

SUSTAINABLE SMART WATER METER HARDWARE



CONSERVATION
MANAGEMENT
AUTOMATION

As a smart water metering system provider, we have developed a comprehensive smart metering system range for the Domestic, Commercial, Agriculture and Industrial areas . Moving with the changes in IOT technology and higher precision metering, we are adding more research cost on reduce NRW (Non-Revenue water), achieving the high-efficiency using on water.

Today, we work with many partners from all over the world with long time cooperation. Since 2019, to provide better services, we have started to go abroad, investigate local water metering markets, start some pilot projects and visit our regular and new customers .

We will never forget our Mission and Purpose. " To bring valuable solutions and provide the best customer experience in meeting water and environmental needs through cutting edge data solutions, products and services



Mission

Accurately Measure and reduce water wastage



Vision

Be the leader of smart water metering industry



Values

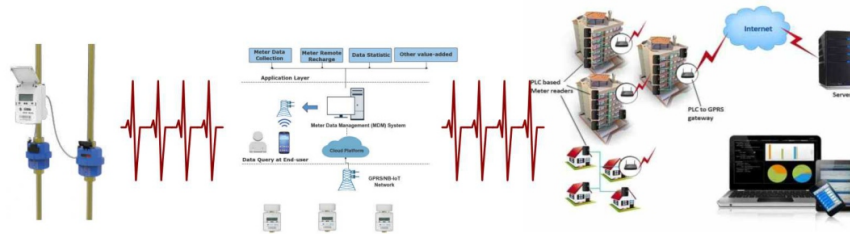
Sincerity, altruism, innovation
limitless impact

WHY CHOOSE US



Turn-key solutions

Alckatron Innovations Ltd can deliver turn-key smart water management solutions from the smart meters to the operations of the water networks. We already deployed its field proven solutions successfully with active units being operated.



The main competitive advantages of our in-house solutions are the following:

- ✔ Complete solution from Automated Meter Reading to Web portal: no additional software or hardware needed
- ✔ Independency from meter vendors: compatible with a wide range of water meters currently deployed, no replacement required
- ✔ Reliable: resistant with time, tamper, flood...
- ✔ Low power / low consumption
- ✔ Flexible: a comprehensive range of radio modules (integrated, remote, sub metering...)
- ✔ Reliable indicators based on Automated Meter Reading
- ✔ Daily calculation of Key Performance Indicators for fast reaction
- ✔ District Metered Area architecture for immediate focus on the weakest part of the network
- ✔ Scalable for a variety of deployments



2011..
Company established

2021

- Prepared for the Iranian National Water Department Project
- Temporary Dubai branch established

2021

- Piloted Tanzania Water Division Mechanical Water Meter Project.
- Smart water meter start to be developed

2021

- Assist and train Malawi customers to build up water meter production and assembly lines
- Kenya real estate Ultrasonic Smart Meter Project Pilot Program.

2021

- Applied ISO9001, ISO14001 and other enterprise certification
- Attempt to develop overseas smart meter market.

2022

- Made first fully automatic ultrasonic water meter design in Kenya.

2022.

- Won the order for the mechanical water meter project from JJM in India.
- Managed to achieve sales volume of mechanical water meters of about 10,000 units

2022

- Developed autonomous multi configuration smart irrigation system, a solution for farmers that can work with the smart water meters.

2022

- Ultrasonic water meter began to be invested and R&D
- Exported meters and assisted in training customers to install and use smart water meters,

2023

- Preparing to acquire MID certification of ultrasonic water meters.

FOR PUBLIC UTILITY:

1. Through market research, we can understand the main problem for the current leakages and which is be solved urgently, such as basic measurement, charge management or main pipeline leakage.
2. Investigate the local water quality, water pipenetwork, network signal coverage, local residents' payment habits, managers' charging logic, etc., to design and develop water meters, networks and charging systems suitable for the local market.
3. Assist in pilot, sample test and installation for water metering system.
4. Support localized factory building, assembly, calibration and production according to actual needs.
5. International project financing services can be provided according to actual needs.
6. The water meter conforms international standards and certificates and can participate in international bidding .
7. The warranty period of the water meter can be extended according to the requirements of the water department.
8. Key customers and markets can provide localized service teams to achieve more efficient and direct on-site service requirements .
9. Support on-site installation, training guidance, etc.

FOR CONTRACTORS:

1. Investigate the actual installation site, such as water meter installation location, length requirements, signal laying, anti freezing, anti magnetic interference and other requirements.
2. Customization of the development of billing software and water meters can be supported according to the actual project needs.
3. According to the project budget, various solutions such as mechanical meters, ultrasonic water meters and various intelligent remote water meters can be provided.
4. The water meter conform international standards and certificates, and can meet the requirements of the municipal water department.
5. Assist in pilot, sample test and installation.
6. Various flexible payment methods can be selected.
7. Large raw material inventory and fast delivery time.
8. The warranty period can be extended according to the requirements of the water department.
9. Key customers and markets can be supported localized service teams to satisfy more efficient and direct on-site service requirements.

FOR MANUFACTURERS:

1. Long term and exclusive cooperation agreements can be signed to protect the local manufacturer market.
2. We can help customers fully realize the needs of localized assembly by providing equipment, technology and accessories, training, etc.
3. Assist manufacturers to develop water meters, software and billing systems suitable for the local market needs.
4. Assist in application of the localization certification.
5. Cooperative bidding.
6. Jointly participate in local exhibitions and assist in market development.





