System introduction

Water quality testing center

Server

Remote access of client

Water quality testing center

GPRS/CDMA/NB-IOT 3G/4G/Optical fiber

3G/4G/Optical fiber

Water quality monitoring equipment

River, lake and reservoir

Sewage treatment plant

Intake in the water source

Drain outlet

Waterwork

Booster pump station
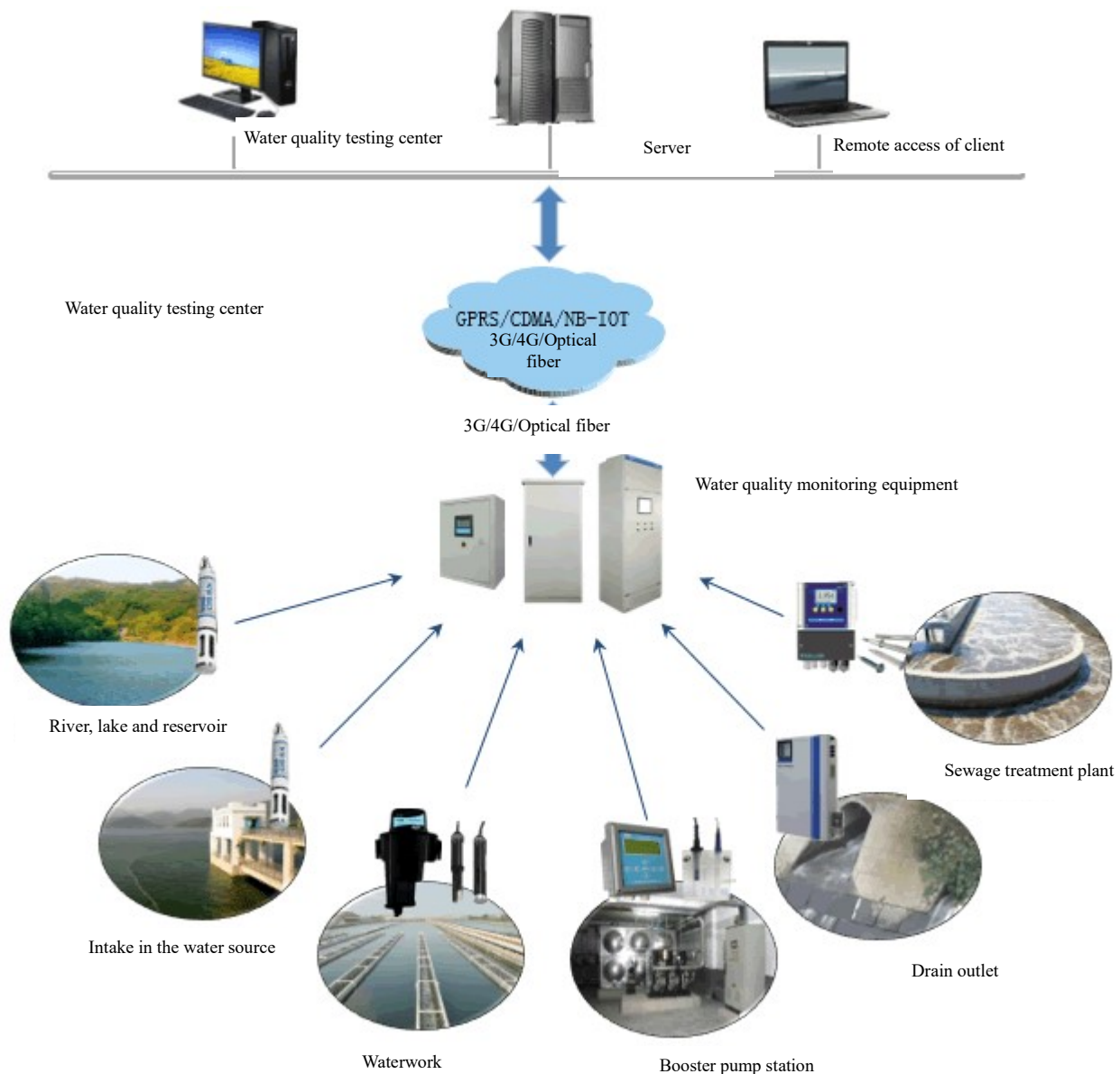
The QMS water quality online monitoring system is used for comprehensive remote monitoring and management of water quality by advanced intelligent water quality sensor, wireless transmission system, wireless communication, early warning system and intelligent management system. Plenty of historical data can be saved and analyzed to guide production and management, ensuring high productivity in aquaculture and increment, improving the quality of the crops grown and avoiding the environmental problems arising from water pollution.

