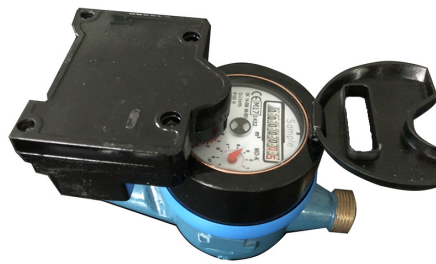


# Model LXSC-15K2



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 (86) 574 8863 7838  
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## Multi-jet Remote Reading Water Meter

· It is a multi-jet remote reading water meter for residential application in sizes 15mm-20mm for cold water.

### Features

- Vane Wheel measurement, Dry dial, Copper can register
- High accuracy level, to be R160
- Internal strainer, inlet strainer
- Inductive data output (1L/pulse), No magnetic effect
- Radio Frequency transferring (Lora Technology 433/470MHz, other FR could be option)
- The battery life should be minimum 6 years for the data transmission once per day
- Mechanical display (Max: 99999), NOT digital display
- Hand-held could be a option, collect data min distance 200m, and could connect with computer.

### Working Conditions

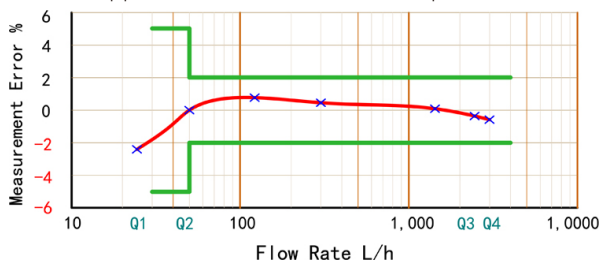
- Water temperature:  $\leq 50^{\circ}\text{C}$  for cold water meter
- Water pressure:  $\leq 1.6\text{MPa}$ (16bars)

### Accessories

- 2pcs couplings, 2pcs coupling nuts and 2pcs washers.

### Maximum Permissible Error

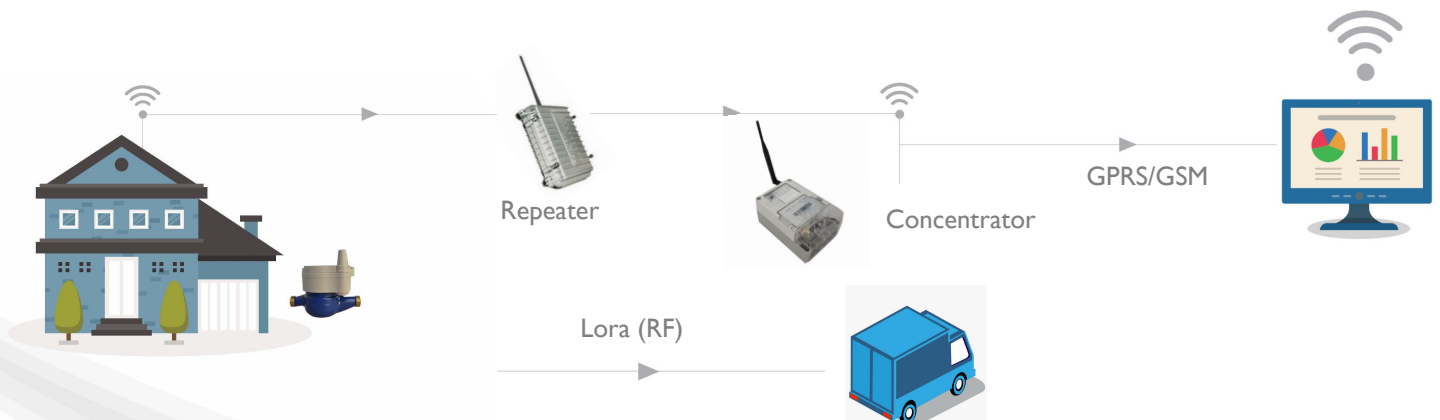
- In the lower zone from Q1 inclusive up to but excluding Q2 is  $\pm 5\%$ .
- In the upper zone from Q2 inclusive up to and including Q4 is  $\pm 2\%$ .