ULTRASONIC WATER METER

Widely used for main pipeline on city water supply/irrigation field industrial field to reduce NRW



ULTRASONIC WATER METER



Features

- Low starting rate (0.005m³/h), able to accurate measure Flowrate as low as 0.0125m³/h.
- Dynamic range (Q3/Q1) achieved 200:1.
- No mechanical moving parts, no abrades and has a long serving lifetime.
- Leak detection.
- Pinpoint measuring accuracy.
- No measurement of air.
- Mounting in any installation position.
- Displaying of error and alarm codes.
- Optional battery provision.
- Support RS-485, Pulse, LoRaWAN, GPRS, NB, concentrated management.
- Suitable for outdoor installation.

Overview

No Moving Parts, high accuracy for years' long. It offering none moving components in flow sensor, avoid long term abrasion of mechanical parts which may result to inaccuracy measurement and failure of meter. Such design is also resistant to impurities, therefore no-inspections and maintenance cost-free.

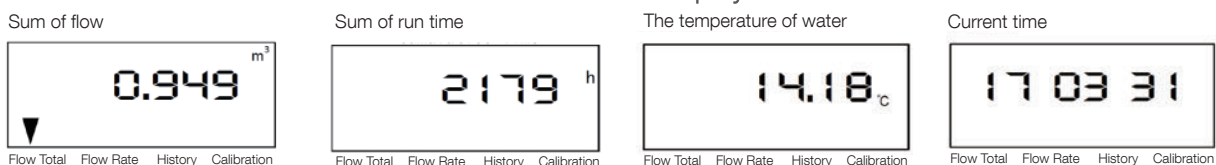
Interface

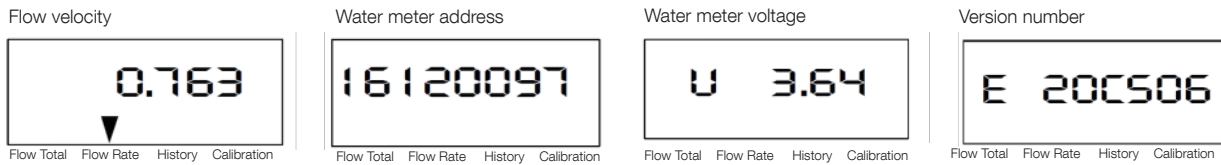
The ultrasonic water meter will have one of the many options output pre-selected when placing the order. This section will describe each output:



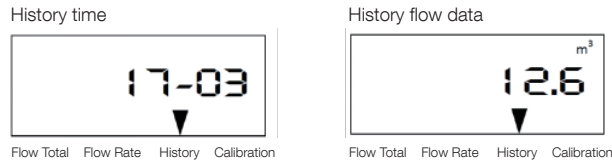
Meter display content

The initial interface defaults to the P1 interface. P1 Interface display:

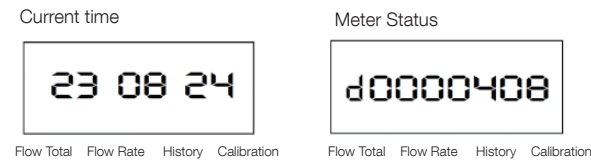




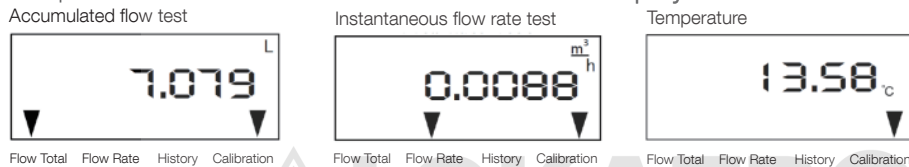
Hold press 5 seconds to enter P2 in P1 P2 Interface display:



Hold press 5 seconds to enter P3 in P2 P3 Interface display:



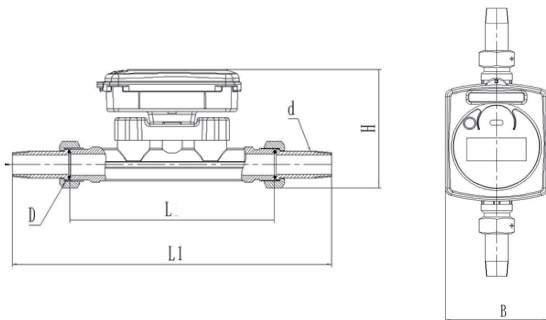
Hold press 5 seconds to enter P4 in P3 P4 Interface display:



Outline dimension

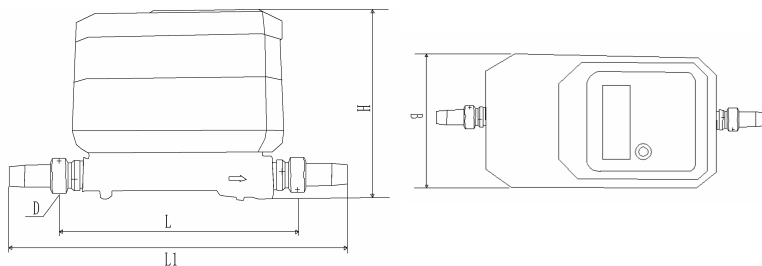


Ultrasonic Water Meter (SHU7):



Nominal Diameter(mm)	DN15	DN20	DN25	DN32	DN40
Length L(mm)	165	195	225	180	200
Length L1(mm)	260	300	346	305	330
Width B(mm)	95	95	95	95	95
Hight H(mm)	86	86	89	100	120

Ultrasonic Water Meter with valve (SHU11):



Nominal Diameter(mm)	DN15	DN20	DN25
Length L(mm)	165	195	225
Length L1(mm)	260	300	346
Width B(mm)	83	83	83
Hight H(mm)	135	135	138

