

### FEATURES

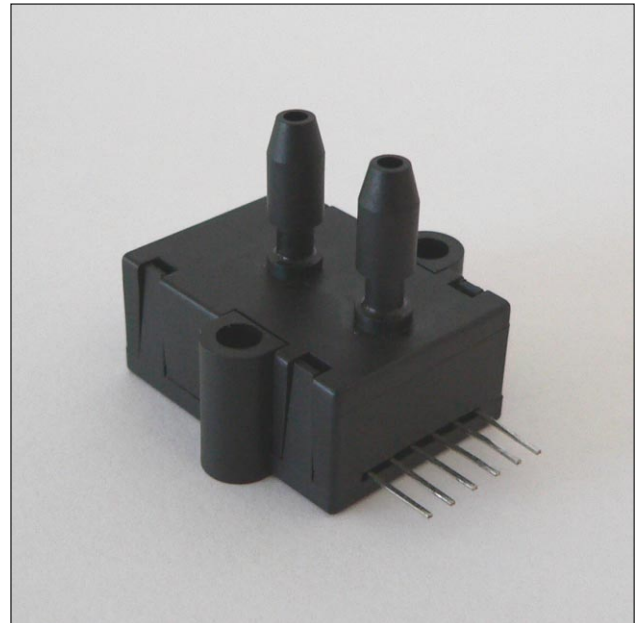
- Ranges from 1 to 30 "H<sub>2</sub>O gage or differential
- Precision temperature compensated
- Calibrated offset and span
- Extremely low position sensitivity
- Excellent long term stability

### SERVICE

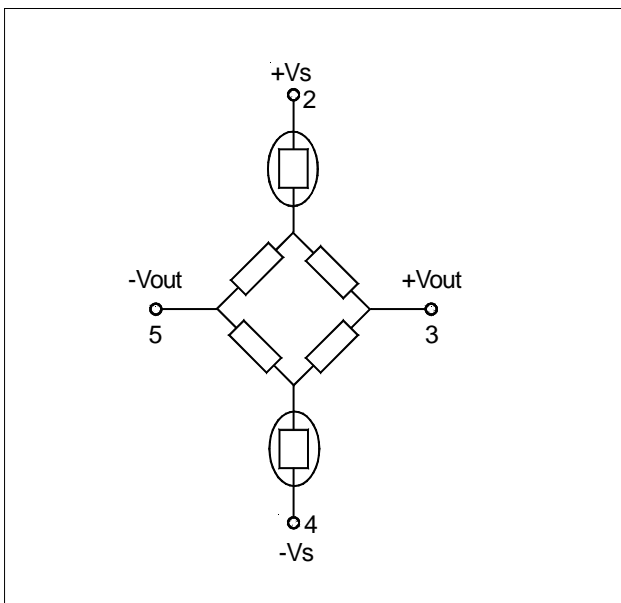
Non-corrosive, non-ionic working fluids such as clean dry air, dry gases and the like.

The media wetted materials are:

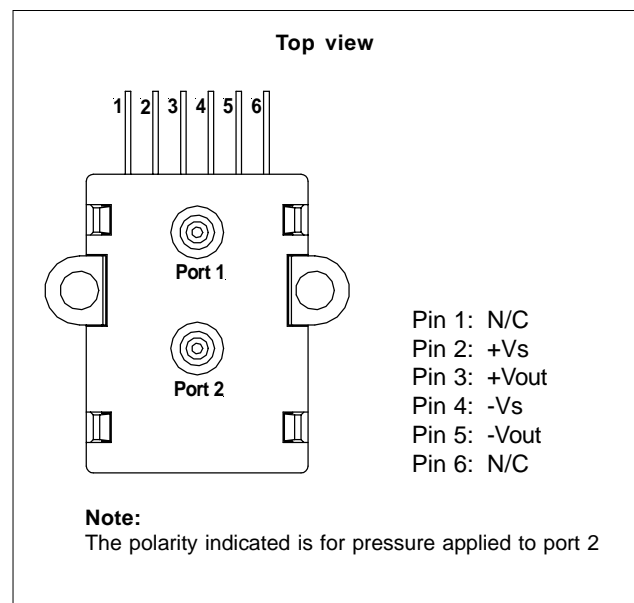
- silicon
- glass filled nylon
- silicone
- ceramic (Al<sub>2</sub>O<sub>3</sub>)
- gold



### 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 <sup>1</sup>
DCXL01DS	1 "H <sub>2</sub> O	5 psi
DCXL05DS	5 "H <sub>2</sub> O	5 psi
DCXL10DS	10 "H <sub>2</sub> O	5 psi
DCXL20DS	20 "H <sub>2</sub> O	5 psi
DCXL30DS	30 "H <sub>2</sub> O	5 psi

