



ULTRASONIC WATER METER

Model No. IUF-15 IUF-20 IUF-25



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Description

1. Introduction

UWM is a smart water meter based on the latest ultrasonic technology. The meter has no moving parts and maintains its pinpoint accuracy throughout its entire lifetime of up to 15 years.

The meter has industry-leading low flow accuracy to ensure that even very low flows are measured down to the very last drop. This secures a fair and correct billing, improves the quality of your data and helps you to reduce Non-Revenue Water.

2. Requirements of the Ultrasonic Water Meter System

1. Ultrasonic Water Meters(UWM):

- ✧ **M-Bus Water Meter:** The Ultrasonic Water Meter with M-Bus Interface
- ✧ **LoRa Water Meter:** The Ultrasonic Water Meter with LoRa Wireless Technology
- ✧ **LoRaWan Water Meter:** The Ultrasonic Water Meter with LoRaWan.
- ✧ **NB-IOT Water Meter:** The Ultrasonic Water Meter with NB-IOT, The NB-IOT Water will transfer data through the Platform of Local Mobile Operator. It works only while there is NB-IOT network in local.

Note: In general, the infrared for the Wireless Valve is not build-in the UWM above. If your system should be installed with Wireless Valve. The infrared communication should be added onto our UWM.

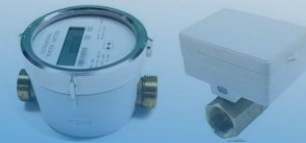
2. Wireless Valve For Remote Control(Optional)

If you want to install the Wireless Valve on your Water Meter System, be sure that there is an Infrared on the Water Meter for controlling the Valve. It can be turn on/off automatically.

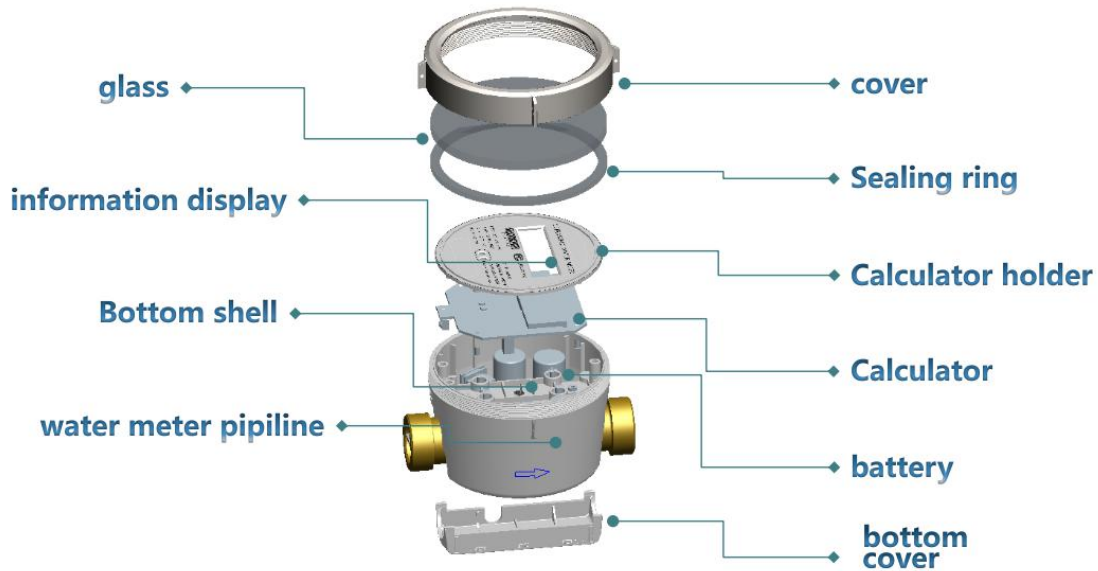
3. Concentrator

The Concentrator is used to make connection between the Water Meter and the Server. The Concentrator is connected with the Server by GPRS/GSM.

