

高精度压阻式数字压力传感器

High Precision Digital Piezoresistive Pressure Sensor

CY-005系列

本系列压力传感器的敏感元件为压阻原理，采用半导体工艺制成。敏感元件的输出信号经放大、滤波和采集后，由微处理器进行温度补偿，补偿后的结果可通过模拟接口和数字接口输出。该系列产品可以数字或模拟信号形式输出压力信号和当前的温度信号；同时可对传感器进行在线配置，设置输出形式、采样速率、波特率和测量范围等指标。产品具有精度高、稳定性好、可靠性高、抗环境能力强的特点。产品可应用于航空、航天领域，对气瓶、贮箱、推进剂管路的压力信号进行测量。

性能指标：

测量范围：0 ~ 0.05 MPa(绝压)至0 ~ 5 MPa（绝压）

量程可根据需要进行在线配置

过载压力：2倍满量程

精度：

数字输出精度： $\leq 0.5\%$ （全温区包括线性、迟滞、重复性）

模拟输出精度： $\leq 0.7\%$ （全温区包括线性、迟滞、重复性）

输出形式：

数字输出接口（RS-232）：

波特率：1200, 2400, 4800, 9600, 14400, 19200, 28800

数据格式：1位起始位,8位数据位,1位停止位

奇偶校验：无奇偶校验，奇校验，偶校验

模拟输出接口：

电压范围：0~5V

短路电流：最大50mA

工作输出电流：最大15 mA（全温区）

负载电阻：最小10K Ω

分辨率：16位DA输出

采样速率：100点/秒~10分每点

温度输出精度： $\leq \pm 2^\circ\text{C}$

供电要求：电压：15 $\pm$ 3V；电流：小于100mA

存储温度：-55 $^\circ\text{C}$ ~ +90 $^\circ\text{C}$

工作温度：-40 $^\circ\text{C}$ ~ +85 $^\circ\text{C}$

接管嘴形式：M12 $\times$ 2.5；

接插件及接点分配：

接插件类型：Y4-7ZJBM；



This series of pressure sensor is the sensitive element of piezoresistive principle, made by semiconductor technology. After the output signal of sensitive element amplification, filtering and gathering, temperature compensation by microprocessor, its result can be output by analog interface and a digital interface. This series of products can be digital or analog signal output pressure signal and the temperature of the current signal; At the same time can be used to online configuration of sensor and set the output form, sampling rate, baud rate and the range of measurement indicators. With high precision, good stability, high reliability, strong ability to resist environmental characteristics, Products can be used in aviation, spaceflight, of the cylinder pipe, tank and propellant pressure signal measurement.

Performance index:

Measurement range：0 ~ 0.05 MPa(absolute pressure)

0 ~ 5 MPa (absolute pressure)

Range can be set online configuration according to the requirement

Pressure overload: 2 times of full scale range

Accuracy:

Digital output precision: $\leq 0.5\%$ (All zones including linearity, hysteresis, repeatability)

Analog output precision: $\leq 0.7\%$ (All zones including linearity, hysteresis, repeatability)

Forms of output:

Digital interface (RS-232)：

Baud rate: 1200, 2400, 4800, 9600, 14400, 19200, 28800

data format: 1 start, 8 data, 1 stop

odd-even check: No Parity, Odd Parity Check, even parity check

Analog Output Interface:

Voltage range: 0~5V

Short-circuit current: MAX 50mA

Short-circuit current: MAX 50mA

output current: MAX. 15 mA (ALL ZONE)

load resistance: MIN. 10K Ω

resolution ratio: 16BIT DA OUTPUT

Sample rate: 100 hp/ sec 10 min/hp

Output temperature accuracy: $\leq \pm 2^\circ\text{C}$

power supply: voltage: 15 $\pm$ 3V; current: no more than 100mA

storage temperature: -55 $^\circ\text{C}$ ~ +90 $^\circ\text{C}$

working temperature: -40 $^\circ\text{C}$ ~ +85 $^\circ\text{C}$

form of filler neck: M12 $\times$ 2.5;

Connectors and the distribution of contact:

Connector type: Y4-7ZJBM;

接点分配:

- 1.RS232发送 (TD)
 - 2.RS-232 接收 (RD)
 - 3.机壳接地
 - 4.电源和信号公共地 (GD)
 - 5.电源
 - 6.模拟输出
- 产品外形图:

Distribution of contact:

- 1.RS232 (TD)
 - 2.RS-232 (RD)
 - 3.chassis earth
 - 4.GD
 - 5.power
 - 6.analog output
- outside drawing:

