DONGHAI GROUP

DONGHAI SMART METERING
PRODUCT CATALOGUE

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Welcome attention
Donghai Group

Progress comes from technology,
development begins with innovation.

Founder of Donghai:
Yuan liding

Centenary DH Smart Metering

SMART CITY, DONGHAI MADE

Smart Metering Makes City Life Better

Smart Energy, Smart Water Meter Solutions Provider

Ningbo Donghai Group is a high-tech enterprise specializing in intelligent energy and resource measurement management. Donghai Group Metering Industrial Science and Technology Park has formed a smart metering system industry chain, including water meter, gas meter, heat meter, program-controlled valve, timer, smart home appliance, instrument sensor, electronics and software industry specialized company. It is a new industrial base for measuring instruments in Zhejiang Province.

Donghai enterprises have obtained more than 160 patents for inventions and utility models, and many new water meter products have been included in the National Torch Plan, the National Key New Product Plan, and the Ningbo High-tech Product Achievement Transformation Plan,and won the Zhejiang and Ningbo Science and Technology Progress Awards many times.

The intelligent measurement and monitoring management system based on the Internet of Things technology independently developed by Donghai enterprises adopts intelligent wireless metering terminals and massive data analysis management and other high technologies,used in municipal and public utilities, water, gas, heat, sewage discharge and water resource measurement, energy conservation and emission reduction, comprehensive utilization and management, providing measurement data and monitoring for water, gas, heat and other resource industries and sewage treatment and emission management departments,promoting the informationization and intelligent management of the urban public utilities basic resources industry, improving the management level of public utilities, and serve the construction of smart cities.

Centenary DH Smart Metering

DONGHAI MADE

Help "Made in China 2025"

List

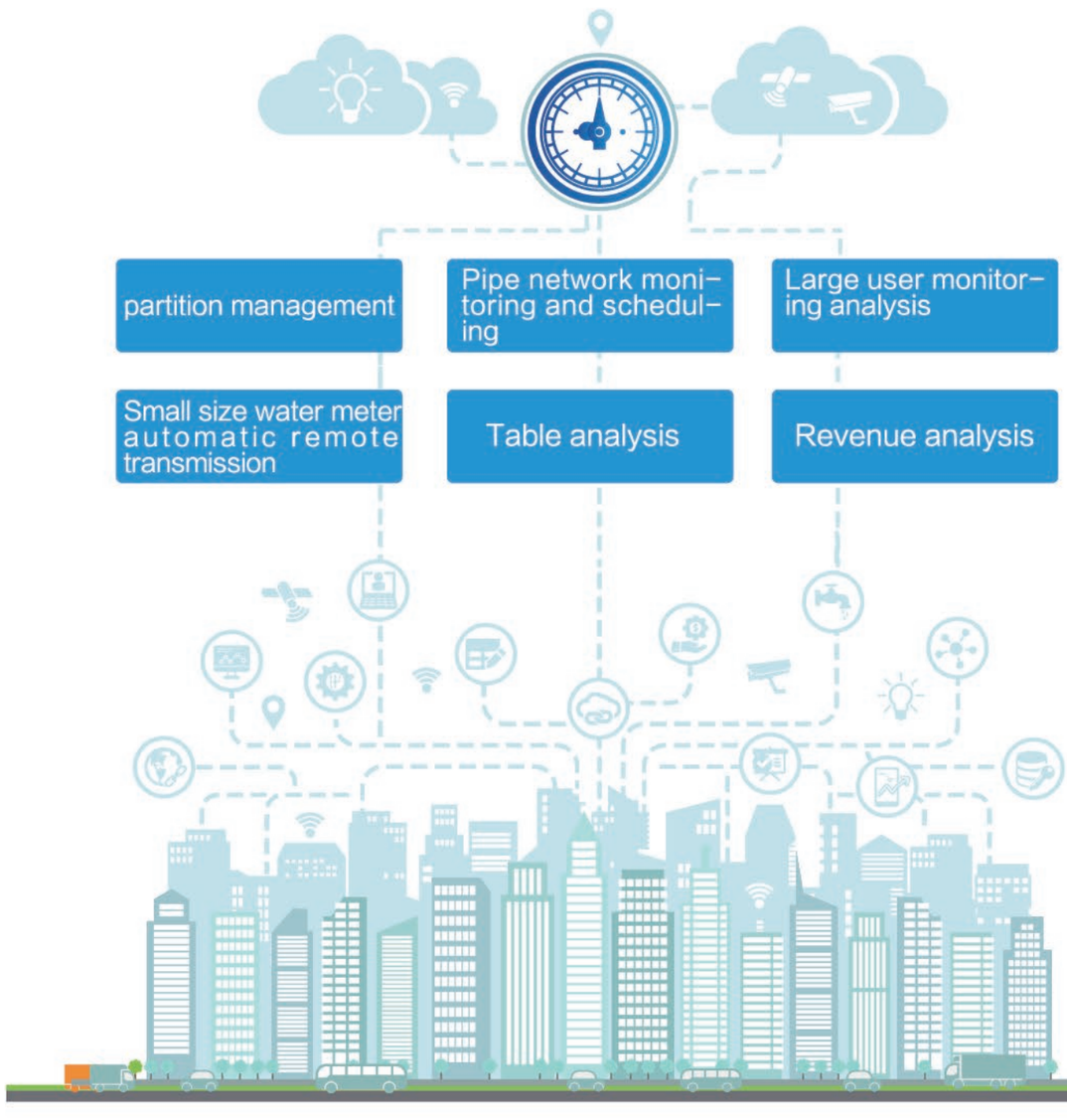
Centenary DH Smart Metering

Smart metering

Problem focus
Solution
Realizing value
Comparative Advantage

Smart metering

Donghai Smart Metering Solution is dedicated to intelligent equipment access, application system integration and business application development, improving water management efficiency and control capabilities, and promoting water business innovation and transformation.



Centenary DH Smart Metering

Problem focus

Individual management — There are many types of remote transmission systems and manufacturers, which are inconvenient to use and cannot be comprehensively inquired.

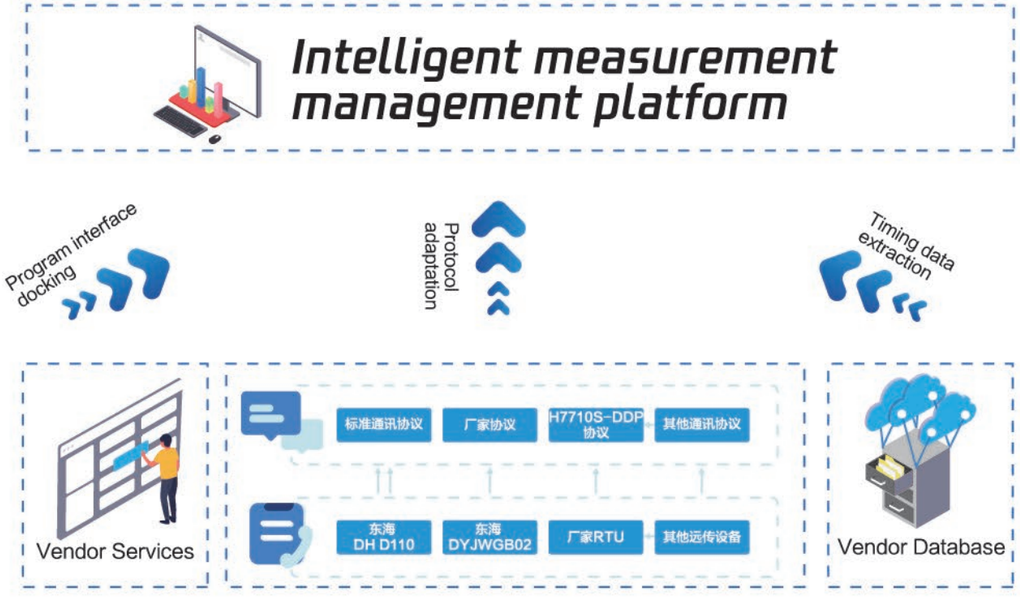
Data Separation — There is no integration between remote transmission systems, and there is no good integration with GIS systems, revenue systems, SCADA systems.

