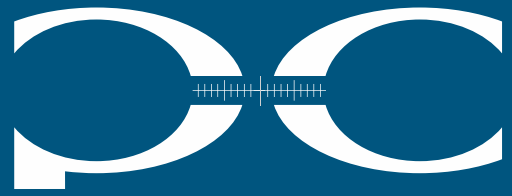


LEVEL SENSOR

Model PC-PSK2



POSITION CONTROL
MEASUREMENT ENGINEERING



Product Data

PC-PSK2 is made from high-quality silicon piezoresistive sensor. The piezoresistive sensor is packaged in stainless steel housing. The PC-PSK2 is precision engineered to fit most level measurement. The water-proof cable connects with housing sealed, with vented tube putting in, the transmitter could be used in the water or liquid in a long time. Integrated construction and standard output signal could provide easy operation and good automatic control.

Applications

- Level measurement
- Hydraulic monitoring in rivers and sea
- Liquid level measurement
- Water treatment
- Water diversion project

Features

- Measuring ranges from 1mH²O to 200mH²O
- Accuracy: $\pm 0.25\%$ FSO or $\pm 0.5\%$ FSO
- Calibrated and temperature compensated
- Stainless steel construction
- Piezoresistive pressure sensor design
- Variety of Pressure & Electrical connections
- Output 4...20mA, 0...10V, 0...5V and others

Standard Pressure Ranges

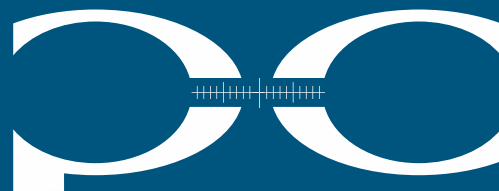
| Nominal pressure range | | |
|--------------------------|--|--|
| 0...1mH ² O | | |
| 0...2mH ² O | | |
| 0...5mH ² O | | |
| 0...10mH ² O | | |
| 0...15mH ² O | | |
| 0...20mH ² O | | |
| 0...50mH ² O | | |
| 0...80mH ² O | | |
| 0...100mH ² O | | |
| 0...150mH ² O | | |
| 0...200mH ² O | | |

Other pressure ranges available. Please consult the factory.

This data sheet contains product specification, properties are not guaranteed. Subject to change without notice.

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Performance Specifications

| Parameter | Value | Units | Notes | | |
|--------------------------------|--|-------------------|----------------|------------|---------------------------|
| General | | | | | |
| Pressure Range | 0-1,...,200 | mH ² O | | | |
| Overpressure | 1.5xFS | mH ² O | | | |
| Environmental | | | | | |
| Operating Temperature Range | -20 to +70 | °C | -4°F to 158°F | | |
| Compensated Temperature Range | 0 to +70 | °C | 32° F to 158°F | | |
| Storage Temperature Range | -40 to +125 | °C | -40°F to 257°F | | |
| Vibration | 10 | g | 20 to 2000Hz | | |
| Shock | 100 | g | 10ms | | |
| Cycles | 10x10 ⁶ | cycles | | | |
| Electrical @ 25°C(77°F) | | | | | |
| Output Signal | 4...20mA | 0...5Vdc | 1...5Vdc | 0...10Vdc | 0.5...4.5Vdc(ratiometric) |
| Power Supply(Vs) | 12...36Vdc | 12...36Vdc | 12...36Vdc | 15...36Vdc | 5Vdc |
| Load Resistance | <(Vs-12)/0.02A (For current output), >10 kΩ (For voltage output) | | | | |
| Insulation Resistance | 100MΩ@50Vdc | | | | |
| Physical Specifications | | | | | |
| Media Compatibility | All media compatible with 316L stainless steel | | | | |
| Housing | 304 stainless steel | | | | |
| Diaphragm | 316L stainless steel | | | | |
| Seal Ring | Viton or NBR | | | | |
| Oil Filling | Silicone oil | | | | |
| Protection | IP68 | | | | |
| Net Weight | Approx.225g | | | | |
| Parameter | Minimum | Typical | Maximum | Units | Notes |
| Performance | | | | | |
| Accuracy | 0.1 | 0.25 | 0.5 | %FSO | 1,2 |
| Temp Coeff - Zero | | ±0.75 | ±1.5 | %FSO | 3 |
| Temp Coeff - Span | | ±0.75 | ±1.5 | %FSO | 3 |
| Long-Term Stability | | ±0.2 | ±0.3 | %FSO/year | 1 |