Technical parameter

Nominal diameter(mm)	15	20	25	32	40
Overload flow Q_4 (m ³ /h)	3.125	5	7.875	12.5	20
Permanent flow Q_3 (m ³ /h)	2.5	4	6.3	10	16
Transitional flow Q_2 (m ³ /h)	0.02	0.032	0.05	0.08	0.128
Minimum flow Q_1 (m ³ /h)	0.0125	0.02	0.0315	0.05	0.08
Start-up flow(m ³ /h)	0.005	0.005	0.008	0.01	0.015
Max flow	99999.999				
Measuring range	Q3/Q1, R200 (R250 customizable)				
Accuracy class	Class 2				
Pressure loss class	≤0.04MPa				
Working pressure	1.6 MPa				
Temperature class	T50				
Temperature range	(5-55) °C				
Environment class	Indoor, Class B				
Electromagnetic class	E1 (Residential, Commercial, Industrial)				
Power supply	Built-in lithium battery DC 3.6V				
Battery life	8-10 years				
Installation position	Any angle				
Display	LCD, 8 digits + additional characters				
Installation pitch	U10/D5				
Communication interface	RS485 modbus/ LoRa/NB-IOT/LoRaWAN				
Protection class	IP68				

🔧 Warranty

All meters will be guaranteed against defects in workmanship and materials for a period of one (1) year from the date of acceptance. Defective meters or parts discovered within this period shall be replaced without charge upon return to Alckatron Innovations Ltd.

BULK ULTRASONIC WATER METER (SHU8)



Overview

No Moving Parts, high accuracy for years' long. It offering none moving components in flow sensor, avoid long term abrasion of mechanical parts which may result to inaccuracy measurement and failure of meter. Such design is also resistant to impurities, therefore no-inspections and maintenance cost-free.

Interface

The ultrasonic water meter will have one of the many options output pre-selected when placing the order. This section will describe each output:



Features

- Low starting rate (0.033m³/h), able to accurate measure
- Flowrate as low as 0.0625m³/h.
- Dynamic range (Q3/Q1) achieved 400:1 (better than Class D).
- No mechanical moving parts, no abrasives and has a long serving lifetime.
- Pinpoint measuring accuracy.
- No measurement of air.
- Mounting in any installation position.
- Displaying of error and alarm codes.
- Optional battery provision.
- Support RS-485(Modbus protocol), Pulse, LoRa/LoRaWAN, GPRS, NB-IoT, concentrated management.
- Suitable for outdoor installation.

Meter display content

P1:



- 1** Cumulative flow
- 2** Temperature
- 3** Size
- 4** Flow rate
- 5** Negative cumulative flow
- 6** Net cumulative flow
- 7** Sensor status
- 8** Working time
- 9** Power voltage

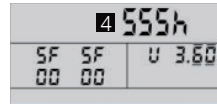
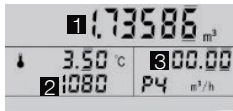
In the last interface of P1, keep covering the sensing area for more than 3S to enter P2 and repeat this operation to enter P3、P4

P2: Cumulative flow of historical month



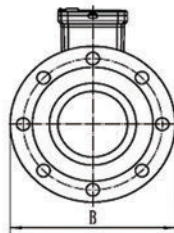
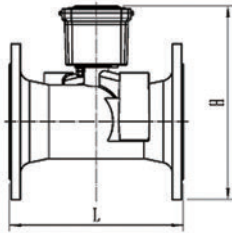
P3: For internal debugging and testing, it does not have any meaning.

P4:



- 1** Cumulative flow
- 2** Coefficient
- 3** Flow rate
- 4** Negative cumulative flow

Outline dimension



Nominal Diameter(mm)	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300
Length L(mm)	200	200	225	250	250	300	350	450	500
Width B(mm)	170	185	200	220	250	285	340	405	460
Height H(mm)	215	220	235	255	285	335	405	470	525

Technical parameter

Nominal diameter(mm)	50	65	80	100	125	150	200	250	300
Overload flow Q_o (m³/h)	31.25	50	78.75	125	200	312.5	500	787.5	1250
Permanent flow Q_3 (m³/h)	25	40	63	100	160	250	400	630	1000
Transitional flow Q_2 (m³/h)	0.16	0.256	0.403	0.64	1.024	1.6	2.56	4.032	6.4
Minimum flow Q_1 (m³/h)	0.1	0.16	0.252	0.4	0.64	1	1.6	2.52	4
Start-up flow(m³/h)	0.033	0.06	0.09	0.14	0.21	0.31	0.56	0.88	1.2
Max flow	99999999.9								
Reverse flow	99999999.9								
Measuring range	Q3/Q1, R250/ (R400 customizable)								
Accuracy class	Class 2								
Pressure loss class	≤0.025MPa								
Working pressure	1.6 MPa								
Temperature class	T50								
Temperature range	(5-55) C								
Environment class	Indoor,Class B								
Electromagnetic class	E1(Residential, Commercial, Industrial)								
Power supply	Built-in lithium battery DC 3.6V								
Battery life	8-10 years								
Installation position	Any angle								
Display	LCD, 9 digits + additional characters								
Installation pitch	U10/D5								
Communication interface	RS485 modbus/ Pulse output/GPRS/NB-IOT								
Protection class	IP68								

Warranty

All meters will be guaranteed against defects in workmanship and materials for a period of one (1) year from the date of acceptance. Defective meters or parts discovered within this period shall be replaced without charge upon return to the S.H.Meters.

SMART WATER METER

Professional water meter & water meter test bench solutions.



- Supported technologies are LoRa, LoRaWAN, NB-IOT GPRS
- Mechanical multi-jet base meter and ultrasonic base meter are available.