Data explosion — Far-reaching data and business are deeply combined and applied insufficiently, and the value of data is not fully utilized.

solution

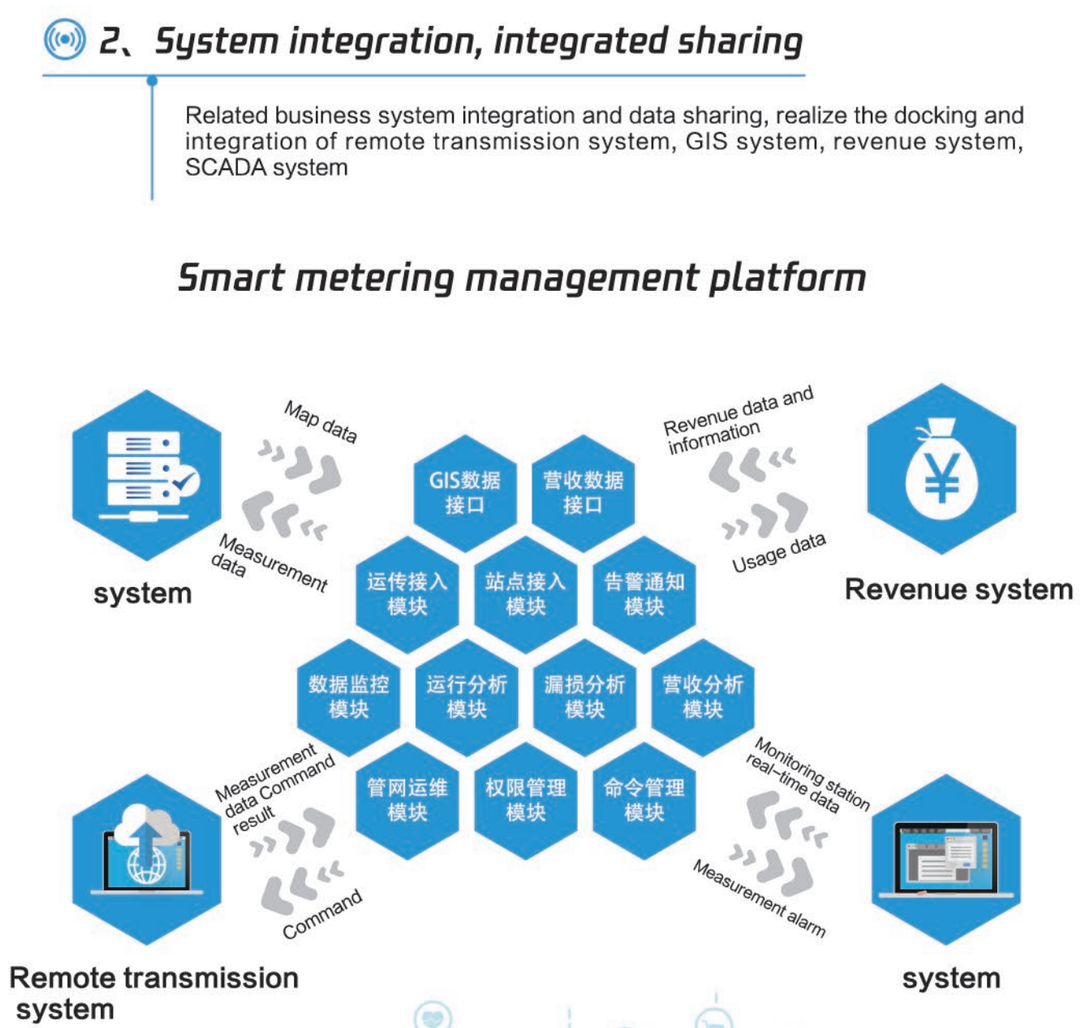
1、One platform, unified access

Realize the communication protocol access of existing equipment, design standard protocol and access, directly extract the system database, and connect the system programming interface.



2、System integration, integrated sharing

Related business system integration and data sharing, realize the docking and integration of remote transmission system, GIS system, revenue system, SCADA system



3、Summary indicators, business evaluation

Select KPI key indicators and business evaluation indicators, and the system will automatically summarize and calculate to drill in and roll up the indicator data of each dimension.

More functional interface

4、Key business, expand application

Data monitoring | Leakage analysis | Operation analysis | Management decision

Help customers to be convenient and reduce production and sales difference

Application 1. Data monitoring

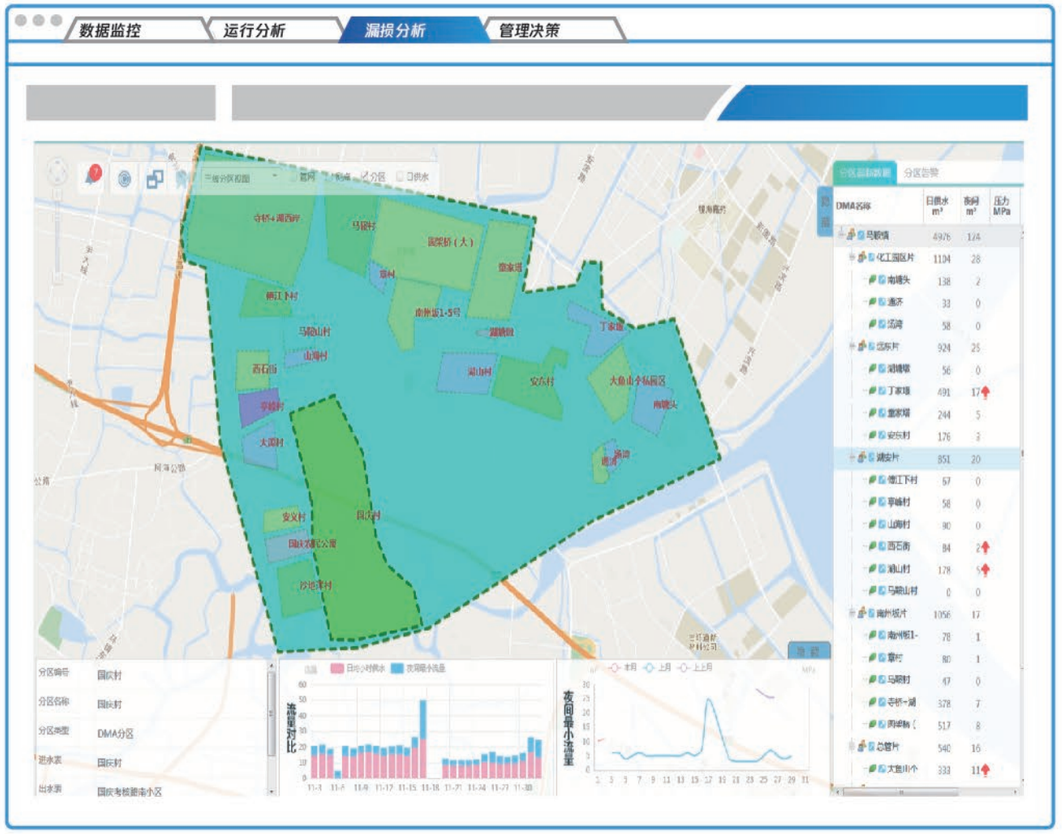
Provide convenient real-time monitoring view (integrated monitoring, zone monitoring, measuring point monitoring, alarm monitoring, etc.) to monitor the flow, pressure and water quality of the partition and measuring point in real time. Provides a variety of abnormal alarm judgments (no data, sudden changes, constant, year-on-year mutations, etc.), flexible notifications (pop-ups, color prompts, short messages, etc.).

