

www.laisongroup.com

To be the Global IoT Products and Data Service Provider

ABOUT LAISON

Laison, established in April, 2012, is located in Zhejiang University National Science Park, Hangzhou, China. Laison is a comprehensive high-tech enterprise integrated with Research and Development (R&D), production, marketing and professional after sales support service, focusing on the smart water/gas meter solutions and management systems.

With the mission of "Creating Values by Continuous Innovation" and with the advantage of Internet of Things (IoT) and Big Data technology, Laison has built a Comprehensive Meter Data Management System (MDM). The Laison smart metering solutions include GPRS/NB-IoT/LoRaWAN, smart STS prepaid Water/Gas Meter, Ultrasonic Water Meter, pipe network monitoring, water leakage detection, etc.. Laison is committed to be the Global IoT Products and Data Service Provider.

To date, Laison has already established cooperation with water companies in more than 28 countries such as Egypt, South Africa, Nigeria, Ethiopia, Angola, Malawi, Zambia, Cameroon, Mozambique, Tanzania, Togo, India, Indonesia, etc., and has bench-marking projects in East Africa, Southern Africa, West Africa and North Africa. Meanwhile, we have rich experience in cooperating with EPC contractors like Sinohydro Group, China Railway Construction Group (CRCC), China Henan International Co. (CHICO), etc. With unremitting efforts, Laison has become the Chinese benchmark in the international smart water meter market, leading the smart prepaid water meter industry.







Company Established

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To be the Most Innovative Company in Smart Metering



Creating Values by Continuous Innovation



To be the Global IoT Product and Data Service Provider



Awarded Hangzhou High-tech Enterprise

Exclusive strategic partner with biggest Water Meter Manufacturer in Egypt



Qualified Supplier of Smart Water Meter to Sinohydro Group

1st company in China passed the Smart Water Meter Approval in Angola



The company with Largest Export Quantity on Smart Prepaid Water Meter

Qualified Supplier of Smart Water Meter to CAMWATER, Cameroon





LAISON Meter installed in more than 28 countries

Established Intelligent Manufacturing Factory in Hangzhou

☆ 2016

1st East Africa's smart water meter project launched in Malawi Blantyre Water Board

1st company in China exports a complete set of smart water meter systems

2018

Awarded National High-tech Enterprise in China

Established a Gas Meter Factory in India

1st company in China supplied STS Prepaid Gas Meter to Pertagas, Indonesia

HONOR AND QUALIFICATION

Honorary certificate, company qualification and market qualification

As a member of STS Association, LAISON is the first Smart Water Meter Company in China passed the STS certification, and NRCS certification of smart water meters in compliance with SANS-1529 standard in South Africa. Its products have passed the European MID 2004 / 22 / EC certification. The company has more than 50 patents and software copyrights. In 2015, it was awarded as Hangzhou high-tech enterprise and in 2018, it was awarded as a national high-tech enterprise.





























Intelligent Manufacturing

Our production base



SMART FACTORY

LAISON Standardized Intelligent Manufacturing Factory in Hangzhou





Packing line



Test & measurement

Test & measurement



Hangzhou Laison Technology Co., Ltd. Sci-tech City Branch



Assembly workshop



SMT Workshop

HANGZHOU | CHINA





Assembly workshop



SMT Workshop







Split Type STS Prepaid Water Meter with AMR/AMI function

LXSZ-15(S) ~ 25(S)

LAISON Split Type STS Prepaid Water Meter consists of two parts namely Prepaid Water Meter, optional for Velocity type or Volumetric type which complies to STS standard IEC 62055-41,51, the solution comes with a Customer Interface Unit (CIU), supporting RF Wireless Communication and Dot matrix Type LCD to support local language for Remote Meter Recharge and Data Query.

In addition, it supports Walk-by AMR (Automatic Meter Reading) function and Fixed Data Concentrator Unit (DCU) AMI (Advanced Metering Infrastructure) function for remote meter data collection.



