



Smart Monitoring Solution to Water Supply

Pressure, level, flow measurement and monitoring technology used in the application, products, and cases of water supply

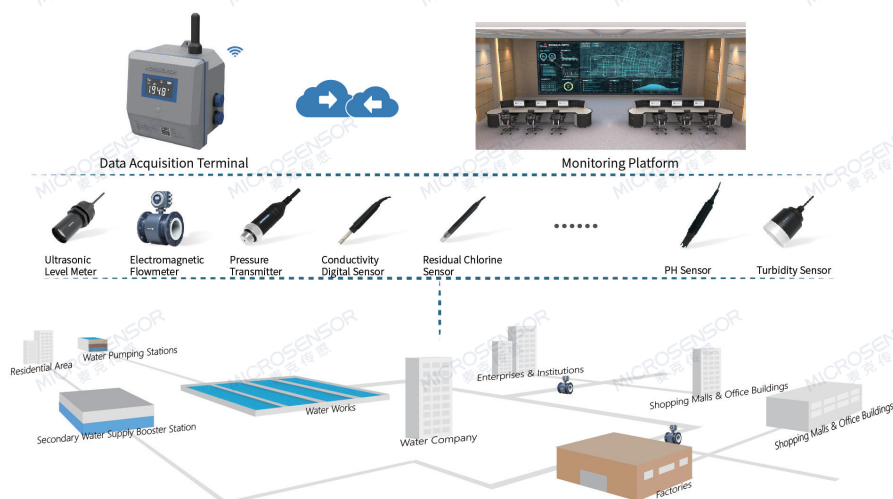
SMART WATER SUPPLY
MONITORING SOLUTION

MICROSENSOR
麦克传感

Applicable Products of Smart Water Supply Monitoring



Micro Sensor Smart Water Supply Solution achieves real-time collection and monitoring of production and operation data with corresponding data collection/transmission equipment at water sources, water works, pumping stations and water pipeline network monitoring stations; through the establishment of a big data platform for smart water supply, it can dig down inside of the water supply data, realize smart alarming, data storage, statistical analysis, production scheduling management, DMA zoning metering of water supply network, etc. The whole water supply process from water source monitoring to water faucet management can be monitored and managed in real time, and the leakage of the pipeline network can be monitored through DMA zoning metering to reduce the leakage rate of the pipeline network and the difference between production and sales of water supply enterprises, to achieve long-term, sustainable operation of smart water services.



- **Water Source Monitoring**
- **Booster Pump Station Monitoring**
- **Water Work Monitoring**
- **Water Supply Pipeline Monitoring**
- **Secondary Water Supply Device Monitoring**

Applicable Products of Smart Water Supply Monitoring

Monitoring Terminal	Model	Network Standard	Power Supply	Protection Grade	Power Consumption
Remote Terminal Unit	Earth1006	4G multi-bands, NB-IoT	Non-recyclable battery, External battery pack, AC110~240V, DC9~36(2A), Solar Energy	IP68	Sleep Current $\leq 30\mu\text{A}/14.4\text{V}$ Transmission Average Current $\leq 100\text{mA}/14.4\text{V}$ (NB-IoT: $\leq 50\text{mA}/14.4\text{V}$)

Sensor	Model	Accuracy	Range	Operation Temp	Output Signal
Submersible Level Transmitter	MPM4700 Intelligent Level Transmitter	$\pm 0.1\% \text{FS}$ $\pm 0.25\% \text{FS}$	0m ~ 3.5m...200mH ₂ O	-10°C ~ 70°C	4mA ~ 20mA DC/RS485/ HART
	MPM489W Level Transmitter	$\pm 0.5\% \text{FS}$	1 2 5 10 20 50 100 200mH ₂ O	-10°C ~ 70°C	4mA ~ 20mA DC 0V ~ 5V/10V DC 0.5V ~ 4.5V DC
Pressure Transmitter	MPM489 Pressure Transmitter	$\pm 0.5\% \text{FS}$	100kPa...0kPa ~ 10kPa...100MPa	-30°C ~ 80°C	4mA ~ 20mA DC 0/1V ~ 5V/10V DC 0.5V ~ 2.5V/4.5V DC
	MPM4841 Pressure Transmitter	$\pm 0.5\% \text{FS}$	A Type: 0bar~0.35bar...200bar B Type: 0bar~250bar...600bar	-10°C ~ 80°C	4mA~20mA DC/0V~10V DC/0.5V~4.5V/DC 0V~5V DC/1V~5V DC
	MPM4503 Pressure Transmitter	$\pm 1\% \text{FS}$	0MPa ~ 1MPa、 1.6MPa、2MPa、 2.5MPa、5MPa	-20°C ~ 100°C	0.5V~2.5V DC/0.5V~4.5V DC/4mA~ 20mA DC/I ² C
Ultrasonic Level Transmitter	LR725L Ultrasonic Level Meter	$\pm 0.2\% \text{FS}$	0m ~ 2m、4m、 6m、8m、12m、 15m、20m(Optional)	-40°C ~ 75°C	4mA ~ 20mA DC; RS485·MODBUS_RTU
Flowmeter	MFE600E Electromagnetic Flowmeter	$\pm 0.5\% \text{FS}$	Flange Type: DN6 ~ DN1600, DN20 above with built-in grounding electrode; Sanitary Type: DN6 ~ DN50; Thread Type: DN6 ~ DN50; Clamp Type: DN10 ~ DN300	-20°C ~ 60°C	Profibus-DP/4 ~ 20mA+Hart/4 ~ 20mA/ RS485/ Wireless Output (2G/4G/ LoRa,etc.)
	MFU2000 Ultrasonic Flowmeter	$\pm 0.5\%$	DN15 ~ DN1500	-30°C ~ 160°C	4 ~ 20mA /RS485,supported with MODBUS protocol,etc.