PREPAID SYSTEM INTRODUCTION

⊗ Overviews

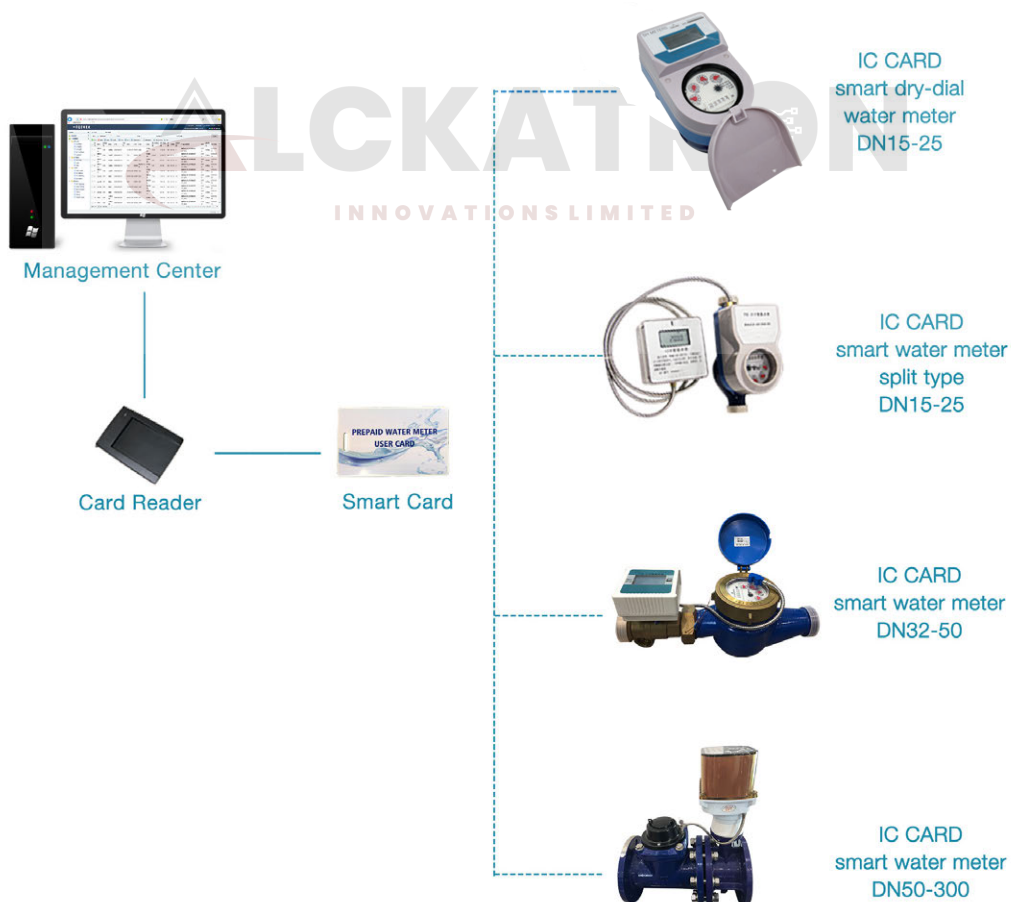
The IC Card series water meter is a kind of prepaid and smart water meter. It's designed and manufactured by our company and famous design companies both domestic and abroad according to the international standard.

⊗ Product features

- High Precision Water Measurement.
- Joint valve structure, suspension design, 1:3200 torque, Timed automatic cleaning. Ensure valve stability and smooth opening and closing.
- Long service life, 6 years battery life.

⊗ Advantage of the system

- OEM, language display and currency unit display can be customized, and company name can be added to the software.
- The data will be saved automatically after exiting the system.
- Simple management and user card making, easy to query consumption records.
- Invoice printing, providing payment voucher to users in the most common form in the local area.



SHIC CARD PREPAID WATER METER

Brief introduction

The prepaid water meter have mechanical and electronic readings. It is used to control users overspend by prepaying with an IC card. Pay in advance and then use water get rid of the inconvenience of on-site meter reading and charging.

Main technical data

(I) Technical specifications

Item	Unit	Details		
Nominal diameter	mm	15	20	25
Q3/Q1		R100		
Overload flow(Q4)	m ³ /h	3.125	5	7.875
Permanent flow(Q3)	m ³ /h	2.5	4	6.3
Transitional flow(Q2)	m ³ /h	0.04	0.064	0.1
Minimum flow(Q1)	m ³ /h	0.025	0.04	0.063
Accuracy class		Class 2		
Maximum indication	m ³	99999		
Temperature class		T30,T90		
Pressure class		MAP10/MAP16		
Pressure loss class		Δp63		
Flow profile sensitivity class		U10/D5		
Environmental class		Class B		
Electromagnetic environment class		E1		
Static current	uA	<10		

(II) Relative error

- Maximum permissible error between Q1 and Q2(excluded) is ±5% in flow low area.
- When the water temperature is not higher than 30 °C , maximum permissible error between Q2 and Q4(included) is ±2% in flow high area.
- When the water temperature is higher than 30 °C , maximum permissible error between Q2 and Q4(included) is ±3% in flow high area.