System features

- Data monitoring: The water quality monitoring system is capable of online real-time monitoring of five general parameters of water quality by the sensor equipment (temperature, turbidity, pH value, conductivity and dissolved oxygen), permanganate index, ammonia nitrogen, various water quality ions, total phosphorus, total nitrogen and riverway flow.
- Data transmission: The online water quality monitoring technology can be used to upload the data acquired by the monitoring point to the client within a very short period of time with data promptness and

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effectiveness ensured. Compared to traditional manual sampling monitoring, it simplifies the bureaucratic procedure and saves the monitoring time.

- Monitoring and early warning: The user can set the security domain of the parameters monitored by the system platform. Once the water quality parameter in a place monitored by the front-end sensor exceeds the security domain, the system will send the alarm information to notify the user for timely treatment and ensuring the water quality of the impounding reservoir and reservoir is good.
- Data analysis: As for the water quality monitoring system, the monitoring period can be set with automatic acquisition, but no manual care. The system automatically generates the data sheet and the user can intuitively understand the water quality changes. The acquired data can be saved, and the historical data can be viewed at any time and used for analysis to sum up the experience for user's aquaculture and crop planting and guide management.

System parameters

- Intelligent water collection and distribution and pipeline flushing system;
- Perfect preprocessing module and precise filter module;
- Intelligent environmental power monitoring system, central control system, power-off protection, self-starting when being electrified, index data comparison system and real-time data monitoring;
- Multiple communication protocols, multiple modes of communication, high integration and good compatibility and extensibility.

S/N	Measurement item	Measurement method	Measuring range	Measurement accuracy
1	Water temperature	Resistance method	(-20-80)°C	0.15°C
2	pH	Electrode method	0-14	0.1
3	ORP	Electrode method	(-1999-1999)mV	20mV
4	Conductivity	Electrode method	(10-100,000)μS/cm	±1%
5	Salinity	Calculation as per conductivity and thermometer	(0-70)PSS	±1%
6	Dissolved oxygen	Fluorescence method	(0-50)mg/L	±0.3mg/L
7	Turbidity	90° scattering method	(0-3000)NTU	±3%
8	Chlorophyll a	Fluorescence method	(0-100)ug/L	±5%
9	Blue-green algae	Fluorescence method	(100-20,000)ce11s/mL	±5%
10	Rhodamine	Fluorescence method	(0-1000)ppb	±5%
11	Oil in water	Fluorescence method	(0-1500)ppb	±5%
12	Ammonia nitrogen	Ion selective electrode method	(0-100)mg/L	±5%
13	COD/TOC	Power-spectral method	(0-500)mg/L	1mg/L
14	Wind speed	Ultrasonic time difference method	(0.5-60)m/s	0.1m/s
15	Wind direction	Ultrasonic time difference method	0°-360	±3°%
16	Air pressure	Piezoresistive type	(600-100)hPa	±0.5hPa
17	Air temperature	Platinum resistance method	(-40-80)°C	0.1°C
18	Humidity	Capacitive type	0%-100%RH	±3%RH
19	Water depth	Pressure sensor	(0-10)m	3mm
			(0-25)m	10mm
			(0-100)m	10mm
			(0-200)m	20mm
20	Flow	Flowmeter	2~20000m3/h	0.5~1.5%

System application

The QMS water online monitoring system is used to monitor and measure the types of pollutants in the water body and concentrations and variation trends of various pollutants and evaluate the water quality. Its monitoring scope is wide, including natural water not polluted and having been polluted (river, lake, sea and underground water) and various industrial water drainages. It's widely used for online monitoring of plant sewage discharge in the industries (such as electric power, chemical engineering, printing and dyeing, papermaking and lithium battery new energy) and online monitoring of water quality and water samples for government water management, fishery management, aquaculture farmer, farmer households, agricultural cooperative and home farm.

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