* Please refer to the official documentation for specific product parameters

Advantages of Micro Sensor's Products in Smart Water Supply

Product Advantages



④ High Intelligence

The equipment and system adopt intelligent working mode, with real-time monitoring, wireless transmission, remote configuration, data interaction, system alarm and other functions to achieve intelligent monitoring.



④ High Reliability

With decades of experience in sensing and measurement technology, Micro Sensor has a wealth of experience in the field of water supply monitoring, with high accuracy and stability products which can fully meet the requirements of pressure and level monitoring in all processes of water supply.



④ Strong Applicability

Micro Sensor designs and produces different products for different monitoring processes and demands, the products can work in a variety of media under different working conditions, with stronger applicability.

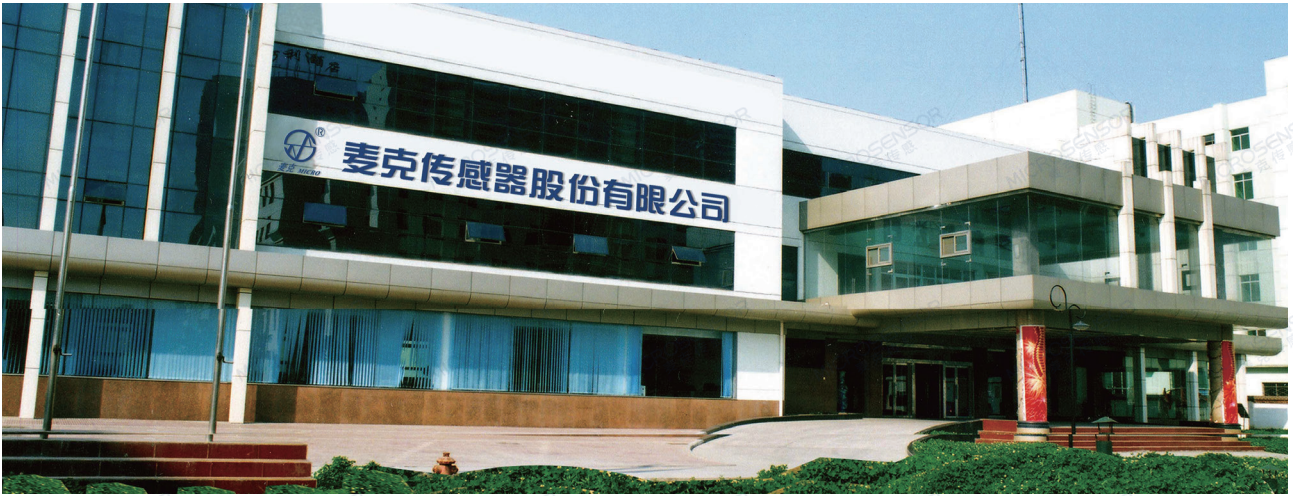


④ Multiple Certifications

Micro Sensor's RTU product has been certificated with CE, ATEX, ROHS, SIL, CCS, explosion-proof certificate, etc.



Micro Sensor –Professional Provider of Sensing & Measurement



Company Advantages

◎ Professional Technology,Advanced Technic

Micro Sensor has decades of experience in the development and manufacture of diffusion silicon pressure sensors. We use of advanced imported equipment to build a fully automated production line with precision manufacturing, advanced technology, superior material selection. The products are of high quality, high performance, good-looking, high-cost performance.