(III) Working temperature: cold water (0.1~30) °C

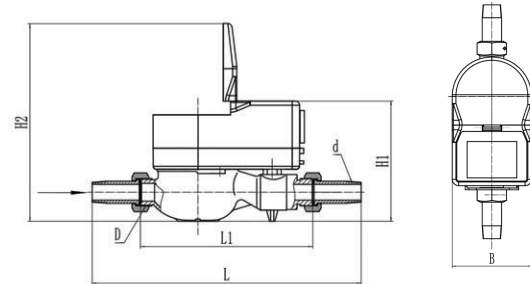
(IV) Operating ambient temperature: (5~55) °C

(V) Storage environmental temperature: (- 5~55) °C

Fault handling instructions

Item	Fault display	Fault explanation	Elimination methods
1	Under voltage	Low battery	Contact the manufacturer
2	Flow	Flow sensor signal failure	
3	Valve open/close	Valve sticking, rusting or scaling	
4	Can not read card	Write card error or take the wrong card	Go to water supply department to test the card

Outline dimensional drawing



Nominal Diameter	Length L	Length L1	Width B	Height H1	Height H2	Connecting Thread	
mm						d	D
15	258	165	90	120	190	R1/2	G3/4B
20	299	195	90	120	190	R3/4	G1B
25	345	225	90	120	190	R1	G1 1/4B



IC CARD smart dry-dial water meter



IC CARD smart water meter split type

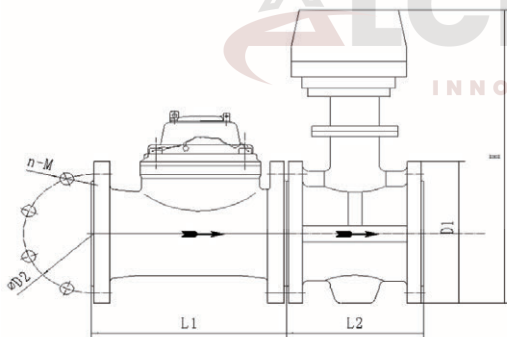
Brief introduction

The product consists of the bulk water meter, the butterfly valve and the controller. It is used for measuring the total volume of the water flowing through the pipe, with prepayment function available.

Product features

- Valve body with self-support type pilot-actuated structure, leading valve can be opened by smooth torsion, primary valve starts relying on the water pressure without the need for large power.
- Radio frequency card, high security, resistant to wear and magnetic interference, waterproofing and anti decryption up to domestic top-level.
- Dual indication feature of mechanical metering and electronic metering.
- Step charge function.
- Ultra low power consumption to extend the meter's life span.
- Closes valve when remaining water volume lower than set alarm volume, indicating alarm info.

Outline dimensional drawing



Dimension

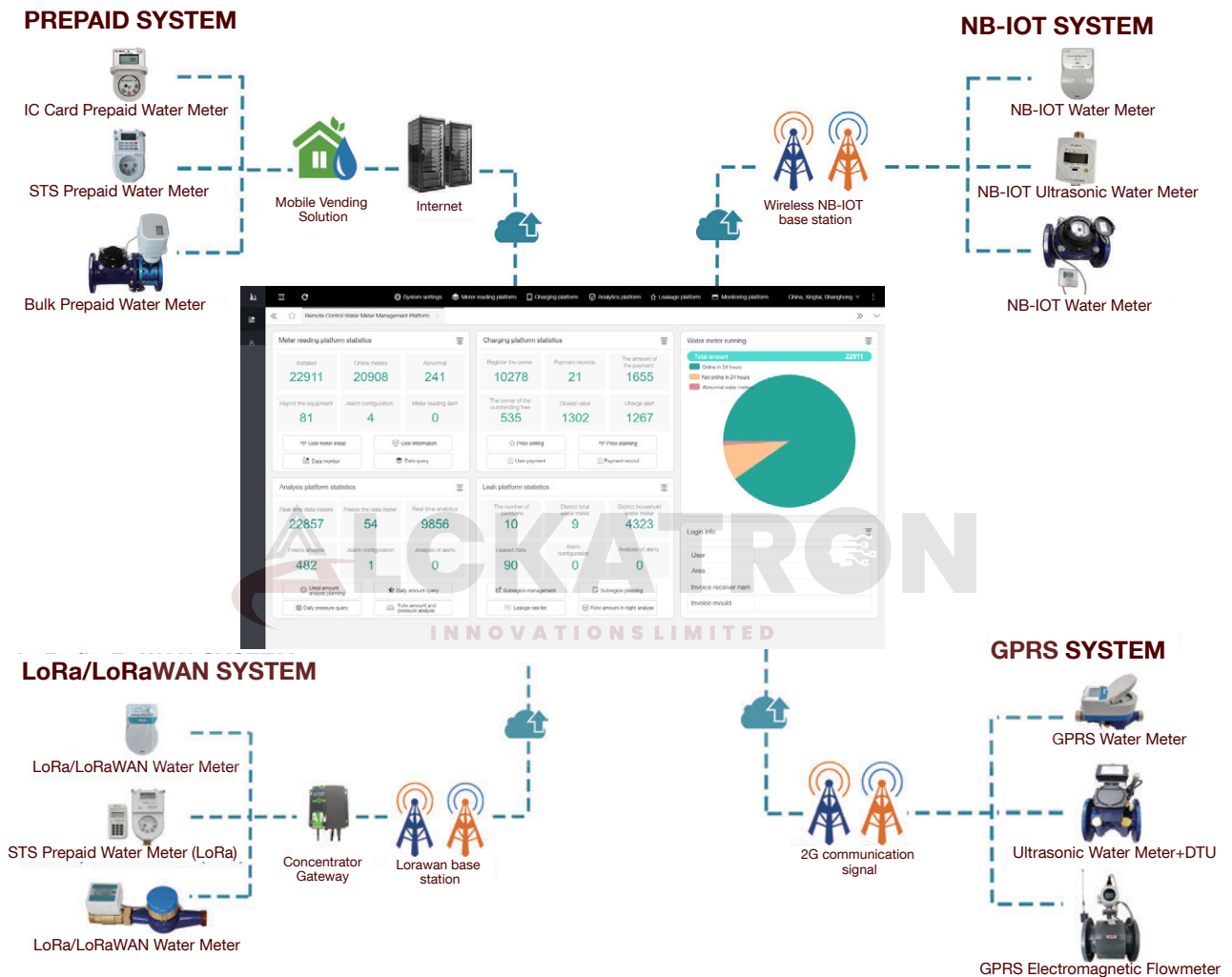
Nominal Diameter	Length L	Height H	Valve L2	Connecting Thread		
				D1	D2	Bolt size(n-M)
mm						
50	200	383	108	165	125	4-M16
65	200	433	110	185	145	4-M16
80	225	450	114	200	160	8-M16
100	250	480	127	220	180	8-M16
125	250	515	140	250	210	8-M16
150	300	543	140	285	240	8-M20
200	350	610	152	340	295	12-M20
250	450	693	165	405	355	12-M24
300	500	766	176	460	410	12-M24

Note: The flange dimension conforms to ISO7005-1:1988 standard. Flange standard can be customized. Order for products of special requirements is also accepted.

