BP800 压力变送器使用说明书

1．概述

扩散硅、压阻式压力变送器是为使用环境比较恶劣的现场设计的高性能压力变送器，具有精度高、稳定性好、体积小等优点，性能价格比较高。

扩散硅、压阻式压力变送器为二线制 4mA～20mA DC 输出，24V 直流供电，与介质接触部分全部为不锈钢，可直接安装在测量管道上，使用极其方便，广泛应用于石油、化工、冶金、水利、电力、食品、医药、环境控制等行业的过程控制和压力、液位的测量。

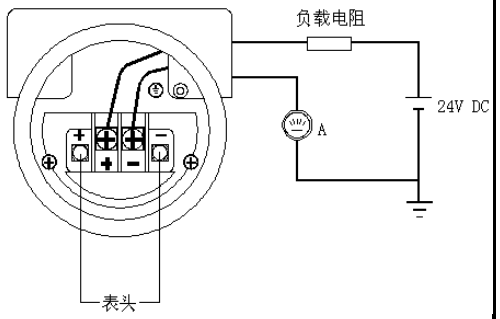
2．工作原理

利用单晶硅的压阻效应,以单晶硅为基体，按特定晶向，用先进的微机械加工技术形成弹性元件，在其适当位置用集成电路工艺形成四个等值应变电阻，组成惠斯登电桥，对电桥施加一恒定电压（流），当有压力（压差）作用到弹性元件时，使输出与对应于所加压力成比例的电压信号，经电子线路把电压信号放大转换成二线制的 4mA～20mADC 输出。

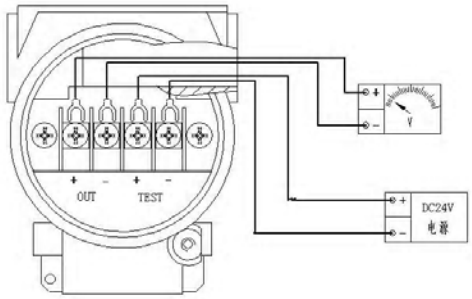
3．技术指标

工作电压：DC24V
测量范围：0Mpa～1.0Mpa、1.6Mpa、
2.5Mpa(可定制其他量程)
输出信号：4mA～20mADC
精度：0.2 级
适用介质：液体、气体、蒸汽
长期稳定性：≤±0.15%F·S/ 年
使用温度：-20℃～+85℃
环境湿度：0%～98%RH
过载极限：额定量程 3 倍
压力接口：M20 ×1.5 阳螺纹
指示表：0%～100% 指针式指示表（可选）
液晶表头（LCD）：4 位数字显示（可选）

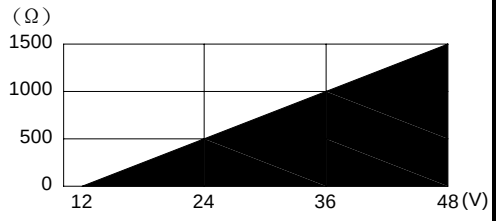
4．电气连接图



电流型接线图



电压型接线图



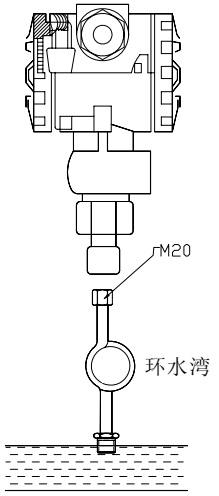
负载特性

5．注意事项

(1). 凡供货产品均带有产品合格证及使用说明书，请详细阅读，认真查对后使用，以免用错。
(2). 安装时要小心谨慎，应通过环水弯安装，直接装于管路可能因冲击力导致仪表变送元件损坏。
(3) 本产品系精密的换能仪表，禁止随意拆卸、碰撞、跌落、用力甩打或用尖锐器具捅引压引。
(4). 变送器通电后即可工作，但预热 30 分钟后输出稳定。
(5). 使用中若发现异常，应立即关掉电源，停止使用，进行电气检查，或直接向我公司技术部门联系，协商解决。
(6). 运输、储存时应恢复原包装，存放要求：温度-40℃～+85℃，湿度＜90%。
(7). 质量保证期：12 个月。