◎ Professional Certification, International Standards

Micro Sensor has adopted and passed ISO9001 quality management system certification with international advanced standards. The products are safe and reliable with CE, RoHS, ATEX, DNV-GL and many other international certifications.

◎ Professional Services, Quality Assurance

With 16, 000+ customers in more than 100 countries and areas and offices around the world, Micro Sensors' products are available to serve customers better.

◎ Professional Measurement, Customized Solutions

Micro Sensor has four product lines for different products: sensors, transmitters,flow meters, and IoT. We have been working for many years in industrial control, smart manufacturing,smart city, and precision chemical industry, etc. Our products have stronger adaptability and support customized product solutions with no fear to complex working conditions.

About Us

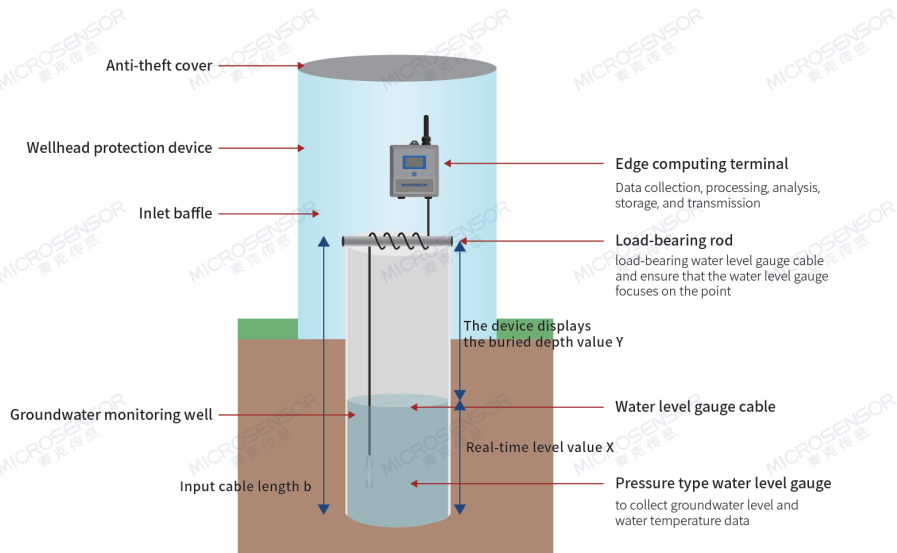
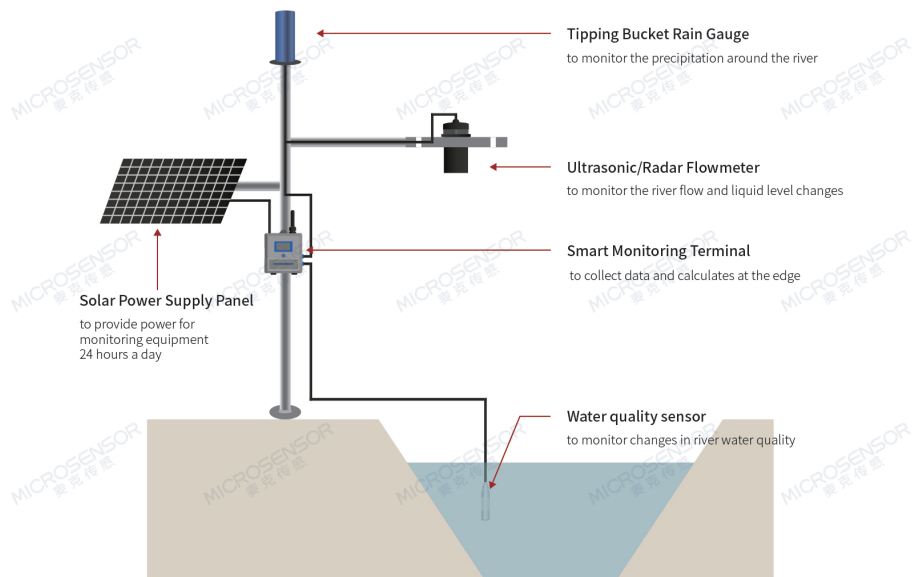
Micro Sensor CO., LTD, as the advanced representative of semi-conductor piezoresistive pressure sensors in China, has decades of experience in the design,development and manufacturing of diffusion silicon pressure sensors and transmitters. Our products cover pressure sensors, transmitters,flow meters,temperature meters,IoT end collection and wireless transmission devices. We are a solution provider with high quality, reliable sensor and monitoring system,providing customized product solutions for industrial control,smart manufacturing,smart city,precision chemical and other fields for customers in more than 100 countries and regions around the world.





