Ares series

PC board packaged pressure sensor

Boost output

Table pressure or differential pressure

Temperature compensation function

product description

The Ares series is a small, low-cost pressure sensor that it can Measures pressures down to 0-5 "H_2O, 0-15" H_2O, and 0-1psi. The small pressure and compact structure make it an ideal product for heating, ventilation and air conditioning, medical equipment, and flow monitoring.

The GA100 series features an output signal range of 0.5V to 4.5V with a 4V output capacity. The Ares series, featuring a plastic housing design, has gained widespread popularity among both manufacturers and end-users.

The housing requires no additional hardware for direct and secure connection to printed circuit boards. The self-locking terminal posts on the enclosure ensure reliable contact with PCBs, while the 3/16 "hook connector allows easy connection to 1/8" or 3/16" inner diameter hoses. With the pressure fitting positioned at a 90-degree angle relative to the PCB installation direction, this design enables seamless integration of other circuit boards above it.

Building upon silicon piezoresistive sensors, this product incorporates a unique ASIC digital compensation module circuit design. This innovation enables simultaneous error correction, signal amplification, and analog output generation. Operating through a microprocessor-based architecture, it delivers high-precision error correction while maintaining pressure response bandwidth exceeding 1 kHz – comparable to analog circuit performance. As a result, the sensor combines cost-effectiveness with precision...

In addition to the excellent characteristics, it still retains many excellent performance such as fast response speed and stable output signal of silicon piezoresistive sensor.

The ASIC circuit with CMOS technology adopts the differential switch capacitor structure, which can effectively correct and compensate for various errors of silicon piezoresistive sensor.

ASIC structure

The design reduces the requirements for peripheral equipment during calibration,

While allowing the overall size of the printed circuit board to be small,

Retained

Good performance of

Features. Due to its small size and the use of barbs

The nozzle and return welding ology makes the Ares series pre. sensor

It has been widely used in many application fields.

Product features

- Trace
- small volume
- PCB packaging structure
- Flow welding function
- Hook pressure interface
- Dry differential sensor

apply

- Heating, Ventilation and Air Conditioning
- medical instruments
- environmental monitoring
- Portable monitors
- OEM batch application

Standard range

Ares serial model No	working pressure	definition %FSO(1)
GA100-005WD	0 to 5" H_2O	0.25%
GA100-010WD	0 to 10" H_2O	0.5%
GA100-015WD	0 to 15" H_2O	0.5%
GA100-001PD	0 to 1 PSI	0.75%
GA200-005WD	0 to 5" H_2O	0.25%
GA200-010WD	0 to 10" H_2O	0.5%
GA200-015WD	0 to 15" H_2O	0.5%
GA200-001PD	0 to 1 PSI	0.75%

pour：

1. Including nonlinearity, hysteresis and repeatability.

Ares series

performance parameter

Power supply voltage with port
A as reference pressure input: 5
Reference temperature: 25° (unless otherwise stated)

parameter	GA100 series Minimum value	typical value	maximum value	GA200 series Minimum value	typical value	maximum value		remarks
Zero point output	0.450	0.500	0.550	0.200	0.250	0.300	V	
Full scale output	3.975 x_i	4.000	4.025	3.725	3.750	3.775	V	1

parameter	minimum	representative value	crest value	unit	pour
input voltage range	4.75	5.00	5.25	V	2
Port test pressure			5	psi	
breakdown pressure	10			psi	
Bidirectional hydrostatic			10	psi	
long term stability	-0.5		+0.5	%FSO/year	
output impedence			5	Ω	
Temperature error in range			1.5	%FSO	3
Zero point temperature error			1.5	%FSO	3
medium	Non-ionizing, non-corrosive gas (clean dry gas)				
compensation temperature	0º - 60ºC				9
working temperature	-25º - 80ºC				
storage temperature	-25º - 80ºC				
Flow welding temperature	240ºC (maximum 5 seconds)				

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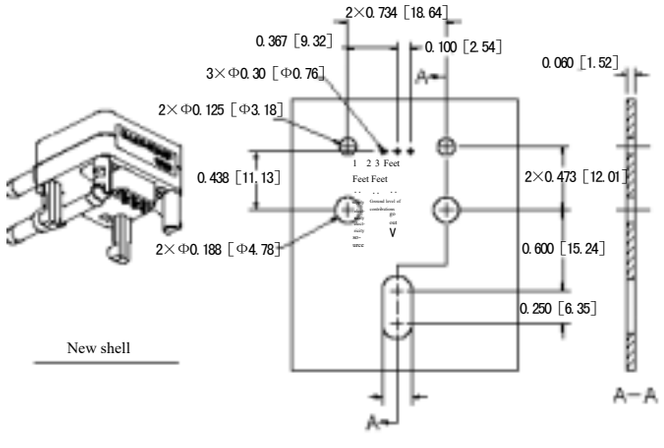
1. Range refers to the algebraic difference between the output signal corresponding to full and zero pressure inputs.
2. The output signal is proportional to the supply voltage.
3. Full temperature compensation range.
4. Impact: 50g,11ms, 1/2 sine wave
(Refer to American standard MIL STD202F, Method 213B, Condition A).
5. Vibration: 10g sinusoidal peak pressure (refer to MIL STD810C)
6. Temperature: 95% no condensation
7. To measure the differential pressure, the input pressure at port A must be greater than that at port B
8. Other output ranges, please contact the factory.
9. Unit calibration and compensation are: 0 o C-60 o C

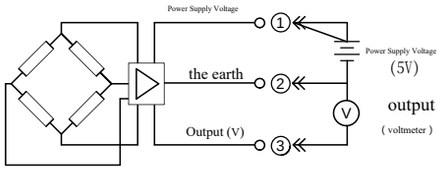
Product appearance and installation dimensions



Note: When the sensor is installed at the edge of the line, that is, when the pressure lead tube is facing away from the circuit board, no elliptical opening is required

Circuit board hole size element surface

Electrical Connection Diagram



Product application examples

GA 100 - 005WD

- 005WD: Pressure range (005WD=5 "H ₂ O, 010WD=10" H ₂ O, 015WD=15" H ₂ O, 001PD=1PSI)
- 100: Output format (100=0.5-4.5V,200=0.250-4V)

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