



SHANGHAI RONGDE ENGINEERING EQUIPMENT CO., LTD.

RDLY Pressure Transmitter

INSTRUCTION MANUAL

RDLY 系列压力变送器使用说明书

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1 概述

RDLY 系列压力变送器是采用扩散硅压力传感器作为敏感元件，转换电路遵循 HART 协议，以 CPU 为核心校正和控制 4-20mA 电流输出信号。具有精度高、长期工作稳定可靠、抗干扰、量程范围宽、量程可调整、体积小、重量轻、安装方便等特点。

可应用于船舶行业的各种压力测量、液位测量。

1. Overview

RDLY Series Pressure Transmitter adopt sensory unit which is silicone oil type pressure transducer. Change-over circuit follow HART protocol. The hardcore is CPU to calibrate the range and control 4-20mA output current. The transmitter have more higher precision, higher stability, best capacity of resisting disturbance, the large pressure range and calibrate or change the range at any time, small size, light in weight, simple setting method.

It is applied various pressure or level measuring in shipbuilding.



图 1 RDLY 系列压力变送器 / Fig 1 RDLY series pressure Transmitter

2 技术参数

2 Specification

型号 / Type	RDLY
供电电压 / Power supply	DC9~30V 两线制 / Two wire
量程范围 / Range	-0.1~7MPa
过载能力 / Overload	两倍传感器满量程 / Twice range
准度等级 / Accuracy	0.5
最大允许误差 / Max. permissible error	±0.5%FS
温度影响 / Temperature effect	±0.4%FS./10°C
环境温度 / Ambient temperature	-25~+70°C
相对湿度 / Relative humidity	(10~95)%
外壳绝缘电阻 / Insulation	>20MΩ
防爆等级 / Ex-Proof	Exia II CT6
外壳防护等级 / Protection	湿式/Wet type: IP68 其他/Other: IP56
适用安全栅 / Type of safety barrier	RDAQ-1(Rongde product)
调试方式 / calibration	HART 通讯协议。应用专业调试软件进行调试 Follow HART protocol and use special software

3 选型表

3 Type Selection

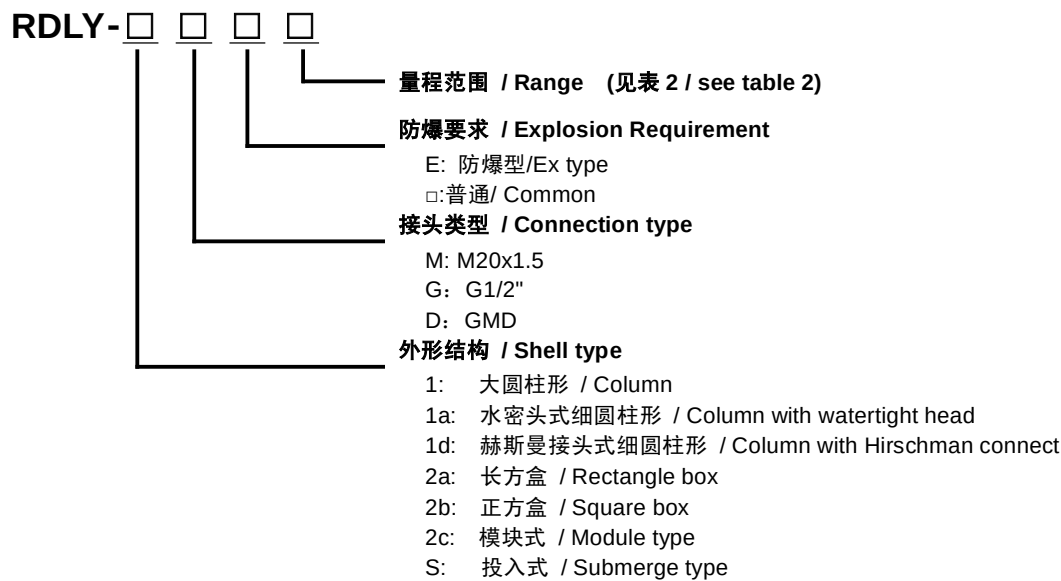


表 1 选型表 / Table 1 The type selection table

代号 Cord	量程范围(Mpa) Measurement Range	代号 Cord	量程范围(Mpa) Measurement Range
006	0~0.06	160	0~1.60
010	0~0.10	250	0~2.50
016	0~0.16	400	0~4.00
025	0~0.25	600	0~6.00
040	0~0.40	H100	0~10.00
060	0~0.60	H160	0~16.00
100	0~1.00	H250	0~25.00

