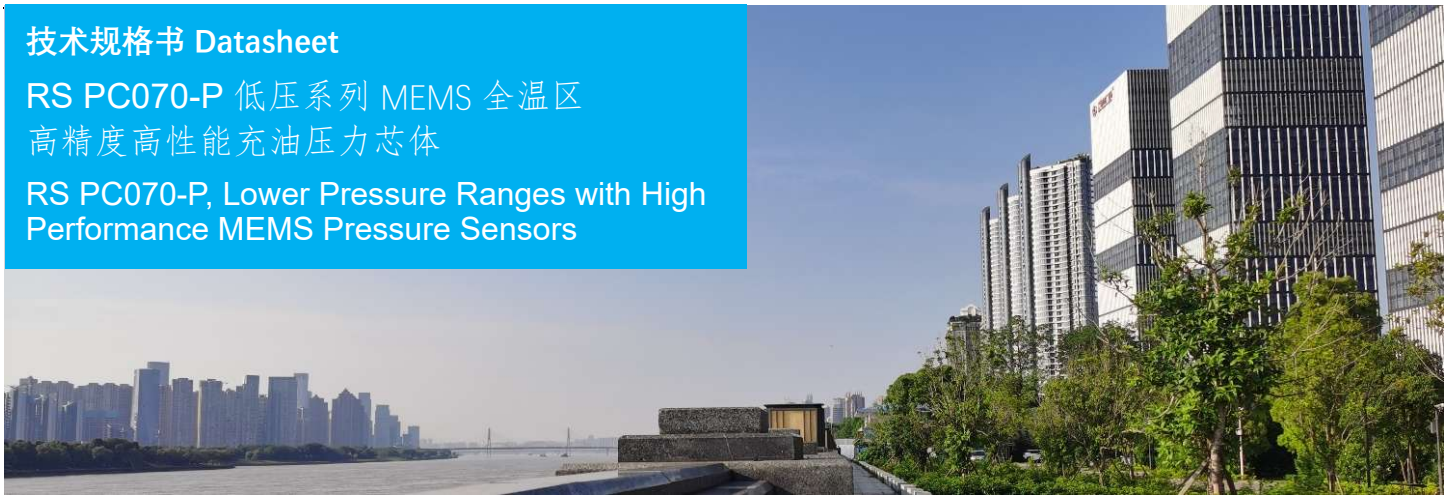
Rodee Sensors Today, Sensing Tomorrow
专注传感，感知未来

技术规格书 Datasheet

RS PC070-P 低压系列 MEMS 全温区高精度高性能充油压力芯体

RS PC070-P, Lower Pressure Ranges with High Performance MEMS Pressure Sensors





RS PC070-P 低压系列全温区高精度 MEMS 充油压力芯体，精选全球高质量压阻芯片，采用国际先进封装工艺和自主专利结构设计充油封装，产品整体性能质量达到国际先进水平。

芯体未做温度补偿，该芯体具有优越的低温特性，采用罗迪传感推荐国产数字调理芯片，可以轻松实现比较高的全温区精度。

RS PC070-P, the low-pressure series of high-precision MEMS oil-filled pressure cores, selected high-quality piezoresistive chips, and oil-filled packaging with cutting-edge packaging technology and independent patented structure design, the overall performance and quality of the products are excellent.

It is designed for OEM applications, and sensors uncompensated. A variety of threaded process fittings are available. Fittings include standards like G1/4 and 1/4 NPT as well as customized process fittings.

应用场景 Applications

流体控制 Hydraulic Controls
压力变送器 Pressure Transmitters
制冷设备 Refrigeration
工序控制 Process Control
机器人 Robotics
液位计 Level Gauge

产品特点 Product Highlights

- ✓ 全焊接设计； Weldable Design
- ✓ 高过载，全系列≥3x 过载设计； ≥3x FS Pressure Overload
- ✓ ±0.05%FS 压力重复性； ±0.05% Pressure Repeatability
- ✓ 小尺寸设计，SUS316L 膜片； SUS316L diaphragm, Compact Design
- ✓ 0-100mV 输出； 0-100mV output
- ✓ 优异的低温特性； Excellent Low Temperature Accuracy
- ✓ 整体性能等同或者超过同类进口品牌产品； High Performance

