



# Gas Pipeline Pressure Regulating and Monitoring Solution

Products and cases of pressure sensing and monitoring technology applied in gas pipeline, especially for pressure regulating and monitoring.

GAS PIPELINE PRESSURE REGULATING AND  
MONITORING SOLUTION

**MICROSENSOR**  
麦克传感



# Gas Pipeline Pressure Regulating and Monitoring



The installation of pressure/differential pressure transmitter, temperature transmitter and other monitoring instruments in the gas pipeline can real-time monitor the equipment and pipeline pressure and temperature parameters in the process of natural gas exploitation, transportation, measurement and use; combining with supporting system, it could realize remote monitoring and early warning, which can effectively ensure the safe operation of each gas system and is of great significance to realize automatic monitoring of gas pipe network.

- **Gas metering instrument: roots flowmeter**
- **Gas pressure regulator: smart gas pressure regulator**
- **Gas skids**
- **Gas pipeline**

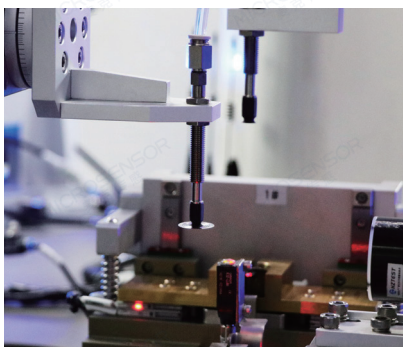
# Products for Gas Pipeline Pressure Regulation Monitoring

Type	Model	Range	Accuracy	Operation Temp.	Output	Certificate
Pressure Transmitter	MPM3801 Digital Pressure Sensor	0kPa ~ 7kPa...100MPa	$\pm 0.25\%$ FS $\pm 0.5\%$ FS	-20 ~ 80°C	I <sup>2</sup> C/SPI	ROHS
	MPM3801GRF Pressure Transmitter	0kPa ~ 7kPa...7MPa	$\pm 0.25\%$ FS $\pm 0.5\%$ FS	-20 ~ 80°C	I <sup>2</sup> C/SPI	ROHS
	MPM3801A Pressure Transmitter	0kPa ~ 7kPa...100MPa	$\pm 0.25\%$ FS $\pm 0.5\%$ FS	-20 ~ 80°C	I <sup>2</sup> C/SPI	ROHS
	MPM489CNG Pressure Transmitter	-100kPa... 0kPa ~ 10kPa...100MPa	$\pm 0.5\%$ FS	30 ~ 70°C	4-20mA 0/1V ~ 5/10V 0.5V ~ 2.5/4.5V	ATEX/EXD/Exia/CE/SIL
	MPM483CNG Pressure Transmitter	-100kPa... 0kPa ~ 10kPa...100MPa	$\pm 0.5\%$ FS	-30 ~ 70°C	4-20mA 0/1 ~ 5/10V	EXD/Exia/CE/SIL/CCS
	MPM483DM Pressure Transmitter	-100kPa... 0kPa ~ 10kPa...100MPa	$\pm 0.25\%$ FS	-20 ~ 80°C	4-20mA RS485	EXD/Exia/CE/ROHS
Pressure/Differential Pressure Transmitter	MPM6861 Wireless Pressure Transmitter	0kPa ~ 20kPa...70MPa	$\pm 0.5\%$ FS	-20°C ~ 70°C	NB-IoT/4G	EXD
	MDM3051S-DP Intelligent Differential Pressure Transmitter	0-100Pa ~ 1kPa 0-30kPa ~ 3MPa 0...0.6MPa ~ 60MPa	$\pm 0.075\%$ FS	-20°C ~ 65°C	4-20mA Hart	EXD/Exia/CE/SIL/CCS
Temperature Transmitter	MTM4831 Temperature Transmitter	-200 ~ 500°C	$\pm 0.25\%$ C $\pm 0.5\%$ C $\pm 1\%$ FS	-30 ~ 70°C	4-20Ma Hart RS485	EXD/SIL/CCS
	MTM6861 Wireless Temperature Transmitter	-50°C ~ 150°C	$\pm 2\%$ C	-20°C ~ 70°C	NB-IoT/4G	EXD

\*Please refer to the product datasheet for specific parameters.