Features

- $\cdot\,$ STS Prepaid Working Mode, Meter Recharge & Data Query via CIU
- $\cdot\,$ Multiple Water Purchase Ways available (Vending points, Vendor, Customer self-service)
- AMR Functions:
- Meter Installation Location (GIS) info. Collection
- Meter Reading Task Download from LAPIS Server
- Meter reading path optimization

Automatic Meter Data Collection and upload to Laison Meter Data Management System (MDM) Remote Meter Parameter Checking & Valve Control

AMI Functions:

Automatic Meter Data Upload like Hourly/Monthly Consumption Data Record, Battery Voltage, Meter Alarm Event etc.

Automatic Real Time Clock (RTC) Calibration

Remote Meter Parameter Checking & Valve Control

- \cdot 10 years historical meter data storage
- Prepaid and Postpaid Working Mode switchable

Basic Working Process



Shape and Installation Dimension



Model	DN (mr
LXSZ-15(S)	15
LXSZ-20(S)	20
LXSZ-25(S)	25



	L	L1	W	H	H1	Connection Threa	
'			mm			d	D
	165	255	92.5	132.5	207.6	R1/2	G3/4B
	195	295	92.5	136	211	R3/4	G1B
	225	341	92.5	137	212	R1	G11/4B

Items		Parameters			
Nominal Diameter DN	mm	15	20	25	
Q ₃	m³/h	2.5	4.0	4.0	
R(Q ₃ /Q ₁)			100/160		
Working Temperature			T30/T50		
Working Pressure	MPa		1.0/1.6		
Pulse Equivalent	m³	0	.1/0.01 optiona	al	
Class of Upstream F Field Sensitivity		U10			
Class of Downstream Field Sensitivity	D5				
Protection Level	IP68				
Permissible Erro	r	$Q_2 \leqslant Q < Q_4 \qquad \pm 2\%$			
		$Q_1 \leqslant Q < Q_2 \qquad \pm 5\%$			
Communication Mot	hod	LoRa RF Wireless Comm.			
Communication Met	.1100	Reserved Infrared Comm.			
LoRa RF Wireless Co Frequency	mm.	470-495MHz (default), 863-879MHz optional			
		≤ 1km by LoRa RF Wireless Com.			
Communication Dist	ance	≤ 2m by Infrared Comm. without obstacle			
Case Material	Brass / Plastic Body				
Power Supply	Lithium battery DC3.6V, replaceable				
Battery Lifespan			≥ 6 years		





Data Concentrator Unit for AMI Solution

DP52401AC

LAISON Data Concentrator Unit (Hereafter referred as DCU) is compatible with all series of LAISON Smart Water Meter with LoRa Communication for AMI (Advanced Metering Infrastructure) solution which aims to Automatically & Remotely collect Meters' Data.

The Data Concentrator Unit (DCU) could communicate with meter via LoRa RF Wireless Com. and the MDM system via GPRS, thus the Meters' data could be uploaded to Center System automatically everyday, for Customer Monitor, Consumption Data Analyzing, Possible Leakage and Tamper Situation Detection etc.





Features

- Automatic Meter Data Collection like Hourly/Monthly Consumption Data Record, Battery Voltage, Meter Alarm Event etc.
- Automatic Real Time Clock (RTC) Calibration
- Remote Meter Parameter Checking & Valve Control
- Remote Real Time Communication with Meter
- Adopt POE power supply, convenient for on-site debugging and maintenance
- Support outdoor installation with protection level of IP67
- Adopt high gain antenna with wide signal transmission range

Basic Working Process



- AC Power supply Required
- for the project execution in downtown area.



DCU Installation Location Selection

• The Installation Location of DCU shall be higher than the highest buildings nearby

The Installation Location of DCU shall be easily accessed for further maintenance

• DCU RF Wireless Signal Strength will be affected by actual installation environment. In general, the density of buildings in downtown shall have much more influence on RF Wireless Signal than that in suburban areas. Thus normally more DCUs are required



Tec	hni	cal	Data
			Риси

Items	Parameters
Working Temperature	-40°C ~ 80°C
Working Humidity	5% ~ 95% (No Condensation)
Power supply	AC 100-240V 50/60Hz,
Power Consumption	< 5w
Comm. Upstream (DCU -> MDM System)	GPRS
Comm. Downsteam (DCU -> Meter)	LoRa RF Wireless
RF Comm. Distance	≤ 1Km in Residential Area ≤ 5Km Line of View
RF Comm. Frequency	470-495MHz(default), 863-879MHz optional
GPRS Comm. Frequency	850/900/1800/1900MHz
Case Material	Cast Aluminum





Remote IoT Prepaid AMI Smart Water Meter

LXSZ-15(R) ~ 25(R)

LAISON IoT Prepaid AMI Smart Water Meter is a new generation smart water meter solution that integrates with GPRS/NB-IoT/LoRaWAN etc. IoT network communication technology to realize Prepayment, Remote Automatic Meter Data Collection and Valve Control etc. functions.