Application 2, operation analysis

Provide a variety of targeted data analysis tools (temporal analysis, operational analysis, overlay analysis, minimum flow analysis, cumulative analysis, interval ratio analysis) to provide accurate analysis of individual partitions (real-time data, historical data, waterfall-assisted positioning) , overlay analysis, nighttime small flow analysis), providing detailed analysis of individual points (days, historical data, nighttime small flow, simultaneous comparison, peak-to-valley comparison)

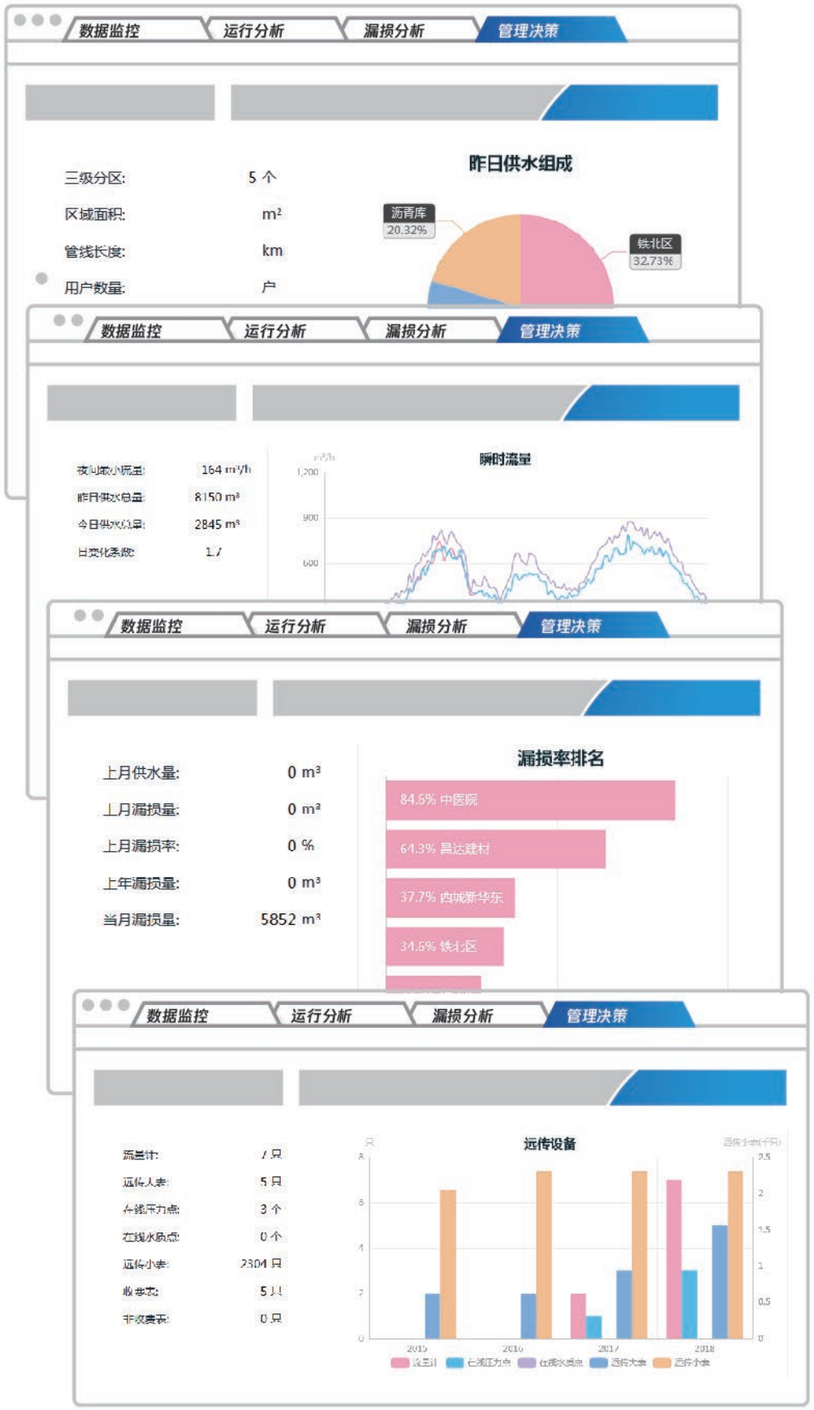
Application 3, leakage analysis

It provides an intuitive view of the area, hierarchical view of the map of the area, pipeline and measuring point, view of the flow and pressure curve of the area, measuring point, daily water supply on that day, small flow， flow efficient and flow curve at night and flow curve at night, provides the area alarm (the proportion of small flow at night is too large, daily water supply exceeds the limit), and provides the daily data and small flow data at night.

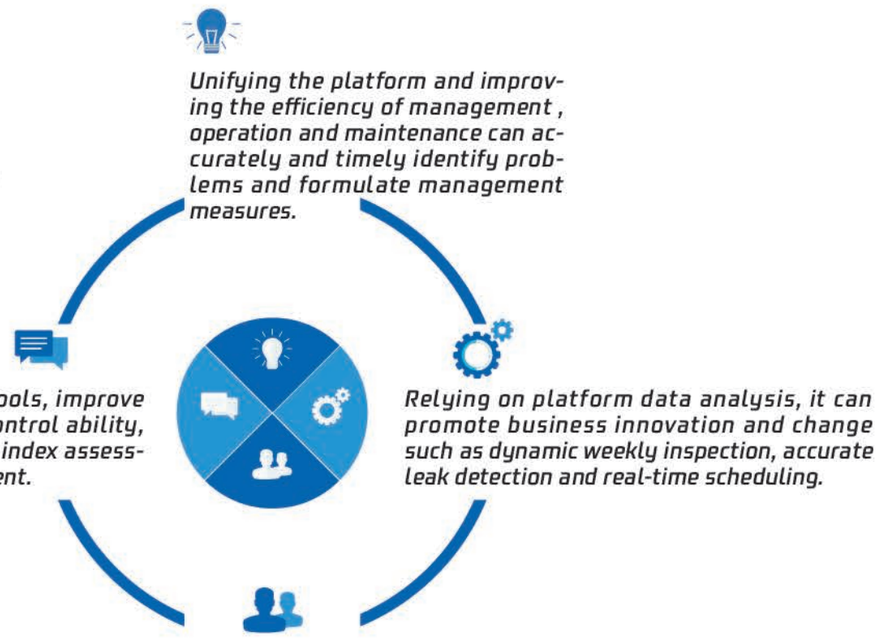


Application 4, management decision

It provides the company, three level division and the level by level detailed water supply composition, flow curve, leakage rate and leakage amount graphical indicators display in the community.



Realized value



Comparative advantage

1、The solution is mature, implemented in multiple enterprises and experienced in implementation.

2、The product business function is complete, there are many integrated equipment and system manufacturers, and it continuously supports the access of new equipment and protocol.

3、The mainstream technology architecture supports advanced technologies such as distributed processing and big data analysis.

Application case

Corporate name	Main business application
Shanghai Chengtou WaterAffairs (Group) Co., Ltd.	Large user monitoring, community user automatic meter reading
Shanghai Pudong Veolia Water Supply Co., Ltd.	Large user monitoring
Ningbo Water Supply Co., Ltd.	community user automatic meter reading
Quzhou Water Industry Group Engineering Co., Ltd.	Pipe network monitoring
Foshan Water Industry Group Co., Ltd.	Large user monitoring
Zhoushan Water Company	Large user monitoring, community user automatic meter reading
Zhejiang Shaoxing Keqiao Binhai Co., Ltd.	Zone leakage control and large user monitoring
Ningbo Xiangshan County Water Group	Zone leakage control and large user monitoring
Shanxi Pingyao County Urban and Rural Water Supply Corporation	Zone leakage control and large user monitoring

