Diffussed Silicon Pressure Transmitter

(Model No. WPCK03)

Manual Version: 1.0

Date: Jun-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.

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WPCK03 Diffussed Silicon Pressure Transmitter

Product Description

WPCK03 series diffused silicon pressure sensor is a pressure transmitter integrated with high-precision imported diffused silicon pressure sensitive chip and packaged with mature production process sensor as a signal measuring element, integrates highly reliable signal processing circuit and wide temperature compensation. At the same time, this product has undergone strict testing and screening of components, semi-finished products and finished products, which maintain high precision standard signal output at different temperatures. The product has excellent reliability, flexibility and diversity, it's widely used in pressure measurement and monitoring of water affairs, IoT, chemical industry, petroleum and other industries. This product has multi output methods, which can meet different technical requirements of customers in different applications. Our company can customize pressure transmitters with different appearances and functions according to customer requirements to provide customers with more reliable solutions.

Main features：

- Stainless steel d4sturcture
- Wide temperature compensation-10~+70℃
- Multi output methods
- Excellent anti-interference ability
- High reliability
- Hi Accuracy
- Low consumption

Application:

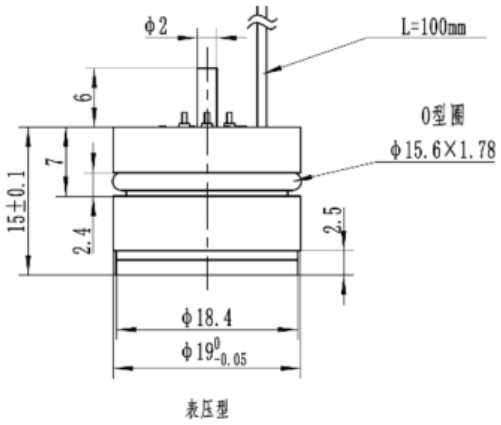
- Process control system
- Pressure calibration instrument

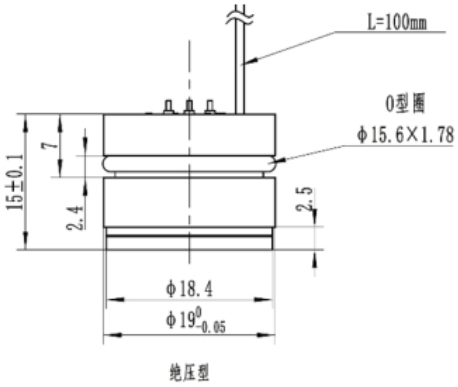
- Hydraulic system

- Biomedical instruments
- Hydraulic system and valve
- Liquid level measurement
- Military equipment
- Refrigeration equipment and HAVC system
- Ships and navigation
- Pipeline pressure monitoring

Basic Parameter Index		
Pressure range	-100kPa～0～10kPa…100MPa	
Pressure Reference	Gauge Pressure/Absolute Pressure/Sealed Gauge Pressure	
Power supply	3.3V-5.5VDC (Or others)	
Working Current	＜3mADC	
Output	I²C(Pressure/Temperature)、4-20mA、0.5-4.5V and others	
Accuracy	±0.2%FS, ±0.5%FS	Can be customized
Low Consumption	Standby current＜100nA	
Temperature Error	±2℃	Only for I²C mode
Pressure Error	±0.25%FS	Only for I²C mode
input resistance	≤（U-12）/0.02Ω(2-wire system)、≥10k（3-wire system）	Only for analogue signal mode
Overload	1.5 or 2.0 times full scale	
TemperatureCompensation	-10～70℃	
Working Temperature	-40～80℃	
Storage Temperature	-25～85℃	
Vibration Resistance	10gRMS，20～2000Hz	
Shock Resistance	100g, 11ms	
Sealing	FKM	
Housing material	316L	
Diaphragm Material	316L	
Plug	Standard PH2.0-5P	
Reverse polarity protection	Yes	In voltage output mode power supply and output cannot be reversed

Dimension





Detection Ranges

Pressure Range Code	Pressure Reference	Pressure Range	Over Pressure	Burst Pressure
10k	G	0～10kPa	200%FS	600%FS
20k	G	0～20kPa	200%FS	600%FS
35k	G	0～35kPa	200%FS	600%FS
70k	G	0～70kPa	200%FS	600%FS
100k	G、A	0～100kPa	200%FS	500%FS
250k	G、A	0～250kPa	200%FS	500%FS
500k	G、A	0～500kPa	200%FS	500%FS
1M	G、A、S	0～1MPa	200%FS	500%FS
1.6M	G、A、S	0～1.6MPa	200%FS	500%FS
2.5M	G、A、S	0～2.5MPa	200%FS	500%FS
4M	S	0～4MPa	200%FS	400%FS
6M	S	0～6MPa	200%FS	400%FS
10M	S	0～10MPa	200%FS	400%FS
16M	S	0～16MPa	200%FS	400%FS
25M	S	0～25MPa	150%FS	400%FS
40M	S	0～40MPa	150%FS	300%FS
60M	S	0～60MPa	150%FS	300%FS
100M	S	0～100MPa	150%FS	300%FS

WPCK03–Output Method

Xk/MP	3	0	1	G
Range				

H	12-28VDC
M	5VDC
L	3.3VDC

E	4-20mA
J	0-5V
V	0-10V
V1	0.5-4.5V
V2	0.5-2.5V

C	100mmSilicone conductor+2.54mm Plug
W	100mmSilicone conductor

G	Gauge Pressure
A	Absolute Pressure
S	Sealed Gauge Pressure

WPCK03-I²C-I²C -19I

Xk/MPa	3	0	1	G
Range				

M	5VDC
3	3.3VDC

0	10%-90%
5	5%-95%

1	Grey Cable +PH2.0-5P Plug
2	100mmFlexible conductor

G	Gauge Pressure
A	Absolute Pressure
S	Sealing Pressure

Electrical connection

I2C output electrical definition:

VCC - Red Wire

SDA- Blue Wire

SCL- Yellow Wire (Clock Line)

PD- White Wire

GND- Black Wire

Analog signal output electrical definition:

Power supply positive- Red wire

Power supply negative - Black wire

Output - Yellow wire

Cautions

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

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

■Misuse may cause danger and personal injury.

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

■For customized product cycle, please consult sales department.