Monolithic Pressure & Temperature Integrated Sensors

Description

YH18 series features advanced ceramic pressure sensors with exceptional corrosion resistance, efficient heat management, and robust mechanical strength. These sensors also integrate a temperature sensor for dual-functionality, offering precise pressure and temperature measurements in challenging environments.

Features

- Excellent long-term stability
- Effective temperature compensation
- Affordable price & economical solutions

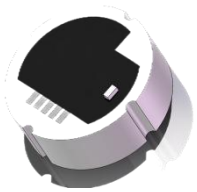
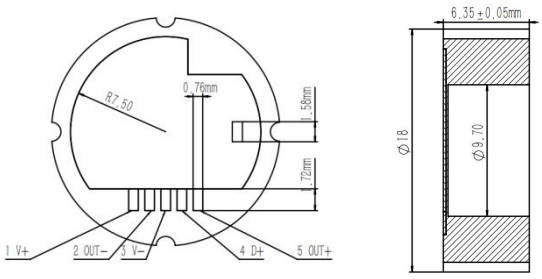
Typical applications

- Industry
- Valve, transmit, chemicals, petrochemical engineering, clinical gauge etc.

Parameters

Pressure range	0~50 bar gauge (optional)	Dimension	Φ(18/13.5)×(6.35/3.5) mm
Burst pressure	1.15~3 times (ranges vary)	Supply voltage	0-30 VDC (max)
Bridge road impedance	11 KQ±30%	Full range output	≥2 mV/V
Operating temperature	-40~+135℃	Storage temperature	-50~+150℃
Overall accuracy (linear + hysteresis)	≤±0.3% FS	Temperature drift (zero & sensitivity)	≤±0.03% FS/℃
Long-term stability	≤±0.2% FS/year	Repeatability	≤±0.2% FS
Zero offset	≤±0.2 mV/V	Insulation resistance	≥2 KV
Zero-point long-term stability @20°C	±0.25% FS	Relative humidity	0~99%
Direct contact with liquid materials	96% Al_2O_3	Net weight	≤7g(standard)

Dimensions(mm) & electrical connection

Model	3D photo	Dimensions	Pressure range
XDB100-9			0-2bar, 0-5bar, 0-10bar, 0-20bar, 0-30bar, 0-40bar, 0-50bar

Destruction pressure comparison table

Pressure range(Bar)	Burst pressure(Bar)
0-2	6
0-5	15
0-10	30
0-20	60
0-30	90
0-40	100
0-50	125

How to order

E.g. **XDB100-9- 10B - W - L**

L		
	S	Square
	L	Line
	3	Pad layout
W		
	W	Silicone wire 100mm
	P	Pin 10mm
	N	None
	2	Lead method
10B		
	Bar	B
	Mpa	M
	Range + Unit	**1**

Notes

1. When installing the ceramic sensor core, it is important to focus on suspension installation. The structure should include a fixed pressure ring to limit the position of the sensor core and ensure even stress distribution. This helps to avoid variations in mounting stress that can result from different workers.

2. Prior to welding, perform a visual inspection of the sensor pad. If oxidation is present on the pad's surface (turning it dark), clean the pad with an eraser before welding. Failure to do so may result in poor signal output.

3. When welding the lead wires, use a heating table with temperature control set at 140-150 degrees. The soldering iron should be controlled at approximately 400 degrees. Water-based, rinse-free flux can be used for the welding needle, while clean flux paste is recommended for the welding wire. The solder joints should be smooth and free of burrs. Minimize the contact time between the soldering iron and the pad, and avoid leaving the soldering iron on the sensor pad for more than 30 seconds.

4. After welding, if necessary, clean the residual flux between the welding points using a small brush with a mixture of 0.3 parts absolute ethanol and 0.7 parts circuit board cleaner. This step helps to prevent residual flux from generating parasitic capacitance due to moisture, which could affect the accuracy of the output signal.

5. Conduct output signal detection on the welded sensor, ensuring a stable output signal. If data jumping occurs, the sensor must be re-welded and reassembled after passing the detection.

6. Before calibrating the sensor post-assembly, it is important to subject the assembled components to stress in order to balance the assembly stress prior to signal calibration.

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