标准压力量程 Pressure Range

表压或绝压可选 Gauge(Relative)/Absolute

0 – 5 PSIG/A	0 – 30 PSIG/A
0 – 15 PSIG/A	0 – 70 PSIG/A

技术参数
Technical Data

性能指标 Performance

除非其他特别说明，下面测试数据是基于 5VDC 供电和在 25°C 温度下测量；
(Measured at 5V supply and 25°C, unless otherwise specified)

表 1：性能指标参数
Sheet 1: Performance data

参数 Parameters	下限 Min	典型值 Typical	上限 Max	单位 Unit	备注 Notes
供电电压 Supply Voltage		5	10	VDC	
供电电流 Supply Current		1		mA	
桥臂阻抗 Bridge Resistance	4.0	5.0	6.0	KΩ	
灵敏度 Sensitivity	15	20	25	mV/V@Span	
零点压力输出 Zero Pressure Output	-10.0	0	10.0	mV/V	
压力线性度 Pressure Non-Linearity	-0.3	±0.2	0.3	% of FS	
压力迟滞性 Pressure Hysteresis	-0.05	±0.02	0.05	% of FS	
温度迟滞 Thermal Hysteresis - Span	-0.2	±0.05	0.20	% of Span	1
温度迟滞 Thermal Hysteresis - Offset	-0.2	±0.05	0.20	% of Span	1
绝缘阻抗 Insulation Resistance	100	-	-	MΩ@750VDC	2
工作温度 Operating Temperature	-40	-	125	°C	
存储温度 Storage Temperature	-55	-	150	°C	

表 2：可选标准压力量程及其性能指标
Sheet 2: Pressure Ranges and Performance data

芯体类型 Model	标称压力量程 Pressure Range	过载压力倍数 Overload Pressure	爆裂压力倍数 Burst Pressure	重复性 Repeatability Typical	温度系数 Temp. Coefficient -Offset Typical	温度系数 Temp. Coefficient -Span Typical	温度系数 Temp. Coefficient Resistance Typical
	psi	FS	FS	≤%FS	uV/V/°c	ppm/°c	ppm/°c
表压/绝压 Gauge/ Absolute	0-5	3 x	20 x	±0.05	-30	-1,800	3,700
	0-15		10 x		-30		
	0-30		10 x		12		
	0-70		10 x		12		
备注 Notes		3	4				

*其他压力类型或更大过载需求，请联系罗迪传感销售。
Other pressure ranges, please contact Rodee Sensors.

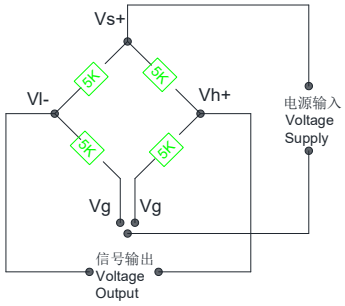
备注：
Notes:

1. -40°C-125°C，测试基准温度 25°C;
   Measured at -40°C, 125°C and 25°C
2. 该值为外壳到电桥桥臂电阻；
   Between sensor bridges and case;
3. 相对于标称压力倍数的最大静态过载压力；
   Static pressure overload;
4. 该值为相对于标称压力的倍数的最大静态爆裂压力；超过该压力值，产品芯片或者产品结构会有爆裂风险；
   Max static burst pressure,

表 3：其它性能
Sheet 3: Environment

机械震动 Vibration IEC 60068-2-6 (正弦, Sinus) IEC 60068-2-64 (随机,Random)	正弦 Sinus： 20G, 10-2000Hz 随机 Random： 7.5G rms, 5-1000Hz
机械冲击 Shock IEC 60068-2-27	峰值 Peak: 100G

