General Type Isolation-Film Pressure Sensor

(Model No. WPAK68)

Manual Version: 1.0

Date: Apr-8-2021

Zhengzhou Winsen Electronics Technology CO., LTD

Statement

Thanks for purchasing our products. In order to have customers use it better and reduce the faults caused by misuse, please read the manual carefully and operate it correctly in accordance with the instructions. If users disobey the terms or remove, disassemble, change the components inside of the sensor, we shall not be responsible for the loss.

The specific such as color, appearance, sizes &etc., please in kind prevail.

We are devoting ourselves to products development and technical innovation, so we reserve the right to improve the products without notice. Please confirm it is the valid version before using this manual. At the same time, users' comments on optimized using way are welcome.

Please keep the manual properly, in case you need help during the usage in the future.

Zhengzhou Winsen Electronics Technology CO., LTD.

WPAK68 General Type Isolation-Film Pressure Sensor

Product Description

WPAK68 pressure sensor is a pressure core packaged in the workpiece with standard interface thread, which can be directly installed on the 2088 standard housing for the convenience of users. This product is widely used in process control and measurement of petroleum, chemical industry, metallurgy, aviation, aerospace, shipping, medical equipment, vehicles, refrigerators, compressors and other industries.

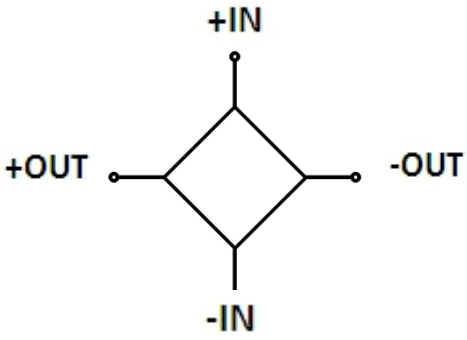
Picture 1：Sensor

Application:

- process control system
- Pressure calibration instrument
- Hydraulic system
- Biomedical instruments
- Hydraulic system and valve
- Liquid level measurement
- Refrigeration equipment and HAVC system
- Ships and navigation

Equivalent circuit diagram

Four wire（Compensation）



Technical parameters

Detection range	-100kPa～0～10kPa…100MPa	
Pressure Reference	Gauge Pressure/Absolute Pressure/Sealed Gauge Pressure	
Power supply	1.5mA	Can be customized
input resistance	Constant current：2kΩ～5KΩ； Constant Voltage ：3kΩ～18kΩ	
Electrical Connection	Pin or Wiring	
Compensation Temperature	0℃～60℃、-10℃～70℃	≤35kPa：0℃～60℃，＞35kPa：-10℃～ 70℃
Working Temperature	-40℃～120℃	
Storage Temperature	-40℃～125℃	
Insulation resistance	≥200MΩ/250VDC	
Response Time	≤1ms	Up to 90%FS
Measuring Medium	Liquid and Gas	
Mechanical vibration	20g（20～5000HZ）	
Shock Resistance	100g（10ms）	
Lifespan	10×10^6（Pressure Cycle）	

Structural Performance Index	
Diaphragm material	316L
Housing Material	316L
Infused Liquid	Silicone oil
Seal Ring	NBR/FKM

Basic Parameter Index						
Item	**Condition**	**Min**	**Special**	**Max**	**Unit**	**Remarks**
Non-linear		-0.3	±0.25	0.3	%FS	Note(1)

Hysteresis		-0.05	±0.03	0.05	%FS	
Repeatability		-0.05	±0.03	0.05	%FS	
Zero Point Output		-2	±1	2	mV	
Full-Range Output	1.5mA ,10kPa	20			mV	
	1.5mA,other range	50	90	150		
	10V,10kPa	30				
	10V,other range	60	100	110		
Zero Point Temperature Drift	10kPa	-2	±1.5	2	%FS	Note(2)
	Other Detection Range	-1.5	±0.75	1.5		
Sensitivity Drift		-1.5	±0.75	1.5	%FS	Note(2)
Heat Hysteresis		-0.075	±0.05	0.075	%FS	Note(3)
Stability		-0.3	±0.2	0.3	%FS/Year	