Customers can purchase water through multiple methods (like Vending Points, Agency, Customer Selfservice, etc.), and the Centralized System can automatically send the recharge Token to the specific meters through GPRS/NB-IoT/LoRaWAN network to recharge remotely without any manual token input operation via keypad. Meanwhile, all the corresponding meter data could be automatically uploaded to Meter Data Management System (MDM) everyday like Hourly Consumption Data Record, Meter status etc. for data statistics and analysis.



Features

- STS Prepaid Working Mode, Remote Meter Recharge via GPRS/NB-IoT/LoRaWAN
- Real Time Clock (RTC) function, regular Remote RTC Calibration to ensure clock accuracy for basic meter functions, such as hourly/monthly frozen data
- Daily Automatic Meter Data Upload, such as Hourly Consumption Data, Battery Voltage, Meter Running Status, Event Record etc.
- Remote Meter Parameter Checking & Valve Control
- Meter Illegal Connection Detection & Alarm (Optional)
- Water Leakage Detection & Alarm (Optional)
- 10 years' Hourly/Monthly Consumption Data Record
- Prepaid and Postpaid Working Mode switchable
- Touchable Button for convenient Data Query & Data Upload
- Easy SIM card insert and replace



Basic Working Process



Shape and Installation Dimension



Madal	DN (mm)	L	L1	W	н	H1	Connecti	on Thread
Model	UN (MM)			mm			d	D
LXSZ-15(R)	15	165	255	92.5	132.5	207.6	R1/2	G3/4B
LXSZ-20(R)	20	195	295	92.5	136	211	R3/4	G1B
LXSZ-25(R)	25	225	341	92.5	137	212	R1	G1 1/4B

Items		Parameters			
Nominal Diameter DN	mm	15	20	25	
Q3	m³/h	2.5	4.0	4.0	
R (Q ₃ /Q ₁)			100/160		
Working Temperature			T30/T50		
Max. Working Pressure	MPa		1.0/1.6		
Pulse Equivalent	m³	0	.1/0.01 optiona	al	
Class of Upstream Flo Sensitivity	U10				
Class of Downstream Field Sensitivity	D5				
Protective Leve	l	IP68			
Permissible Frrc	or	$Q_2 \leqslant Q < Q_4 \qquad \pm 2$			
		$Q_1 \leqslant Q < Q_2 \qquad \pm 5\%$			
Communication Me	thod	GPRS/NB-IoT/LoRaWAN Comm.			
	thou	Reserved Infrared Comm.			
Communication Dist	tance	Depends on local GPRS/NB-IoT/LoRaWAN Comm. Station coverage			
	\leq 2m by Infrared Comm. without obstacle				
Protection Leve	IP68				
Power Supply	Lithium battery DC3.6V, replaceable				
Battery Lifespar	1	≥ 6 years			







Ultrasonic STS Prepaid Smart Water Meter

LXC-15 ~ 25

LAISON Ultrasonic STS Prepaid Smart Water Meter is a State-of-art design of patent, a fully electronic water meter made of industrial-grade electronic components. It is equipped with ultrasonic sensor and GPRS/ NB-IoT/LoRa/Sigfox etc. IoT (Internet of Things) Communication Module to form an automatic intelligent sensor system, so as to realize the accurate measurement and data collection for analysis of water volume, flow rate, battery voltage, etc., and greatly reduce the non-revenue water or controversial water caused by meter measurement error.



Features

- STS Prepaid Working Mode available, complies with STS Protocol IEC 62055-41,51
- High accuracy with lower initial flow rate and wider dynamic range
- Water dropping and leakage detection & Alarm
- Reverse Flow Detection & Alarm
- Fully Electronic, No moving parts with long working lifespan
- Flexible Installation Direction (Horizontal, Vertical, Inclined)
- Prepaid and Postpaid Working Mode switchable
- Water Temperature Detector Sensor, Low Temperature alarm
- Touchable Keypad for convenient Data Query & Data Upload
- Easy SIM card insert and replacement.