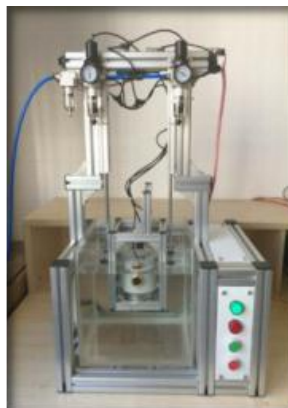
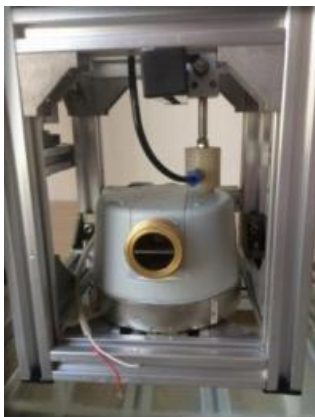
- ✧ **M-Bus Concentrator:** It is connected with M-Bus Water Meter with wired.
- ✧ **LoRa Concentrator:** It is private Protocol. Different LoRa Concentrators with different Lora Protocol. If you choose our LoRa Water Meter, The LoRa Concentrator should be needed from CNIRHurricane.
- ✧ **LoRaWan Concentrator:** It is public Protocol. All the LoRaWan protocol are the same in the world. The LoRaWan Concentrator could be provided by CNIRHurricane or consult your Local Service Center.