Water Source Monitoring

Through the real-time monitoring of reservoirs, water wells, etc. by sensors, the data such as water level, flow rate, water quality, etc. is collected to monitor the water situation, measure water intake, ensure the safety of drinking water, and ensure the smooth operation of the water intake process.



Water Source Monitoring

Below Products Are Available

RTU Earth1006

Battery Powered

Ultra-low Power Consumption

Wireless Communication

Remote Configuration

IP68 High Protection

Multiple Sensor Collection

It is suitable for the monitoring site with no power supply condition and bad environment, and can realize the comprehensive functions of data collection, storage, alarm and transmission for groundwater, geological disaster, dam health, water supply and drainage pipe network, etc.



Surface Water, Groundwater Level Monitoring

MPM4700 Intelligent Level Transmitter

Integrated customized transmitter with digital output and high accuracy, suitable for different application in site.



MPM489W Level Transmitter

Integrated fully sealed submersible level transmitter can fulfill the needs of multiple working environments and level measurements for different media.



Water Intake Pipe Flow Monitoring

MFE600E Electromagnetic Flowmeter

The model is with high accuracy, reliability and stability, long service life and comprehensive functions. The display is intuitive, and the operation is convenient. It is widely used in petroleum, chemical industry, metallurgy, water supply and drainage, steel, coal, papermaking, food, textile, environmental protection and other industrial departments and municipal management, water conservancy construction and other fields.



MFU2000 Ultrasonic Flowmeter

The flowmeter is of high performance, high reliability for small-diameter pipelines. The external clamp type can be widely used in various industrial sites, water resources monitoring, farmland irrigation and other industries.

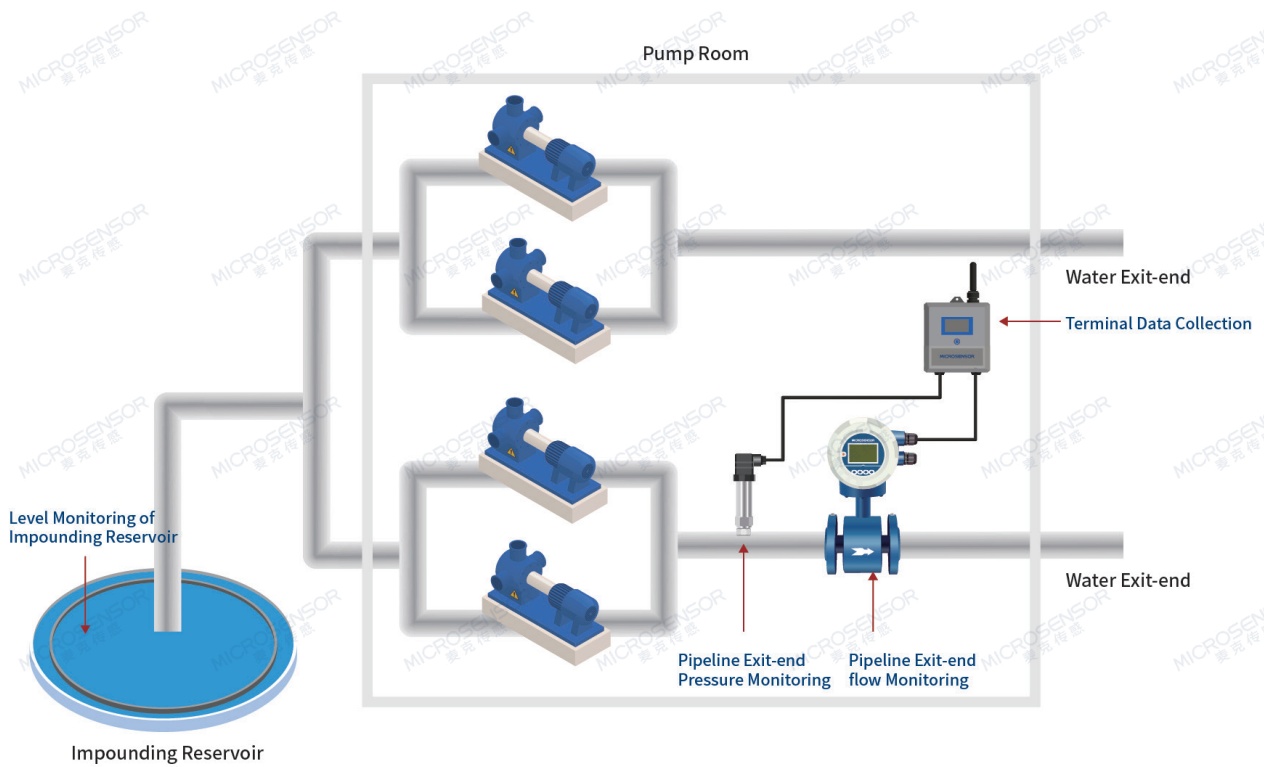




Boosting Pumping Station

Using Micro Sensor IoT remote monitoring terminal Earth1006 as the main monitoring terminal, it is installed in the water supply pump station to collect the status and parameters of the impounding reservoir, including water level, pressure, and flow rate in the pipe network, to realize real-time monitoring of the equipment operation in the pump room.