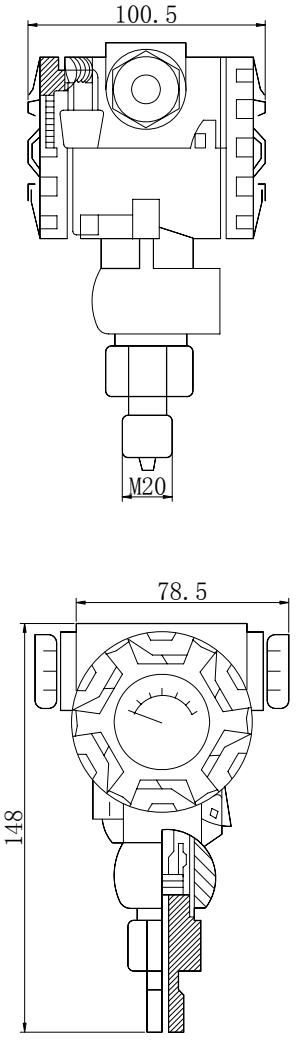
6．安装示意

方式一：测量容器内压力时，需从容器侧壁开口，再焊接一引压管道，同样装截止阀，再与压力变送器连接好即可。
方式二：当被测介质温度高于 85 ℃时（如锅炉热水、循环水），必须在接口处连接一引压冷却管（环水弯），再将压力变送器拧入，此时高温介质得到充分冷却。如果被测介质温度过高，普通压力变送器的寿命将大大缩短。如需高温型压力变送器，请订货时提出。



7．特别说明

由于产品不断改进，本说明书电气连接图仅供参考，详细的电气接线图印于产品本身。



外形尺寸图

INSTRUCTIONS FOR BP-800 SERIES PRESSURE TRANSMITTERS

1.General

This device is a kind of diffusion piezoresistive pressure transmitter.It has superior quality for ill-being application.

It is advantage is high accuracy,good stability,low cost.

This transmitter is 2-wire system.Output 4mA~20mA, power supply 24V DC,It is holded in a stainless steel tube,mounted on the medium pipe.

It has a wide range of application for Auto-control in petrolic,chemical,irrigation,power supply,food, medicine,environment,etc.

2.Principle

According to the piezoresistive effect of monocrystalline silicon,make the monocrystalline silicon into four arms of wheatstone bridge with integrate circuit process.A fixed power supply is supplied to the wheatstone bridge.When bring pressure to bear on the four arms of the bridge.The bridge will gave a output signal,and the output signal is proportional to the medium pressure.The output signal is corverted 4mA~20mA DC.

3.Specifications

Operating voltage: 12V~36VDC.

Measurement range:

BP-800/1.0 BP-800/1.6

BP-800-2.5

Output signal : 4mA~20mADC

Accuracy: 0.2

Stability: ≤± 0. 15%F.S/year

Measured: medium Water,Air,Vapour

Operating temperature: -20°C~85°C

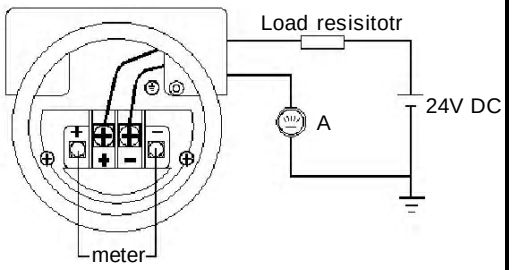
Humidity: 0%~98%RH

Overload 3 span

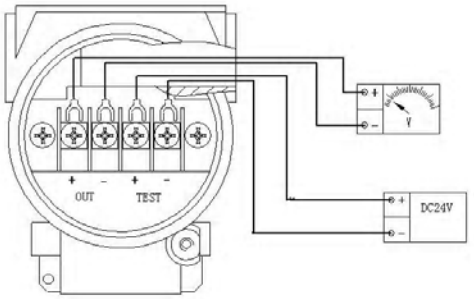
Pressure interface: M20x1.5(Male screw thread)