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Centenary DH Smart Metering

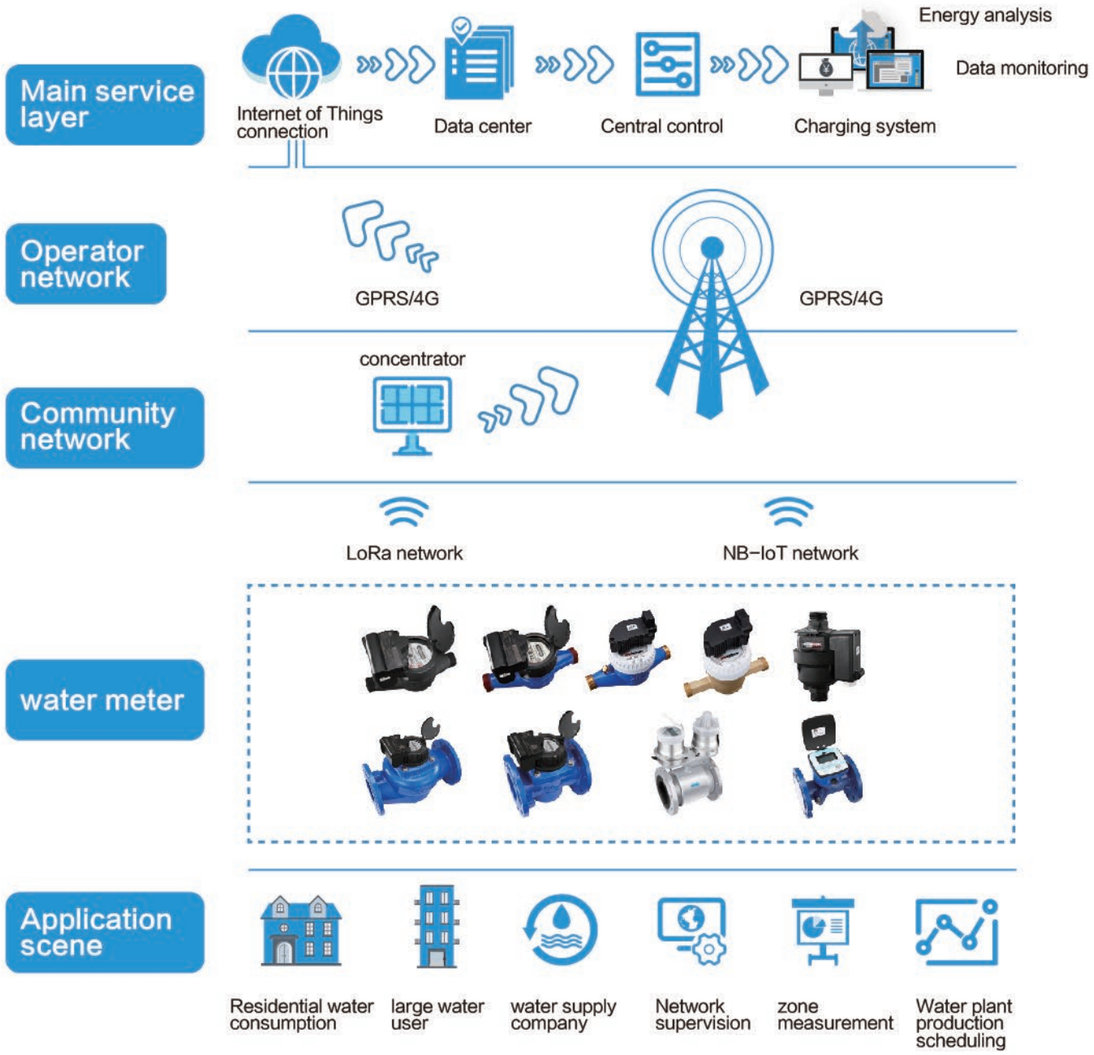
Remote transmission

Donghai remote transmission plan

NB-IOT Remote transmission scheme of intelligent water meter
LORA Remote transmission scheme of intelligent water meter

Donghai remote transmission plan

In order to meet the information and intelligent construction demand of water supply measurement in smart city, Ningbo Donghai group relies on the mature professional knowledge of flow industry and the R & D and design strength of microelectronics technology for many years, it can provide users with a complete and reliable package of network solutions for residential water, large water user, water supply company , pipe network monitoring, zone measurement and water plant production scheduling .



一、NB-IoT Remote transmission scheme of intelligent water meter

1、Summary

Dycwna series wireless metering instrument terminal developed by Donghai intelligent water meter data terminal Nb IOT (narrow band Internet of things) technology.The communication network has the characteristics of wide coverage, multiple connections, low cost, low power consumption, etc. It can effectively solve the increasingly heavy problem of household meter reading by the water company, and improve work efficiency through simple wireless reading.

Centenary DH Smart Metering

2、NB-IoT Wireless terminal function

Modular plug and use

The base meter adopts preset-type non-magnetic sensing technology, and is free to choose a modular wireless terminal to reserve the function of upgrading the smart water meter for customers.

Automatic timing function

Each time the water meter terminal reports data, it will automatically calibrate the time through the base station.

Local firmware upgrade feature

When terminal firmware is required to be upgraded, it can be upgraded online through local infrared communication interface.

Near-end parameter configuration /query function

During terminal operation, any parameters defined by IOT platform can be configured / queried through NB IOT communication.

Data recording function

General records:
The terminal reports the data records 24 hours before the day, including 30 minutes * 48 records, and the reporting frequency can be set. Data can be stored for 30 days. When the data reaches 30 days, the new data will automatically cover the earliest data.

Data supplement function:
If the data is not submitted successfully, the data will be automatically supplemented in the next reporting cycle. All data within the valid retention period of data can be supplemented.

Communication connection and security encryption function

The terminal supports two protocol access modes: UDP and COAP terminal data communication adopts 128 bit advanced encryption standard, AES-128 encryption and decryption algorithm.

Automatic warning function

Instantaneous flow alarm (the instantaneous flow is higher than the preset value); working life warning (the electric quantity is lower than the preset value);Anti disassembly warning (when the wireless water meter is disassembled by man maliciously); various fault information can be uploaded in real time through the preset alarm route.

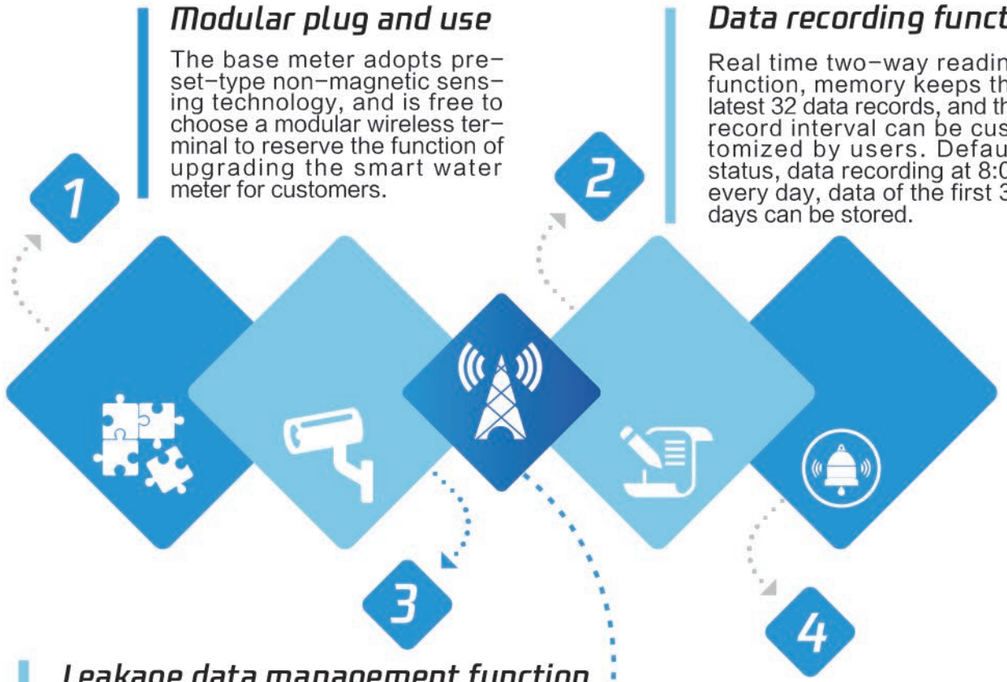
二、LoRa Remote transmission scheme of intelligent water meter

1、Summary

The DYCWLC series wireless metering terminal developed by Donghai wireless self-organizing network intelligent water meter data terminal developed based on LoRa technology.The communication network adopts a stable MESH and STAR composite network structure，networking and meter reading are fast, the success rate of meter reading exceeds 99%, and real-time two-way communication is supported.Donghai DYCWLC series terminal can adapt to Donghai LXSY-15 ~ 300 series liquid seal cold water meter, convert the mechanical reading of the water meter into electronic reading in real time, and support remote wireless reading management.