The data is transmitted to Micro Sensor IoT big data platform through the operator's mature 4G/NB-IoT cellular wireless network. Adopting advanced cloud computing, big data, and IoT technology, the platform software analyzes data in real time, and immediately reminds the staff when alarms and faults are found to ensure the safe operation of the pump room.



Boosting Pumping Station Monitoring

Below Products Are Available

RTU Earth1006

Battery Powered, Ultra-low Power Consumption, Wireless Communication, Remote Configuration



Impounding Reservoir Monitoring

MPM4700 Intelligent Level Transmitter

Integrated customized transmitter with digital output and high accuracy, suitable for different application in site.



MPM489W Level Transmitter

Integrated fully sealed submersible level transmitter can fulfill the needs of multiple working environments and level measurements for different media.



Water Exit-end Pressure Monitoring

MPM489 Pressure Transmitter

Diffusion silicon piezoresistive pressure transmitter, which with adjustable zero and full-scale output, can measure gauge pressure, absolute pressure, and sealed gauge pressure, has obtained a variety of certifications. product support customization, has a wide range of applicability.



MPM4841 Pressure Transmitter

Cost-effective piezoresistive pressure transmitter, which is made of SS316L material, is sturdy and durable with exquisite appearance and structure. A and B type is optional. It has multiple threaded interfaces, suitable for convenient installation, and meet multiple working conditions.



MPM4503 Pressure Transmitter

The cost-effective silicon micro-melting pressure transmitter can be widely used in smart IoT, variable frequency and constant pressure water supply, compressors, building automation, water treatment and other fields.



Pumping Station Monitoring

MFE600E Electromagnetic Flowmeter

The model is with high accuracy, reliability and stability, long service life and comprehensive functions. The display is intuitive, and the operation is convenient. It is widely used in petroleum, chemical industry, metallurgy, water supply and drainage, steel, coal, papermaking, food, textile, environmental protection and other industrial departments and municipal management, water conservancy construction and other fields.



MFU2000 Ultrasonic Flowmeter

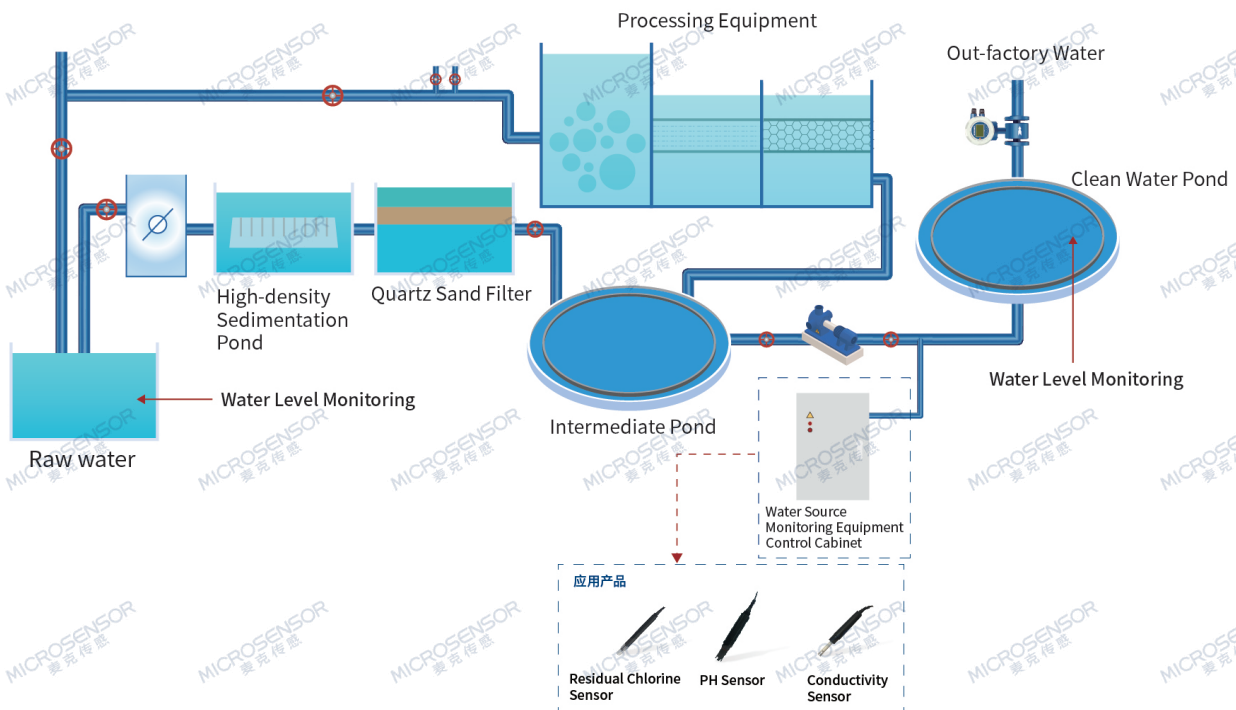
The flowmeter is of high performance, high reliability for small-diameter pipelines. The external clamp type can be widely used in various industrial sites, water resources monitoring, farmland irrigation and other industries.