# Advantages

## Products



### High Intelligence

The equipment and system adopt intelligent working mode, with functions like real-time monitoring, wireless transmission, remote configuration, data interaction, system alarm, etc., to realize the intelligent monitoring of gas transmission equipment and pipelines.



### Reliable Performance

Micro Sensor has accumulated decades of sensing and measurement technology and has rich experience in the application field of gas transmission equipment. The products have the characteristics of high precision, high stability, and customization, which can fully meet the pressure, temperature and other monitoring requirements of gas transportation, measurement, use and other processes.



### Strong Adaptability

Micro Sensor has designed and produced different products for different monitoring processes and requirements, which can work in various medium and under various working conditions and have stronger applicability.



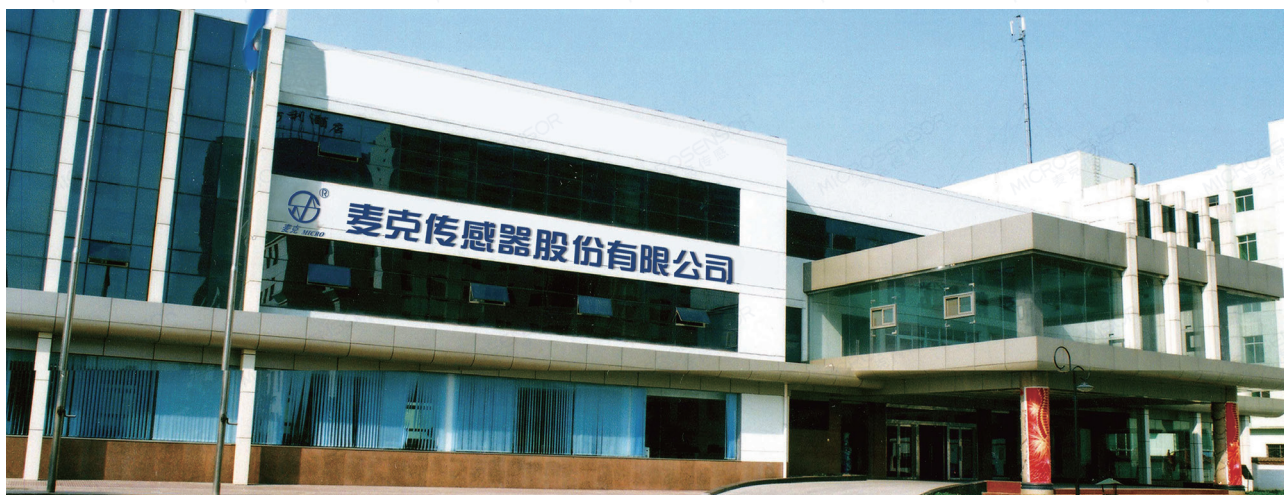
### Complete Certification

Micro Sensor's IOT products have passed many certifications, such as CE, ATEX, ROHS, SIL, CCS, and explosion-proof certificates.





# Micro Sensor Co., Ltd. - Your Partner of Sensing and Measuring



## Company

### ◎ Professional Technology, Advanced Technology

Micro Sensor has decades of experience in the manufacturing and development of diffused silicon pressure sensor. We use advanced imported equipment to build a fully automated production line, adhere to Seiko manufacturing, advanced technology, and material selection, which ensure the products have the characteristics of high quality, high performance, high appearance level and high-cost performance.

### ◎ Professional Certification, International Standards

Micro Sensor adopts and passes ISO9001 quality management system certification, upholds international advanced standards, and its products have passed CE, RoHS, ATEX, DNV·GL and other international certifications, which are safe and reliable.

### ◎ Professional Service, Quality Assurance

Micro Sensor's products have been distributed in more than 100 countries and regions around the world. It has 16,000+ customers and multiple branches and offices around the world to better serve customers.

