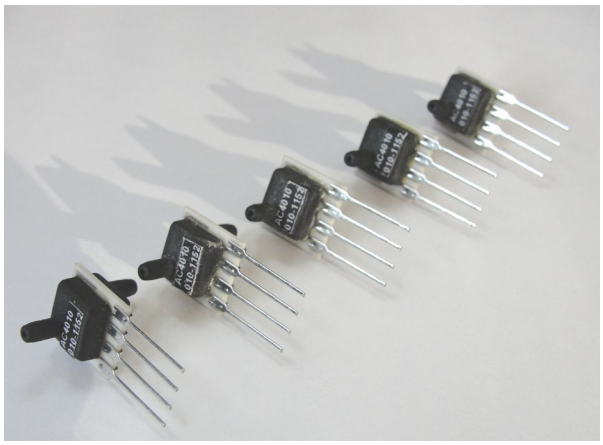
Acuity Series AC4010
2 mbar
Packaged Sensor Die

Acuity Incorporated
Fremont, California
USA 94539

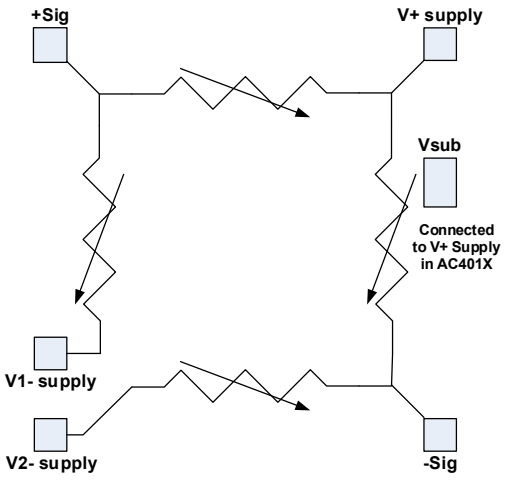


2 mbar, 0.8 inches H_2O, 200 Pa

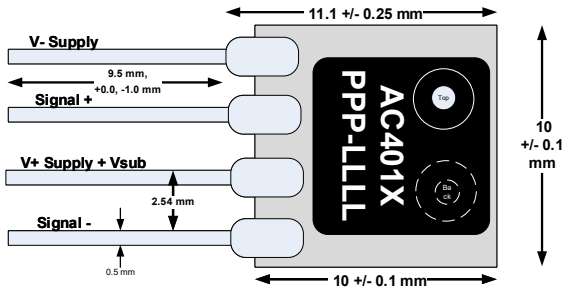
The AC401X series packaged pressure die is a single in-line package (SIP) with 4 pins and differential pressure ports. It is meant for applications where a simple package is needed but where additional signal processing will likely be used to connect the sensor to other electronics.

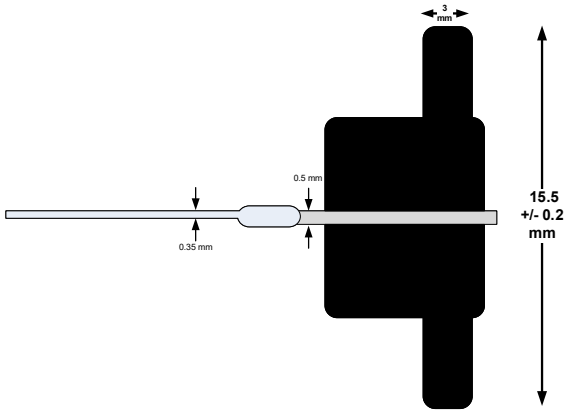
The package houses an Acuity AC3070 ultra-low pressure sensor. The pin-outs and housing are identical to the higher-pressure range versions of the AC4010. Only the die has been changed to achieve the 2-mbar range.

Suitable for a wide range of uses, it is particularly designed for low-pressure differential sensing in such applications as HVAC, air-flow, and a variety of industrial pressure and flow applications.



Equivalent Circuit Diagram





Acuity AC401X
Low-Pressure Packaged Pressure Die

+ Sig increases and **–Sig** decreases
when pressure is applied to the top of the package.

Top side is label side and side with the larger solder-pads.

Acuity Incorporated
Fremont, California
USA 94539

Specification **2 mbar, 0.8 inches H_2O, 200 Pa**		**Acuity Low Pressure Sensor – AC4010**				**Note**
Electrical		Min	Nominal	Max		
Resistance						
Bridge resistance - 3.5k		3.25	3.70	4.25	kohms	1
TCR		2300	2800	3100	ppm/degree C	2
Resistance Ratiometricity		-1.0	0.1	1.0	%	3
Offset						
Offset - No Pressure		-100.0	0.0	25.0	mV	1
Offset Ratiometricity		-0.2	0	0.2	mV/V	3
TCO		-25	2	25	microV/V/degree C	2
Leakage						
Current Leakage - individual		0.1	1.2	20	nA	4
Sensitivity						
Span		**12**	**18**	**26**	**mV/mbar at 5 volts**	5
TCS		-2400	-1800	-1400	ppm/degree C	2
Pressure Nonlinearity		-0.75	0.15	0.75	%	6
Pressure Nonlinearity - F/B		-1.25	0.15	1.25	%	8
Mechanical Pressure						
Full Scale Pressure Ranges		**1**			**mBar**	9
Overpressure - Burst		>100			**mBar**	10

Note

1 Measured at 5.0 volts
2 Measured at +25 and +70 °C, normalized by reading at 25 °C
3 Measured at -2.5 and 5.0 Volts, normalized by reading at 5.0 volts
4 Measured from VSub substrate contact to any Resistor Pad at 10 V
5 Full scale output at 5 Volt drive and rated pressure
6 1/2 TBNL (Terminal Base Nonlinearity at 0, 50%, and 100% FS) with topside pressure
8 Ratio of sensitivity with +FS and - FS pressures applied
9 For custom pressure ranges, consult Acuity.
10 For the AC401X package, the Vsub is tied to V+ Supply.

Ordering Information:

AC4010-PPP

where

PPP = 2P0 for 1 mbar