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

技术规格书 Datasheet

RS PMLG150 系列 采用 MEMS 技术
高精度智能液位变送器
Precision Liquid Level Pressure Sensor





RS PMLG150 系列是一款带智能诊断的高精度液位变送器，产品采用模块化、小型化设计，精选进口 MEMS 压力芯片，采用国际领先水平的封装工艺和自主专利结构设计封装制造。

产品采用数字补偿标定，内置故障诊断功能，具有极强的 EMI 防护，专为抗干扰场景设计。

有 0.5-4.5V, 0-10V, 4-20mA 可选，液位量程 0- 1…150 mH_2O,

RS PMLG150 series is a high-precision liquid level transmitter with intelligent diagnosis. The product adopts a modular and compact design, utilizes imported MEMS pressure chips, and employs internationally leading packaging technology and proprietary structural design for packaging and manufacturing.

The product adopts digital compensation calibration, incorporates a built-in fault diagnosis function, and boasts strong EMI protection, specifically designed for anti-interference scenarios.

Output 0.5-4.5V, 0-10V, 4-20mA are available,
Level ranges: 0- 1…150 mH2O,

功能 Features

PMLG150 是一款采用全 SUS316L 不锈钢焊接设计全密封潜入式的智能液位变送器，该产品优选罗迪传感制造的高性能、高可靠性的压阻式压力传感器，采用数字运算补偿标定制造，具有全温区高精度的液位测量产品。

防水电缆选用带导气孔的优质防水电缆，采用二级密封设计与不锈钢外壳相连，保证长期投入液位中使用的可靠性。4-20mA 输出的产品采用两相制方式工作，通过模块化设计，产品体积小巧、重量轻、易于安装，使用方便可靠。

PMLG150 is a fully sealed submersible smart liquid level transmitter designed with a welded structure made of SUS316L stainless steel. This product utilizes a high-performance and highly reliable piezoresistive pressure sensor manufactured by Rodee Sensors. It is calibrated using digital operation compensation and features high-precision liquid level measurement across the entire temperature range.

The waterproof cable selected is of high quality with air vents, featuring a dual-sealing design connected to a stainless steel casing, ensuring reliability for long-term use in liquid levels. 2 wires for 4-20mA output. Through modular design, it is compact, lightweight, easy to install, and convenient and reliable to use.

应用 Applications

- ✓ 医药、化工 Pharmaceuticals Industry Chemical Industry
- ✓ 电力与能源系统 Power and Energy Systems
- ✓ 矿山 Mining Equipment
- ✓ 水处理及供水系统 Water Supply & Treatment
- ✓ 环境与水利监测 Environmental and Hydrological Monitoring

产品特点： Product Highlights:

- ✓ 高精度，采用数字补偿校准技术 Precision with Digital Compensated
- ✓ 二级密封防护设计，产品长期稳定可靠 Dual Sealing Design makes Sensor Reliable
- ✓ 产品设计小巧，防堵塞设计 Compact and Anti-clogging Design
- ✓ 产品具有故障诊断功能 Fault Diagnosis Function
- ✓ 超强 EMI/EMC 保护设计 Enhanced EMI/EMC Design
- ✓ 产品通过 CE 认证。 CE Compliant & Rohs Compliant

技术参数 Technical Data

性能指标 Performance

产品总精度， TEB (Total Error Band) [1]	液位量程 LG Range ≤3 mH_2O 0°C~50°C	液位量程 LG Range ≤10 mH_2O 0°C~60°C	液位量程 LG Range >10 mH_2O -10°C~70°C
典型值 TEB, Typical	≤±0.25% FS	≤±0.20% FS	≤±0.15% FS
最大值 TEB, Max.	≤±0.5% FS	≤±0.25% FS	≤±0.25% FS
长期稳定性 Long term stability	≤0.20% FS/年 year	≤0.15% FS/年 year	≤0.15% FS/年 year
其他温度范围精度值 TEB, Others Temp. Range,	联系罗迪传感 Contact Rodee Sensors		
耐用性 Durability, 压力 P：10~90% FS	>10 x 10^6 次循环 cycles		
爆裂压力（静态） Burst Pressure (Static)	3x FS(最大 300 mH_2O)		

1) TEB (Total Error Band), 包括准确性、线性度、迟滞性、重复性和热影响误差；
TEB includes accuracy, Linearity, Hysteresis. Repeat and Thermal affects;

环境条件 Environment

补偿温度范围 Compensated temperature range	≤3 mH_2O	≤10 mH_2O	>10 mH_2O
	0 ~ 50 °C	0 ~ 60 °C	-10 ~ 70°C
工作环境温度范围 Temperature range (ambient)	-10 ~ 70 °C	-20 ~ 80 °C	-40 – 105 °C
测量介质温度范围 Temperature range (Media)	-40 – 105 °C		
运输储存温度范围 Storage temperature range	-40 – 105 °C		
EMC – 发射 Emission	EN55032 Class B		
EMC – 静电防护 ESD	Contact Discharge: 8KV, Air Discharge 15KV		
EMC- 射频干扰度 EM Filed	IEC 61000-4-3, 80-2000MHz – 10V/m		
电源输入端过电压保护(Over Voltage)	最大保护至 Protected to 比例电压 Ratio Output：15V 绝对电压 Voltage Output: 32V 电流输出 Current Output: 36V		
错接线保护 Miswiring	电源+/-接错有保护 Protected(V+ and V-)		
机械震动 IEC 60068-2-6 (正弦, Sinus) Vibration 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: 500G		
产品重量（不含电缆） Weight(exclude cable)	≤210g		