Basic Working Process





Medel	DN (mm)	L	L1	W	Н	H1	Connectio	on Thread
Model				mm			d	D
LXC-15	15	165	255	100	97	115	R1/2	G3/4B
LXC-20	20	195	295	100	97	115	R3/4	G1B
LXC-25	25	260	380	100	100	120	R1	G11/4B

Shape and Installation Dimension

Items	Parameters				
Nominal Diameter DN	mm	15	20	25	
Q ₃	m³/h	2.5	4.0	4.0	
Starting flow	L/h	3	5	5	
R(Q ₃ /Q ₁)		200,	/250 (400 Optio	nal)	
Working Temperature		T	30 (T50 Optiona	al)	
Max. Working Pressure	MPa		1.6		
Pressure Loss $ riangle$ p	Мра		≤ 0.063		
Class of Upstream Flow Sensitivity	/ Field	U10			
Class of Downstream Field Sensitivity	Flow	D5			
Protection Level		IP68			
Installation Positio	n	Any position			
LCD		8-digits			
		Downlink: Infrared /Lora Comm.			
Communication Met	hod	Uplink: Optional with GPRS/NB-IoT/LoRa/ Sigfox Comm.			
		Reserve with upgrade port, Support local firmware upgrade.			
Display Resolution	1	Consumption 0.001 m ³ Instantaneous flow rate 0.001 m ³ /h Water temperature 0.01°C			
Power Supply		Lithium battery DC3.6V, replaceable			
Pipe Section Materi	Brass				



Smart Card Prepaid Water Meter

LXSZ-15(C) \sim 25(C)

Global Measurement Innovation Partner



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LAISON Smart Card Prepaid Water Meter Solution adopts Contact-less Smart Card to realize Prepayment Function and bi-directional data transfer between Meter & MDM System. Meanwhile, it supports multiple Water Vending Solutions including traditional Water Vending at Vending Points by Cash, Mobile Vending via POS (Point of Sale) or Smart Mobile Phone with NFC Function by E-payment Platform, which makes the Water Purchase much more convenient for the End-user and avoid the heavy investment in establishment of Vending Points for Water Authorities.



Features

- · Prepayment function, automatic valve closes when the credit is low
- Adopt Philip Mifare S70 Contact-less Smart Card with large-capacity storage, good moisture-proof performance
 and strong environmental adaptability
- One card one key to ensure the data security
- Anti external magnetic interference in meter
- Support Step Water Tariff (Max. 10 steps)
- 10 years' Hourly/Monthly Consumption Data Record
- Reminder to end-user when battery is low, remaining water insufficient, etc.
- · 2 Levels of Low Battery Warning, Data auto-save & Valve Close when battery is low
- Meter Data Query in meter by Customer Card

Basic Working Process



Shape and Installation Dimension



Madal		L	L1	W	н	Connectio	n Thread
Model	UN (MM)		m	m	d	D	
LXSZ-15(C)	15	165	255	92	98	R1/2	G3/4B
LXSZ-20(C)	20	195	297	92	102	R3/4	G1B
LXSZ-25(C)	25	225	345	92	102	R1	G11/4B

Items	Parameters					
Nominal Diameter DN	mm	15	20	C	25	
$\begin{array}{c} \text{Permanent Flowrate} \\ \text{Q}_3 \end{array}$	m³/h	2.5	4.	0	4.0	
R (Q ₃ /Q ₁)			100/	160		
Working Temperature			T30/	T50		
Max. Working Pressure	MPa	1.0/1.6				
Pulse Equivalent	m³	0.1				
Class of Upstream Flow Sensitivity	/ Field	U10				
Class of Downstream Field Sensitivity	Flow	D5				
Protection Level		IP68				
Dormissible Free		$Q_2 \leqslant Q <$	Q4 ±2%		±2%	
Permissible Error	$Q_1 \leqslant Q <$	Q ₂	±5%			
Communication Met	Philip Mifare S70 Contactless Card					
Power Supply	Lithium battery DC3.6V, replaceable					
Battery Lifespan	≥ 6 years					



Bulk STS Prepaid Smart Water Meter

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WP-SDC(V)



LAISON Bulk STS Prepaid Smart Water Meter WP-SDC(V) (hereafter referred as "WP-SDC(V)") consists of Woltman Type Dry Dial Industrial Water Meter range from DN40-DN200 with Pilot Valve and separate Customer Interface Unit (CIU) with RF Wireless Communication and Dot matrix Type LCD to support local language for Remote Meter Recharge and Data Query.