Indicator: 0%~100% pointermeter(optional)

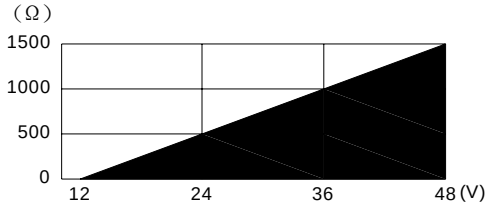
4.Wiring



Current-wiring diagram



Voltage- wiring diagram



Load choracteristics

5.Zero and span adjustment

All products are passed before leaving factory,no necessory to adjust products,If need to calibrate as follows.

(1)Zero adjustment

Put the pressure transmitter on the standard pressure source.Wiring 24VDC power supply, amperemeter,load resistance correct.Make the pressure of 0 adjust the zero potentiometer on the transmitter,the amperemeter will be 4mA.

(2)Span adjustment

After zero adjustment,make the pressure of full span value.Adjust the span potentiometer and make the amperemeter 20mA.

(3)Repeat(1),(2),until output signal correspond with input pressure signal.

6.Warning

(1).All products must carry caretificate and instruction.Read it carefully,then you can operate it.

(2).Mounting and wiring must be carefull.Mounting the pressure transmitter on the medium pipe with the circle pipe as shown in diagram,Avoid directly to mount the transmitter on the medium pipe.

(3).Bumping and beating are forbidden.

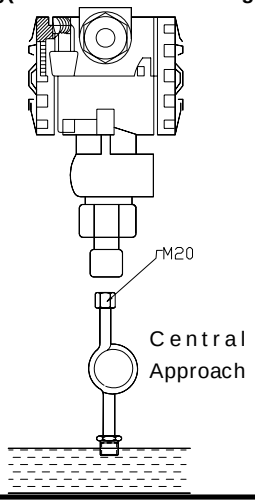
(4).30 minutes after turn on the power supply.It can works stably.

(5).If anomalies,turn off the power supply immediately and contact with the sale company.

(6).Storage temperature-40°C~+85°C,Hummidity <90%

(7).It is guatanteed for 18 monthes.

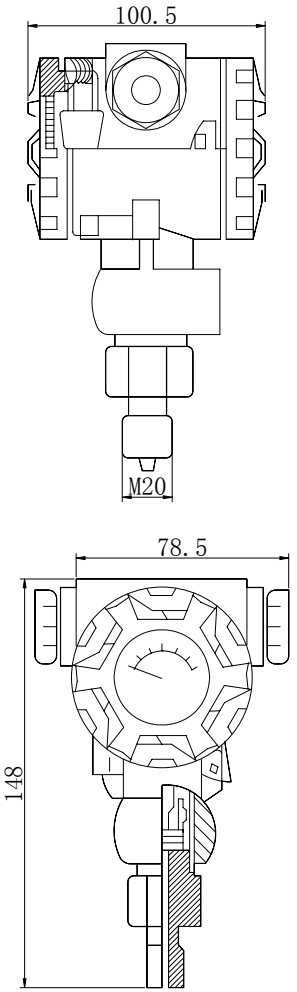
7.Mounting(as shown below diagram)



When the medium temperature is higher than 85°C (hot water in boiler and circulating water)must mount a circle pipe on the transmitter as shown in diagram

10.Special Note

As the products are improved constantly, the manual electrical connection diagram for reference only, detailed electrical wiring diagram printed on the product itself.



Dimension diagram