表 2 量程范围代码表 / Table 2 The cord of Measurement Range

表 2 中为标准产品的代码。如果不在上述代码内，可以插入。例如：0~0.20Mpa 时，代码可编制为"020"。

带负压的压力变送器，例如：-0.1~10kpa，代码可编制为"D010/001"。

Table 2 for standard products in the code. If it is not within the above code, can be insert it. For example: the range is 0~0.20Mpa, Code can prepare for "020".

With the negative pressure transmitter. For example: the range is -0.1~10kpa, Code can prepare for "D010/001".

4 外形结构与安装

4 Shape structure and installation

4.1. 压力变送器外形结构

4.1 Pressure transmitter shape structure

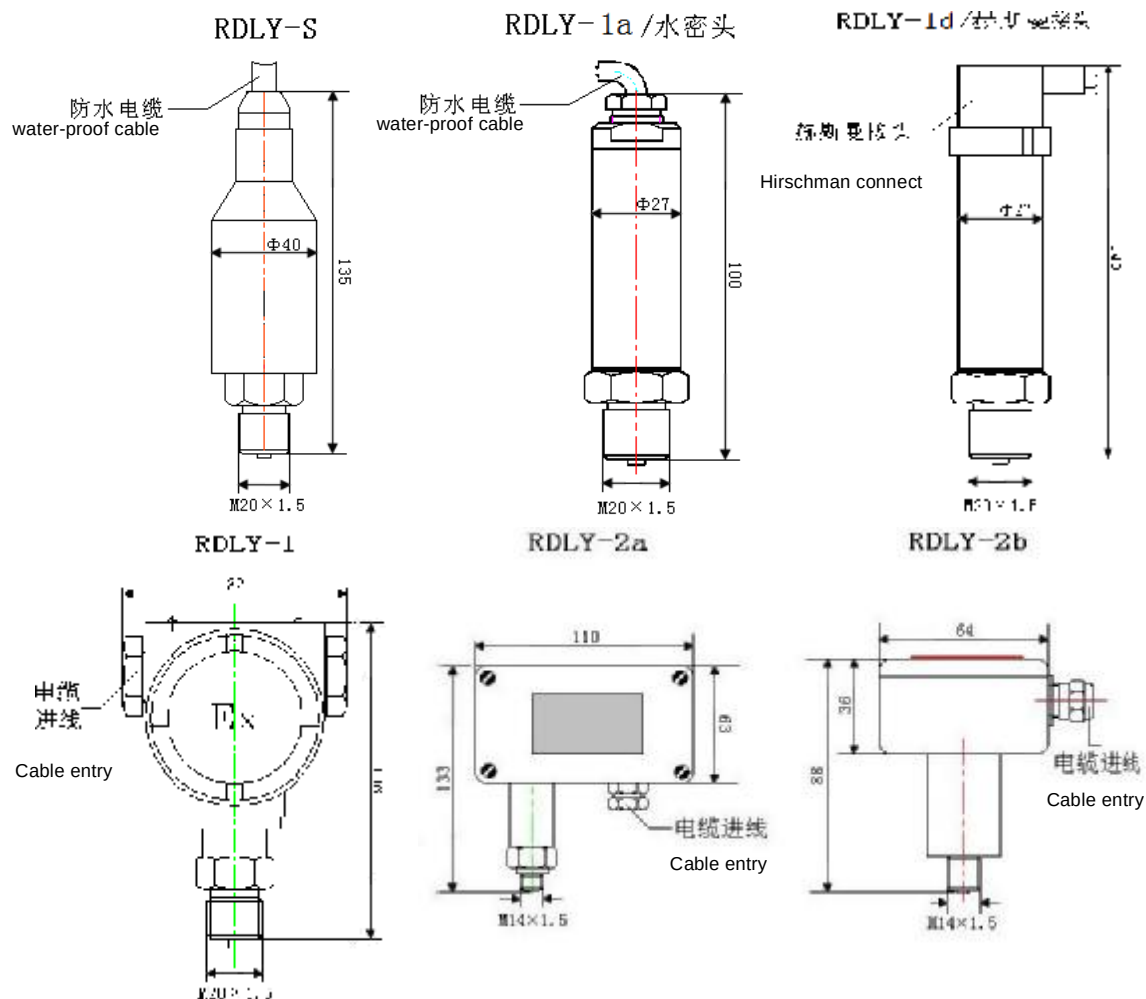


图 2 RDLY 系列压力变送器外形结构 / Fig 2 RDLY shape structure for series pressure Transmitter

4.2. RDLY-S 常用安装方式

4.2 RDLY-S Common installation

4.2.1 侧装式

4.2.1 Side mount

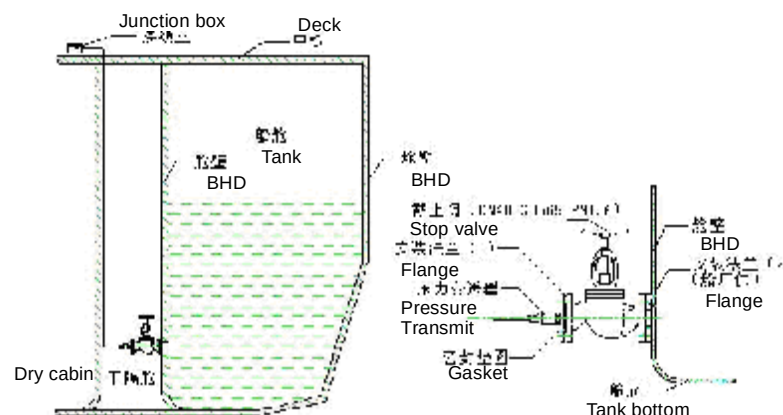
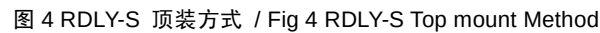
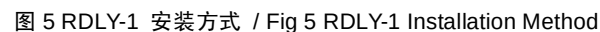


