| Output Load: | 5K Ohms, min |
| Frequency Response (min): | ~1kHz |
| Zero Offset (of FS): | ≤ ± 0.5% typical ± 1% max |
| Span Tolerance (of FS): | ≤ ± 0.5% typical ± 1% max |

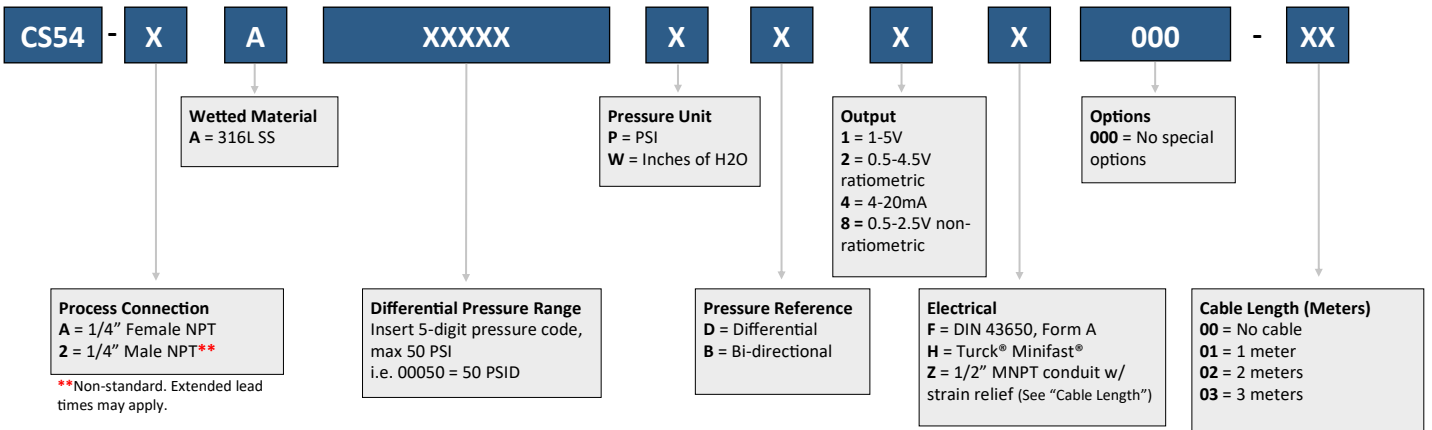
For wiring information, visit core-sensors.com/wiring



DIMENSIONS

*Dimensions are for reference only

MODEL NUMBER CONFIGURATION



Ordering Example: CS54-AA00010PD4H000-00 (1/4" Female NPT, 316L SS, 0-10 PSI differential, 4-20mA, Turck® Minifast®)
 Not all configurations are available. Our sales team can recommend the closest available configuration based on your requirements.
 Contact Core Sensors for configurations not shown.
 Visit our [How To Buy](#) page or [contact us](#) for a quote.



Caution must be taken when installing and operating the CS54 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 and Certificates of Compliance can be downloaded from the CS54 product web page at [core-sensors.com](#).

Warranty information can be found online at [core-sensors.com](#).

****Disclaimer:** Unless otherwise agreed in writing, Core Sensors products are not authorized for use in applications including medical devices, life support systems, in-flight aerospace, nuclear or any other application where the product failure could result in personal injury or death.