Technical specifications

Item	Unit	Details								
		50	65	80	100	125	150	200	250	300
Nominal diameter	mm	50	65	80	100	125	150	200	250	300
Q3/Q1		R50								
Overload flow(Q4)	m ³ /h	31.25	50	78.75	125	200	312.5	500	787.5	1250
Nominal flow(Q3)	m ³ /h	25	40	63	100	160	250	400	630	1000
Transitional flow(Q2)	m ³ /h	0.8	1.28	2.016	3.2	5.12	8	12.8	20.16	32
Minimum flow(Q1)	m ³ /h	0.5	0.8	1.26	2	3.2	5	8	12.6	20
Accuracy class		Class 2								
Maximum indication	m ³	999999								
Temperature class		T10/T30								
Pressure class		MAP10/MAP16								
Pressure loss class		ΔP63								
Flow profile sensitivity class		U10/D5								
Environmental class		Class B,M1								
Electromagnetic environment class		E1								
Static current	uA	<10								

AMR & AMI SMART WATER MANGEMENT PLATFORM SYSTEM



SOFTWARE PLATFORM FUNCTIONS:

1. Leakage Platform
2. Early warning system
3. Monitoring Platform
4. Remote Control
5. Charging Platform
6. Analysis Platform

WIRELESS REMOTE WATER METER

Brief introduction

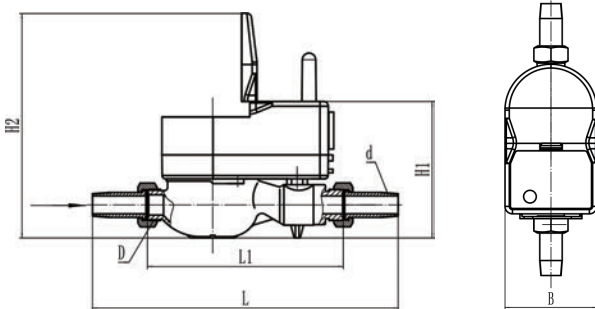
The wireless remote water meter can automatically upload the readings of the water meter to the management platform, and the administrator can also send instructions on the platform to control the open/close of the water meter valve. It can greatly simplified the charging process in this era of increasing labor costs, and even paperless online charging can be realized.

Supported technologies are LoRa, LoRaWAN, NB-IOT, GPRS Mechanical multi-jet R100 base meter and ultrasonic R250 base meter are available.

Benefits

- IP68 Water Proof;
- Whole circuit board uses of ultra low power consumption design, power supply by high capacity lithium battery and battery life at least over 6 years;
- The module use of deep dormancy time design is able to completely close the wireless module during the deep dormancy time period (not in operation during night time), which drastically help to reduce power dissipation;
- Module with automatic data storage function when power down and up, which assuring the data won't lost when power down;
- The joint of the RF module and the base meter uses the integrated structure with built-in antenna, which reducing the damage of antenna;
- AMI function that supports the system is able to control of valve opening or closing on real-time;
- With anti-magnetic interference function;
- With the battery voltage detection function;
- Support data docking with Client's management platforms.

Outline dimensional drawing



Dimension

Nominal Diameter	Length L	Length L1	Width B	Height H1	Height H2	Connecting Thread	
						d	D
15	258	165	90	112	184	R1/2	G3/4B
20	299	195	90	112	184	R3/4	G1B
25	345	225	90	114	186	R1	G1 1/4B

Technical specifications

Item	Unit	Details		
		15	20	25
Nominal diameter	mm	15	20	25
Q3/Q1		R100		
Overload flow(Q4)	m ³ /h	3.125	5	7.875
Permanent flow(Q3)	m ³ /h	2.5	4	6.3
Transitional flow(Q2)	m ³ /h	0.04	0.064	0.1
Minimum flow(Q1)	m ³ /h	0.025	0.04	0.063
Maximum indication	m ³	99999		
Temperature class		T30,T90		
Pressure class		MAP10/MAP16		
Pressure loss class		Δp63		
Flow prefile sensitivity class		U10/D5		
Environmental class		Class B		
Electromagnetic environment class		E1		



