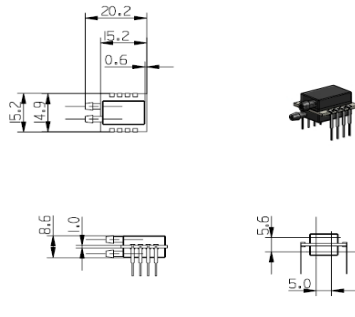
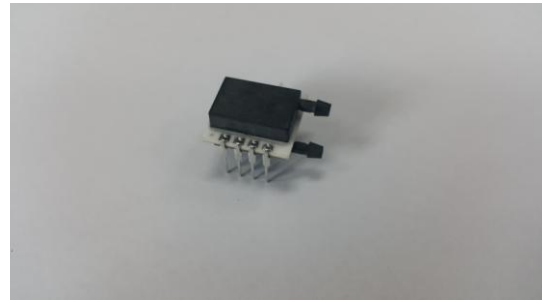


Amplified Low Pressure Sensor Module

The M-AC001 series amplified pressure sensor is a new, extremely low-pressure amplified product featuring the low pressure die. The sensor is calibrated either as a gauge device with the zero at 0.5 Volts and a full-scale span of 4.0 Volts or as a differential device with zero at 2.5 Volts and a span of +/- 2 Volts. The gauge part is the M-AC001 while the differential part is the M-AC002.

The sensor is available in one of two standard port configuration.

The sensor corrects the sensor signal with a multi-point calibration algorithm using a dedicated signal processor ASIC over temperature and pressure. It provides the calibrated and compensated analog output which enables the part to be used in stand-alone applications.



SPECIFICATIONS

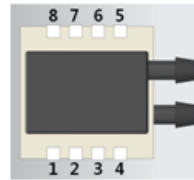
Supply voltage VS 5.00 (4.50 ... 5.50)VDC

Temperature ranges

Compensated 0 ... +70 °C

Operating -20 ... +80 °C

Storage -40 ... +80 °C



Pin	Connection
1	+Vs
2	GND
3	Vout
4	Vgate
5,6,7,8	N/C

Range	Full-Scale Pressure
2P5	0 ... 2.5 mBar / 0 ... 250 Pa
5	0 ... 5 mBar / 0 ... 500 Pa
10	0 ... 10 mBar / 0 ... 1000 Pa
20	0 ... 20 mBar / 0 ... 2000 Pa
50	0 ... 50 mBar / 0 ... 5000 Pa
100	0 ... 100 mBar / 0 ... 10 kPa

M-AC00X-PPP

Where: X = 1 for Gauge or 2 for Differential

PPP = Pressure Range

Specification - M-AC001 and M-AC002	Amplified Low Pressure Sensor - 2.5 mBar				Amplified Low Pressure Sensor - 5.0 mBar				Amplified Low Pressure Sensor - 10 mBar			
	Min	Nominal	Max	Unit	Min	Nominal	Max	Unit	Min	Nominal	Max	Unit
Electrical Drive												
Supply Voltage	4.5	5,000	5.5	Volts	4.5	5	5.5	Volts	4.5	5	5.5	Volts
Supply Voltage Absolute Maximum			6	Volts			6	Volts			6	Volts
Supply Current		2.5		mA		2.5		mA		2.5		mA
Electrical	Min	Typical	Max		Min	Typical	Max		Min	Typical	Max	
ZERO												
Zero at 25 C - M-AC001	0.4	0.52	0.6	Volts	0.42	0.51	0.58	Volts	0.42	0.51	0.58	Volts
Zero at 25 C -M-AC002	2.45	2.5	2.55	Volts	2.46	2.51	2.54	Volts	2.46	2.51	2.54	Volts
Zero Error at 25 C (% FS)	-2.5	0.6	2.5	%FS	-2	0.4	2	%FS	-2	0.18	2	%FS
Zero Error: 0 to 50 C (% FS)	-2.5	0.6	2.5	%FS	-2.5	0.4	2.5	%FS	-2.5	0.21	2.5	%FS
SPAN												
Span at 25 C - M-AC001	3.9	3.98	4.1	Volts	3.9	3.99	4.1	Volts	3.92	3.99	4.08	Volts
Span at 25 C -M-AC002	1.95	1.99	2.05	Volts	1.95	1.99	2.05	Volts	1.96	2	2.04	Volts
Span Error at 25 C (% FS)	-2.5	-0.5	2.5	%FS	-2.5	-0.3	2.5	%FS	-2	-0.28	2	%FS
Span Error: 0 to 50 C (% FS)	-2.5	0.7	2.5	%FS	-2.5	0.4	2.5	%FS	-2	0.34	2	%FS
linearity	-0.5	0.13	0.5	%FS	-0.5	0.07	0.5	%FS	-0.3	0.11	0.3	%FS
STABILITY		Typical				Typical				Typical		
Warm-up (1 hour after turn-on)		0.5		%FS		0.375		%FS		0.25		%FS
Position Sensitivity		0.125		%FS		0.076		%FS		0.035		%FS
Long-Term Drift (1 year)		0.75		%FS		625		%FS		0.375		%FS
Mechanical Pressure	Min	Typical	Max		Min	Typical	Max		Min	Typical	Max	
Full Scale Pressure Ranges		2.5		mBar		5		mBar		10		mBar
Overpressure - Burst	>15X			FS Pressure	>15X			FS Pressure	>10X			FS Pressure
Overpressure - Proof	>10X			FS Pressure	>10X			FS Pressure	>5X			FS Pressure