DN(mm)		15	20
Size(inch)		1/2"	3/4"
Q4(m <sup>3</sup> /h)		3.125	5
Q3(m <sup>3</sup> /h)		2.5	4
R80	Q2(1/h)	50	80
	Q1(1/h)	31.25	50
R100	Q2(1/h)	40	64
	Q1(1/h)	25	40
R125	Q2(1/h)	32	51.2
	Q1(1/h)	20	32
R160	Q2(1/h)	25	40
	Q1(1/h)	15.62	25
Max. Reading (m <sup>3</sup> )			99999
Min. Reading (Liter)			0.05
Max. Pressure (bar)			16
Pressure Loss ( $\Delta P$ )			63
Max. Temperature			T30 or T50

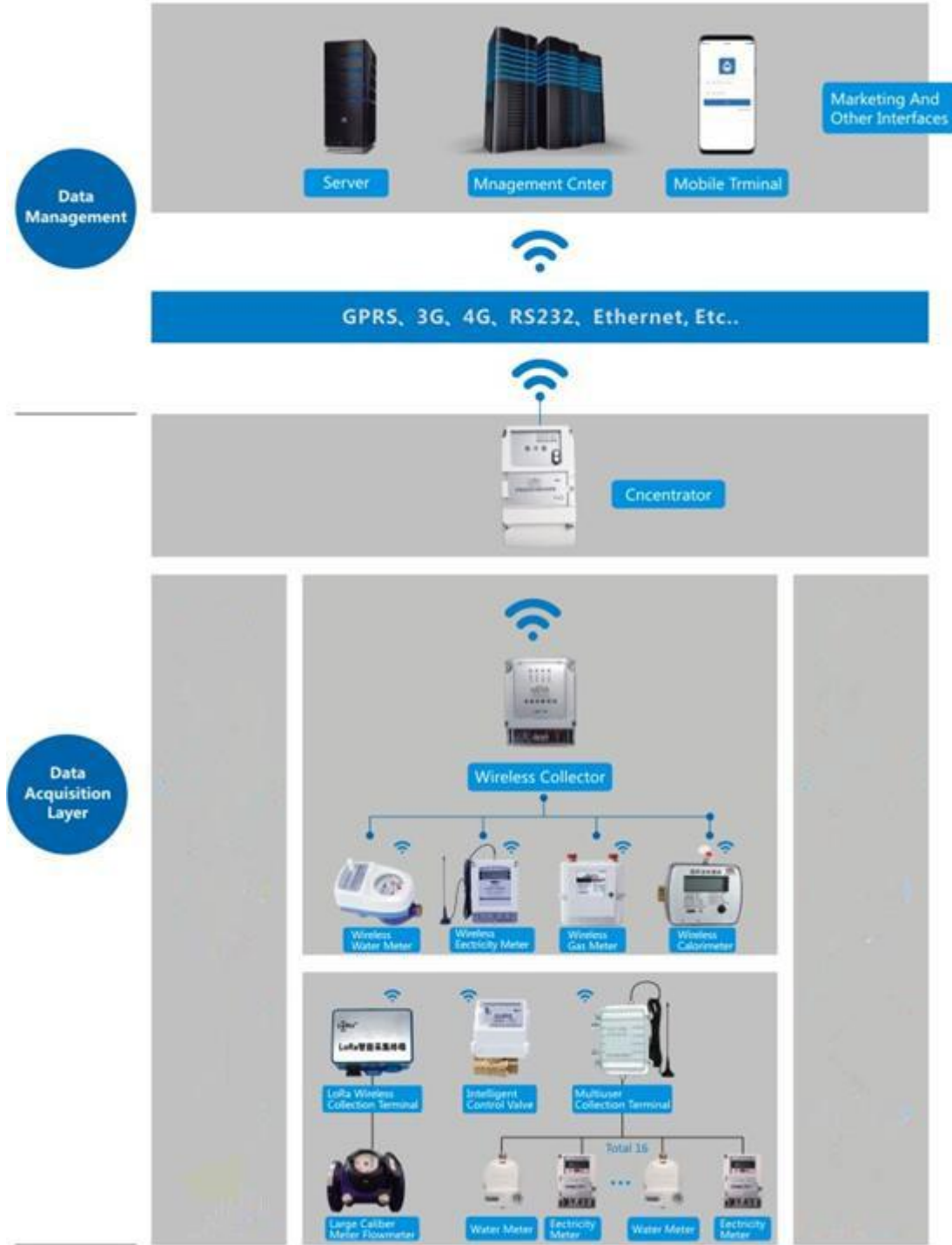
## How to Collect data from water meters