LORA wireless AMI water meter



LoRaWAN wireless AMI water meter



GPRS wireless AMI water meter



NB-IOT wireless AMI water meter

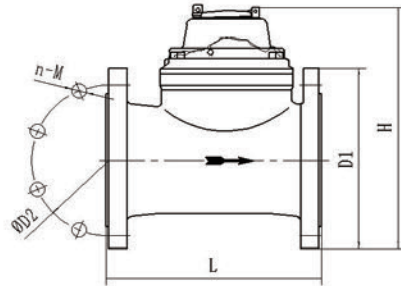
AMI WATER METER COMPARISON CHART

	LORA	LORAWAN	GPRS	NB-IOT
composition	Lora water meter Concentrator/Gateway Serve Platform	Lorawan water meter Concentrator/Gateway Serve Platform	GPRS water meter Serve Platform	NB-IOT water meter NB-IOT transmission base station Serve Platform
Communication band	470-510Mhz 865-868Mhz (Can be customize)	CN470: China EU868: Europe US902-928: Americas Other band could be customized	GSM850/EGSM900 (Can be customize)	B3/B5/B8/B20/B28 (Can be customize)
Advantage	LAN transmission data, low power, Suitable for intensive installation real-time reading control (LoRa)	Standard Lorawan protocol, be easily used in the exist net work.	Wide area network, data transmission without distance limitation, simple installation and debugging, low sample order cost.	Wide coverage, low power consumption, low cost.
Limitations	Greater impacts by obstacles and limited communication distance (up to 1 km). On-site debugging is a heavy workload.	High transmission rate, relatively high power consumption.	Occasionally there will be data packet loss, high transmission rate, relatively high power consumption.	At present, Many country is not fully mature and the coverage of base stations is low.
Battery capacity	more than 6 years	more than 6 years	more than 6 years	more than 6 years
Software Charge	Free	Free	Free	Free
Additional Using Cost	Electricity and flow charges for concentrators.	Electricity and flow charges for concentrators.	Mobile data traffic charge of 2g data traffic in water meter.	Mobile data traffic charge of NB-IOT data traffic in water.
necessary part of sample purchase	Lora water meter Concentrator	Lorawan gateway	GPRS water meter only	NB-IOT water meter
Software	B/S Cloudy serve platform	B/S Cloudy serve platform	B/S Cloudy serve platform	B/S Cloudy serve platform
Software Data Integrate	YES	YES	YES	YES

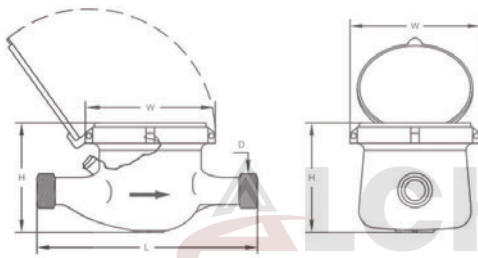
WIRELESS REMOTE AMR WATER METER



Outline dimensional drawing



Outline dimensional drawing



Dimension

Nominal Diameter	Length L	Height H	Connecting flange GB/T17241.6-2008		
			ΦD1	ΦD2	Bolt size n-M
50	200	383	165	125	4-M16
65	200	433	185	145	4-M16
80	225	450	200	160	8-M16
100	250	480	220	180	8-M16
125	250	515	250	210	8-M16
150	300	543	285	240	8-M20
200	350	610	340	295	12-M20(1.6Mpa)
250	450	693	405	405	12-M24(1.6Mpa)
300	500	766	460	410	12-M24(1.6Mpa)

Dimension

Nominal Diameter	Length L	Width B	Height H	Connecting Thread	
				d	D
32	230	103.5	115	R1 1/4	G1 1/2B
40	245	125	156	R1 1/2	G2B

Technical specifications

Nominal diameter (mm)	Measuring range	Overload flow (Q4)	Permanent flow (Q3)	Transitional flow(Q2)	Minimum flow (Q1)
		m ³ /h	m ³ /h	m ³ /h	m ³ /h
32	R80	12.5	10	0.20	0.125
40	R80	20	16	0.32	0.20

Technical specifications

Nominal diameter (mm)	Measuring range	Overload flow (Q4)	Permanent flow (Q3)	Transitional flow(Q2)	Minimum flow (Q1)
		m ³ /h	m ³ /h	m ³ /h	m ³ /h
50	R50	31.25	25	0.80	0.50
65	R50	50.00	40	1.28	0.80
80	R50	78.75	63	2.016	1.26
100	R50	125.00	100	3.20	2.00
125	R50	200.00	160	5.12	3.20
150	R50	312.50	250	8.00	5.00
200	R50	500.00	400	12.80	8.00
250	R50	787.50	630	20.16	12.60
300	R50	1250.00	1000	32.00	20.00



STS TYPE PREPAID WATER METER



Brief Product Introduction

STS prepaid water meter adopt STS(Standard Transfer Specification) data transmit function,with the electronic valve controlled. Which could achieve continuously good metrology and revenue protection at the same time. Which divided into 2 types. Keypad Prepaid WaterMeters and RF STS Prepayment Water Meter.

Keypad STS prepaid Water Meters joint the Keypad and water meter together RF STS Prepaid Water Meter. System consists of smart water meter and separate keypad,which is defined as Customer InterfaceUnit(CIU).

Water meter couldcommunicate with CIU via RF torealizeremotemeterrechargeparameterinquiryetc.

Functions which provides comprehensive, reliable, advanced smart prepayment solutions towaterutilities &authorities.

Moreover,Automatic Meter Reading with/without valve control (AMR/AMI) function is also available,which could realize remote meter data collection&monitor; It is compatible with both velocity and volumetric type water meter,which comply withOIMLR49, ISO4064.And conforms to STS standard protocol.



IP68

Ingress protection IP68 water proof



UP to 8 years battery life



Automatic valve controlling

STS

STS Standard



Real-time clock

**Step
Tariff**

Utilities can set step price into meter on request



Anti-Tamper Magnetic field protection



LORA-RF communication (CIU)



Pay by mobile payment M-PESA, Alipay, MTN, Airtel, etc.

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Technical Index and Specifications

■ Dimensions and diagram

Nominal Diameter	Length	Width	Height	Connecting
mm				D
15	165	101	124	G3/4B
20	195	101	124	G1B
25	225	101	124	G5/4B

Note: dimensions technical parameters are subject to physical products or ordering.