### ◎ Measurement Focused, Customized Solutions

Micro Sensor has four product lines: sensors, transmitters, flow meters and the Internet of Things, and has been deeply involved in industrial control, intelligent manufacturing, smart city, precision chemicals and other fields for many years. Its products are more adaptable and support customized solutions without fear of complex working conditions.

## About Micro Sensor

Micro Sensor Co., Ltd. ("Micro Sensor" for short), as a leading representative of China's semiconductor piezoresistive pressure sensor industry, has decades of experience in the design, development, and manufacturing of the diffused silicon pressure instruments. Its products include pressure sensors, transmitters, flow meters, temperature meters, IoT acquisition and transmission terminal, which are exported to more than 100 countries and regions around the world. It is committed to provide customers with high quality, reliable sensing and monitoring solutions including the customized ones in the areas of industrial control, smart manufacturing, smart cities, and chemical industry.

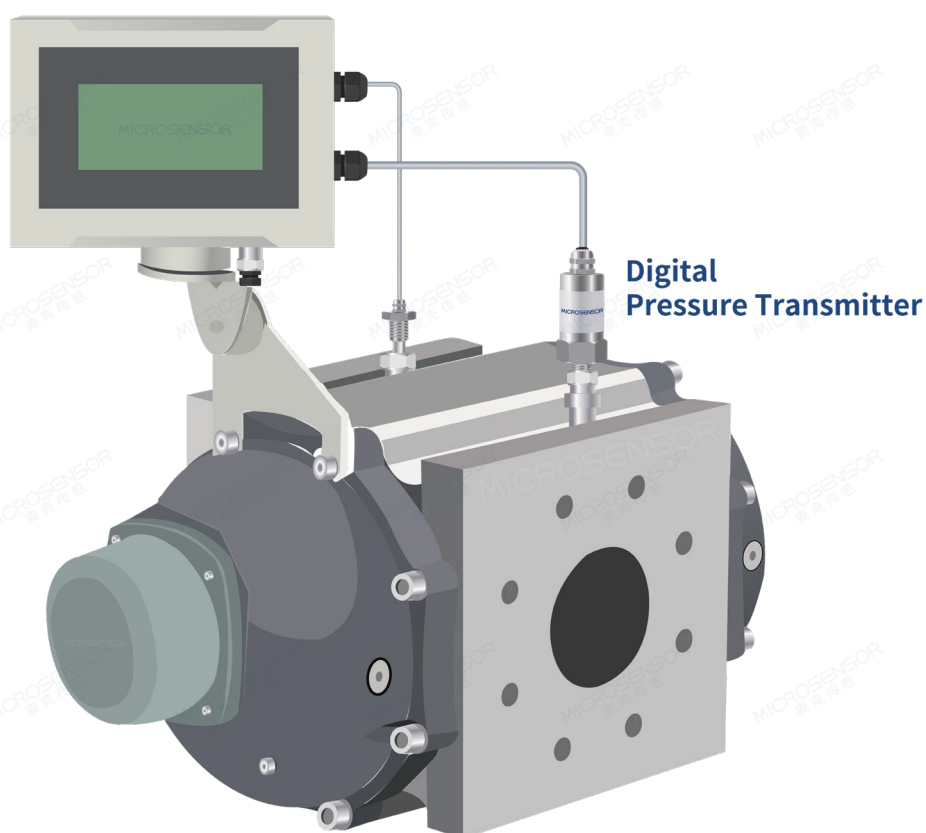




## Gas Metering Instrument: Roots Flowmeter

Roots Flowmeter is one of the key equipment in the metering system of the city gas gate station. It can accurately measure the natural gas flow in a certain area and is the main basis of the gas cost settlement.

The core of Micro Sensor's roots flowmeter - MPM3801 series digital pressure sensor, through high precision compensation and testing equipment, make each transmitter have high accuracy, stability, and consistency, improve the accuracy of flow monitoring.





# Gas Metering Instrument: Roots Flowmeter

Following products are available:

## MPM3801 Digital Pressure Sensor

Standard I<sup>2</sup>C output, low power consumption, high precision, high stability, 3.3V/5V power supply, small size, easy integration.