In addition, it supports Walk-by AMR function and Fixed DCU AMI function for Remote Automatic / Semiautomatic meter data collection.



Features

- All materials in contact with water resist corrosion
- Super dry type with copper can register (IP68)
- The measuring mechanism can be removable from the body for checking, maintaining and replacing, no need to dismantle the body from pipe
- 10 years' Hourly/Monthly Consumption Data Record
- External Magnetic Interference detect & event record
- 2 Levels of Low Battery Detection & Warning
- Data auto-save & Valve Close when battery low



Basic Working Process





DN (mm)	L1	H
40	260	225
50	200	252
65	200	262
80	225	272
100	250	282
125	250	297
150	300	341
200	350	368
	DN (mm) 40 50 65 80 100 125 150 200	DN (mm) L1 40 260 50 200 65 200 80 225 100 250 125 250 150 300 200 350

Shape and Installation Dimension



H1	G	D	D1	L2	H2	D2	my M
		mm					ПХМ
303	360	150	110	175	210	140	4xM16
339	400	165	125	240	335	165	4xM16
349	400	185	145	245	345	180	4xM16
359	400	200	160	300	375	200	4xM16
369	400	220	180	340	415	220	8xM16
384	400	250	210	350	460	250	8xM16
428	500	285	240	400	525	285	8xM20
458	500	340	295	440	560	340	12xM20

Items				Para	meter	S				
Nominal Diameter DN	mm	40	50	50 65 80 100 125		150	200			
Overload Flowrate Q4	m³/h	31.25	50	78.75	78.75	125	200	312.5	500	
Permanent Flowrate Q3	m³/h	25	40	63	63	100	160	250	400	
Transition Flowrate Q2	m³/h	0.8	0.8	1.26	1.26	2	3.2	5	8	
Minimum Flowrate Q1	m³/h	0.5	0.5	0.7875	2	3.125	5			
Maximum mechanical reading		999999.999								
Minimum mechanical reading		0.001 0.01 0.1								
Permissible Error		$Q_1 \leqslant$	Q <	< Q₂: ±	=5%, Q) ₂ ≤ (Q < (Q₄: ±:	2%	
Working Temperature					T30/T5	50				
Max. Working Pressure	MPa				1.6					
Pressure Loss $\triangle p$	Мра	10	16	10	10	10	16	10	10	
Pulse Equivalent	m³		1							
Protection Level					IP68					



Ineternet of Things (IoT) Water Meter

Global Measurement Innovation Partner



LAISON Ineternet of Things (IoT) Water Meter adopting non-magnetic/inductive sampling technology can transfer the mechanical water meter reading to electronic, and by integrated NB-IoT/LoRa etc. Wireless communication module, it could upload the data to MDM System for further data analyze and monitoring. Meanwhile, IoT Water Meter integrates ultra-low-power Bluetooth 5.0 technology for short-distance inquiry and debugging.

The separated wireless remote transmission module design is compatible with multiple mechanical meter with the non-magnetic target for easy retrofit, no need to dismantle meter.



Features

LXSY-15 ~ 25

- Adopt non-magnetic / inductive sampling technology, anti-magnetic interference (10000GS)
- The electronic module and the mechanical part are separated design, maintenance cost is low.
- Reverse Flow Detection, High Flow Detection
- Water Leakage Detection & Alarm
- Adopt Bluetooth 5.0 technology, equipped with Android APP designed by Laison, convenient for Data Query and Maintenance
- Daily Automatic Meter Data Upload, such as Hourly Consumption Data, Battery Voltage, Meter Running Status, Event Record etc.