图 3 RDLY-S 侧装方式 / Fig 3 RDLY-S Side mount Method

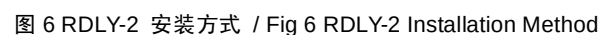
4.2.2 Top Mount



4.2.3 RDLY-1 Installation Method



4.2.4 RDLY-2 Installation Method



5 电气连接

5 Electrical connection

5.1 一般接线图

5.1 Generally the wiring diagram

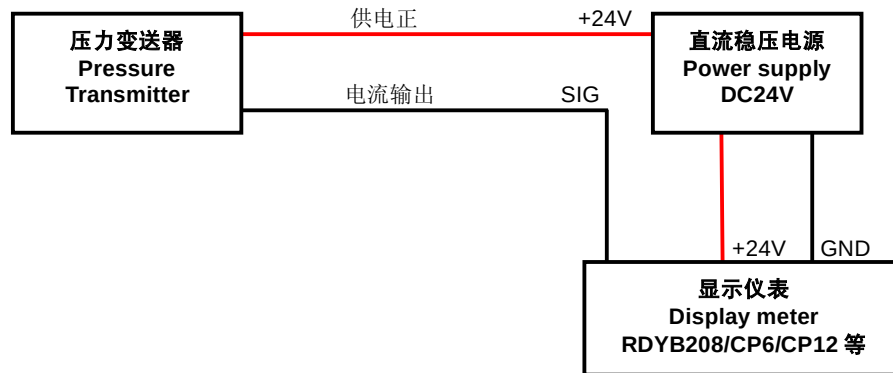


图 7 RDLY 压力变送器一般接线 / Fig 7 RDLY Pressure transmitter wiring

5.2 带安全栅接线图

5.2 With safety barrier wiring diagram

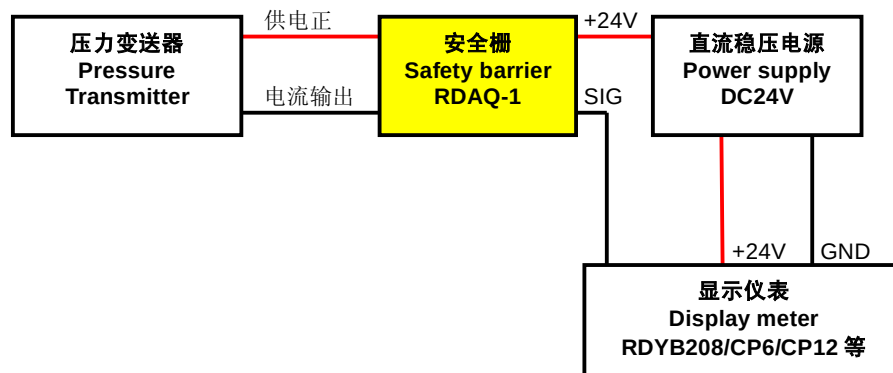


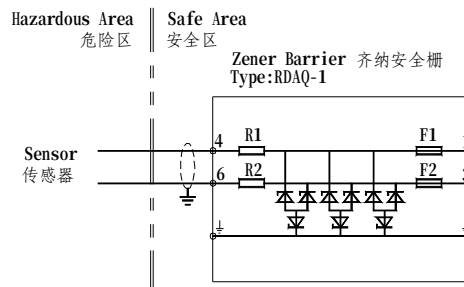
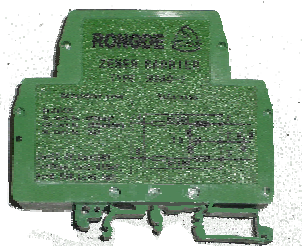
图 8 RDLY 压力变送器带安全栅接线 / Fig 8 RDLY Pressure transmitter wiring with safety barrier

5.3 安全栅

5.3 Safety barrier

RDAQ-1 齐纳安全栅是本质安全型的一次仪表和电气装置连接的重要设备，在本质安全防爆系统中有着重要的安全保障功能。

The RDAQ-1 Zener Barrier is an important device for connecting primary instrument with secondary instrument for protecting electronic device as an intrinsically safe explosion-proof system.