## MPM3801GRF Digital Pressure Transmitter

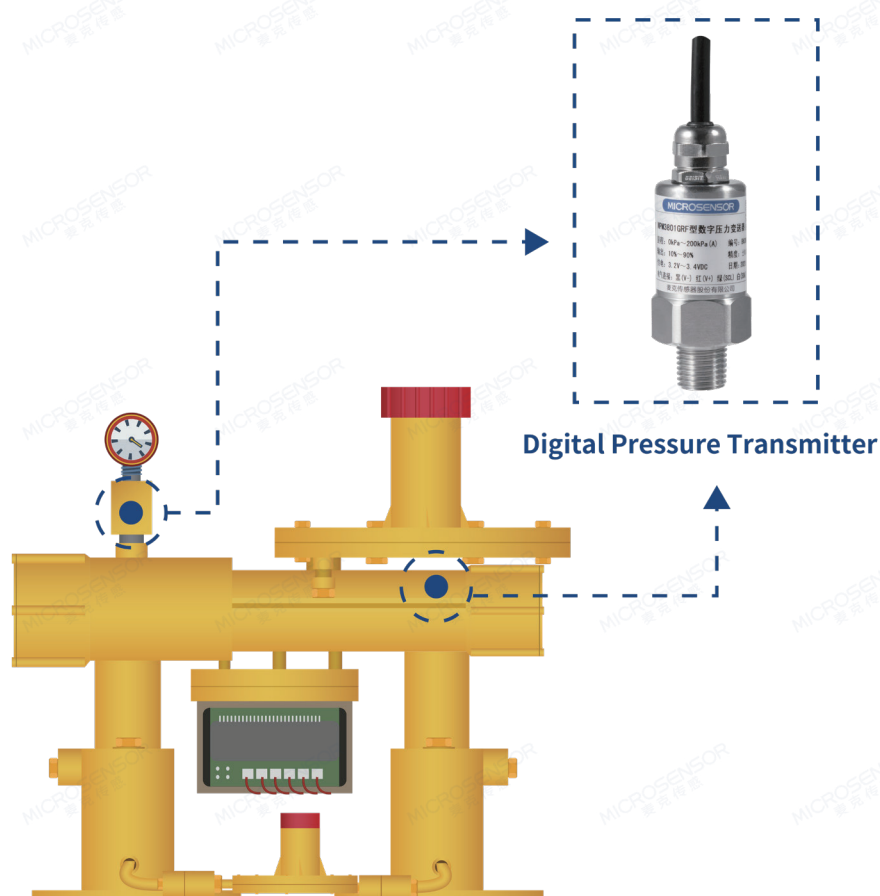
Standard I<sup>2</sup>C output, low power consumption, high precision, high stability, 3.3V/5V power supply, cable connection, thread mounting.





## Gas Pressure Regulator: Smart Gas Pressure Regulator

The main function of gas regulator is to adjust the higher gas inlet pressure to the set lower gas outlet pressure, and with the change of gas consumption and the fluctuation of inlet pressure, automatically keep the outlet pressure value in a certain range and play the role of reducing and maintaining pressure. Pressure Transmitter is installed at the gas inlet and outlet respectively, which is the core component of the pressure regulator.





# Gas Pressure Regulator: Smart Gas Pressure Regulator

Following products are available:

## MPM3801 Digital Pressure Sensor

Standard I<sup>2</sup>C output, low power consumption, high precision, high stability, 3.3V/5V power supply, small size, easy integration.



## MPM3801GRF Digital Pressure Transmitter

Standard I<sup>2</sup>C output, low power consumption, high precision, high stability, 3.3V/5V power supply, cable connection, thread mounting.



