

FEATURES

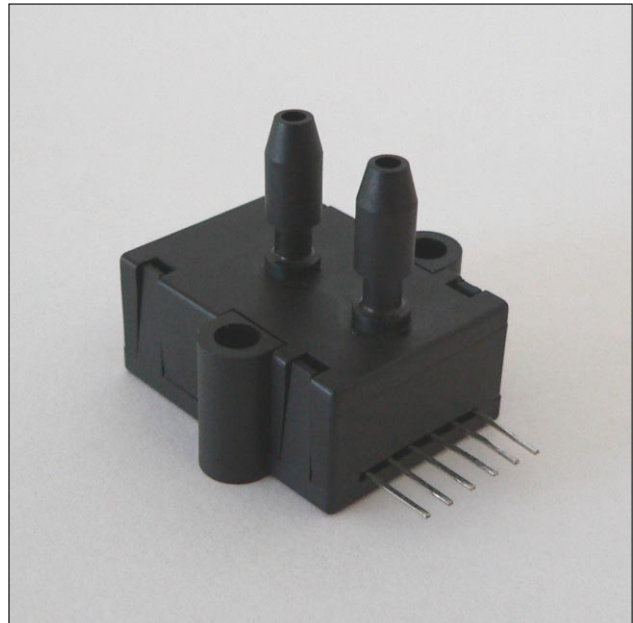
- Ranges from 1 to 30 "H₂O gage or differential
- Precision temperature compensated
- Calibrated offset and span
- Extremely low position sensitivity
- Excellent long term stability

SERVICE

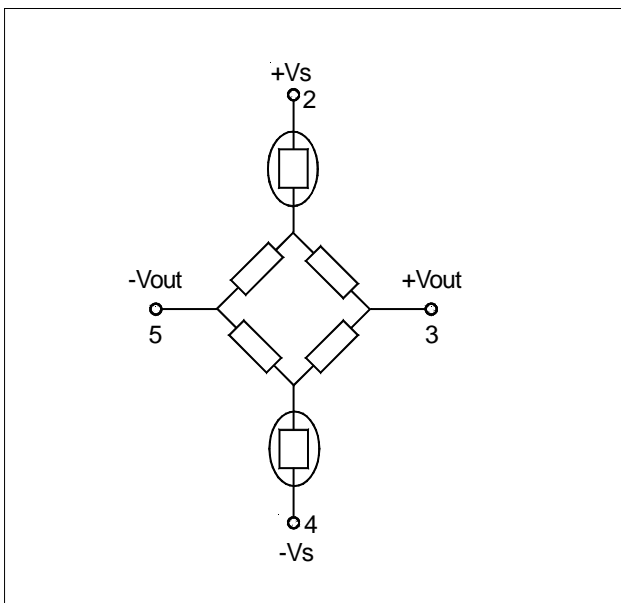
Non-corrosive, non-ionic working fluids such as clean dry air, dry gases and the like.

The media wetted materials are:

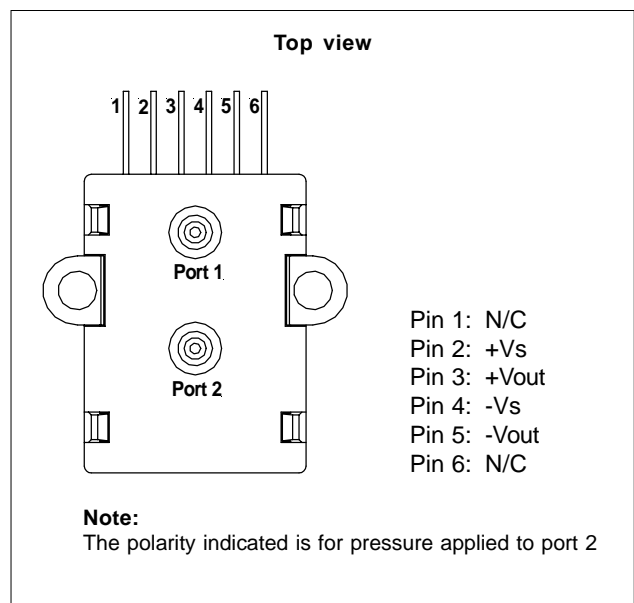
- silicon
- glass filled nylon
- silicone
- ceramic (Al₂O₃)
- gold



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

$V_s = 12$ 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) 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

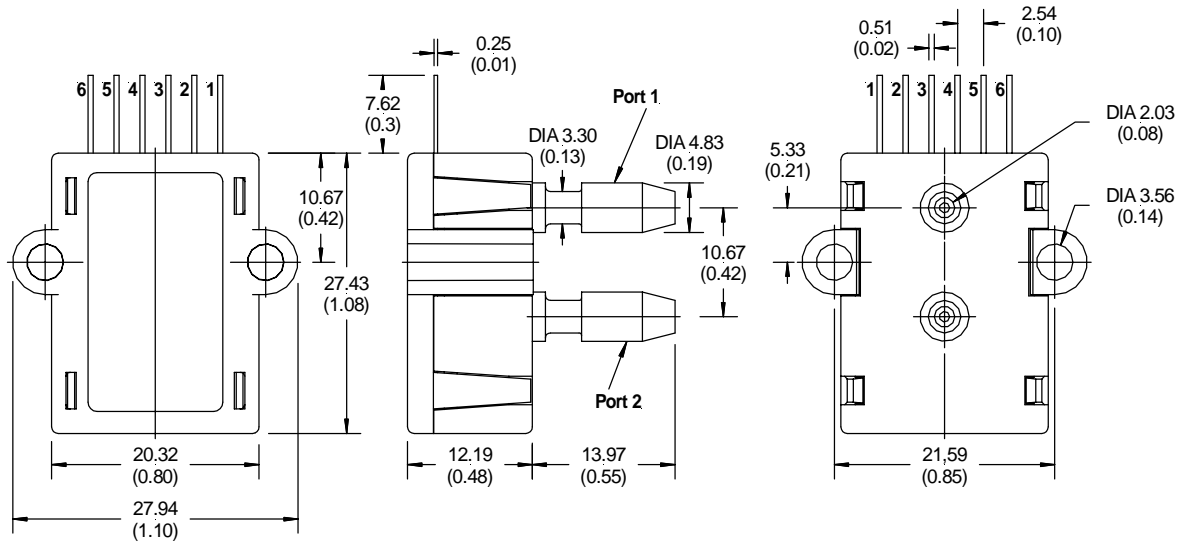
$V_s = 12\text{ V}$, $T_A = 25\text{ °C}$, common-mode pressure = 0 psig, pressure applied to port 2

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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