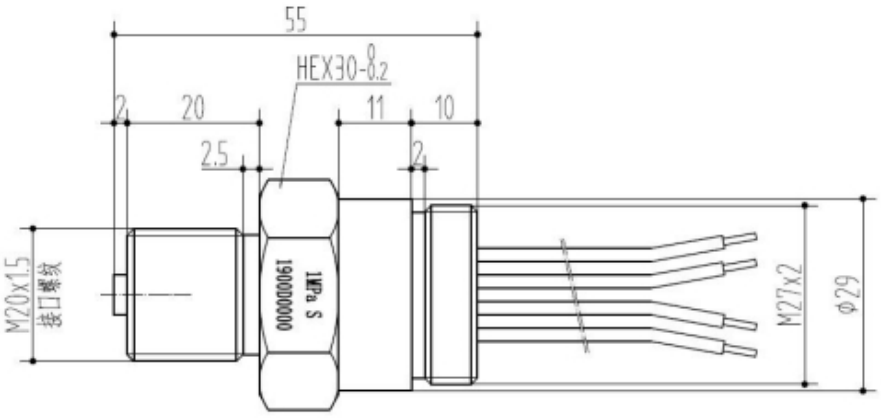
Notes:

(1) Based on BFSL least square method.

(2) In temperature r compensation ange,0℃～60 and -10℃～70℃ is refer to 30℃;-20℃～85℃ is refer to 32.5℃.

(3) After high and low temperature, return to the reference temperature.

Dimension



Detection Ranges

Detection Range					
Range Code	Pressure Type	Detection Range	Overload Pressure	Burst pressure	O-ring
10k	G	0～10kPa	300％FS	600％FS	NBR
20k	G	0～20kPa	300％FS	600％FS	NBR
35k	G、A	0～35kPa	300％FS	600％FS	NBR
70k	G	0～70kPa	300％FS	600％FS	NBR
100k	G、A	0～100kPa	200％FS	500％FS	NBR
160k	G、A	0～160kPa	200％FS	500％FS	NBR
250k	G、A	0～250kPa	200％FS	500％FS	NBR
500k	G、A	0～500kPa	200％FS	500％FS	NBR
1M	G、A、S	0～1MPa	200％FS	500％FS	NBR
1.6M	G、A、S	0～1.6MPa	200％FS	500％FS	NBR
2.5M	G、A、S	0～2.5MPa	200％FS	500％FS	NBR
4M	S	0～4MPa	200％FS	400％FS	NBR
6M	S	0～6MPa	200％FS	400％FS	FKM
10M	S	0～10MPa	200％FS	400％FS	FKM
16M	S	0～16MPa	200％FS	400％FS	FKM
25M	S	0～25MPa	150％FS	400％FS	FKM
40M	S	0～40MPa	150％FS	300％FS	FKM
60M	S	0～60MPa	150％FS	300％FS	FKM
100M	S	0～100MPa	150％FS	300％FS	FKM

Cautions

■ The detection range should be within ± 30% FS for over range or down range application,.

■The pressure types includs gauge pressure, absolute pressure and sealing pressure.

■Please confirm the system's max overload.The maximum overload of the system should be less than the overload protection limit of the sensor, otherwise it may reduce the lifespan or bring damage to the core .

■ Do not touch the diaphragm with any hard objects, it may break the diaphragm.

■The material and manufacturing process of the negative pressure core are different from the positive pressure

core, the gauge pressure core cannot be used to replace the negative pressure core.

■Please carefully read the manual before installation, to avoid damage to the product caused by wrong installation.

■Incorrect may cause danger and personal injury.

■When pulling out the core from the shell, do not pull the wire and pin.

■Anti static measures is necessary during assembly or testing.

郑州炜盛电子科技有限公司
地址：郑州市高新技术开发区金梭路 299 号
电话:0371-60932955/60932966/60932977
传真:0371-60932988
E-mail:sales@winsensor.com
Http://www.winsensor.com