Specification - M-AC001 and M-AC002	Amplified Low Pressure Sensor - 20 mBar				Amplified Low Pressure Sensor - 50 mBar				Amplified Low Pressure Sensor - 100 mBar			
	Min	Nominal	Max	Unit	Min	Nominal	Max	Unit	Min	Nominal	Max	Unit
Electrical Drive												
Supply Voltage	4.5	5.000	5.5	Volts	4.5	5	5.5	Volts	4.5	5	5.5	Volts
Supply Voltage Absolute Maximum			6	Volts			6	Volts			6	Volts
Supply Current		2.5		mA		2.5		mA		2.5		mA
Electrical	Min	Typical	Max		Min	Typical	Max		Min	Typical	Max	
ZERO												
Zero at 25 C- M-AC001	0.42	0.51	0.58	Volts	0.42	0.5	0.58	Volts	0.42	0.5	0.58	Volts
Zero at 25 C -M-AC002	2.46	2.51	2.54	Volts	2.46	2.5	2.54	Volts	2.46	2.5	2.54	Volts
Zero Error at 25 C (% FS)	-2	0.34	2	%FS	-2	0.04	2	%FS	-2	0.06	2	%FS
Zero Error: 0 to 50 C (% FS)	-2	0.22	2	%FS	-2	0.26	2	%FS	-2	0.26	2	%FS
SPAN												
Span at 25 C- M-AC001	3.92	3.99	4.08	Volts	3.92	3.99	4.08	Volts	3.92	3.99	4.08	Volts
Span at 25 C -M-AC002	1.96	1.99	2.04	Volts	1.96	2	2.04	Volts	1.96	2	2.04	Volts
Span Error at 25 C (% FS)	-2	-0.27	2	%FS	-2	-0.22	2	%FS	-2	-0.17	2	%FS
Span Error: 0 to 50 C (% FS)	-2	0.29	2	%FS	-2	0.28	2	%FS	-2	0.26	2	%FS
linearity	-0.3	0.66	0.3	%FS	-0.3	0.12	0.3	%FS	-0.3	0.09	0.3	%FS
STABILITY		Typical				Typical				Typical		
Warm-up (1 hour after turn-on)		0.25		%FS		0.25		%FS		0.25		%FS
Position Sensitivity		0.0175		%FS		0.0117		%FS		0.007		%FS
Long-Term Drift (1 year)		0.25		%FS		0.25		%FS		0.25		%FS
Mechanical Pressure	Min	Typical	Max		Min	Typical	Max		Min	Typical	Max	
Full Scale Pressure Ranges		20		mBar		50		mBar		100		mBar
Overpressure - Burst	>10X			FS Pressure	>10X			FS Pressure	>10X			FS Pressure
Overpressure - Proof	>5X			FS Pressure	>5X			FS Pressure	>5X			FS Pressure

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