

Ares



- PCB Mounted Pressure Transducers
- Amplified Output
- Differential and Gage
- Temperature Compensated

DESCRIPTION

The Ares is a small, low cost pressure transducer, which is able to measure pressures as low as 0-5 inches of water and as high as 0-1 psi. Sensitivity to extremely low pressures combined with the small physical size make this device ideally suited for application such as HVAC, medical equipment, and flow monitoring. The GA100 series has a 4V span from 0.50V to 4.50V and the GA200 series has a 3.75V span from 0.25-4.00 V.

The plastic housing design for the Ares Series makes the device very user friendly. The housing is designed to be printed circuit board mountable, requiring no additional hardware. Built into the housing are self locking pins which insure a secure fit between the housing and the PCB. The pressure ports are 3/16" barbed ports which mate with industry standard 1/8" or 3/16" ID tubing. These ports are mounted 90° to the printed circuit board to allow other boards to be located above the sensor.

The Ares utilizes a unique sensor circuit design to provide ASIC digital error correction and signal amplification while maintaining an analog signal path. This technique delivers the high level of error correction associated with microprocessor-based circuits, while maintaining a typical bandwidth of >1 kHz generally found only in analog circuits. The result is a pressure sensor that offers the ultimate in low cost and high accuracy, while preserving the fast response and smooth output inherent to silicon sensors.

Due to its small size, barbed pressure ports, and solder re-flow capability, the Ares pressure transducer is ideally suited for a wide range of applications.

FEATURES

- In H₂O Pressure Ranges
- PCB Mountable
- Solder Reflow Capability
- Barbed Pressure Ports
- Dry/Dry Differential Transducer

APPLICATIONS

- Respirators/Ventilators
- CPAP/Sleep Apnea Instruments
- Medical Instruments
- HVAC/Air Flow Management
- Leak Detection

STANDARD RANGES

Range	In H ₂ O	psi
0 to 5	•	
0 to 10	•	
0 to 15	•	
0 to 1		•

PERFORMANCE SPECIFICATIONS

Supply Voltage: 5V

Ambient Temperature: 25 °C (unless otherwise specified)

Pressure applied to Port A

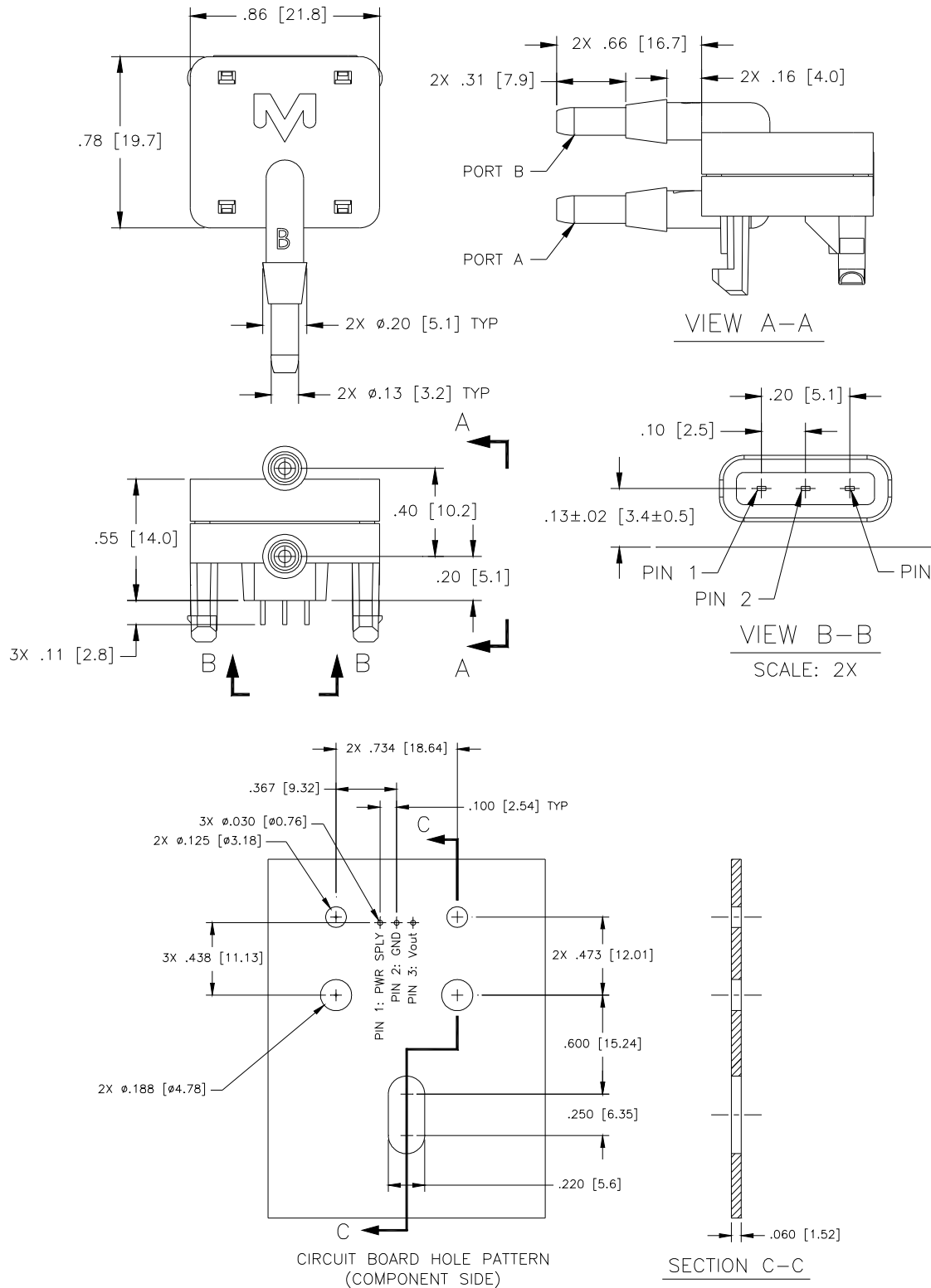
PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Span (GA100 Series)	3.975	4.000	4.025	V	1,5
Span (GA200 Series)	3.725	3.750	3.775	V	1,5
Zero Offset (GA100 Series)	0.450	0.500	0.550	V	1
Zero Offset (GA200 Series)	0.200	0.250	0.300	V	1
Pressure Non Linearity (0-5 in H ₂ O)	-0.25		0.25	%Span	2
Pressure Non Linearity (0-10 and 0-15 in H ₂ O)	-0.5		0.5	%Span	2
Pressure Non Linearity (0-1 psi)	-1.5		1.5	%Span	2
Output Impedance		5		Ω	
Temperature Error – Span			1.5	%Span	3
Temperature Error – Zero			1.5	%Span	3
Input Voltage Range	4.75	5.00	5.25	V	
Quiescent Current		3		mA	
Burst Pressure	10			psi	
Common Mode Pressure			10	psi	
Long Term Stability (Offset & Span)		±0.5		%Span	4
Compensated Temperature	0		60	°C	
Operating Temperature	-25		+80	°C	
Storage Temperature	-25		+80	°C	
Humidity	0		95	RH	
Weight			3	grams	
Solder Temperature	240°C Max 5 Sec.				
Media	Non-Corrosive Dry Gases				