电气连接 Electrical Connection

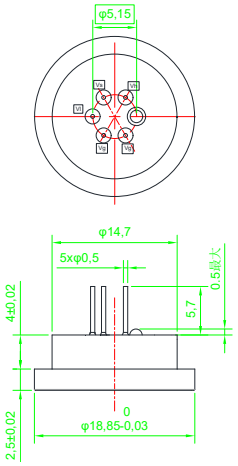
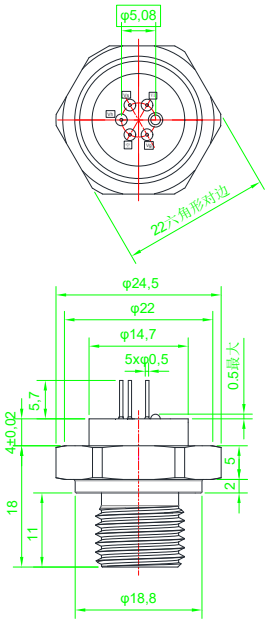
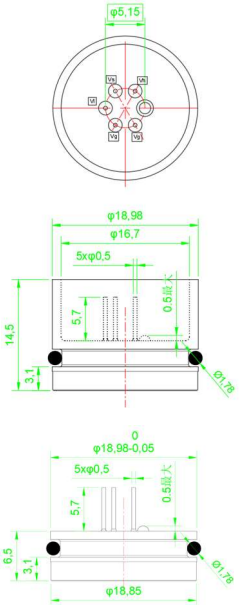


半开桥 Half Open Bridge

Vs+: 电源输入+ Voltage Supply+
Vg(GND): 电源输入- Voltage Supply-
Vh+: 信号输出+ Voltage Output+
Vl-: 信号输出- Voltage Output-