Notes

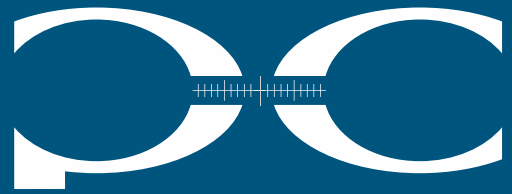
- All values measured at 25°C)
 - Including non-linearity, hysteresis and repeatability.
 - 0°C to 70°C(32°F to 158°F) with reference to 25°C(77°F).
- The listed specifications and dimensions are subject to change without prior notice.

Electrical connections

| Cable outlet | 4...20mA/HART | 1...5VDC | 0.5...4.5VDC | MODBUS |
|----------------|---------------|----------|--------------|--------|
| +Vcc | 2-wire | 3-wire | 3-wire | 4-wire |
| OUT/RS485A/SDA | Red | Red | Red | Red |
| GND | Green | Yellow | Yellow | Yellow |
| RS485B/SCL | NA | Green | Green | Green |
| | | | | Blue |

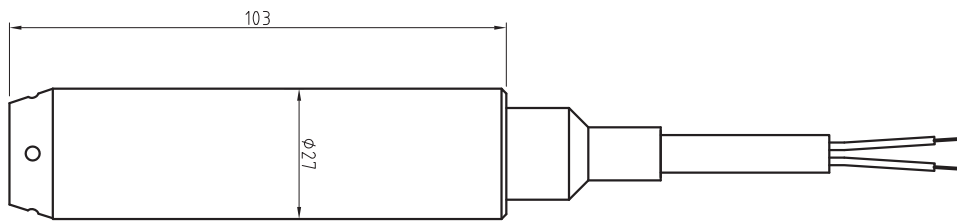
LEVEL SENSOR

Model PC-PSK2



POSITION CONTROL
MEASUREMENT ENGINEERING

Dimensions (in mm)



Ordering Information

| Option1: Model | | | | | |
|----------------|--------------------------|------------------------|----------------------|-----------|---|
| PC-PSK2 | Level Transmitter | | | | |
| | Option2: Pressure Ranges | | | | |
| 0001 | 1mH ² O | 0100 | 100mH ² O | | |
| 0002 | 2mH ² O | 0150 | 150mH ² O | | |
| 0005 | 5mH ² O | 0200 | 200mH ² O | | |
| 0010 | 10mH ² O | Cxxx | Customized range | | |
| 0020 | 20mH ² O | | | | |
| 0050 | 50mH ² O | | | | |
| 0080 | 80mH ² O | | | | |
| | Option3: Cable length | | | | |
| | [x]m | x=cable length | | | |
| | | Option4: Output Signal | | | |
| | 42 | 4...20mA | | | |
| | 05 | 0...5Vdc | | | |
| | 15 | 1...5Vdc | | | |
| | 10 | 0...10Vdc | | | |
| | 45 | 0.5...4.5(ratiometric) | | | |
| | 50 | RS 485 Modbus RTU | | | |
| | | Option5: Accuracy | | | |
| | | 01 | 0.15%FSO | | |
| | | 02 | 0.25%FSO | | |
| | | 05 | 0.5%FSO | | |
| PC-PSK2 | 0010 | 15 | 42 | 02 | Examples of Ordering Code: PC-PSK-001-15-42-02 |

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Communication format:

I .Read command format (03 function code) example:

A. Send Read command format

| Register Address | function code | Register High Address (H) | Register High Address (L) | Register Quantity High Byte (H) | Register Quantity Low Byte (L) | CRC16 (L) | CRC16 (H) |
|------------------|---------------|---------------------------|---------------------------|---------------------------------|--------------------------------|-----------|-----------|
| 0X01 | 0X03 | 0X00 | 0X00 | 0X00 | 0X01 | 0X84 | 0X0A |

B. Return Read data format:

| Register Address | function code | Data Bytes | data (H) | data (L) | CRC16 (L) | CRC16 (H) |
|------------------|---------------|------------|----------|----------|-----------|-----------|
| 0X01 | 0X03 | 0X02 | 0X00 | 0X01 | 0X79 | 0X84 |

II .Write command format (06 function code) example

A. Send write command format

| Register Address | function code | Register High Address (H) | Register High Address (L) | Register Quantity High Byte (H) | Register Quantity High Byte (L) | CRC16 (L) | CRC16 (H) |
|------------------|---------------|---------------------------|---------------------------|---------------------------------|---------------------------------|-----------|-----------|
| 0X01 | 0X06 | 0X00 | 0X00 | 0X00 | 0X02 | 0X08 | 0X0B |

B. Return write data format example:

| Register Address | function code | Register High Address (H) | Register High Address (L) | Register Quantity High Byte (H) | Register Quantity High Byte (L) | CRC16 (L) | CRC16 (H) |
|------------------|---------------|---------------------------|---------------------------|---------------------------------|---------------------------------|-----------|-----------|
| 0X01 | 0X06 | 0X00 | 0X00 | 0X00 | 0X02 | 0X08 | 0X0B |

III . Abnormal response return

| Register Address | function code | Abnormal code | CRC16 (L) | CRC16 (H) |
|------------------|---------------------|--|-----------|-----------|
| 0X01 | 0X80+ function code | 0x01(illegal function) 0x02(illegal data address) 0x03(illegal data) | | |

Supported command, meaning of command and data

MODBUS-RTU protocol command list is as follows:

| function code | Register High Address | Register Quantity High Byte | Data byte | Data scope | Command meaning |
|--------------------------------|-----------------------|-----------------------------|-----------|--|--|
| 0x03 function code read data | | | | | |
| 0x03 | 0x0000 | 1 | 2 | 1-255 | Read slave address |
| 0x03 | 0x0001 | 1 | 2 | 0-1200 1-2400 2-4800 3-9600 4-19200 5-38400 6-57600 7-115200 | Read Baud rate |
| 0x03 | 0x0003 | 1 | 2 | 0-##### 1-####.# 2-###.## 3-#.### | Decimal point stands for 0-3 digits decimal points |
| 0x03 | 0x0002 | 1 | 2 | 0- Mpa/°C. 1- Kpa 2- Pa 3- Bar 4- Mbar 5- kg/cm ² 6- psi 7- mh ² o 8- mmh ² o | Pressure unit |
| 0x03 | 0x0004 | 1 | 2 | -32768-32767 | Measurement output value |
| 0x03 | 0x0005 | 1 | 2 | -32768-32767 | Zero point of transmitter range |
| 0x03 | 0x0006 | 1 | 2 | -32768-32767 | Full point of transmitter range |
| 0x03 | 0x000c | 1 | 2 | -32768-32767 | Zero point offset value, generally factory sets as 0. |
| 0x06 function codes write data | | | | | |
| 0x06 | 0x0000 | | 2 | 1-255 | Write slave address |
| 0x06 | 0x0001 | | 2 | 0-1200 1-2400 2-4800 3-9600 4-19200 5-38400 6-57600 7-115200 | Write Baud rate |
| 0x06 | 0x000c | | 2 | -32768-32767 | Zero point offset value* pressure output value= calibration measurement value + Zero point offset value |

| Save and factory reset | | | | | |
|------------------------|--------|--|---|----------------------------|--|
| 0x06 | 0x000F | | 2 | 0- save to user area | |
| 0X06 | 0x0010 | | 2 | 1- factory reset | |