

SPAN DP2 *Differential*

Pressure Transducer

Overview

The SPAN DP2 differential pressure (DP) transducer can measure line pressures up to 2,000 PSI with a turndown ratio of 15 to 1. Using Krystal Bond™ Technology, the SPAN DP2 contains no silicone oil, O-rings, or welds. This MEMS pressure sensor technology completely isolates the media to the pressure ports, thus eliminating contamination risk. The low strain level on the diaphragm results in accurate, repeatable measurements. The SPAN DP2 can be used to measure differential pressure across a filter, monitor level in a sealed or vented tank, or calculate flow across an orifice plate.

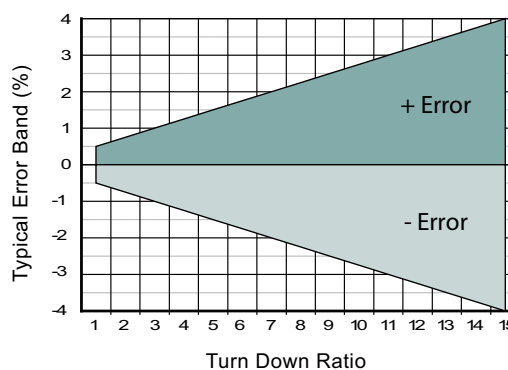
With its digital compensation, this series offers excellent linearity and performance over temperature. The electronics now offer a fail safe condition on the output signal. If the transducer were to experience a fault condition, the transducer can be programmed to rail the output signal to 10% below the minimum or 10% above maximum output signal to notify the user of an issue and protect the system from undesirable conditions. The SPAN DP2 also offers excellent flexibility in its configuration, allowing for a variety of wetted materials and pressure ports.

Benefits

- ASIC compensation
- Turndown capability
- Both or either pressure port can see full line pressure - **No expensive balancing valves required!**
- Line pressure up to 2,000 PSI
- Smart electronics with failure condition protection
- Wide variety of materials for a variety of media

Applications

- Aerospace
- Analytical Instruments
- Fuel Systems
- Hydraulics
- Hydrogen (316L only)
- Labs / Metrology
- Medical
- Military
- Test Stands
- Desalination Equipment (Inconel718 Recommended)



| Performance @ 25°C (77°F) | |
|--|---------------------|
| Total Error Band* | See Chart |
| Maximum Line Pressure | 2,000 PSI (140 Bar) |
| Proof Pressure | 2X Line pressure** |
| Burst Pressure | 5X Line pressure |
| Pressure Cycles | > 100 Million |
| *Typical Values shown; Combined effects of Zero Offset, Span Tolerance, Thermal Zero, Thermal Span, Non-linearity, Repeatability and Hysteresis. **For higher line pressures, contact factory. | |

| Environmental Data | | | |
|----------------------------|-----------------------------|-----------------|-----------------------|
| Temperature | | | |
| Operating | -20 to 70°C (-4 to 158°F) | | |
| Storage | -50 to 125°C (-58 to 250°F) | | |
| Thermal Performance | | | |
| Compensated Temp. Range | -20 to 70°C (-4 to 158°F) | | |
| Other | | | |
| Shock: | 100G, 10msec, 1/2 sine | EMI/RFI Rating: | Yes |
| Vibration: | 10G peak, 20 to 2000Hz | IP Class: | IP-66; IP-67 Optional |

| Electrical Data | | | | |
|-----------------------------|---------------|--------------------|----------------------|---------------------|
| Output | 1-5V, 0-5V | 1-6V, 1-10V, 0-10V | 0.5-4.5V Ratiometric | 4-20mA (three wire) |
| Excitation | 10-28VDC | 15-28VDC | 5VDC, Regulated | 10-28VDC |
| Current Consumption | < 15mA | < 15mA | < 15mA | - |
| Sampling Rate | 200Hz | 200Hz | 200Hz | 200Hz |
| Output Noise | < 1mV, RMS | < 1mV, RMS | < 1mV, RMS | < 1mV, RMS |
| Output Load | 5k Ohms, min. | 5k Ohms, min. | 5k Ohms, min. | 0-800 Ohms@10-28VDC |
| Reverse Polarity Protection | Yes | Yes | Yes | Yes |

Ordering Information

DP2 F 01000 P 5 Y 0 0500 H 00

Series Type

Process Connection
 A= 1/4" Male NPT
 B= 1/8" Male NPT
 C= 1/4" BSP Male
 E= 9/16-18 UNF Male (SAE 6)
 F= 7/16-20 UNF Male (SAE 4)
 K= 7/16-20 UNF Female (SAE4)