Remote reading water meters adopt Lora technology for sending data to Concentrator, and also could receive data drive by.



# LoRa Water Metering

## General Route:



## Features

- **Fixed Network Reading:** Build exclusive network for AMR (Automatic Meter Reading) or AMI (Advanced Metering Infrastructure)
- **Walk By / Drive By:** Mobile reading with a handheld unit or laptop
- **High Successful Data Reading Rate:** More than one solution to solve the meters in case without signal covered.
- **Two-way Communication:** Real-time remote reading command download and periodic reading upload.
- **LPWAN:** Low Power Consumption, Wide-Area Network.
- **Internet of Things:** Able to integrate with Water, Gas, Electricity and Heat Meters etc.

## Case Study

For such reasons, some meters will lose signal even under the coverage of network, lead to the meter not success to be read.

## Difference

<b>NB-IoT Network</b>	<b>LoRa Network</b>
NB-IoT network is built up by the third-party network operators, it will be more difficult to negotiate with the network operator to add a new base station for these unsuccessful reading meters.	To solve the problem: - Either can use a mobile handheld unit or laptop to read through walk by / drive by. - Or can add a new data collector closes to these unsuccessful reading meters.

## Smart Water Meter



[Model: LXSC-15K2]

Water Meter with Integrated Endpoint

DN15, Class C

Brass Body, Composite Polymer (Optional)

Conform to ISO 4064



[Model: LXSG-15S]

Water Meter with Mounted Endpoint

DN15, Class C

Brass Body, Composite Polymer (Optional)

Conform to ISO 4064

### Specification

Item	Remote Reading Endpoint
Working Voltage	2.7 – 3.6V
Operating Temperature	-20 – 75 °C
Operating Humidity	10 – 90% relative humidity, no condensation
Working Frequency Range	470-510 MHz (169 – 1800 Mhz for optional)
Transmitting Power	< 100 mW
Receive Sensitivity	-136 ± 1 dBm
Communication Distance	2 - 5 km in a open area
Quiescent Current	< 4 µA
Average Current	< 9 µA
Emission Current	< 110 mA
Receive Current	< 15 mA
Reading Time	Periodic / Instant
Leak Detection	Yes
Tamper Detection	Yes
Low Battery Alarm	Yes

## Data Collector

### Application

Data collector receives the data reading from smart meters with LoRa, transmits the storage data to the concentrator with LoRa. Data collector can also receive the real-time command from concentrator with LoRa, collects the real-time data reading from smart meters with LoRa.



### Specification

Power Supply	120 – 240V AC 50/60Hz
Power Consumption	≤ 2VA
Indicator Light	Power Supply Access, Working Indicator, Uplink Communication, Downlink Communication
Uplink Channel	LoRa
Downlink Channel	LoRa
Storage Capacity	Up to 128 pieces of smart meters
Remote Reading	Periodic / Real-time

## Concentrator

### Application

Concentrator stores the meter data reading from collectors with LoRa, transmit to the data management platform with GPRS etc. Concentrator can also receive and execute real-time command from data management platform.