Mechanical construction

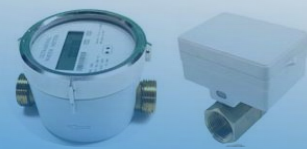


Shell protection level detection & high pressure test



Enough space for 4 battery, ensure the lifespan of water meter

Each battery option from 2600mAh to 8500mAh

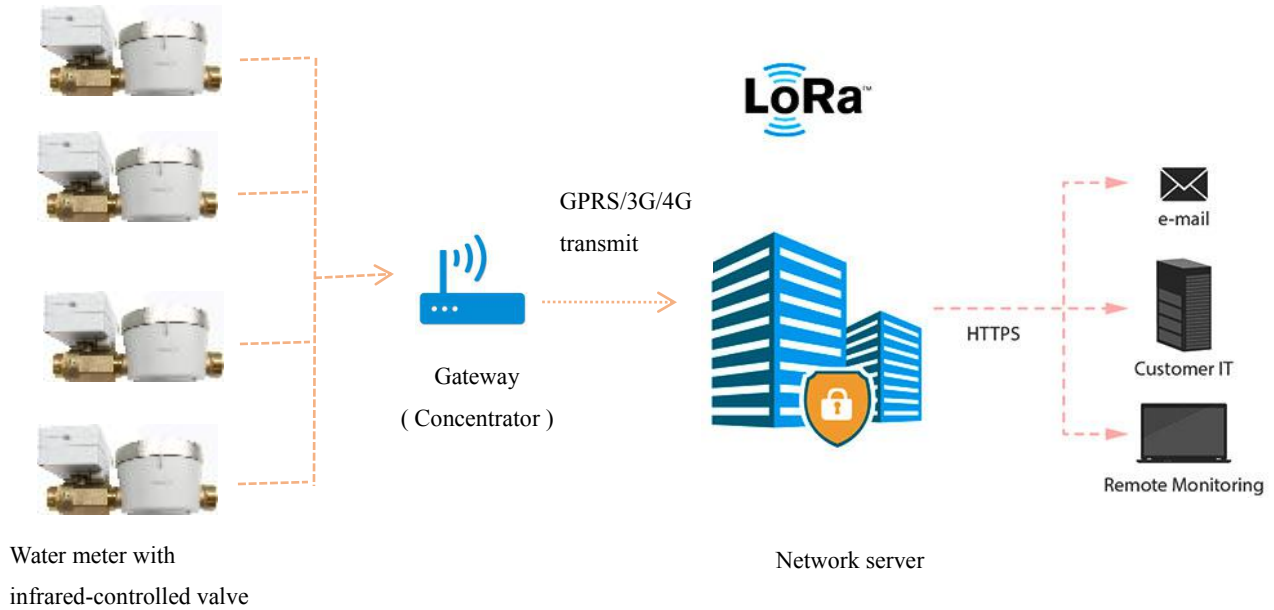


Parameters

Description/Diameter	Unit	DN15		DN20				DN25	
Pipe Size	mm	ID 17mm OD 26mm		ID 22mm OD 33mm				ID 28mm OD 41.5mm	
Pipe Material		Brass		Brass				Brass	
Meter Size	mm	130x117x77		130x117x77				175x117x77	
Overload Flow Rate	m ³ /h	3.125	3.125	3.125	3.125	5	5	5	5
Permanent Flow Rate	m ³ /h	2.5	2.5	2.5	2.5	4	4	4	4
Transitional Flow Rate	m ³ /h	0.025	0.016	0.016	0.025	0.04	0.0256	0.0256	0.04
Minimum Flow Rate	m ³ /h	0.015	0.01	0.01	0.015	0.025	0.016	0.016	0.025
Starting Flow Rate	m ³ /h	0.002							
Connecting Thread	inch	G ³ / ₄ B		G1B				G1 ¹ / ₄ B	
Pressure Loss at Q3		△P40							
Dynamic Range		R160, R250(optional)							
Water Pressure Rating		MAP10(1.0MPa), MAP16 (1.6MPa)(optional)							
Water Temperature	°C	1-50°C (Default)							
Accuracy Class	%	2							
Ambient Class		Class C							
Protection Class		IP68							
Measurement Cycle	S	0.25							
Battery		4 lithium batteries (ER18505) 3800mAh capacity for each (it is 14400mAh in total), Voltage 3.6V							
Battery Lifespan	Year	10, 15 (optional)							
Display Content		Accumulation flow(m ³); Instantaneous flow(m ³ /h); Medium temperature(°C)							
Maximum Reading	m ³	999999.999							
Minimum Reading	m ³	0.00001							
Instantaneous Flow	m ³ /h	0~5.000							
Communication		M-bus, LoRa / LoRaWan wireless(Optional)							
Water Temperature (Maximum)	°C	Default 50°C (70°C, 90°C optional)							



Lorawan water meter

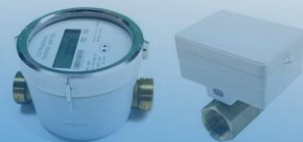


Process

1. Inside the water meter have lorawan module, it will transmit water flow information to the Gateway in certain frequency which can be set up by customer
2. After the Gateway received the information, it will upload to Network server immediately, since it is transparent transmission, needn't worry about the data format.
3. If you want send some commands to the water meter, for instance, close the valve, or change the data upload frequency. You can just make your choose in your platform, the communication protocol will be offered.

Features:

- 1.1 Gateway can connect with up to 3000 sets of water meters, receive and transmit data in the range of 3km radius buildings.
2. Including cumulative flowrate, temperature and battery power can be transmit to server. And alarms for empty pipe, low battery power and pipe leaking can be set.
3. The valve connect with water meter, controlled by water meter via infrared signal from it, customer can send commands to open or close the valve remotely.
4. Support different frequency band from every country and area. Compatible with any Gateway which use standard Lorawan protocol.



Features

- ✧ Infrared communication
- ✧ Opening and closing of the valve could be controlled remotely
- ✧ Build-in two batteries, 10years lifespan
- ✧ IP68 protection.

Specification

Description/Diameter		DN15	DN20	DN25
Size	mm	110x78x97	110x78x99	110x78x135
Connecting thread		G ³ / ₄ B	G1B	G1 ¹ / ₄ B
Pipe inner diameter	mm	15	20	20
Nominal pressure	Mpa	1.6		
Protection class		IP68		
Battery		2 Lithium batteries (ER18505)		
Battery lifespan	Year	10		
Type of valve		Ball valve, Stainless steel valve core		
Material		Brass		
Switching reaction time		<15		
Communication mode		Infrared		