Water Work Monitoring

Through the wireless monitoring terminal, the real-time data can be uploaded to the big data platform, so that the water company can monitor and analyze the overall production situation of the water work, and do classification, summary statistics and historical change trend analysis based on the data. While macro-supervising the water work, it can also realize the specific business analysis, which can effectively assist the supervisors in the comprehensive supervision of the water work in a point-to-face manner to ensure the normal production and operation of the water work.



Water work Monitoring

Below Products Are Available

RTU Earth1006

Battery Powered, Ultra-low Power Consumption, Wireless Communication, Remote Configuration



High Level Pond & Water Tower Monitoring

MPM4700 Intelligent Level Transmitter

Integrated customized transmitter with digital output and high accuracy, suitable for different application in site.



MPM489W Level Transmitter

Integrated fully sealed submersible level transmitter can fulfill the needs of multiple working environments and level measurements for different media.



LR725 Ultrasonic Level Meter

Based on the acoustic distance measurement technology, it can meet the measurement needs of corrosive media, inaccessible media, and other harsh working conditions. It has been widely used in continuous measurement and real-time control of various liquid level and material level in tap water, sewage, petroleum, chemical, metallurgy, power, food, pharmaceutical, paper, mineral and other industries.



Monitoring of Inlet and Outlet Water Flow

MFE600E Electromagnetic Flowmeter

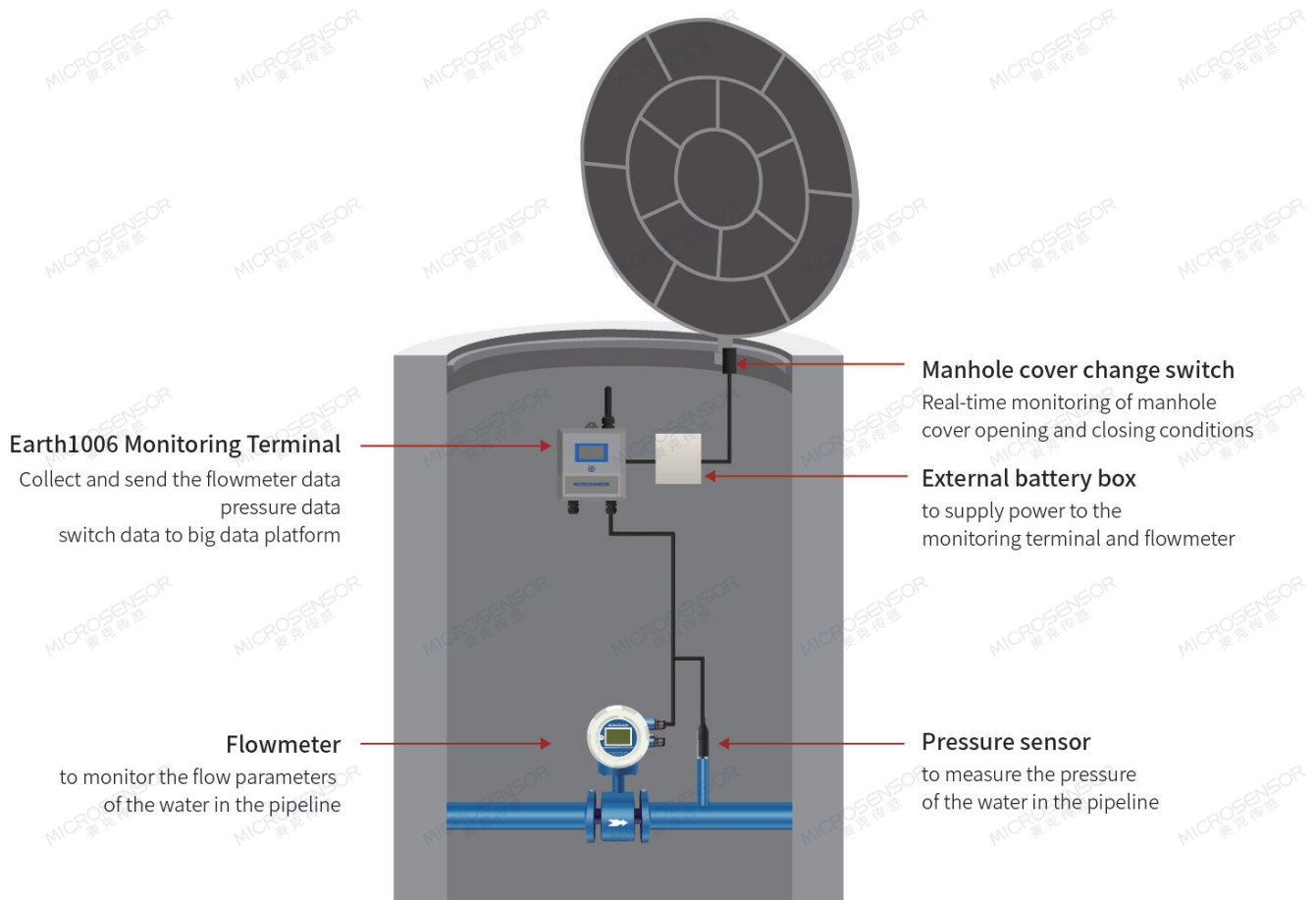
The model is with high accuracy, reliability and stability, long service life and comprehensive functions. The display is intuitive, and the operation is convenient. It is widely used in petroleum, chemical industry, metallurgy, water supply and drainage, steel, coal, papermaking, food, textile, environmental protection and other industrial departments and municipal management, water conservancy construction and other fields.