DH-WCN Wireless network

2、LoRa Wireless terminal function



Modular plug and use

The base meter adopts pre-set-type non-magnetic sensing technology, and is free to choose a modular wireless terminal to reserve the function of upgrading the smart water meter for customers.

Data recording function

Real time two-way reading function, memory keeps the latest 32 data records, and the record interval can be customized by users. Default status, data recording at 8:00 every day, data of the first 32 days can be stored.

Leakage data management function

Monitor the user's water consumption information, record the data and generate an automatic alarm when the user's abnormal consumption (dripping, leaking, pipe bursting or reflux) occurs.

Automatic warning function

Early warning of working life (the electric quantity is lower than the preset value); early warning of anti dismantling (when the wireless water meter is disassembled by man maliciously); various fault information can be uploaded in real time through the preset alarm route.

Data relay transmission function

Support up to 8 levels of multi hop network, with wide coverage and long communication distance

Centenary DH Smart Metering

Intelligent remote water meter

Small size intelligent remote water meter selection

LXSYY-15E~50E
Rotor-type liquid sealed intelligent remote water meter（NB-IoT）

LXSGY-15E~50E
Rotor-type dry-dial intelligent remote water meter

LXSGY-15D-25D
Rotor-type dry-dial single-flow intelligent remote water meter

LXHY-8
Rotary piston volumetric water purification intelligent remote water meter

LXHGY-15~20
Volumetric dry-dial intelligent remote water meter

LXHY-15/S~20/S
Rotary piston volumetric plastic case wireless remote transmission cold water meter

Big size intelligent remote water meter selection

LXRYY-40~200
Vertical woltmann detachable dry-dial intelligent remote water meter

LXRGY-40~200
Vertical woltmann detachable dry-dial intelligent remote water meter

LXLKYY-50~500
Horizontal woltmann detachable liquid sealed intelligent remote water meter

LXLGY-50~500
Horizontal woltmann detachable dry-dial intelligent remote water meter

DYJWGB-50
GPRS Remote terminal equipment（RTU）

LXCD-40~300
Ultrasonic water meter

LXEWS-25~800
Intelligent electromagnetic water meter

LXSYY-15E~50E

Rotor-type liquid sealed intelligent remote water meter(NB-IoT)

Features:

- Multi-jet
- Horizontal installation,measuring range reach R=160
- Liquid -sealed,register is sealed in the capsule with special liquid keep a clear reading in long term service
- Mechanical parts selected high quality materials for steady&reliable characteristic&Long service life
- External adjustment available(seal)
- Case can adopt brass /iron/plastic/stainless steel
- Module and water meter adopt split structure and plug and play

This series of multi-jet water meters is used to measure the amount of drinking water or waste water.
Resident use(sub- water meter) or industry use

Wireless sensing technology

Module can adopt plug and play

Minimum reading 0.05L
Pulse output 1/L

(NB-IoT、LoRa、GFSK intelligent module optional)

Meter Size DN	15	20	25	32	40	50
Permanent Flowrate Q3m³/h	2.5	4	6.3	10	16	25
Range ratio Q3/Q1	80-160	80-160	80-160	80-160	80-160	80-160
Overload Flowrate Q4m³/h	3.125	5	7.875	12.5	20	31.25
Transitional Flowrate Q2m³/h	50-25	80-40	126-63	200-100	320-160	500-250
Min Flowrate Q1m³/h	31.25-15.625	50-25	78.75-39.375	125-62.5	200-100	312.5-156.25
Pressure loss class △p	△p63					
Water pressure class MAP	MAP 10					
Temperature class T	T30					
Min Reading lectura L	0.05					
Max reading lectura m3	99999					
Pulse constant L/P	1				10	
Length mm	165/190	190/195	225/260	235/260	245/300	280/300
Width mm	95	95	100	100	115	165/115
Height mm	138	138	145	145	185	200/185
Connecting Thread D	G3/4	G1	G11/4	G11/2	G2	FLANGE CONNECTING CONFORM /G21/2
Weight kg	1.5/1.6	1.7/1.8	2.4/2.6	2.7/2.8	4.5/5.4	14/7.2

LXSGY-15E~50E

Rotor-type dry-dial intelligent remote water meter

Features:

- Single -jet
- DRY-DIALD,Magnetic drive (with magnetic shielding anti-interference function)
- Horizontal installation,measuring range reach R=160
- Register sealed with copper/plastic,keep a clear reading in long term service
- Mechanical parts selected high quality materials for steady&reliable characteristic&Long service life
- External adjustment available(seal)
- Case can adopt brass or plastic
- Module and water meter adopt split structure and plug and play

This series of multi-jet water meters is used to measure the amount of drinking water or waste water.Resident use(sub-water meter) or industry use

Wireless sensing technology

Module can adopt plug and play

Minimum reading 0.05L
Pulse output 1/L

(NB-IoT、LoRa、GFSK intelligent module optional)

Meter Size DN	15	20	25	32	40	50
Permanent Flowrate Q3m³/h	2.5	4	6.3	10	16	25
Range ratio Q3/Q1	80-160	80-160	80-160	80-160	80-160	80-160
Overload Flowrate Q4m³/h	3.125	5	7.875	12.5	20	31.25
Transitional Flowrate Q2m³/h	50-25	80-40	126-63	200-100	320-160	500-250
Min Flowrate Q1m³/h	31.25-15.625	50-25	78.75-39.375	125-62.5	200-100	312.5-156.25
Pressure loss class △p	△p63					
Water pressure class MAP	MAP 10					
Temperature class T	T30					
Min Reading lectura L	0.05					
Max reading lectura m3	99999					
Pulse constant L/P	1				10	
Length mm	165/190	190/195	225/260	235/260	245/300	280/300
Width mm	92	92	104	101	125	165/125
Height mm	145	145	155	155	195	220/195
Connecting Thread D	G3/4	G1	G11/4	G11/2	G2	FLANGE CONNECTING CONFORM /G21/2
Weight kg	1.5/1.6	1.7/1.8	2.4/2.6	2.7/2.8	4.5/5.4	14/7.2

LXSGY-15D~25D

Rotor-type dry-dial single-flow intelligent remote water meter

Features:

- Multi-jet
- Horizontal installation,measuring range reach R=200
- Dry-dial register(Sealed with stainless steel or plastic), keep a clear reading in long term service
- Mechanical parts selected high quality materials for steady&reliable characteristic&Long service life
- External adjustment available(seal)
- Small size & light weight
- Case can adopt brass /iron/plastic
- Module and water meter adopt split structure and plug and play

This series of multi-jet water meters is used to measure the amount of drinking water or waste water.Resident use(sub- water meter) or industry use



Wireless sensing technology | Module can adopt plug and play (NB-IoT、LoRa、GFSK intelligent module optional) | Minimum reading 0.05L Pulse output 1/L

Meter Size DN	15	20	25
Permanent Flowrate Q3m³/h	2.5	4	6.3
Range ratio Q3/Q1	80-160	80-160	80-160
Overload Flowrate Q4m³/h	3.125	5	7.875
Transitional Flowrate Q2m³/h	50-25	80-40	126-63
Min Flowrate Q1m³/h	31.25-15.625	50-25	78.75-39.375
Pressure loss class △p	△p63		
Water pressure class MAP	MAP 10		
Temperature class T	T30		
Min Reading lectura L	0.05		
Max reading lectura m3	99999		
Pulse constant L/P	1		
Length mm	110/115	130	160
Width mm	95	95	100
Height mm	130	130	140
Connecting Thread D	G3/4	G1	G11/4
Weight kg	0.7/0.9	1.3	1.5