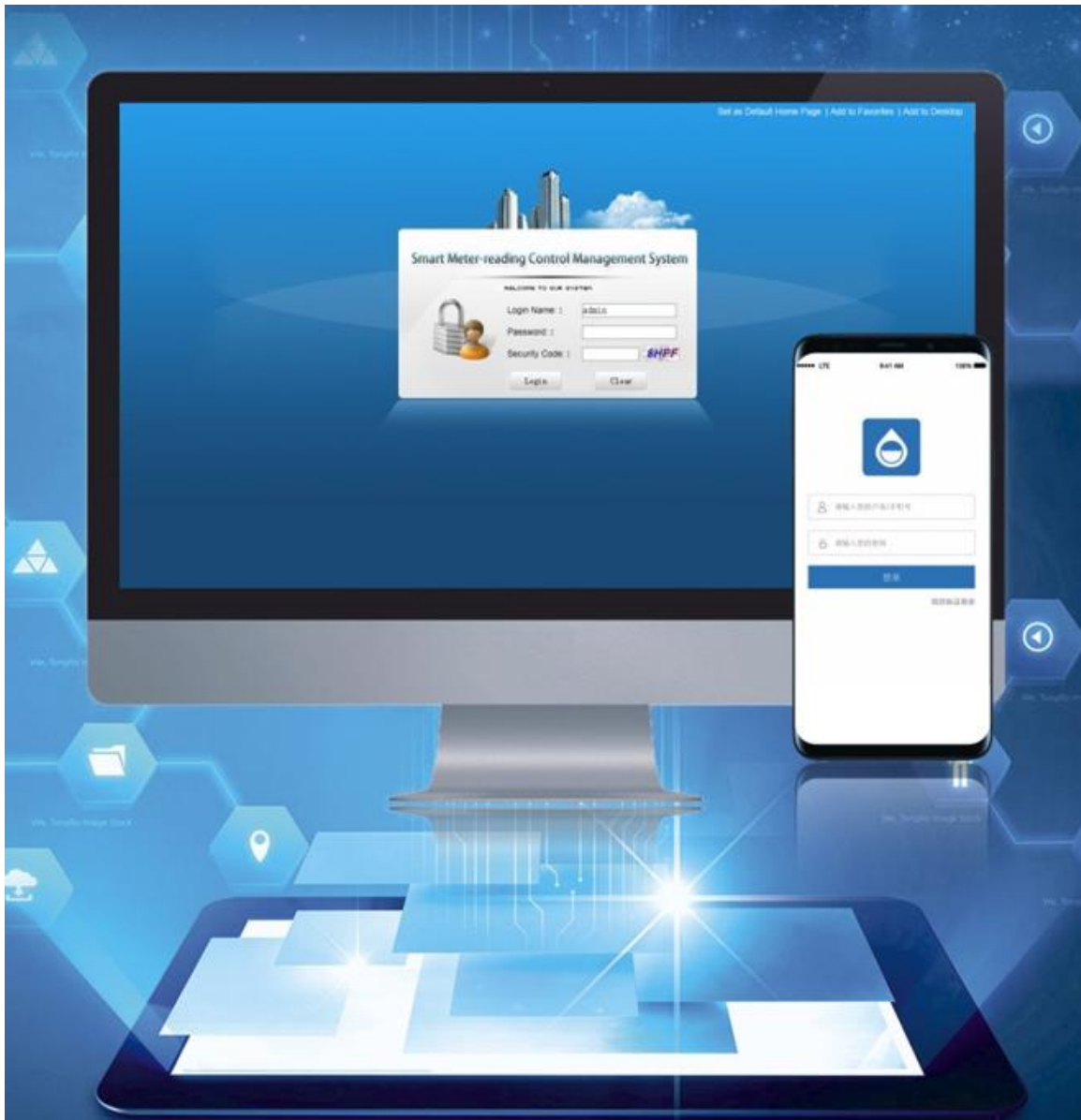


### Specification

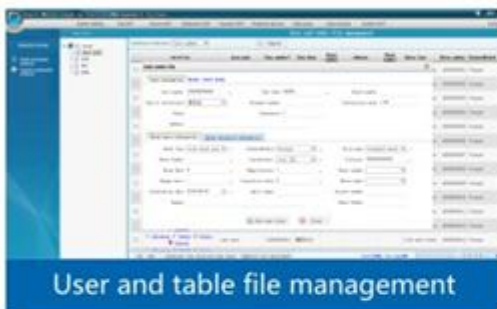
Power Supply	120 – 240V AC 50/60Hz
Power Consumption	≤ 10VA
Indicator Light	Power Supply Access, Working Indicator, Network Login
Uplink Channel	GPRS mobile network mode, 232 serial port mode, Ethernet mode, 3G/4G etc.
Downlink Channel	LoRa
Storage Capacity	Up to 20,000 pieces of smart meters

## Data Management Platform

The platform implement data collection, transmission and storage from the metering data, and monitoring the status of instruments, accumulating and analyzing the usage, operating the billing management and so on.



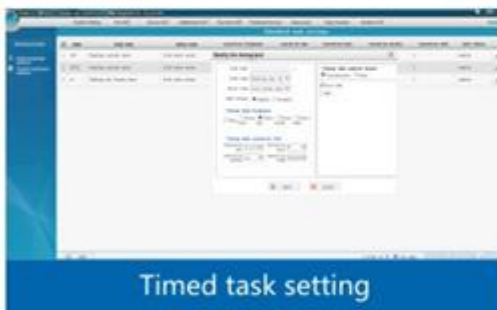
## Software Interface



The interface displays a table with multiple columns, likely representing user exchange data. The table has a header row and several data rows. A sidebar and navigation bar are visible on the left and top.

ID	Name	Phone	Address	City	State	Country
1	John Doe	1234567890	123 Main St	New York	NY	USA
2	Jane Smith	9876543210	456 Elm St	Los Angeles	CA	USA
3	Bob Johnson	5678901234	789 Oak St	Chicago	IL	USA

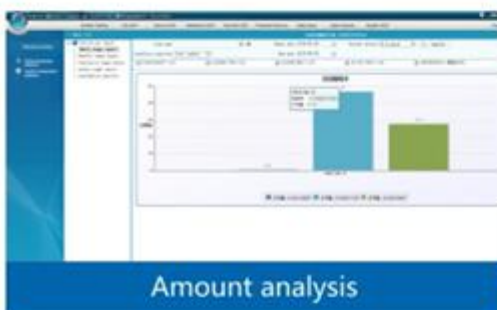
User exchange table



