NOVA SENSOR

Filtration Air FMA Series Restriction Sensor



For improved air filtration system performance, the NovaSensor FMA Series of Filtration Air Restriction (FAR) Sensors accurately measures pressure loss across a variety of air filtration devices utilizing high accuracy NPA piezoresistive technology in a low-profile form factor that is easy to install and maintenance-free.

With configurable thresholds, the FMA Series can be easily installed for use in a variety of applications, including commercial and automotive HVAC and industrial air filters, engine air filtration systems and rooftop units exposed to pressure or vacuum environments. With hydrophobic reference port and sealed connection system, it can also be used in a variety of harsh environmental conditions.

The FMA Series is available in multiple positive or vacuum pressure ranges, mating with an integrated AMPSEAL 16 (3-way) electrical connector (Drawing No. C-776402-1-GEN) and a 1/8-27 NPT female pressure connection port.

Appliations

- Engine Air Filter Restriction
- Cabin Pressure
- HVAC Pressure
- Exhaust Pressure
- Industrial Filters

Features

- Supply Voltage: 5VDC
- Linear Output: 0.5V to 4.5V (Ratiometric)
- Diagnostic Features (Bridge Connection Checks, Bridge Short Detection, Power Loss Detection)
- Temperature-Compensated
- Sealed AMP Electrical Connector
- Multiple Pressure Ranges Available (Vacuum and Pressure)
- Fast Response Time
- REACH & RoHS Compliant

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Technical Specifications

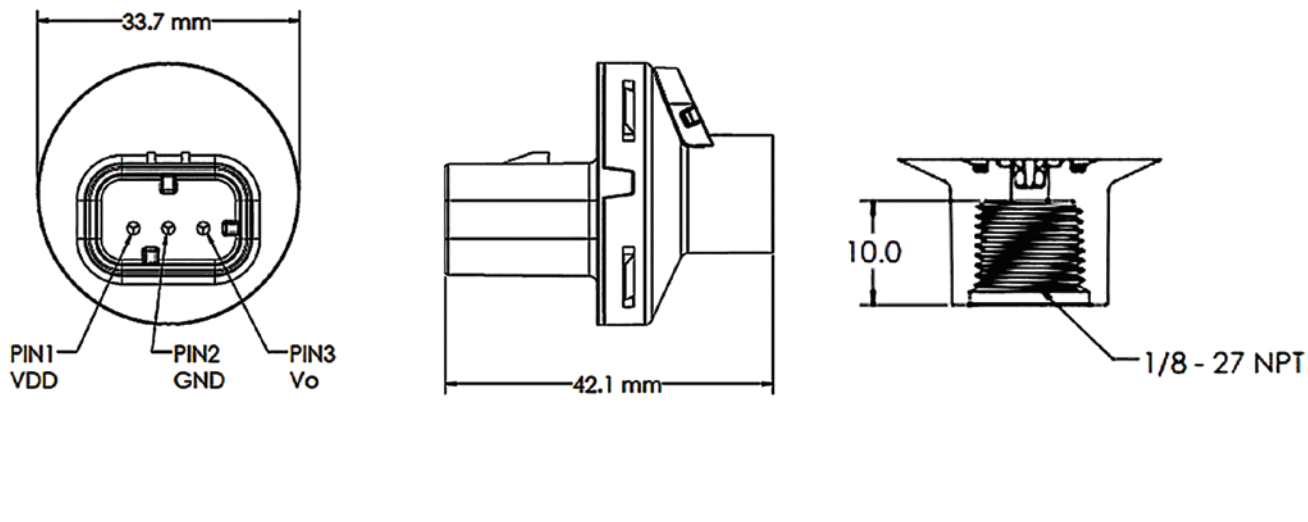
Electrical	
Supply Voltage (VDD) [1]	5 VDC +/-5%
Supply Current	5 mA Max
Output Voltage (V_O) (Ratiometric)	0.5 to 4.5 V (10% to 90% VDD)
Output Impedance	250 Ohms Max
Over Voltage	28 V Momentary Contact
Reverse Voltage	28 V Momentary Contact
ESD Rating	Contact: 8 kV; Air: 15 kV
EMC Compliance	RE (150 kHz - 3.2 GHz) CI (30 Hz - 50 kHz) BCI (10 kHz - 400 MHz) RI (100 kHz - 3.2 GHz)