LXHY-8

Rotary piston volumetric water purification intelligent remote water meter

Features:

- Employed measurement principle of rotary piston
- High sensitive
- Horizontal installation,measuring range not lower than R=200
- Non-Horizontal installation,measuring range not lower than R=160
- Vacuum sealed register,keep the reading clear in a long term service
- Mechanical parts select high quality materials for steady & reliable characteristic Long service life
- Built-in check disk prevented countdown
- Case adopt stainless steel,beautiful and durable
- Module and water meter adopt split structure and plug and play

This water meter is used for households or a resident unit to measure the amount of cold water that flows through a purified water pipe



Wireless sensing technology | Module can adopt plug and play (NB-IoT、LoRa、GFSK intelligent module optional) | Minimum reading 0.05L Pulse output 1/L

Meter Size DN	8
Permanent Flowrate Q3m³/h	1.0
Range ratio Q3/Q1	160-200
Overload Flowrate Q4m³/h	1.25
Transitional Flowrate Q2m³/h	10-8
Min Flowrate Q1m³/h	6.25-5
Pressure loss class △p	△p63
Water pressure class MAP	MAP 16
Temperature class T	T30
Min Reading lectura L	0.005
Max reading lectura m3	9999
Pulse constant L/P	0.1
Length mm	110
Width mm	95
Height mm	140
Connecting Thread D	G3/4
Weight kg	0.8

LXHGY-15~20

Volumetrico dry-diald intelligent remote water meter

Features:

- Employed measurement principle of rotary piston
- High sensitive
- Arbitrary installation,measuring range reach R=500
- Dry-dial register(Sealed with stainless steel or plastic), keep a clear reading in long term service
- mechanical partsselected high quality materials for steady&reliable characteristic&Long service life
- Case can adopt brass /iron/plastic(Spray color optional)
- Beautiful appearance, durable and durable
- Module and water meter adopt split structure and plug and play

This series of multi-jet water meters is used to measure the amount of drinking water or waste water.Resident use(sub- water meter) or industry use

Wireless sensing technology

Module can adopt plug and play
(NB-IoT、LoRa、GFSK intelligent module optional)

Minimum reading 0.05L
Pulse output 1/L

Meter Size DN	15	20
Permanent Flowrate Q3m³/h	2.5	4
Range ratio Q3/Q1	160-200	160-500
Overload Flowrate Q4m³/h	3.125	5
Transitional Flowrate Q2m³/h	25-20	40-12.8
Min Flowrate Q1m³/h	15.625-12.5	25-8
Pressure loss class △p	△p63	
Water pressure class MAP	MAP 16	
Temperature class T	T30	
Min Reading lectura L	0.05	
Max reading lectura m3	99999	
Pulse constant L/P	1	
Length mm	105/110/115/165/170	130
Width mm	98	98
Height mm	165	165
Connecting Thread D	G3/4	G1
Weight kg	1.1	1.3

LXHY-15/S~20/S

Rotary piston volumetric plastic case wireless remote transmission cold water meter

Features:

- Employed measurement principle of rotary piston
- Wide measuring range
- High sensitive
- No limitation for installation.Accuracy is not to be affected wherever installed at a horizontal,vertical or inclined pipeline
- Register is sealed with a special liquid to keep a clear reading in long term service
- Mechanical parts use of high-quality material to ensure a stable characteristic
- It's body adopt the new-style high intensity nontoxic plastic ,with cabinet design,this kind of water meter also available for drinking water
- Module and water meter adopt split structure and plug and play

This series of multi-jet water meters is used to measure the amount of drinking water or waste water.Resident use(sub-water meter) or industry use

Wireless sensing technology

Module can adopt plug and play
(NB-IoT、LoRa、GFSK intelligent module optional)

Minimum reading 0.05L
Pulse output 1/L

Meter Size DN	15	20
Permanent Flowrate Q3m³/h	2.5	4
Range ratio Q3/Q1	160-200	160-200
Overload Flowrate Q4m³/h	3.125	5
Transitional Flowrate Q2m³/h	25-20	40-32
Min Flowrate Q1m³/h	15.625-12.5	25-20
Pressure loss class △p	△p63	
Water pressure class MAP	MAP 16	
Temperature class T	T30	
Min Reading lectura L	0.02	
Max reading lectura m3	9999	
Pulse constant L/P	1	
Length mm	165	195
Width mm	92	92
Height mm	112	112
Connecting Thread D	G3/4	G1
Weight kg	0.5	0.65

LXRYY-40~200

Vertical woltmann detachable liquid seal intelligent remote water meter

LXRGY-40~200

Vertical woltmann detachable dry-diald intelligent remote water meter

Features:

- Dry-dial and Liquid-sealed
- Dry-dial,Magnetic drive,Resistance to exterior magnet interference, vacuum sealed register ensures the dial kept free from fog and keep the reading clear in a long term service
- Liquid-sealed,register is sealed in the capsule with special liquid keep a clear presentation in a long term service
- Detachable movement structure for easy maintenance
- Hydraulic equilibrium ensure a low starting flow
- Made of diamond spar and hard alloy steel,ensure a long life span
- Internal adjustment to avoid adjust oneself
- Built-in stainless steel strainer for easy operation
- Module and water meter adopt split structure and plug and play

This series of multi-jet water meters is used to measure the amount of drinking water or waste water.Resident use(sub- water meter) or industry use

Wireless sensing technology

Module can adopt plug and play

(NB-IoT、LoRa、GFSK intelligent module optional)

Minimum reading 0.05L Pulse output 1/L

Meter Size DN	40	50	80	100	150	200
Permanent Flowrate Q3m³/h	25	40	100	100	250	400
Range ratio Q3/Q1	100-200	100-200	100-200	100-200	100-200	100-200
Overload Flowrate Q4m³/h	31.25	50	125	125	312.5	500
Transitional Flowrate Q2m³/h	0.4-0.2	0.64-0.32	1.6-0.8	1.6-0.8	4.0-2.0	6.4-3.2
Min Flowrate Q1m³/h	0.25-0.125	0.4-0.2	1-0.5	1-0.5	2.5-1.25	4.0-2.0
Pressure loss class △p	△p63					
Water pressure class MAP	MAP 10					
Temperature class T	T30					
Min Reading lectura L	0.2				1	
Max reading lectura m3	9999999					
Pulse constant L/P	10				100	
Length mm	245	200/280	225/370	250/370	500	500
Width mm	215	165	200	220	285	340
Height mm	280	280	340	340	455	495
Bolt circle dia mm	Continuous thread；G2	125	160	180	240	295
Connecting bolt dia pcs	/	M16x4	M16x8	M16x8	M20x8	M20x8
Weight kg	15	12/18	25/35	26/38	75	120

Centenary DH Smart Metering

LXLKYY-50~500

Horizontal wolymann detachable liquid-sealed intelllgent remote water meter

LXLGY-50~500

Horizontal wolymann detachable dry-dial intelllgent remote water meter

Features:

- Dry-dial,magnetic drive,vacuum sealed register ensures the dial kept free from fog and keep the reading clear in a long term service
- Liquid-sealed,register is sealed in the capsule with special liquid and keep a clear presentation in long term service
- Selected high quality materials for steady & reliable characteristic
- Wide measurements range
- Low head loss
- Register for universal use within this range detachable,without removing the meter from the pipeline for a easy maintenance and replacement
- Module and water meter adopt split structure and plug and play

This series of water meters is used for industrial and mining enterprises to measure the total amount of water flowing through the cold water of the water pipe.