Line Pressure
 Insert 5 -digit code from chart

Pressure Unit
 P= PSI B= BAR, K= kg/cm2

Outputs
 1= 0.5-4.5V ratiometric [5VDC Supply] 5= 0-10V
 2= 0-5V 6= 1-6V
 3= 1-5V G= 1-10V
 4= 4-20mA

Electrical
 A= 2 ft. (24 AWG) (0.6m) I= DIN43650 A
 B= 4 ft. (24 AWG) (1.2m) L= Conduit 2 ft. (0.6m)
 C= 6 ft (24 AWG) R= 6 Pin Bendix
 D= 10 ft (24 AWG) Y= M12x1 Eurofast
 E= Mini DIN 43650C

Wetted Material
 0= 17-4PH 1= 316L 2= Inconel718 (contact factory for availability)

Differential Pressure Range
 Insert 4-digit code from Chart

Fail Condition
 N= Not Specified H= Fail High L= Fail Low

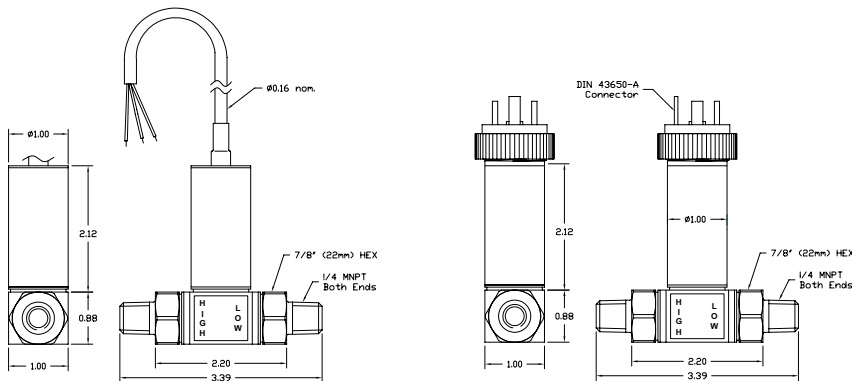
Options
 Kem= KemX Barrier

Line Pressure*

| | | 50 | 100 | 300 | 500 | 1000 | 2000 |
|--|------|-------|-------|-------|-------|-------|-------|
| | CODE | 00050 | 00100 | 00300 | 00500 | 01000 | 02000 |
| Differential Pressure Range* (PSID) | 10 | 0010 | ✓ | ✓ | | | |
| | 20 | 0020 | ✓ | ✓ | ✓ | | |
| | 50 | 0050 | | ✓ | ✓ | ✓ | |
| | 75 | 0075 | | ✓ | ✓ | ✓ | ✓ |
| | 100 | 0100 | | ✓ | ✓ | ✓ | ✓ |
| | 150 | 0150 | | | ✓ | ✓ | ✓ |
| | 200 | 0200 | | | ✓ | ✓ | ✓ |
| | 300 | 0300 | | | ✓ | ✓ | ✓ |
| | 500 | 0500 | | | | ✓ | ✓ |
| | 750 | 0750 | | | | | ✓ |
| 1000 | 1000 | | | | | ✓ | |
| 2000 | 2000 | | | | | ✓ | |

*Other ranges available; contact factory.

Dimensional Data



Warranty

Workmanship - SPAN pressure transmitters have a limited one-year warranty to the original purchaser. SPAN will replace or repair, free of charge, any defective transmitter. This warranty does not apply to any units that have been modified; misused, neglected or installed where the application exceeds published ratings.

Installation/Applications - The purchaser is responsible for media compatibility, functional adequacy, and correct installation of the transmitter.

4200 Industrial Grade Panel Mount

Stainless Steel Media Isolated Pressure Sensor

Overview

The **AST OEM Pressure Sensor** can be constructed as a amplified voltage output pressure transducer or 4-20mA loop powered pressure transmitter. The 4200 covers a wide variety of applications that require rugged construction, high cycle life, as well as media compatibility to deliver outstanding and long-term performance.

Krystal Bond™ Technology is the foundation of the 4200. This leading **MEMS** technology gives the flexibility to be used in virtually any OEM application. Whether measuring hydraulic pressure in a manifold or corrosive media such as sea water or hydrogen the 4200 pressure sensor provides a thick diaphragm to maintain long-term stability and use.