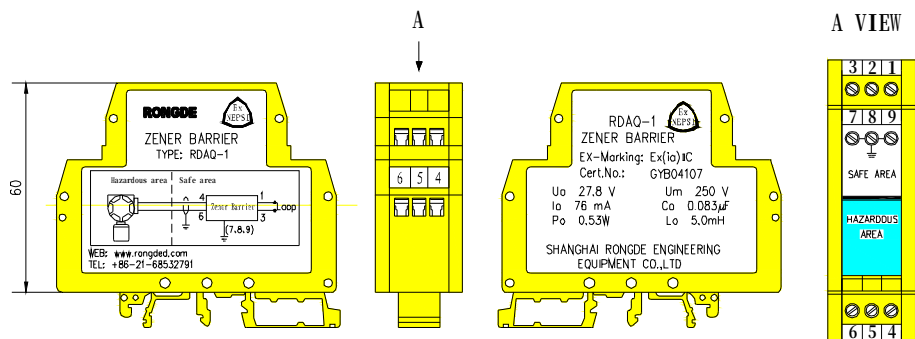


图 9 RDAQ-1 安全栅 / Fig 9 RDAQ-1 Zener Barrier

5.4 变送器连接

5.4 Pressure transmitter connecting

5.4.1 RDLY-S 投入式

5.4.1 RDLY-S Submerge type

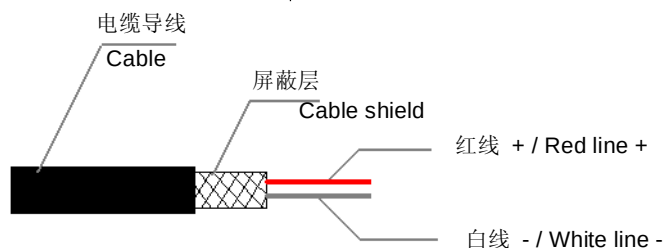


图 10 RDLY-S 连接 / Fig 10 RDLY-S Connecting

5.4.2 RDLY-1a 水密头式

5.4.2 RDLY-1a Watertight head

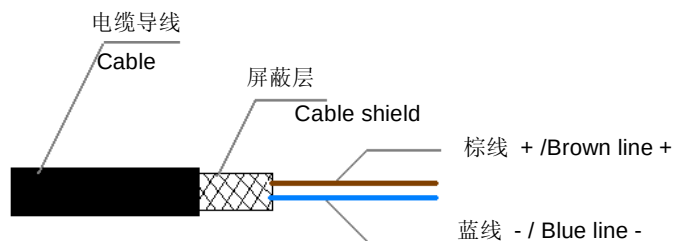


图 11 RDLY-1a 连接 / Fig 11 RDLY-1a Connecting

5.4.3 RDLY-1d 赫斯曼接头式

5.4.3 RDLY-1d Hirschman connect

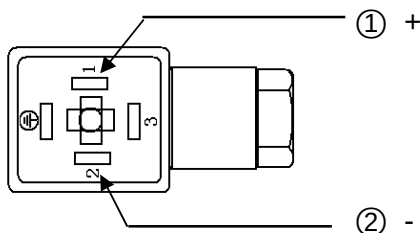


图 12 RDLY-1d 连接 / Fig 12 RDLY-1d Connecting

5.4.4 RDLY-1 圆柱式

5.4.4 RDLY-1 Column

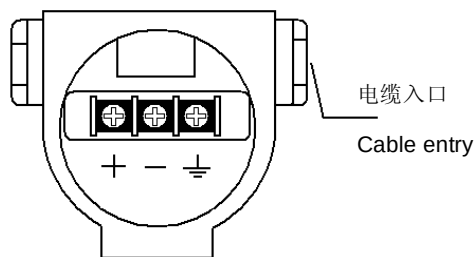


图 13 RDLY-1d 连接 / Fig 13 RDLY-1d Connecting

5.4.5 RDLY-2a 长方盒式

5.4.5 RDLY-2a Rectangle box

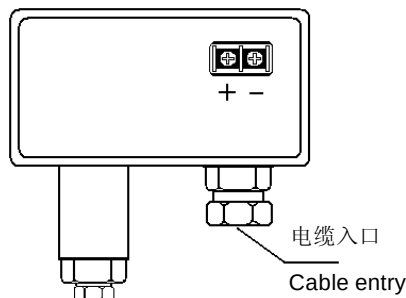


图 14 RDLY-2a 连接 / Fig 14 RDLY-2a Connecting

5.4.6 RDLY-2b 正方盒式

5.4.6 RDLY-2b Square box

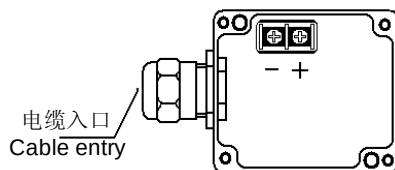


图 15 RDLY-2b 连接 / Fig 15 RDLY-2b Connecting

6 安装注意事项

- I 按电气接线图正确连接变送器，接线时必须断开电源。
- I 严禁压力过载，被测压力不得超出满量程压力的 2 倍。
- I 变送器属精密仪器，安装时忌强力冲击、摔打。
- I 投入式压力变送器引出电缆为导气电缆，电缆弯曲半径大于 20 厘米。
- I 安装座焊接应保持对舱垂直，焊缝均匀，不得泄漏。

6 Installation precautions

- I According to the electrical wiring drawing properly connected transmitter. Must be disconnect the power when wiring
- I Forbidden pressure overload. Tested pressure ranges shall not exceed twice.
- I Transmitter is precision instruments. When installation, avoid strong impact, throw and so on.
- I Cable of submerge type pressure transmitter is include a gas ventilate pipe inside, Cable bending radius is big than 20 cm.
- I Welding the installation base should be maintain base in vertical. Weld even, not leak.