Wireless sensing technology

Module can adopt plug and play

(NB-IoT、LoRa、GFSK intelligent module optional)

Minimum reading 0.05L Pulse output 1/L

Meter Size DN	50	65	80	100	150	200	250	300	400	500
Permanent Flowrate Q3m³/h	40	40	100	100	250	400	630	1000	1600	2500
Range ratio Q3/Q1	50-200	50-200	50-200	50-200	50-200	50-200	50	50	50	50
Overload Flowrate Q4m³/h	50	50	125	125	312.5	500	787.5	1250	2000	3125
Transitional Flowrate Q2m³/h	1.28-0.32	1.28-0.32	3.2-0.8	3.2-0.8	8.0-2.0	12.8-3.2	20.16-5.04	32	51.2	80
Min Flowrate Q1m³/h	0.8-0.2	0.8-0.2	2-0.5	2-0.5	5.0-1.25	8.0-2.0	12.6-3.15	20	32	50
Pressure loss class △p	△p25						△p10			
Water pressure class MAP	MAP 10									
Temperature class T	T30									
Min Reading lectura L	0.2				1					
Max reading lectura m3	9999999									
Pulse constant L/P	10				100					
Length mm	200	200	225	250	300	350	450	450	500	500
Width mm	175	185	200	220	285	340	395	445	565	670
Height mm	280	280	320	320	420	450	484	506	621	725
Bolt circle dia mm	125	145	160	180	240	295	350	400	515	620
Connecting bolt dia pcs	M16x4	M16x4	M16x8	M16x8	M20x8	M20x8	M20x12	M20x12	M24x16	M24x20
Weight kg	12	13	15	16.5	41	53.5	99	105	203	233

DYJWGB-50

GPRS Remote terminal equipment（RTU）

Features:

- Mechanical seal structure ,IP68 protection class
- Large memory capacity,greatly improve data storage density
- Data timing upload, timing parameters configurable
- Portable,small size,easy to install and maintain
- Built-in battery design, low voltage real-time alarm
- Solar power or mains power supply (optional)
- New machine maintenance concept makes your work easier
- RF/GSM/GPRS Remote monitoring device related parameter settings
- Automatic data reissue function

This series of multi-jet water meters is used to measure the amount of drinking water or waste water.Resident use(sub-water meter) or industry use

Support multiple communication methods GPRS/4G/NB-IoT

Adapt to various types of remote meters, flow meters, pressure gauges, water meters and other secondary instruments

Supports various power supply methods such as utility power, solar power, and lithium battery

General technical parameters	
Power supply	Lithium battery (standard type)Solar powered (optional); AC220V power supply (optional)
Remote communication interface	GPRS/NB-IoT
Power standby mode	<100uw
Consumption Launch status	<3w
Shell protection rating	IP68
Relative humidity	0~100%RH
Operating temperature	-25℃-+60℃
Electromagnetic compatibility level	E1
Size (mm)	111*133*157
weight	1kg

GPRS/NB-IoT Network technical parameters		
frequency	GPRS	900/1800/1900MHZ
	NB-IoT	850 MHz (China telecommunications) 900 MHz
Transmission power	GPRS	EGSM900: 33dBm GSM1800: 30dBm
	NB-IoT	23dBm±2dB
Receiving sensitivity		≦-129dBm±1dB

Flow sensor interface technical parameters	
Number of interfaces	2way
Continuous pulse width	>64ms
Sensor supply voltage (output)	3.3V
Sensor supply load capacity (output)	20mA

Local RS485 bus technology parameters	
Communication wave	4800bps

Local micro power wireless technical parameters	
frequency	433MHZ~434.92MHZ; 470MHZ~510MHZ
Modulation method	GFSK、LoRa
Transmission power	10mW;50mW
Receiving sensitivity	≦-110dBm(GFSK)
	≦-125dBm(LoRa)

Current loop interface technical parameters	
Number of interfaces	2way
Continuous pulse width	4~20mAcurrent loop
Sensor supply voltage (output)	24V
Sensor supply load capacity (output)	100mA

Centenary DH Smart Metering

LXCD-40~300

Ultrasonic water meter

Features:

- Widely range,Range ratio up to 1:500
- Service life of more than 15 years, Maintenance-free
- High degree of protection,Strong anti-interference ability
- Light weight, simple to install, easy to check
- Very low starting flowrate,reduce the measurement blind zone, Reduce the gap between production and sales
- No internal mechanical parts,avoided decrease in metering performance due to durable and stable measurement
- Two channel,time difference method, automatic calculation, extremely accurate
- Measure backflow available,And store or display the amount of backflow water
- Provide more information than mechanical water meter, Such as: water flow direction, instantaneous flow, various alarm information
- Only working status,non verification status

This product is suitable for the accurate measurement of the total meter flow of industrial water and urban water supply sub house-holds.It solves the problem that the traditional water meter starting flowrate is large,,small flow measurement is not accurate,it also applies to non-powered site

Technical Parameters	
Maximum operating pressure	1.6MPa
Water temperature range	0.1-50℃
Executive standard	ISO 4064:2005，GB/T778-2007；Accuracy level:LV2
Structure type	One-piece
Battery level	Built-in lithium battery,More than 15 years of working life
Protection level	IP 68 ,Working environment temperature:-25℃-+55℃
Screen display	Can display 12 digits Cumulative amount (the decimal point can be adjusted);Four instantaneous flow
Water volume display mode	1. The net cumulative amount (NET)2. Forward water volume (FWD) 3.Forward water volume and back flow water volume Alternate display (FWD/BCK)
Signal output	Pulse output (open drain) 4-20mA output Modbus RTU / RS485, M-Bus
Connection method	Threaded connection:DN40mm,Flange connection:DN50mm-DN300mm IOS standard
Environmental rating	Climate and mechanical environment rating Class C,Electromagnetic environment level E1
Head loss level	△P16

Actual performance parameter									
Flowrate m³	Nominal diameter								
	DN 40-1 ½"	DN 50-2 "	DN 65-2.5 "	DN 80-3 "	DN 100-4 "	DN 150-6 "	DN 200-8 "	DN 250-10 "	DN 300-12 "
Q5	65	65	70	100	150	350	550	1300	1300
Q3	40	40	50	63	100	250	400	1000	1000
Q2	0.125	0.125	0.128	0.200	0.320	0.600	1.000	3.2	3.2
Q1	0.060	0.060	0.070	0.080	0.100	0.400	0.800	2	2
Start flowrate	0.025	0.025	0.025	0.025	0.025	0.2	0.2	0.5	0.5
R-Q3/Q1	667	667	714	787	1000	625	500	500	500

Type evaluation parameter									
Flowrate m³	Diameter								
	DN 40-1 ½"	DN 50-2 "	DN 65-2.5 "	DN 80-3 "	DN 100-4 "	DN 150-6 "	DN 200-8 "	DN 250-10 "	DN 300-12 "
Q4	50	50	50	80	125	313	500	1250	1250
Q3	40	40	40	63	100	250	400	1000	1000
Q2	0.256	0.128	0.128	0.200	0.320	0.800	1.280	3.2	3.2
Q1	0.16	0.080	0.080	0.125	0.200	0.500	0.800	2	2
R-Q3/Q1	250	500	500	500	500	500	500	500	500

LXEWS-25~800

Intelligent electromagnetic water meter

Features:

- Accurate measurement, stable and reliable
- Comply with water meter installation environment
- Industry leading low pressure loss
- Self-diagnosis,black box features
- Ultra low power consumption,long battery life
- Rapid response to fluid changes
- Flow remote transmission integrated design
- Flow pressure integrated design,Partition measurement（DMA）

This series of multi-jet water meters is used to measure the amount of drinking water or waste water.Resident use(sub- water meter) or industry use