### **DCXL01DS** PERFORMANCE CHARACTERISTICS

$V_s = 12$  V,  $T_A = 25$  °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) <sup>2</sup>	9	10	11	
Combined non-linearity and hysteresis <sup>3</sup>			±0.25	%FSS
Temperature effects (0 to 50°C) <sup>4</sup>	Span		±200	μV
	Offset		±250	
Offset warm-up shift <sup>5</sup>		±100		
Offset position sensitivity (±1 g)		±50		
Input resistance		4.5		kΩ
Output resistance		1.5		
Common mode voltage <sup>6</sup>		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) <sup>2</sup>	19	20	21	
Combined non-linearity and hysteresis <sup>3</sup>			±0.25	%FSS
Temperature effects (0 to 50°C) <sup>4</sup>	Span		±200	μV
	Offset		±150	
Offset warm-up shift <sup>5</sup>		±50		
Offset position sensitivity (±1 g)		±10		
Input resistance		10		kΩ
Output resistance		1.5		
Common mode voltage <sup>6</sup>		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) <sup>2</sup>	19	20	21	
Combined non-linearity and hysteresis <sup>3</sup>			±0.25	%FSS
Temperature effects (0 to 50°C) <sup>4</sup>	Span		±200	μV
	Offset		±150	
Offset warm-up shift <sup>5</sup>		±50		
Offset position sensitivity (±1 g)		±10		
Input resistance		13		kΩ
Output resistance		1.5		
Common mode voltage <sup>6</sup>		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) <sup>2</sup>	19	20	21	
Combined non-linearity and hysteresis <sup>3</sup>			±0.25	%FSS
Temperature effects (0 to 50°C) <sup>4</sup>	Span		±200	μV
	Offset		±150	
Offset warm-up shift <sup>5</sup>		±50		
Offset position sensitivity (±1 g)		±5		
Input resistance		10		kΩ
Output resistance		2		
Common mode voltage <sup>6</sup>		6		V

### **DCXL30DS PERFORMANCE CHARACTERISTICS**

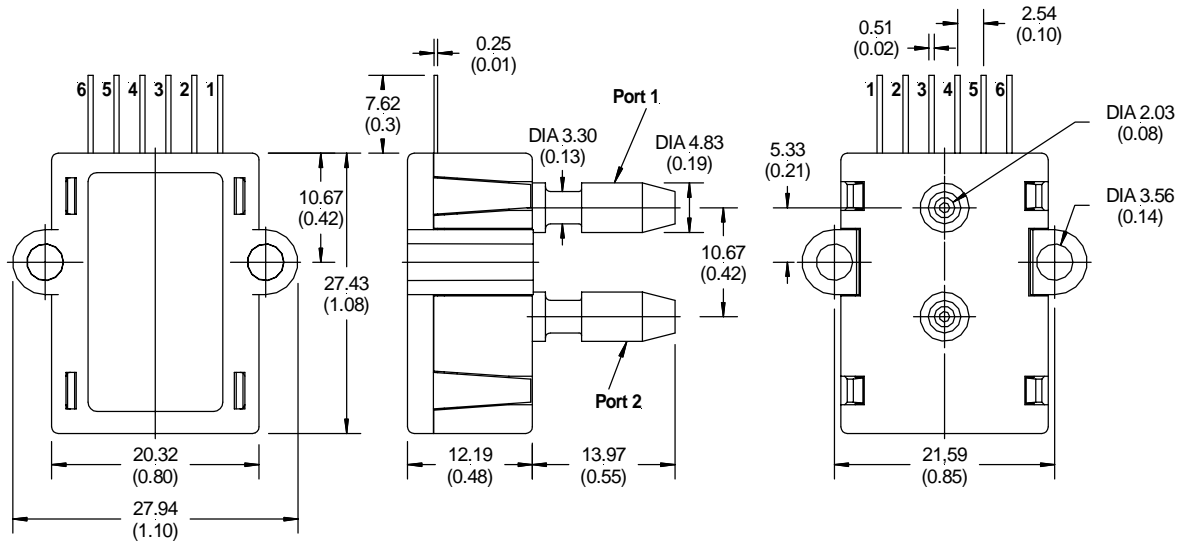
$V_s = 12\text{ V}$ ,  $T_A = 25\text{ °C}$ , common-mode pressure = 0 psig, pressure applied to port 2

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

#### Notes

- <sup>1</sup> The maximum over pressure may be applied without causing durable shifts of the electrical parameters of the sensing element.
- <sup>2</sup> Full scale span (FSS) is the algebraic difference between the output voltage at full-scale pressure and the output at zero pressure.
- <sup>3</sup> Non-linearity refers to the **Best Straight Line** fit measured for offset pressure, full-scale pressure and ½ full-scale pressure.
- <sup>4</sup> Shift is relative to 25°C.
- <sup>5</sup> Shift within the first hour of excitation applied to the sensor.
- <sup>6</sup> 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 <sub>2</sub> O	DCXL01DS
5 "H <sub>2</sub> O	DCXL05DS
10 "H <sub>2</sub> O	DCXL10DS
20 "H <sub>2</sub> O	DCXL20DS
30 "H <sub>2</sub> O	DCXL30DS

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