Water Supply Pipe Network Monitoring

The water supply pipe network monitoring system is suitable for remote online monitoring of the pipe network by water supply companies. By installing the Earth1006 intelligent remote monitoring terminal, pressure sensor, electromagnetic flowmeter, water quality sensor and other monitoring equipment in the well of water supply pipe network, the pressure, flow, water quality and other parameters of the entire pipe network can be remotely monitored. Through the construction of the system, it can scientifically command the allocation of water supply, ensure the pressure balance and flow stability of the water supply, and timely detect and predict pipe burst accidents and pipe network leakage. By establishing DMA partition measurement points, partition leakage monitoring can be achieved.



Water Supply Pipe Network Monitoring

Below Products Are Available

RTU Earth1006

Battery Powered, Ultra-low Power Consumption, Wireless Communication, Remote Configuration



Pipe Network Pressure Monitoring

MPM489 Pressure Transmitter

Diffusion silicon piezoresistive pressure transmitter, which with adjustable zero and full-scale output, can measure gauge pressure, absolute pressure, and sealed gauge pressure, has obtained a variety of certifications. product support customization, has a wide range of applicability.



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Pipeline Flow Monitoring

MFE600E Electromagnetic Flowmeter

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MUF2000 Ultrasonic Flowmeter

The flowmeter is of high performance, high reliability for small-diameter pipelines. The external clamp type can be widely used in various industrial sites, water resources monitoring, farmland irrigation and other industries.



Water Quality Monitoring

Residual Chlorine Sensor

Accuracy: $\pm 1\%$ or $\pm 0.01\text{mg/L}$. IP68 protection level. Support digital output, which is convenient for the terminal to collect data.



PH Digital Sensor

Accuracy: $\pm 0.02\text{PH}$. IP68 protection level. Support 4-20mA and RS485 output. Automatic temperature compensation function, higher acquisition accuracy.



