

FEATURES

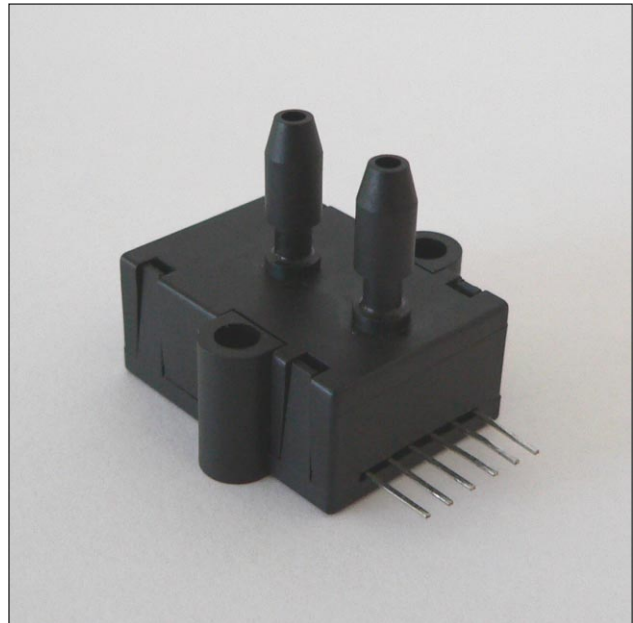
- Ranges from 1 to 30 "H₂O gage or differential
- Precision temperature compensated
- Calibrated offset and span
- Extremely low position sensitivity
- Excellent long term stability

SERVICE

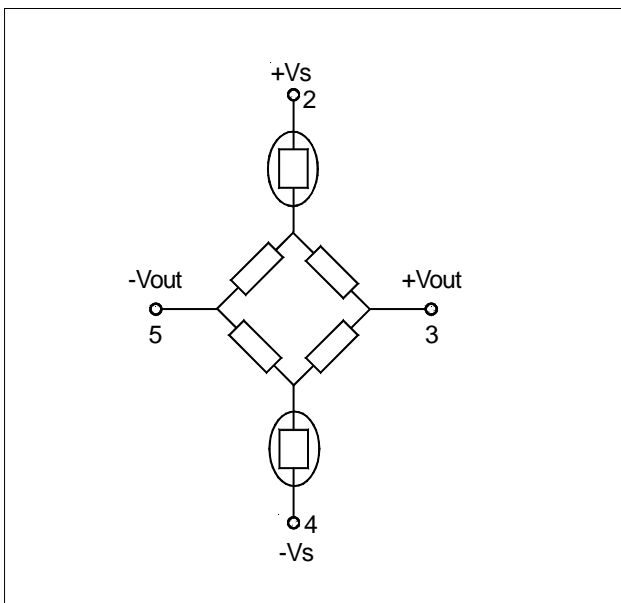
Non-corrosive, non-ionic working fluids such as clean dry air, dry gases and the like.

The media wetted materials are:

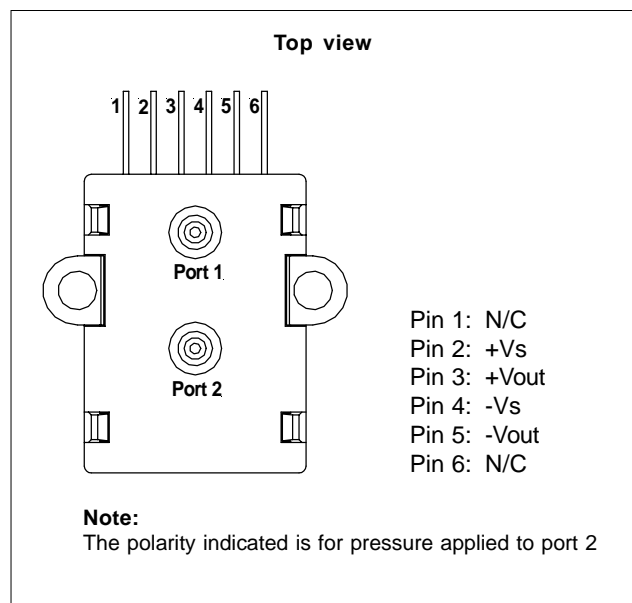
- silicon
- glass filled nylon
- silicone
- ceramic (Al₂O₃)
- gold



