

# CS54

## Non-Incendive Differential Pressure Transducer



The CS54 wet/wet differential pressure transducer is a high strength sensor designed for differential pressure measurements of liquids and gases in Class 1, Division 2 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.

### FEATURES

- Differential pressures up to 50 PSI
- Bi-directional ranges available
- 316L SS diaphragm / oil filled sensor element
- Various configurations available

### COMMON APPLICATIONS

- Filtration
- External tank level measurement
- Cryogenic bulk tank level measurement
- Compression systems

### Approvals / Certifications

- CSA Class I, Division 2, Groups A, B, C, D T4
- ABS (American Bureau of Shipping)
- CE

### SPECIFICATIONS

#### Performance @ 25°C

Accuracy*	≤ ±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, rated differential pressure
Burst Pressure***	3X rated 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	0 to +55°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)

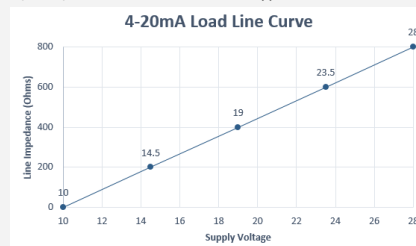
#### Environmental

EMI/RFI Protection	Yes
IP Rating*	IP65 minimum
Vibration	20g, 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 mating connector is attached with the appropriate ingress protection

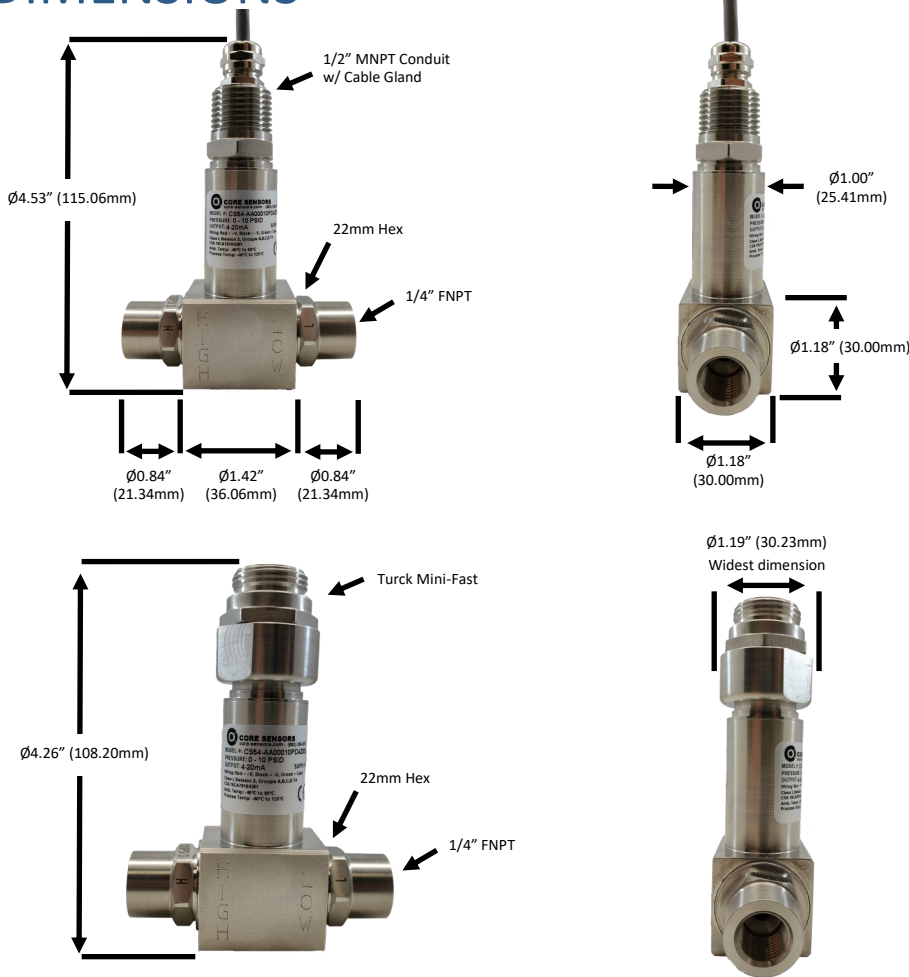
#### Electrical

Excitation	10-28VDC (4-20mA, 1-5V) 5VDC +/- 0.5V (0.5-4.5V ratiometric) 3-5VDC unregulated (0.5-2.5V non-ratiometric)
Current Consumption	20mA, typical (4-20mA) <10mA (voltage output) ≤3mA (0.5-2.5V non-ratiometric)
Output Load	See load line curve below (4-20mA) 5K Ohms, min (voltage output)
Frequency Response (minimum)	~250Hz (4-20mA) ~1kHz (voltage output)
Zero Offset (of FS)	≤ ± 0.5% typical; ± 1% max
Span Tolerance (of FS)	≤ ± 0.5% typical; ± 1% max



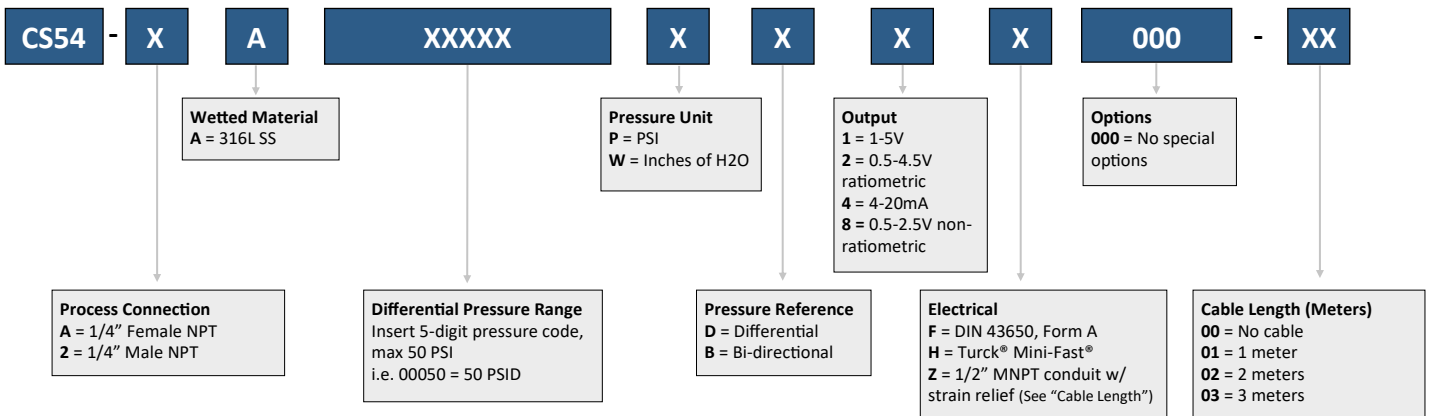
For wiring information, visit <https://www.core-sensors.com/wiring>

# 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® Mini-Fast® )  
 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.

Warranty information can be found online at [www.core-sensors.com](http://www.core-sensors.com).



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. Instruction manuals and Certificates of Compliance can be downloaded from the CS54 product web page at [www.core-sensors.com](http://www.core-sensors.com).