## MPM3801A Digital Pressure Transmitter

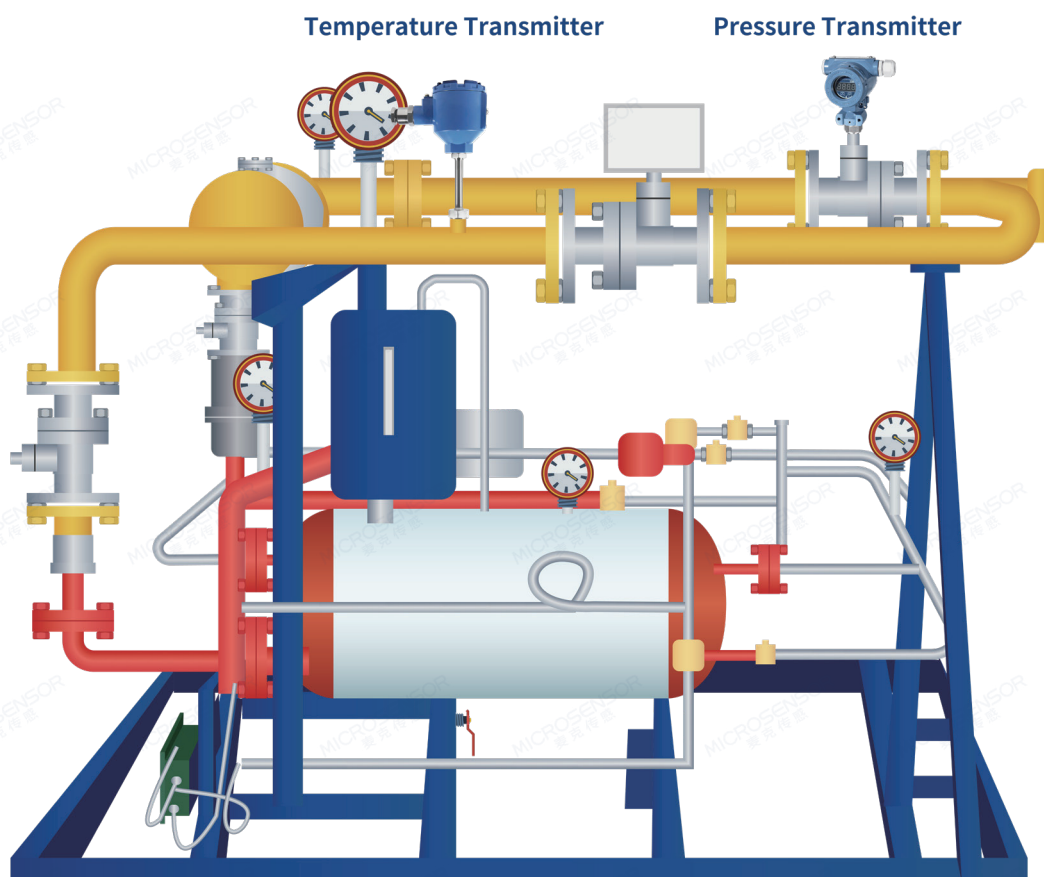
Standard I<sup>2</sup>C output, low power consumption, high precision, high stability, 3.3V/5V power supply, thread mounting, component structure.





## Gas Skids

Gas skids is the key equipment in gas distribution. The equipment is equipped with pressure and temperature transmitters to monitor the measured pressure and temperature parameters in real time, and remotely transmit them to the main control room. It can detect and deal with abnormalities in time to ensure the normal operation of equipment and system.





# Gas Skids

Following products are available:

## MPM483CNG/483DM Pressure Transmitter

Aluminum alloy electronic housing, IP65 protection, they can be connected with 0% ~ 100% linear indicator, LCD digital display and LED digital display. They are applied to the open-air site with harsh environment and occasions that require to be able to observe the pressure display on-site and zero migration and range adjustment.



## MPM489CNG Pressure Transmitter

With high-stability and high-reliability pressure sensor and high-performance transmitter dedicated circuit selected, it can measure gauge pressure, absolute pressure, and sealed reference pressure, ranging from -100kPa...0kPa ~ 10kPa...100MPa, widely used in the detection and control of fluid pressure in petroleum, chemical, gas and other industries.