EQUIVALENT CIRCUIT



ELECTRICAL CONNECTION



SPECIFICATIONS

Maximum ratings (for all devices)

| | |
|--|-----------|
| Supply voltage V_s | 0 to 16 V |
| Common-mode pressure | 50 psig |
| Lead temperature (soldering 5 seconds) | 315 °C |

Environmental specifications (for all devices)

| | |
|----------------------------------|--------------|
| Temperature range | |
| Compensated | 0 to 50°C |
| Operating | -25 to 85°C |
| Storage | -40 to 125°C |
| Humidity limits (non-condensing) | 0 to 95 %RH |

PRESSURE SENSOR CHARACTERISTICS

| Part no. | Operating pressure | Max. over pressure ¹ |
|----------|----------------------|---------------------------------|
| DCXL01DS | 1 "H ₂ O | 5 psi |
| DCXL05DS | 5 "H ₂ O | 5 psi |
| DCXL10DS | 10 "H ₂ O | 5 psi |
| DCXL20DS | 20 "H ₂ O | 5 psi |
| DCXL30DS | 30 "H ₂ O | 5 psi |

DCXL01DS PERFORMANCE CHARACTERISTICS

$V_s = 12\text{ V}$, $T_A = 25\text{ °C}$, common-mode pressure = 0 psig, pressure applied to port 2

| Characteristics | Min. | Typ. | Max. | Unit |
|--|--------|------|-------|------|
| Zero pressure offset | -0.5 | 0 | +0.5 | mV |
| Full scale span (FSS) ² | 9 | 10 | 11 | |
| Combined non-linearity and hysteresis ³ | | | ±0.25 | %FSS |
| Temperature effects (0 to 50°C) ⁴ | Span | | ±200 | μV |
| | Offset | | ±250 | |
| Offset warm-up shift ⁵ | | ±100 | | |
| Offset position sensitivity (±1 g) | | ±50 | | |
| Input resistance | | 4.5 | | kΩ |
| Output resistance | | 1.5 | | |
| Common mode voltage ⁶ | | 6 | | V |

DCXL05DS PERFORMANCE CHARACTERISTICS

$V_s = 12\text{ V}$, $T_A = 25\text{ °C}$, common-mode pressure = 0 psig, pressure applied to port 2

| Characteristics | Min. | Typ. | Max. | Unit |
|--|--------|------|-------|------|
| Zero pressure offset | -0.5 | 0 | +0.5 | mV |
| Full scale span (FSS) ² | 19 | 20 | 21 | |
| Combined non-linearity and hysteresis ³ | | | ±0.25 | %FSS |
| Temperature effects (0 to 50°C) ⁴ | Span | | ±200 | μV |
| | Offset | | ±150 | |
| Offset warm-up shift ⁵ | | ±50 | | |
| Offset position sensitivity (±1 g) | | ±10 | | |
| Input resistance | | 10 | | kΩ |
| Output resistance | | 1.5 | | |
| Common mode voltage ⁶ | | 6 | | V |

DCXL10DS PERFORMANCE CHARACTERISTICS

$V_s = 12\text{ V}$, $T_A = 25\text{ °C}$, common-mode pressure = 0 psig, pressure applied to port 2

| Characteristics | Min. | Typ. | Max. | Unit |
|--|--------|------|-------|------|
| Zero pressure offset | -0.5 | 0 | +0.5 | mV |
| Full scale span (FSS) ² | 19 | 20 | 21 | |
| Combined non-linearity and hysteresis ³ | | | ±0.25 | %FSS |
| Temperature effects (0 to 50°C) ⁴ | Span | | ±200 | μV |
| | Offset | | ±150 | |
| Offset warm-up shift ⁵ | | ±50 | | |
| Offset position sensitivity (±1 g) | | ±10 | | |
| Input resistance | | 13 | | kΩ |
| Output resistance | | 1.5 | | |
| Common mode voltage ⁶ | | 6 | | V |

DCXL20DS PERFORMANCE CHARACTERISTICS

$V_s = 12\text{ V}$, $T_A = 25\text{ °C}$, common-mode pressure = 0 psig, pressure applied to port 2

| Characteristics | Min. | Typ. | Max. | Unit |
|--|--------|------|-------|------|
| Zero pressure offset | -0.5 | 0 | +0.5 | mV |
| Full scale span (FSS) ² | 19 | 20 | 21 | |
| Combined non-linearity and hysteresis ³ | | | ±0.25 | %FSS |
| Temperature effects (0 to 50°C) ⁴ | Span | | ±200 | μV |
| | Offset | | ±150 | |
| Offset warm-up shift ⁵ | | ±50 | | |
| Offset position sensitivity (±1 g) | | ±5 | | |
| Input resistance | | 10 | | kΩ |
| Output resistance | | 2 | | |
| Common mode voltage ⁶ | | 6 | | V |