Basic Working Process



Shape and Installation Dimension



Medal	DN	11/2020	12(mm)		H2/mm)	H2/mm)	141/100100)	Connecti	Connection Thread		
Model	DN	LT(WW)	L2(MM)	HT(WW)	H2(MM)	FIS(MM)	w(mm)	d	D		
LXSY-15	DN15	165	259	36	130	141	96	R1/2	G3/4B		
LXSY-20	DN20	195	299	37	132	143	96	R3/4	G1B		
LXSY-25	DN25	225	345	41	136	148	96	R1	G1 1/4B		

Multi-Jet Wet Type							
Nominal Diameter DN	mm	15	20	C	25		
Q ₃	(m³/h)	2.5	4.	0	4.0		
$R(Q_3/Q_1)$			10	0			
Working Temperature			T3	0			
Max. Working Pressure	Мра		1.	0			
Pressure Loss $ riangle$ p	Мра		< 0.	063			
Class of Upstream Flow Field Sensitivity			U1	.0			
Class of Downstream Flow Field Sensitivity			D!	5			
Protection Level		IP68					
Permissible Error		$Q_2 \leqslant Q \leqslant Q_4$		<u>±</u> 2	±2%		
I CHIIISSIDIC EITOI		$Q_1 \leqslant Q_2$	$Q < Q_2$	±5%			
Pulse Equivalent	m ³ 0.001						
Minimum mechanical reading	m³	0.0001					
Maximum mechanical reading	m³	≥ 99999.9999					
Communication Meth	od	NB-IoT/LoRa Comm. Reserved Bluetooth Comm.					
Communication Dista	nce	NB-IoT: Depends on local NB-IoT Comm. Station coverage LoRa: ≤ 1km (Typical) Bluetooth: ≤ 20m					
Case Material		Brass/Spheroidal Graphite Cast Iron/ Stainless Steel/Plastic					
Power Supply		Lithium battery DC3.6V, replaceable					
Battery Lifespan		\geq 6 years, 10 years Optional					
Valve		Without valve					



Single Jet IoT Postpaid Water Meter

Global Measurement Innovation Partner

SJ-SDC (T)



LAISON SJ-SDC (T) is Vane Wheel, single jet water meter with dry type register for residential application with sizes from DN15 to DN25. It integrates LoRa Wireless Communication or Mesh Network for Remote Automatic Meter Data Collection, and the meter data can be uploaded to the MDM system through the 3G/4G network for monitoring and analysis.





Features

- All the Materials in contact with water, consciously selected by the known resistance to corrosion
- Cold water meter under current standard for lower than 30°C (T30), but SJ-SDC(T) can be used safely in water temperature up to 50°C (T50);
- The Magnetic Protection to against the external influences
- No need for external adjustment due to its design and high technology in manufacturing
- High Accuracy for Horizontal installation
- With Pre-equipped for communication device as Option
- Option to prepared with MDM System for wireless transmit facilitates (walk by or fixed network)
- Automatic Real Time Clock (RTC) Calibration
- The data collection system could compatible with water meters equipped with the MIU (Meter Interface Unit)

Technical Parameters

		Single-Jet Dry Type						
Nominal Diameter DN	mm	15	20	25				
Q4	m³/h	3.125	5	7.875				
Q3	m³/h	2.5	5 4.0					
Q2	L/h	25	40	63				
Q1	L/h	15.625	25	39.375				
R(Q ₃ /Q ₁)			160					
Working Temperature			T30/T50					
Max. Working Pressure	Мра		1.6					
Protection Level		IP68						
Pressure Loss \triangle p	Мра	< 0.063						
Max. mechanical reading	m ³	99999.9999						
Min. mechanical reading	Liter		0.02					
Pormissible Error		$Q_2 \leq Q \leq Q_4$ $\pm 2\%$						
		$Q_1 \leqslant Q < Q_2 \qquad \pm 5\%$						
Communication Met	nod	LoRa Com	m. (Start Network or Mes	h Network)				
Working Frequence	у	470-495MHz, 863-879MHz						
Max. Transmit Powe	er		20dBm					
Communication Dista	ince	≥	2000m without any obsta	icle				
Power Supply		Lithiu	m battery DC3.6V, replac	ceable				
Battery Lifespan		≥ 10 years						

Shape and Installation Dimension

Medal	Sizo	L	L1	н	H1	w	Connection Thread		
Model	5120	(mm)	(mm)	(mm)	(mm)	(mm)	d	D	
SJ-15SDC(T)	DN15	110	204	84.5	145.5	81.5	R1/2	G3/4B	
SJ-20SDC(T)	DN20	130	234	84.5	145.5	81.5	R3/4	G1B	
SJ-25SDC(T)	DN25	160	280	106	167	84	R1	G1 1/4B	



L1: the total length with connection and the gasket without compression.



