

## NPT-1 Manual



### I. Production introduction

The universal pressure transmitter adopts high-precision and high-sensitivity pressure sensitive components. Through a stable, reliable and strong anti-interference amplification circuit, the pressure signal of the tested medium is converted into a standard analog signal or digital signal. The exquisite packaging technology and perfect detection process ensure the excellent performance of the product. It is widely used in industrial automation fields such as petroleum, chemical, metallurgy, environmental protection, metrology, automation control engineering, and production process detection.

### II. Parameters

Test medium: liquid or gas compatible with the material

Range: Any range within -0.1~250MPa

Accuracy level: 0.1% FS, 0.25% FS, 0.5% FS

Stability:  $\pm 0.25\%$  FS/year,  $\pm 0.5\%$  FS/year

Output signal: 4-20mA, 0-10V, RS485 communication

Working voltage: 12-36V DC (calibration:  $24V \pm 5\%$ , ripple  $< 1\%$ )

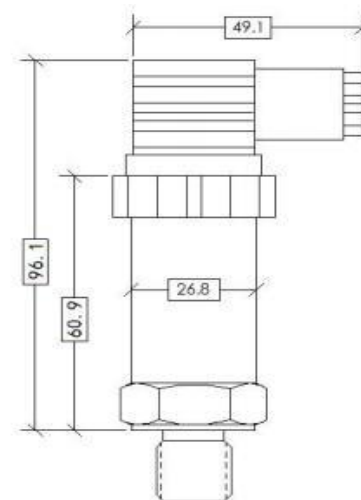
Power supply impact: less than 0.01%/V of output range

Working temperature: -20~80 °C

Compensation temperature: -20~80 °C

Temperature influence:  $\pm 1.55\%$  FS/year,  $\pm 3.0\%$  FS/year

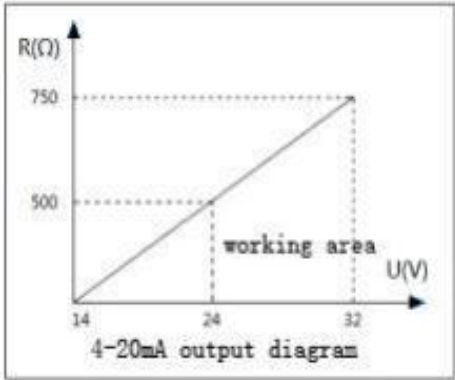
Overload capacity: 300%



Thread interface: M20 \* 1.5, G1/2, 1/2NPT, etc

Load resistance: 4-20mA

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



Warning: Unauthorized

disassembly of the transmitter is strictly prohibited!

Do not press the measuring element

diaphragm with your fingers!

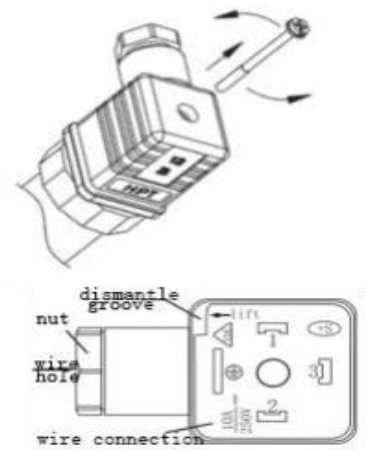
It is strictly prohibited to insert any sharp  
objects into the pressure hole !

III. Wire connection

Connection Output	Hirschmann pin ①	Hirschmann pin ②	Hirschmann pin ③	Hirschman pin G
	red	black	yellow	blue
4-20mA (2 wires)	24V+	signal	\	\
0-10V (3 wires)	24V+	24V-	signal	\
RS485	24V+	24V-	A	B

#### IV. Wire connection method

1. Unscrew the screw and unplug the Hirschmann connector
2. Use a flat screwdriver to pry out the junction box from the disassembly slot
3. Insert the cable from the outlet and wire according to the terminal definition corresponding to the output signal
4. Assemble and restore the Hirschmann connector, and tighten the crimping cap



#### V. Caution

- Prohibit measuring media that are incompatible with the material of the transmitter ;
- Ensure that the power supply voltage meets the product requirements and wire according to the instructions ;
- The installation of the transmitter should be done in a ventilated and dry place, avoiding direct exposure to strong light and rain ;
- Pay attention to using snake skin tubes or iron pipes to protect the outgoing cables, or raise the cable rack ;
- It is recommended to power on for at least 10 minutes to achieve optimal product performance ;
- Ensure that the pressure source is turned off when disassembling the transmitter to prevent the medium from spraying out ;
- This product is not explosion-proof and can cause significant accidents when used in explosion-proof areas;

## VI. Maintenance

Fault phenomenon	reason	resolution
Zero point output exceeded accuracy error range	<ul style="list-style-type: none"> <li>• Membrane damaged</li> <li>• The back pressure pipe of the gauge type product is not connected to the atmosphere</li> </ul>	<ul style="list-style-type: none"> <li>• Need to return to the factory for maintenance</li> <li>• Small pressure products should use gas cables and the gas ducts should be connected to the atmosphere</li> </ul>
The collection device has no display or displayed value inconsistent with actual pressure	<ul style="list-style-type: none"> <li>• Wiring error</li> <li>• The transmitter has no signal output</li> <li>• Error in calibration of output signal and pressure range</li> </ul>	<ul style="list-style-type: none"> <li>• Check the wiring according to the wiring method corresponding to the output signal of the transmitter</li> <li>• Measure the output signal of the transmitter</li> <li>• Recalibrate the acquisition equipment according to the range and output of the transmitter label</li> </ul>
Output signal and actual pressure mismatch	<ul style="list-style-type: none"> <li>• The medium or ambient temperature exceeds the specified range</li> <li>• Power supply voltage exceeds the limit</li> <li>• Excessive external load</li> </ul>	<ul style="list-style-type: none"> <li>• Install a cooling device at the pressure inlet or move the transmitter to a low-temperature environment for retesting</li> <li>• Adjusting the power supply voltage</li> <li>• Adjusting external loads</li> </ul>
When the pressure is constant output irregular jump	<ul style="list-style-type: none"> <li>• The transmitter is not grounded</li> <li>• Strong on-site radio frequency interference</li> <li>• Unused shielded cable</li> </ul>	<ul style="list-style-type: none"> <li>• Use shielded cables and ground the shielding layer</li> <li>• Reliable connection between transmitter and ground</li> </ul>

## VI. After-sale service

1. One-year warranty period ;
2. If the product malfunctions during the warranty period and is detected by our company as a quality issue, we will bear all repair costs ;
3. Failure to follow the instructions in this manual or unauthorized disassembly of the product, resulting in damage to components or pressure diaphragms, is not covered by the product warranty.
4. After the product malfunctions, please contact our company to confirm the repair. Please include the following information :
  1. Product malfunction phenomenon ;
  2. Description of the on-site environment for product use ;
  3. Shipping address and contact information ;