■ Nominal Values

Operation	0.1 ~ 30 °C
Storage	-40 °C to +85 °C
Meter shell Protection Rate	IP68

■ Metrological parameters-Directive 2004/22/EC(MID)&EN 14154:2007

Nominal size	Dn	mm	in-line		
			15	20	25
Overload flow	Q	m ³ /h	3.125	5	7.87
Ratio "R"	Q3/Q1		100	100	100
Permanent flow	Q3	m ³ /h	2.5	4	6.3
Transitional flow	Q2		0.04	0.064	0.1
Minimum flow	Q1		0.025	0.04	0.063
Minimum reading			0.0005		
Maximum reading			99999		

 **CIU**

Tokens can only be keyed in when the CIU is powered on, to realization on connect water meter first, then achieve recharge and communication.

 **Valve Control**

When the balance credit is zero, the Valve will close. After inserting the credit token, the valve will open. When power of battery is low the valve will close. After change battery and inserting Clear Tamper Token, the valve will open.



 **Input purchase TOKEN into meter with CIU (Customer Interface Unit)**

- (1) Input 20 digits TOKEN into the CIU. CIU and water meter remain in the effective range of communication.
- (2) Confirm the number on the LCD.
- (3) If token input is not correct, please use the keypad "back button" to delete.
- (4) After input 20 digits TOKEN, please click "Enter button", so that the token is confirmed.
- (5) If token input is correct, the LCD will display "accept" and buying water succeeds.
- (6) If token input is not correct, the LCD will display "reject".

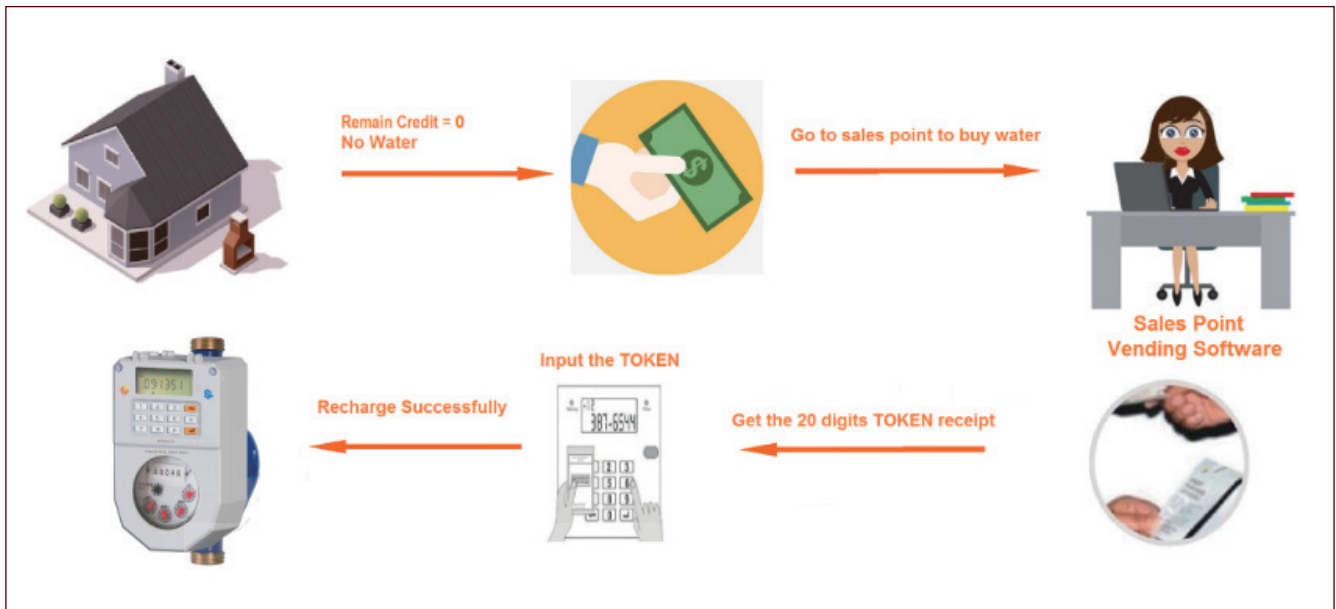
 **Water purchase**

- (1) Please go to the local selling water business hall.
- (2) Provide operator meter ID number (ID number printed on the water meter).
- (3) Tell the operator how much you want to buy and prepay.
- (4) On the receipt, you can get a printed TOKEN "20 (Digits)"

 **CIU LCD display's functions**

No.	LCD Picture	Description
1		Valve Close
2		Low Battery

Pay as you go water vending process

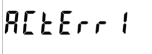
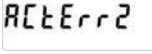










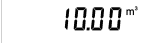


Installation matters need attention

- The meter installing must be based on the instructions on the meter dial or meter cover. “H” means horizontal installation, “V” means vertical installation, upturning dial, water follow direction is same as the arrow on the meter. Upstream and downstream of the meter should install control valve for ease of maintenance.
- The meter installation location should avoid blazing sun, freeze, pollution and water logging. Don't install the meter outside where the environment is frigid.
- In order to make the meter work normally for a long term, the meter should be full of water from beginning to end.

1	The room closed regular	×
2	Where there is corrosive	×
3	Front elevation of building	×
4	Where Pedestrians and vehicles are easily to met	×
5	Where there is waste water, residue, rubbish	×

CIU LCD display's functions

No.	Description	Display in LCD
1	Magnetic tamper	
2	Error operate	
3	Valve blocked	
4	Water purchase TOKEN is correct. It will be accepted and "accept" will be displayed.	
5	Water purchase TOKEN is incorrect. It will be rejected and "reject" will be displayed.	
6	When "used" is displayed, it means the TOKEN has been used.	
7	When "old" is displayed, it means TOKEN is out of date.	
8	Low Battery	
9	Valve Open	
10	Valve Close	
11	NULL	
12	Total usage	
13	Total Purchase water	
14	Remain water	