## MDM3051S-DP Intelligent Differential Pressure Transmitter

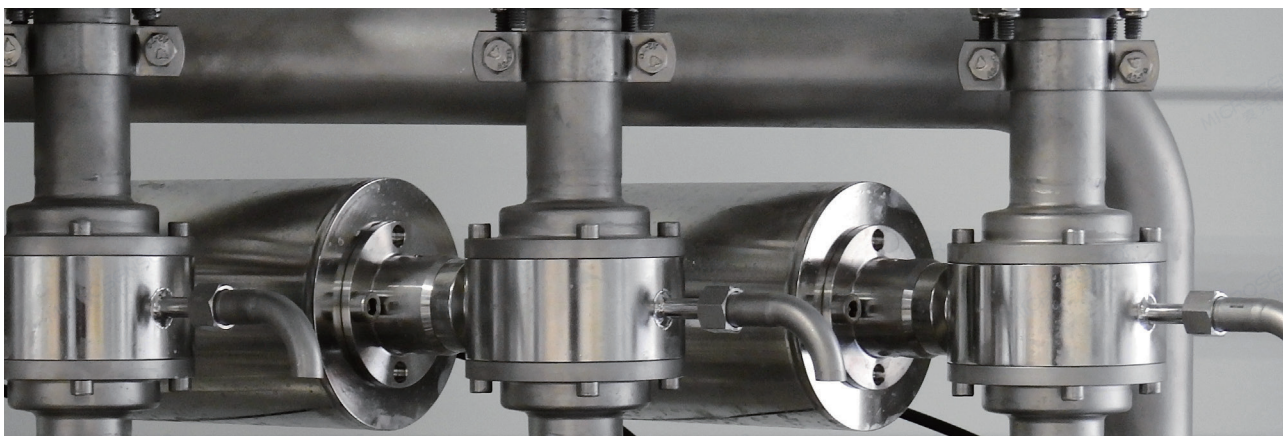
It adopts the monocrystalline silicon piezoresistive technology, used for level, density, pressure and flow measurement of liquid, gas or steam, excellent performance ensures that the product can provide reliable pressure readings in harsh environments.



## MTM4831 Temperature Transmitter

It directly measures the temperature of various liquids, gaseous medium and solid surfaces in the range of -200°C ~ 500°C. MTM4831 uses a dedicated temperature module, linear correction of the temperature sensing element, standard analog signal, and digital signal. Various output can meet the temperature measurement requirements in the fields like petroleum, chemical, gas and so on.