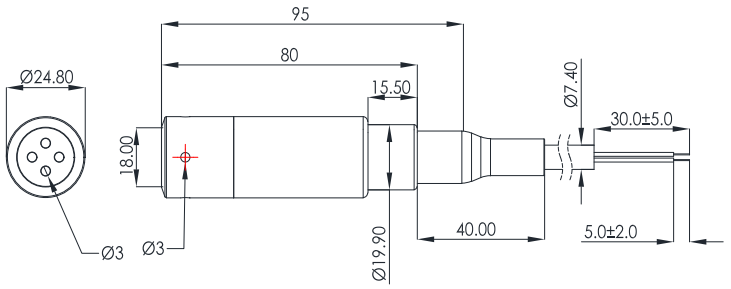
电气规格 Electrical Specification

标定输出信号 Output Signal	0.5-4.5V 比例电压, Ratio Voltage	0-5, 1-5 V 绝对电压, Abs. Voltage	0-10V, 1-10 V 绝对电压, Abs. Voltage	4-20 mA 电流输出, Current Output
供电电压 Supply Voltage(SV)	5.0±5% VDC	21-30VDC	21-30VDC	10-32VDC 推荐 24V
供电 -电流 Supply- current consumption	2.9 mA	5.9 mA	5.9 mA	-
电源依赖度 Supply Voltage Dependency	-	< 0.1% FS / 10 V		< 0.1% FS / 10 V
负载(连接至 0V) Max. Load Resistor(RL)	⩾ 2 KΩ	⩾ 2 KΩ	⩾ 2 KΩ	RL≤(SV-10V)/0.022A

机械条件 Mechanical Data

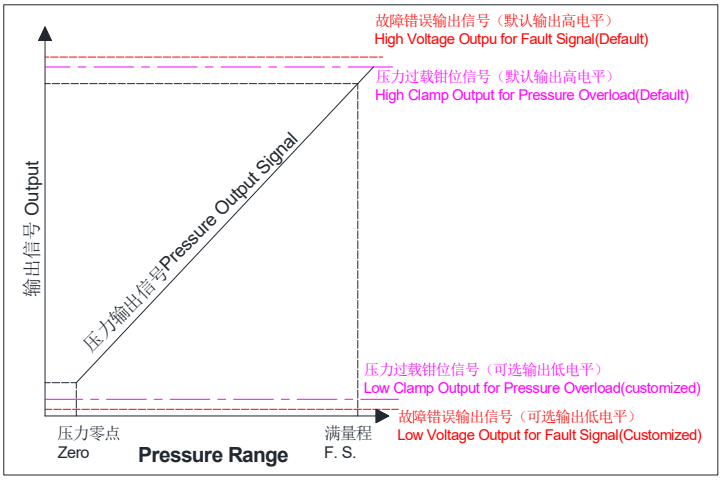
材料 Material	接触测量液体部件 Media Contact	SUS 316L 不锈钢 SUS 316L S. Steel
	外壳防护 Enclosure Material	SUS 316L 不锈钢，TPU 护套电缆 SUS 316L S. Steel, TPU cable sheath

电气连接 Electrical Connection

型号 Connector Type	比例电压/ 绝对电压输出 Ratio/Abs. Voltage	电流输出 Current Output
接线图示 Connection Figure	红色/Red: 电源+/V+ 白色/White: 输出+/Vout 黑色/Black: 电源-/V-	红色/Red: 电源+/V+ 黑色/Black: 电源-/V-
外形尺寸 Dimensions		

输出与故障诊断 Output Singal & Fault Diagnostics

（以电压输出为例）
Take 0.5-4.5VDC output as a sample for Explanation



1). 应用零点调节功能需选购罗迪专用零点调节工具套装。
1). To remove the zero offset, need to order the Zero Programing Tool from **Rodee Sensors** separately.

零点调节
-压力零点归零调节 [1)]

过载信号输出钳位
-压力超出传感器量程时，钳制输出信号到一个固定值；

故障信号输出
-当压力传感器故障时，输出一个故障信号，压力恢复正常时，故障信号不会消失；

故障信号输出可设为高电平或低电平，产品默认输出高电平，具体细节请联系罗迪传感获取更多信息。

Zero Offset
Zero offset can be adjustable[1)].