- I 必须按照图纸要求连接外部电缆，防止水、水气进入保护罩和接线盒中。见附图：

- I Must be accordance the drawings connecting external cables. Prevent water and moisture into the protection cover and junction box. See figure.

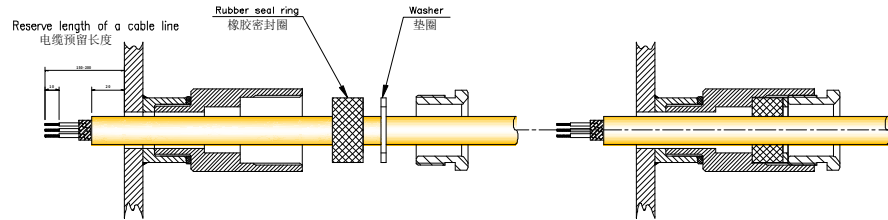


图 16 一般填料函安装方法 / Fig 16 General gland installation method

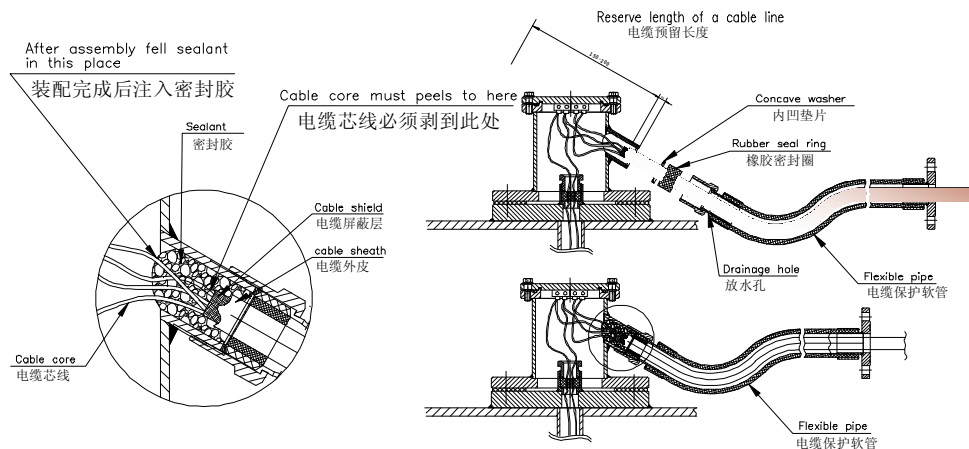


图 17 带电缆保护管安装方法 / Fig 17 Cable protection pipe installation method

- I 若匹配本公司显示仪表。有关仪表的参数设置，请参见本公司对应仪表的使用说明书。

- I If matching the company display instrument. Relate to the instrument data settings, Please read the corresponding instrument specifications



注意！

本设备在出厂前都经过彻底的试验和检查。在到用户手中应该是完好的。但是，不可避免地运输中，有损害的可能性。在设备未拆封前，请仔细检查，如果损害明显并且由不当的运输造成的，请书面向运输人提出索赔并通知上海融德机电工程设备有限公司。由于运输不当原因产生的，我司不承担由此产生的费用。

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Warning !

The equipment is thoroughly tested before it leaves the factory, and it should be in excellent operating condition when it reaches the user. However, damage may occur during shipment. While unpacking the equipment, carefully inspect it. If there is evident damage, Please to register a claim for actual fault of the carrier by file and notify Shanghai Rongde Engineering Equipment Co., Ltd. Due to improper causes of transportation, we do not bear the costs arising therefrom.

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