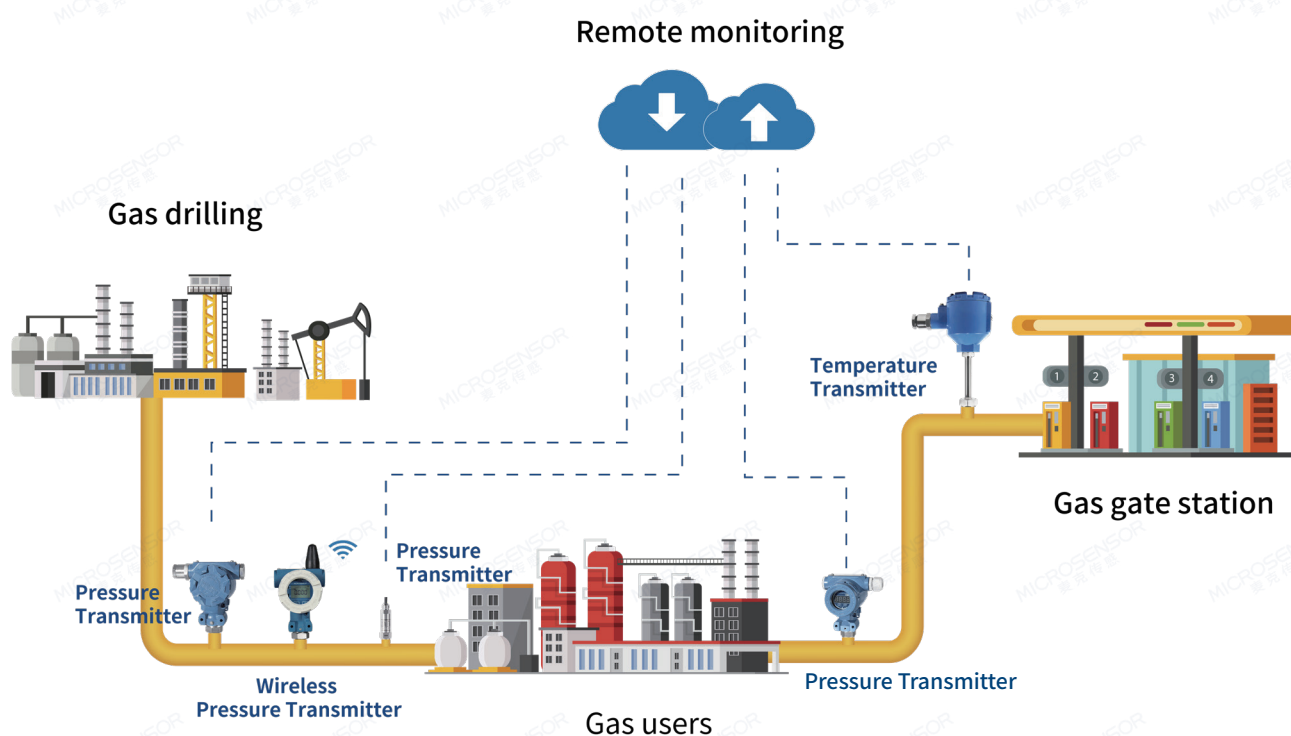




## Gas Pipeline

From exploitation to end-user use, natural gas has to go through the process of long pipeline transportation, pressurization, filtration, odorization, pressure regulation, and transportation. In this process, real-time monitoring of the pressure and temperature in the pipeline and equipment is the key to ensure the normal operation of the system.

Micro Sensor has rich experience in monitoring the pressure and temperature of gas pipelines. MPM489CNG Pressure Transmitter, MPM483CNG Pressure Transmitter, MTM4831 Temperature Transmitter, MDM3051S Intelligent Pressure/Differential Pressure Transmitter and many other products are specially designed for gas pipeline and equipment monitoring. The product certification is complete, and the performance is stable.





# Gas Pipeline

Following products are available:

## MPM483CNG/483DM Pressure Transmitter

Aluminum alloy electronic housing, IP65 protection, it can be connected with 0% ~ 100% linear indicator, LCD digital display and LED digital display. It is applied to the open-air site with harsh environment and occasions that require to be able to observe the pressure display on-site and zero migration and range adjustment.



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## MPM6861 Wireless Pressure Transmitter

It has wireless communication function, NB-IoT/4G and other networks optional, integrated high-energy lithium battery, with a service life of more than 2 years. It can also realize remote instrument configuration and data access through the Web. All uploaded and distributed data are automatically stored in the database, which is very suitable for monitoring real-time data from many monitoring points in a large area like petrochemical industry.



## MDM3051S-DP Intelligent Differential Pressure Transmitter

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## MTM6861 Wireless Temperature Transmitter

A smart meter with low power consumption and wireless communication function, it can be equipped with NB-IoT/4G and other networks. It also can measure the temperature of a variety of liquids, gaseous medium and solids surface in the range of -50°C ~ 150°C, applied in petrochemical, metallurgical stations, natural gas stations and other fields that require unattended and remote monitoring.





## Cases

With advanced technology, high-quality products and professional services, Micro Sensor provides customized applications and product solutions for many industries.



### Gas Metering Equipment Company in Shanghai

Micro Sensor provides the matched digital pressure sensors to customer's roots flowmeter and its annual consumption is 6000+ units. Our instrument has stable performance and high precision. It can measure pressure and temperature at the same time and improve the flow monitoring accuracy of the roots flowmeter.



### A Gas Equipment Company in Chengdu (gas skids manufacturing)

Various skid-mounted equipment developed by customers use our MPM483 pressure transmitter, MPM489CNG Pressure Transmitter, MDM3051S-DP intelligent differential pressure transmitter, MTM4831 temperature transmitter and other products to monitor the pressure and temperature parameters of the equipment in real time and ensure the reliable operation of equipment. The annual consumption is about 1, 000.



# Your Partner of Sensing and Measuring

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