Output Clamp Levels
If pressure overloaded, limits output signal to a setting value;

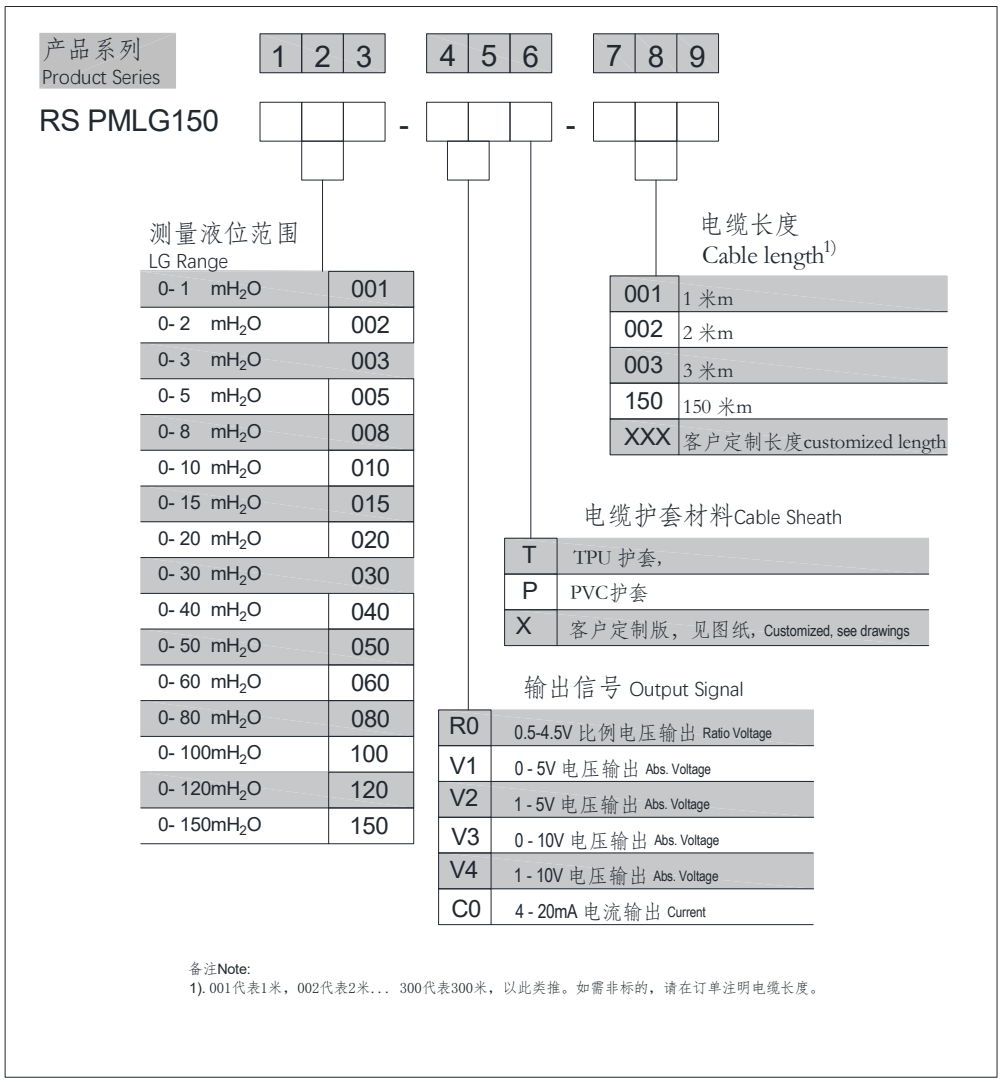
Fault Singal Output
Once Pressure Sensor is broken, output a fault signal;

Fault signal can be set to high or low, default setting is high, more details please contact **Rodee Sensors.**

标定输出信号 Output Signal	比例电压, Ratio Voltage	0-5V	1-5V	0-10V	1-10 V	4-20 mA
压力零点 Zero	10%	0V	1V	0V	1V	4mA
满量程 FS	90%	5V	5V	10V	10V	20mA
幅度 Span	80%	5V	4V	10V	9V	16mA
输出钳位-高电平 Output Clamp Level -Hi	95%	≈5.5V	≈5.5V	≈10.53V	≈10.53V	21.0mA
故障信号 -高电平 Fault Singal -Hi	98%	N/A[1)]	N/A[1)]	≈11.28V	≈11.28V	21.75mA

1).如需诊断信号，请联系罗迪传感；Please contact Rodee Sensors if Fault Singal output is in need.

产品订购指南
Ordering Guides



例如：
RS PMLG150 040-C0T-100
代表：
测量液位范围 0-40 mH_2O
4-20mA 电流输出,
TPU 护套电缆长度 100 米。

Order Example:
RS PMLG150 040-C0T-100
Represented:
Level range 40 mH_2O
Output 4-20mA
TPU cable length 100 meters

* 其它测量液位量程;
* 数字输出,以及其它电压输出范围;
* 以及其它工作温度范围应用需求;
请联系罗迪传感销售

* Other level ranges,
* Digital output and other voltage modes requested,
* And any other special applications,
Please contact **Rodee Sensors.**

销售联系方式

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