Conductivity Sensor

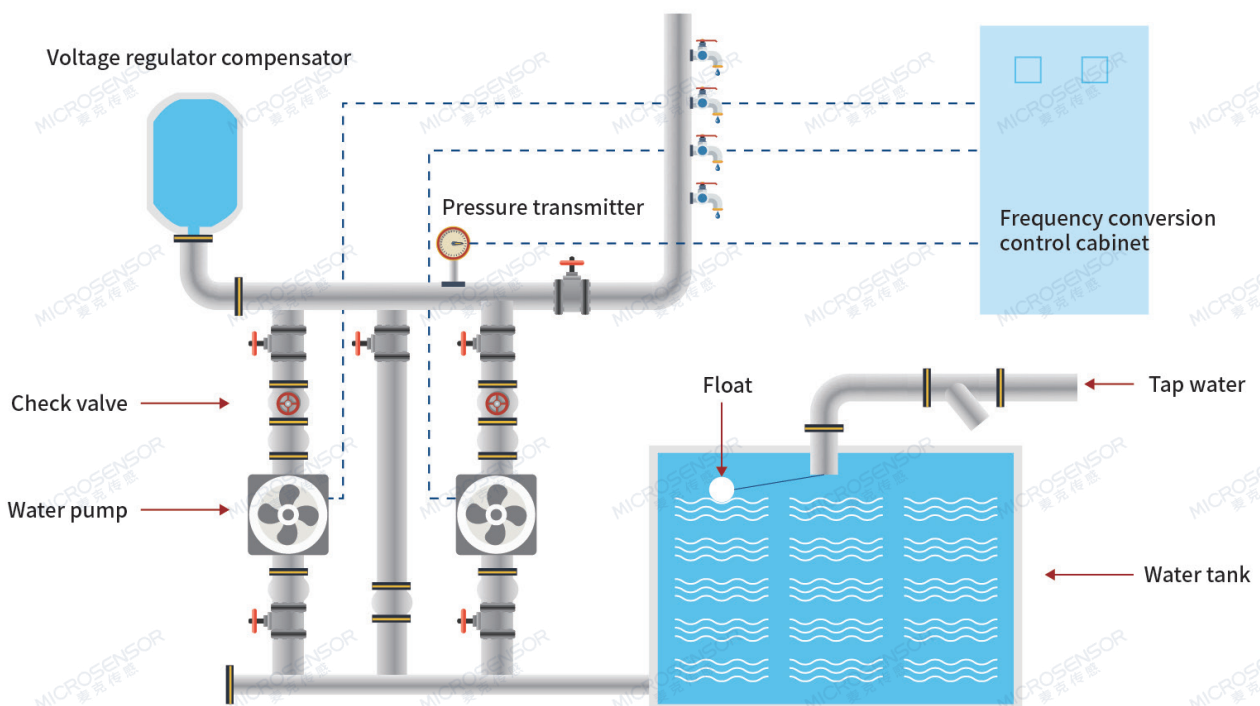
Two-point calibration, accurate and stable measurement. IP68 protection level. Support 4-20mA, RS485 output, and IoT function.





Secondary Water Supply Equipment

Constant pressure water supply equipment is a water supply equipment widely used in production, living and office in enterprises, residential areas, and rural areas. It consists of three parts: air pressure tank, water pump and electric control system. An auxiliary small pump function is added inside the equipment. When the water consumption does not exceed the output of the small pump, the auxiliary small pump will supply water and maintain the pressure. When the water consumption exceeds the water output of the small pump, the pressure sensor senses the pressure drop of the fluid in the pipe. After analysis and calculation, the microcomputer controller outputs a signal to the frequency converter according to the calculation result, and the frequency converter controls the operation of the frequency conversion main pump according to the water consumption to adjust the number of water pumps and ensure stable water pressure.



Secondary Water Supply Equipment

Below Products Are Available

Pipe Network Pressure Monitoring

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Customer Cases

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



Baoji Chuangwei Water Project

The Baoji Chuangwei Water Company project has established a multi-dimensional monitoring system from reservoir water sources, water works, pipe networks, and user-side water meters, covering pressure, flow, water quality, water work operation, water meter data. It provides important information and technology guarantees for Baoji City Urban water supply dispatching and water supply security.



Yangling Xinhua Water Project

Through the scientific setting of the Micro Sensor platform, Yangling Xinhua Water Supplies Co., Ltd solved the problems of patrolling the underground wells of the water work, greatly reducing communication costs, and improving maintenance efficiency. The water supply company requires highly reliable, safe, stable, and uninterrupted equipment involved in the water supply. The water distribution network covers a large and complex area, which is difficult to maintain, and the original water resources are not good. In response to difficulties, our solution becomes the right remedy to eliminate the industry problems.



Shanxi Jinzhong City Smart Water Supply Project

Jinzhong Smart Water Supplies Platform, based on Micro Sensor's V3.0 system, uses sensors, IoT, and big data technology to collect and integrate pipe network, production, and dispatch data to achieve the integrated smart water services platform, including GIS positioning, pipe network monitoring, water plant operation monitoring, and pipe network inspection, water quality management, DMA partition, leakage analysis, mobile data platform and other functions. The project has been implemented 2 years ago, the system has been running well and well-received by the residents. The second phase of the project is currently in progress, and it is expected to realize intelligent functions, such as accurate leakage location and pipe burst warning.

Your Partner of Sensing and Measuring

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