外形尺寸

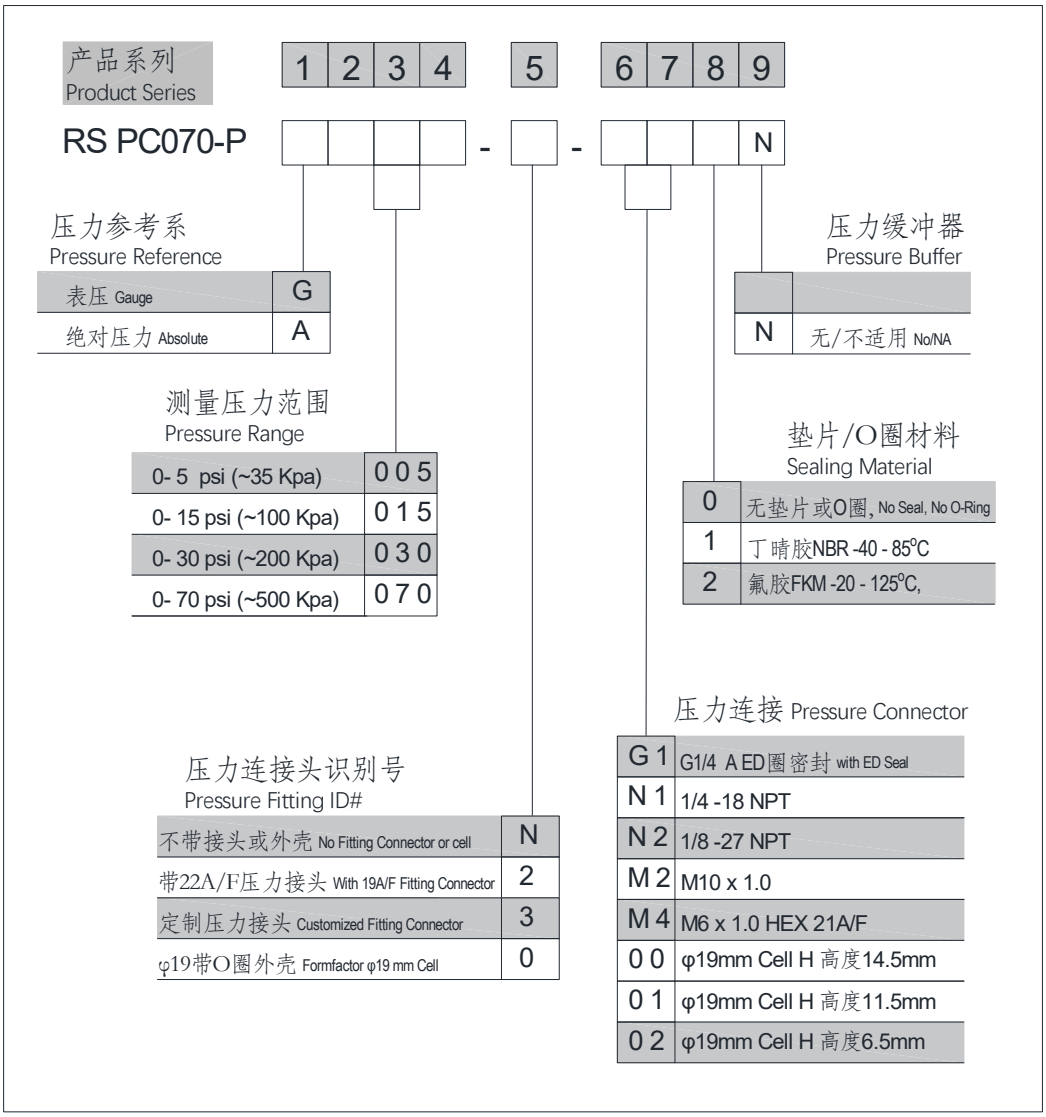
Pressure Connection

型号 Model	充油芯体 Pressure Sensor (Core)	充油芯体，配压力连接头 Pressure Sensors with fittings	充油芯体，配φ19 外壳 Pressure Sensors with φ 19mm enclosure
外形尺寸 Outlines			
材料 Material	接触液体材料：SUS 316L Contact to Media: SUS 316L 针表面镀金 Gold plated connection pins	接触液体材料：SUS 316L Contact to Media: SUS 316L 针表面镀金 Gold plated connection pins	接触液体材料：SUS 316L Contact to Media: SUS 316L 针表面镀金 Gold plated connection pins
产品重量 Weight	Approx. 8.2 grams	Approx. 28 grams	Approx. 14 grams
螺纹选项 Fittings		*螺纹：标配 G1/4 A ED 圈密封 Various Fittings are available upon request.	高度有 14.5,11.5 和 6.5mm 3 款可选 Cell height: 14.5, 11.5 & 6.5mm available ** 留意安装特别注意事项 ** Attention!

*其他螺纹规格与六角对边尺寸压力连接头，请联系罗迪传感销售。
Other pressure connectors, please contact Rode Sensors.

**安装特别注意事项：采用此结构的产品，安装时不要使用过大锁紧压力，过大压力或导致传感器结构纵向轻微变形，从而影响压力精度，甚至损坏压力传感器，如有疑问，请咨询罗迪传感。
** Special Installation Notes: For products with this structure, avoid applying excessive tightening pressure during installation. Excessive pressure may cause slight longitudinal deformation of the sensor structure, affecting pressure accuracy or even damaging the pressure sensor. For further inquiries, please contact Rodee Sensors.

产品订购指南
Ordering Guides



举例说明：

RS PC070-P A070-N 代表：

压力量程 0-70 PSIA, 绝压, 无需配压力连接头；

RS PC070-P G070 -2-G11N 代表：

压力量程 0-70 PSIG, 表压，配 22A/F 压力连接头，螺纹规格 G1/4,
带 NBR ED 圈密封，不带压力缓冲器。

Order Example:

RS PC070-P A070-N,
Represented for:
Pressure range 0-70PSIA, Absolute, No fitting connector

RS PC070-P G070-2-G11N,
Represented for:
Pressure range 0-70 PSIG, Gauge (Relative),
with 22A/F, G1/4 ED seal Fitting connector,
and with NBR seal, No pressure buffer.

其他说明：

* 其它测量压力量程、其它金属连接器规格、其它温度范围密封垫片，请联系罗迪传感销售；
* 不需要配压力连接头或外壳的，请勿填写代码 5,6,7,8 内容。

Notes:

* Various pressure ranges, fitting connectors, sealing material are available upon request;;
* If no need for the fitting connector or cell, please leave the code# 5,6,7,8 blank.

销售联系方式

深圳市罗迪传感科技有限公司
联系人：唐先生
电话：+86 755 8296 5400
手机：+86 139 2348 5400
Email: tangzhongshan@szrodee.com
网址： www.szrodee.com

Contact Us

Shenzhen Rodee Sensors Co., Ltd.
Contact: Tomy Tong
Tel: +86 755 8296 5400
Mobile: +86 139 2348 5400
Email: tangzhongshan@szrodee.com
Web: www.szrodee.com

此技术规格书的信息和描述仅供用户参考，深圳市罗迪传感科技有限公司有权随时更新或更正此规格书上的任何内容。
Shenzhen Rodee Sensors Ltd. reserves the right to make any kind of design or functional modification at any moment without prior notice. Once any difference occurred between English and Chinese, see Chinese information as final explanation.