Benefits

- High Strength Stainless Steel Construction and UL/cUL 508 Approved
- No Oil, Welds or Internal O-rings
- Wide Operating Temperature Range and ranges up to 10,000 PSI
- Low Static and Thermal Errors and EMI/RFI Protection
- Unparalleled Price and Performance
- Compatible with Wide Range of Liquids and Gases
- Simple Installation for Panel Builders

Applications

- Control Panels
- Hydraulic Systems
- Data Loggers
- Industrial OEM Equipment
- HVAC/R Equipment
- Pneumatics

Performance @ 25°C (77°F)

| | |
|---|--------------------------------------|
| Accuracy* | < ±0.5% BFS |
| Stability (1 year) | ±0.25% FS, typical |
| Over range Protection | 2X Rated Pressure |
| Burst Pressure | 5X or 20,000 PSI (whichever is less) |
| Pressure Cycles | > 100 Million |
| * Accuracy includes non-linearity, hysteresis & non-repeatability | |

Electrical Data

| Output | 4-20mA | 1-5VDC | 0.5-4.5V Ratiometric |
|-----------------------------|----------------------|--------------------|----------------------|
| Excitation | 10-28VDC | 10-28VDC | 5VDC, regulated |
| Output Impedance | >10k Ohms | <100 Ohms, Nominal | <100 Ohms, Nominal |
| Current Consumption: | 20mA, typical | <10mA | <10mA |
| Bandwidth | (-3dB): DC to 250 Hz | (-3dB): DC to 1kHz | (-3dB): DC to 1kHz |
| Output Noise: | - | <2mV RMS | <2mV RMS |
| Zero Offset: | <±1% of FS | <±1% of FS | <±1% of FS |
| Span Tolerance: | <±2% of FS | <±1.5% of FS | <±1.5% of FS |
| Output Load: | 0-800 Ohms@10-28VDC | 10k Ohms, min | 10K Ohms, min |
| Reverse Polarity Protection | Yes | Yes | Yes |



Environmental Data

| | |
|-----------------------|-----------------------------|
| Temperature | |
| Operating | -40 to 85°C (-40 to 185°F) |
| Storage | -40 to 100°C (-40 to 212°F) |
| Thermal Limits | |
| Compensated Range | 0 to 55°C (30 to 130°F) |
| TC Zero | <±1.5% of FS |
| TC Span | <±1.5% of FS |
| Other | |
| Shock | 100G, 11 msec, 1/2 sine |
| Vibration | 10G peak, 20 to 2000 Hz. |
| EMI/RFI Protection: | Yes |
| Rating: | IP-66 (housing only) |

Ordering Information

SPAN4200 J 00100 P 4 A 0 000

Series Type

Configuration Interface
A= 1/4" NPT Male

Pressure Range
Insert 5-digit pressure range code below

Pressure Unit
P= PSI

Outputs
1= 0.5-4.5V ratiometric
3= 1-5V
4= 4-20mA (2 wire loop powered)

Electrical*
D= 10 ft. (3.0m)
E= Mini DIN 43650
Z= DT04 Deutsch

Wetted Material
0= 17-4PH

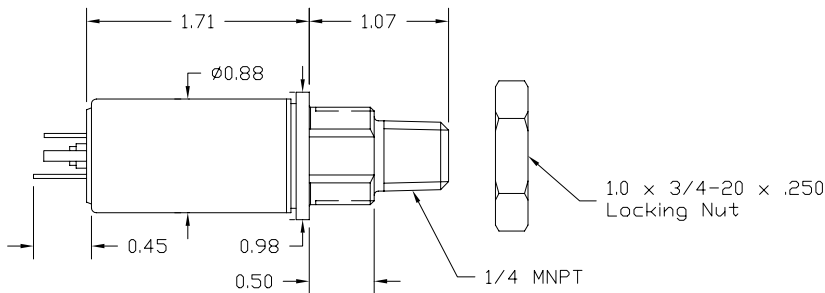
Options
Kem= KemX Barrier

Pressure Ranges*

| PSIG Measurement Range | Pressure Range Code | BARG Measurement Range | Pressure Range Code |
|------------------------|---------------------|------------------------|---------------------|
| -14.7 to 25** | V0025** | -1 to 2** | V0002** |
| 0-25 | 00025 | 0-2 | 00002 |
| 0-50 | 00050 | 0-5 | 00005 |
| 0-100 | 00100 | 0-7 | 00007 |
| 0-150 | 00150 | 0-10 | 00010 |
| 0-200 | 00200 | 0-20 | 00020 |
| 0-250 | 00250 | 0-35 | 00035 |
| 0-500 | 00500 | 0-50 | 00050 |
| 0-1,000 | 01000 | 0-70 | 00070 |
| 0-2,500 | 02500 | 0-100 | 00100 |
| 0-5,000 | 05000 | 0-250 | 00250 |
| 0-7,500 | 07500 | 0-350 | 00350 |
| 0-10,000 | 10000 | 0-500 | 00500 |
| | | 0-700 | 00700 |

*Typical ranges. All ranges between 0-25 PSI and 0-10,000 PSI available.
**Compound ranges up to -14.7 to 500 PSI available. Please consult factory.

Dimensional Data



Warranty

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