DCXL30DS PERFORMANCE CHARACTERISTICS

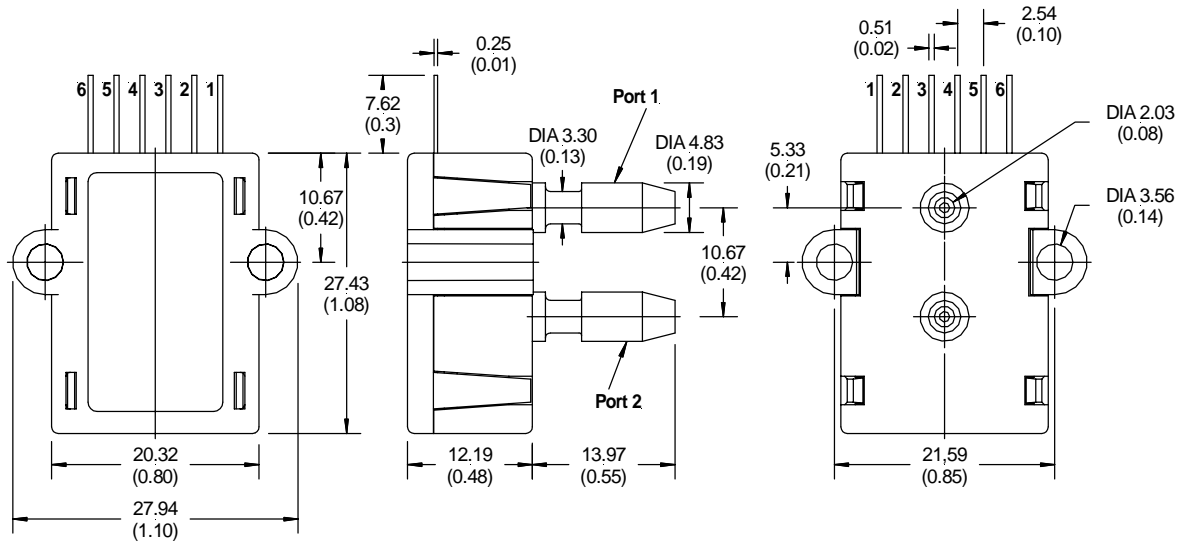
$V_s = 12\text{ V}$, $T_A = 25\text{ °C}$, common-mode pressure = 0 psig, pressure applied to port 2

| Characteristics | Min. | Typ. | Max. | Unit |
|--|--------|------|-------|------|
| Zero pressure offset | -0.5 | 0 | +0.5 | mV |
| Full scale span (FSS) ² | 19 | 20 | 21 | |
| Combined non-linearity and hysteresis ³ | | | ±0.25 | %FSS |
| Temperature effects (0 to 50°C) ⁴ | Span | | ±200 | μV |
| | Offset | | ±150 | |
| Offset warm-up shift ⁵ | | ±50 | | |
| Offset position sensitivity (±1 g) | | ±5 | | |
| Input resistance | | 12 | | kΩ |
| Output resistance | | 1.5 | | |
| Common mode voltage ⁶ | | 6 | | V |

Notes

- ¹ The maximum over pressure may be applied without causing durable shifts of the electrical parameters of the sensing element.
- ² Full scale span (FSS) is the algebraic difference between the output voltage at full-scale pressure and the output at zero pressure.
- ³ Non-linearity refers to the **Best Straight Line** fit measured for offset pressure, full-scale pressure and ½ full-scale pressure.
- ⁴ Shift is relative to 25°C.
- ⁵ Shift within the first hour of excitation applied to the sensor.
- ⁶ This is the common mode voltage of the output arms (pin 3 and 5) for $V_s = 12\text{ V}$

OUTLINE DRAWING



mass: approx. 10 g

dimensions in mm (inches)

ORDERING INFORMATION

| Pressure range | Order part number |
|----------------------|----------------------------|
| | Gage, differential devices |
| 1 "H ₂ O | DCXL01DS |
| 5 "H ₂ O | DCXL05DS |
| 10 "H ₂ O | DCXL10DS |
| 20 "H ₂ O | DCXL20DS |
| 30 "H ₂ O | DCXL30DS |

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