Remote one-piece design

Measuring fluid without pressure loss

Modular waterproof design

Accuracy level	2Level				1Level /2Level				
Meter Size DN	25	32	40	50	65	80	100	125	150
Permanent Flowrate Q3m³/h	16	25	40	63	100	160	250	400	630
Range ratio Q3/Q1	50-250				50-250/50-630				
Overload Flowrate Q4m³/h	20	31.25	50	78.75	125	200	312.5	500	787.7
Transitional Flowrate Q2m³/h	0.10	0.16	0.25	0.25	0.4	0.4	0.63	1.0	1.6
Min Flowrate Q1m³/h	0.063	0.1	0.16	0.16	0.25	0.25	0.40	0.63	1.0
Pressure loss class △p	△p16								
Water pressure class MAP	MAP 16								
Temperature class T	T50								
Min Reading lectura L	0.1								
Max reading lectura m3	9999999								
Pulse constant L/P	0.1				1				10
Length mm	200	200	200	200	200	200	250	250	300
Width mm	115	140	150	165	185	200	220	250	285
Height mm	400	400	400	400	430	450	460	495	530
Bolt circle dia mm	85	100	110	125	145	160	180	210	240
Connecting bolt dia pcs	M12x4	M16x4	M16x4	M16x4	M16x4	M16x8	M16x8	M16x8	M20x8
Weight kg	11.2	12.5	13	13.8	17.7	18.5	20	24	31.8

Centenary DH Smart Metering

Accuracy level	1Level /2Level			
Meter Size DN	200	250	300	400
Permanent Flowrate Q3m³/h	1000	1600	1600	4000
Range ratio Q3/Q1	50-250/50-630		50-160/50-250	
Overload Flowrate Q4m³/h	1250	2000	2000	5000
Transitional Flowrate Q2m³/h	2.5	6.4	10.0	25
Min Flowrate Q1m³/h	1.6	2.5	6.3	16
Pressure loss class △p	△p16			
Water pressure class MAP	MAP 10			
Temperature class T	T50			
Min Reading lectura L	0.1			
Max reading lectura m3	9999999			
Pulse constant L/P	10			
Length mm	350	450	500	600
Width mm	340	405	460	565
Height mm	295	355	410	515
Bolt circle dia mm	295	355	410	515
Connecting bolt dia pcs	M20x8	M24x12	M24x12	M24x16
Weight kg	49	65.3	95	143

Accuracy level	1Level /2Level		
Meter Size DN	500	600	800
Permanent Flowrate Q3m³/h	6300	10000	16000
Range ratio Q3/Q1	50-160/50-250		
Overload Flowrate Q4m³/h	7800	12000	20000
Transitional Flowrate Q2m³/h	40	63	100
Min Flowrate Q1m³/h	25	40	63
Pressure loss class △p	△p16		
Water pressure class MAP	MAP 10		
Temperature class T	T50		
Min Reading lectura L	0.1		
Max reading lectura m3	9999999		
Pulse constant L/P	100		
Length mm	600	600	800
Width mm	670	780	1015
Height mm	620	725	950
Bolt circle dia mm	620	725	950
Connecting bolt dia pcs	M24x20	M28x20	M32x24
Weight kg	186	261	

Brand Development

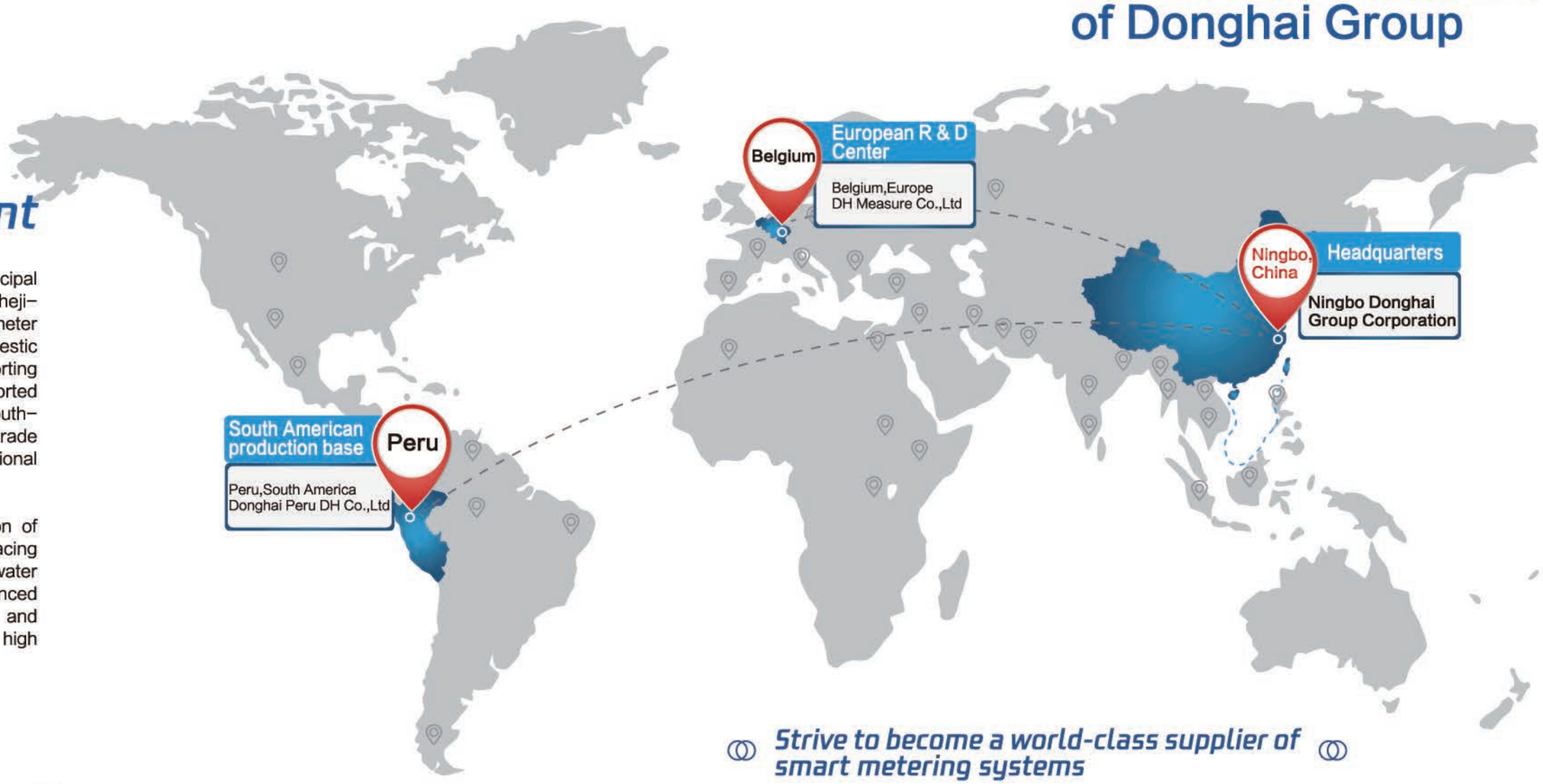
We seized the opportunity as the Ningbo Municipal Government vigorously promote the "Made in Zhejiang" brand.Our Donghai volumetric type water meter pass the "Made In Zhejiang" test,obtained domestic and international water meter certification.Supporting the national Belt and Road policy,We exported Donghai brand water meters to Hong Kong, Southeast Asia, and European markets to achieve trade connectivity and actively expand the international water meter market.

As the government advances the construction of smart cities, we seize the opportunity,replacing mechanical water meters with smart water meters,Our products with high quality, advanced technology, excellent pre-sales service and after-sales service, and our company enjoys a high reputation in the domestic market.

Future Development

We are committed to providing Smart water networks, Smart gas networks,Smart hot networks, Smart sewage networks and Smart grid solution,provide smart metering products and services.We strive to be a world-class supplier of smart meter system services.By improving integrated information system technology,Combining computer information technology, automation technology, modern management technology and manufacturing technology,promote the development of the city's Internet of Things, wireless communication technology, and the electronics industry.Continuous innovation, innovation of system product design methods and tools, innovation of enterprise management model, innovation of collaborative relationship between enterprises,to achieve product design and manufacturing Intelligent, enterprise management Information, production management control intelligent, digitization of manufacturing equipment, and intelligent decision-making service systems.Thereby improve product quality and provide better service to customers.

Global sales network of Donghai Group



Strive to become a world-class supplier of smart metering systems

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