The interface displays a table with multiple columns, likely representing user pre-storage data. The table has a header row and several data rows. A sidebar and navigation bar are visible on the left and top.

ID	Name	Phone	Address	City	State	Country
1	John Doe	1234567890	123 Main St	New York	NY	USA
2	Jane Smith	9876543210	456 Elm St	Los Angeles	CA	USA
3	Bob Johnson	5678901234	789 Oak St	Chicago	IL	USA

User pre storage



The interface displays a table with multiple columns, likely representing dosage statistics. The table has a header row and several data rows. A sidebar and navigation bar are visible on the left and top.

ID	Name	Phone	Address	City	State	Country
1	John Doe	1234567890	123 Main St	New York	NY	USA
2	Jane Smith	9876543210	456 Elm St	Los Angeles	CA	USA
3	Bob Johnson	5678901234	789 Oak St	Chicago	IL	USA

Dosage statistics



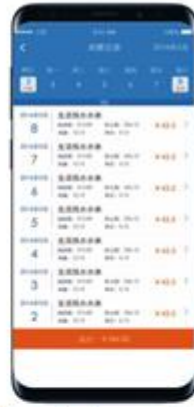
### Mobile APP for Operator / User (Further Optional)



Login



Home page



Records of consumption



Online recharge



Recharge record



Message notification

### Appendix. Mobile Handheld Unit

For the purpose of walk by and drive by data reading, will able to use the mobile handheld unit to collect the data reading from smart meters with LoRa.