Performance	
Accuracy	+/- 2.5% FSO
Resolution	0.12% FSO
Compensated Temp Range	0°C to 80°C 0°C to 60°C for 5"H_2O
Proof Pressure	2X Full Pressure
Burst Pressure	3X Full Pressure
Vibration	20-2000Hz AT 11.5 Grms
Operating Temp Range	-40°C to 125°C
Storage Temp Range	-55°C to 150°C
Start-Up Time	10 ms
Response Time	< 2 ms
Intended Media	Clean Dry Air
Clamp Limits Upper/Lower	92.5% to 7.5% VDD
Diagnostic Limits Upper/Lower	97.5% to 2.5% VDD
Pressure Ranges Available	5" H_2O 10" H_2O [2] 40" H_2O 1 PSI [2] 5 PSI

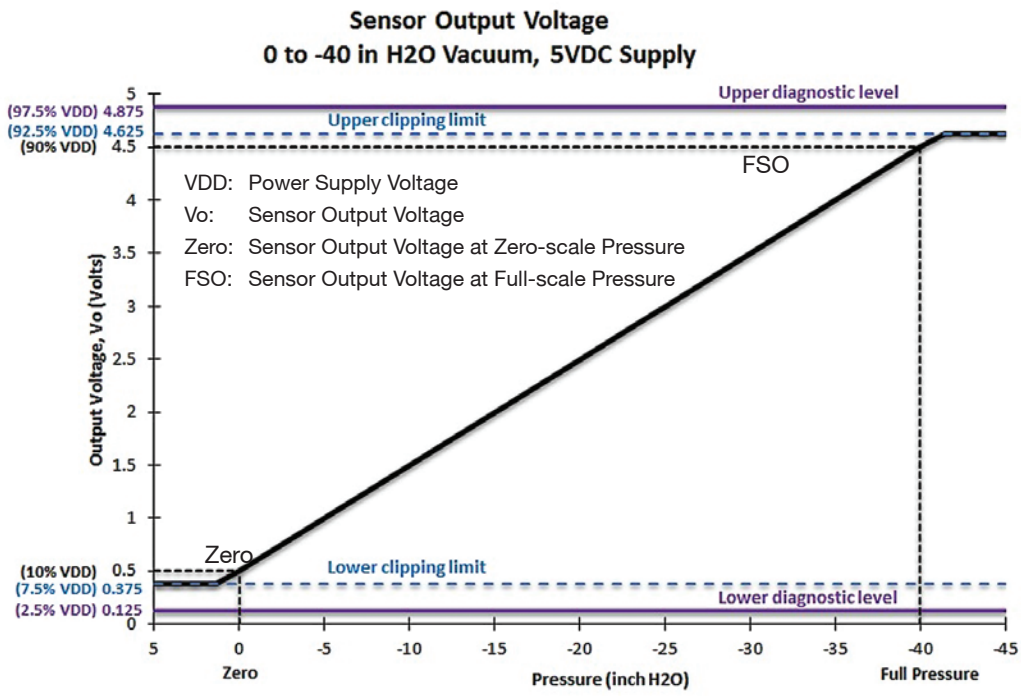
[1] Use 5 VDC +/- 2.5% for 5" H2O

[2] Contact factory for additional custom pressure ranges.

Connector Pin Out and Port Thread



Transfer Function



Transfer Function Parameters

Parameter	Unit	Typical	Output
Upper Clipping Limit	VDD	92.5%	4.625 V
Lower Clipping Limit	VDD	7.5%	0.375 V
Upper Diagnostic Level	VDD	97.5%	4.875 V
Lower Diagnostic Level	VDD	2.5%	0.125 V

Ordering Information

FMA	Code	Description
	500	Analog Amplified Output, 5.0 VDC Excitation, Calibrated
	Code	**Description**
	T1	Pressure Port, 1/8-27 NPT Female
	Code	**Description**
	05W	5 in H2O (1.25 kPa)
	10W	10 in H2O (2.5 kPa)*
	40W	40 in H2O (10 kPa)
	001	1 PSI (7 kPa)*
	005	5 PSI (35 kPa)
	Code	**Description**
	GV	Vacuum Gage
	GP	Positive Gage
FMA	_____	_____ _____ _____ - Typical Order Number

*Contact factory for additional custom pressure ranges.

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