Notes

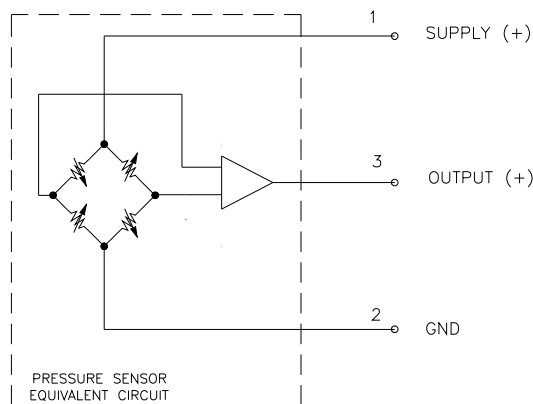
1. Ratiometric to supply voltage.
2. Best fit straight line.
3. Maximum temperature error between 0 °C and 60 °C with respect to 25 °C.
4. Long term stability over a one year period with constant voltage and temperature.
5. For differential applications, the input pressure to Port A must be higher than Port B.

DIMENSIONS

UNITS IN INCHES [mm]

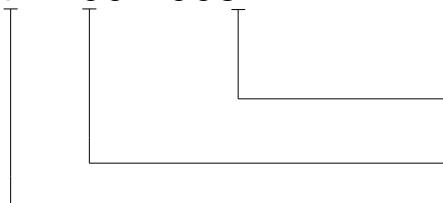


CONNECTIONS



ORDERING INFORMATION

GA 100 - 005WD



Pressure Range (005WD = 5 in H₂O, 010WD = 10 in H₂O, 015WD = 15 in H₂O, 001PD = 1psi)
Output Configuration (100 = 0.5 to 4.5V, 200 = 0.250 to 4V)
Model

NORTH AMERICA

Measurement Specialties
45738 Northport Loop West
Fremont, CA 94538
Tel: 1-800-767-1888
Fax: 1-510-498-1578
Sales: pfg.cs.amer@meas-spec.com

EUROPE

Measurement Specialties
(Europe), Ltd.
26 Rue des Dames
78340 Les Clayes-sous-Bois, France
Tel: +33 (0) 130 79 33 00
Fax: +33 (0) 134 81 03 59
Sales: pfg.cs.emea@meas-spec.com

ASIA

Measurement Specialties
(China), Ltd.
F1.6-4D, Tian An Development
Compound
Shenzhen, China 518048
Tel: +86 755 8330 1004
Fax: +86 755 8330 6797
Sales: pfg.cs.asia@meas-spec.com

The information in this sheet has been carefully reviewed and is believed to be accurate; however, no responsibility is assumed for inaccuracies. Furthermore, this information does not convey to the purchaser of such devices any license under the patent rights to the manufacturer. Measurement Specialties, Inc. reserves the right to make changes without further notice to any product herein. Measurement Specialties, Inc. makes no warranty, representation or guarantee regarding the suitability of its product for any particular purpose, nor does Measurement Specialties, Inc. assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Typical parameters can and do vary in different applications. All operating parameters must be validated for each customer application by customer's technical experts. Measurement Specialties, Inc. does not convey any license under its patent rights nor the rights of others.