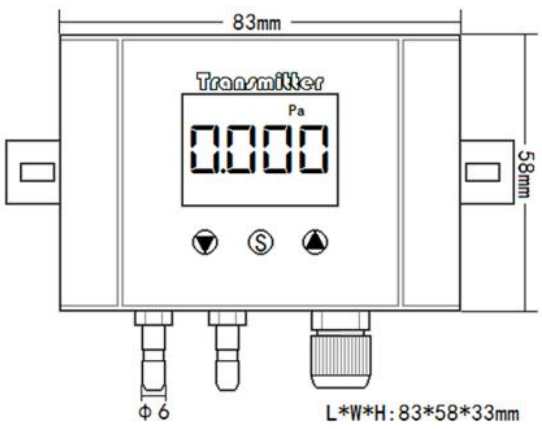
Micro Differential Pressure Sensor Manual

I. Introduction

The differential pressure transmitter adopts high-precision, high-sensitivity gas differential pressure measuring elements, and converts the pressure signal of the measured medium into a standard analog signal or digital signal through a stable, reliable and strong anti-interference ability amplifying circuit. The packaging technology and perfect testing process ensure the excellent performance of the product, and it is widely used in the fields of industrial automation such as petroleum, chemical industry, metallurgy, environmental protection, measurement, automation control engineering and production process testing.

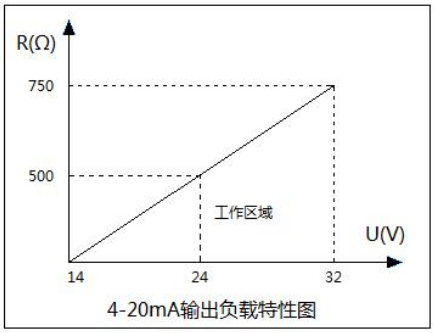
II. Parameters

- Test medium: gas compatible with the material
- Measuring range: any interval within -0.1~0.1MPa
- Accuracy：0.1%FS、 0.25%FS、 0.5%FS
- Stability：±0.25%FS/年、 ±0.5%FS/year
- Output：4~20mA、0~10V、RS485
- Work voltage：12~36V DC（Default：24V±5%，Ripple＜1%）
- Power influence: less than 0.01%/V of output range
- Work temperature：-20~60℃



- Compensate temperature：-20~60℃
- Temperature influence: ±1.55%FS/year, ±3.0%FS/year
- Overload：300%
- Load Resistance：4～20mA

(Among them: U is the power supply voltage, RD is the internal resistance of the cable)



4-20mA输出负载特性图

⚠ Warning: It is strictly forbidden to disassemble the transmitter without authorization!
It is strictly forbidden to insert any sharp objects into the pressure hole!

III. Wire definition

Signal \ Wire	Red	Black	Yellow	Blue
4-20mA（two wires）	24V+	Signal	\	\
0-10V（three wires）	24V+	24V-	Signal	\
RS485	24V+	24V-	A	B

IV. Wire connection

Ser	Symbol	Menu name	Value range	Menu remarks
1	UNI	Unit optional	MPa；PSI；℃；mH2O；	Unit indicator switch
2	dot	Decimal	0~3bit	Decimal point position switch
3	ZE	Lower limit of measuring range	-19999~99999	Factory setting, please do not modify*
4	FU	Upper limit of measurement range	-19999~99999	Factory setting, please do not modify*
5	OFF	Zero point correction	00.00~99.99	Zero point deviation compensation, default 0 note*1*
6	Adr	Address	01	Mailing address, default 01
7	bps	Baud rate	9600	Baud rate, default 9600

8	CUT	Zero cut range	0~1000（means 0~100.0%）	Default 20 (representing 2.0%)
9	FLT	Digital filter time constant	0~250	Default 005 note3
10	SAU	Save Settings	YES or NO	Select YES, press the confirm button to save the setting
11	End	Exit		Exit settings

Note 1: This parameter can compensate the deviation between the displayed value and the actual value. For example, the display value is 10.05, and the zero point correction is set to -0.05, then the display value after compensation is 10.00;

Note 2: This parameter can cut off the small signal displayed at the zero point. For example, 0 pressure is displayed as 0.05, and it can be reset to zero by increasing the setting value of the cutting range;

Note 3: This parameter can improve the stability of the display value, the larger the set value, the slower the display refresh;

V. Troubleshooting

Failure phenomenon	Cause Analysis	Solution
Zero output exceeded Accuracy error range	• Damaged diaphragm • Gauge type product back pressure tube is not open to atmosphere	• Need to return to the factory for repair • Low pressure products should use air-conducting cables and the air-conducting pipe should be connected to the atmosphere
The acquisition device has no display or the displayed value does not match the actual pressure	• Wiring error • Transmitter has no signal output • The output signal and the pressure range are calibrated incorrectly	• Check the wiring according to the wiring method corresponding to the transmitter output signal • Measuring transmitter output signal • Recalibrate the acquisition device according to the range and output of the transmitter label
The output signal does not match the actual pressure	• The temperature of the medium or the environment exceeds the limit •The supply voltage exceeds the limit • External load is too large	. Install a cooling device at the pressure inlet or move the transmitter to a low temperature environment and retest • Adjust the power supply voltage • Adjust the external load
Irregular output jump when pressure is constant	• Transmitter is not grounded • Strong radio frequency interference on site • Shielded cables are not used	• Use shielded cables and the shielding layer is grounded • Reliable connection between transmitter and earth

VI. After sales service

- All orders of our company's products can enjoy one-year warranty;
- If the product fails during the warranty period, it is a quality problem detected by our company, and our company bears all maintenance costs;
- Failure to follow the specifications in this manual or disassembling the product without authorization

has caused damage to the components or damage to the pressure diaphragm, which is not covered by the product warranty。

- After the product fails, please contact our company. Please attach the following information to confirm the repair：

1. Product failure；
2. Product use site environment description；
3. Receiving address and contact information；