Multi Jet IoT Postpaid Water Meter

LAISON MJ-SDC(T) is Vane Wheel water meter with magnetic transmission, dry type register for residential

Global Measurement Innovation Partner



application with sizes from DN15 to DN25 and meets to the requirements of Directive 2004/22/EC on measuring instruments and of European Standard EN14154. It integrates LoRa Wireless Communication or Mesh Network for Remote Automatic Meter Data Collection, and the meter data can be uploaded to the MDM system through the 3G/4G network for monitoring and analysis.



Features

MJ-SDC (T)

- · All the Materials in contact with water, consciously selected by the known resistance to corrosion
- Cold water meter under current standard for lower than 30°C (T30), but MJ-SDC(T) can be used safely in water temperature up to 50°C (T50);
- The extra inlet filter at the inlet of the meter body permits cleaning it without breaking the metrological seal;
- The Magnetic Protection to against the external influences
- Non Return Valve to avoid the reserve flow Rate AS OPTION
- Option to prepared with MDM System for wireless transmit facilitates (walk by or fixed network)
- Automatic Real Time Clock (RTC) Calibration
- The data collection system could compatible with water meters equipped with the MIU (Meter Interface Unit)

Technical Parameters

Nominal Diam
Q4
Q3
Q2
Q1
R(Q ₃ /Q ₁
Working Temp
Max. Working F
Protection L
Pressure Los
Permissible
Maximum mechan
Comm
Wor
Max.
Comm
P
Ba

Shape and Installation Dimension

Model	Size	
MJ-15SDC(T)	DN15	
MJ-20SDC(T)	DN20	
MJ-25SDC(T)	DN25	

		Multi-Jet Dry Type									
ter DN	mm	15	20	25							
	m³/h	3.125	5	7.875							
	m³/h	2.5	4.0	6.3							
	L/h	50	80	126							
	L/h	31.25	50	78.75							
			80/160								
erature			T30/T50								
ressure	Мра		1.6								
evel			IP68								
$\triangle p$	Мра	< 0.063									
rror		$Q_2 \leqslant Q \leqslant$	T30: ±2%, T50: ±3%								
.1101		$Q_1 \leqslant Q <$	Q ₂	±5%							
cal reading	m ³		99999.9999								
unication Metl	hod	LoRa Comm	n. (Start Network or Me	sh Network)							
king Frequenc	у	47	0-495MHz,863-879MI	Ηz							
Transmit Pow	er		20dBm								
inication Dista	ince	≥ 2	000m without any obst	acle							
ower Supply		Lithium	battery DC3.6V,repla	aceable							
tery Lifespan			≥ 10 years								

L	L1	н	H1	w	Connection Thread				
(mm)	(mm)	(mm)	(mm)	(mm)	d	D			
165	259	103	174	82	R1/2	G3/4B			
190	294	103	174	82	R3/4	G1B			
260	380	120	190	97	R1	G1 1/4B			



L1: the total length with connection and the gasket without compression.







Bulk Postpaid AMR Smart Water Meter

WP-SDC(T)

LAISON Bulk Postpaid AMI Smart Water Meter Solution includes the TURBINE Woltaman water meter with magnetic transmission, super dry type register and Meter Interface Unit (MIU) which gets Pulse Signal from Mechanical Water Meter and equipped with GPRS/NB-IoT/LoRaWAN etc. Communication Module for bidirectional communication between Smart Water Meter and Laison Meter Data Management (MDM) system, to realize Automatic Data Collection, Remote Meter Monitoring etc. functions.



Features

- The counter can be rotated at 360°, which is convenient for reading.
- · Spiral-wing impeller is treated by hydraulic balance
- With a uniform flow error adjustment device
- · Dual Reed Switch sampling is used to eliminate jitter and ensure stable and reliable electromechanical conversion
- Retrofit solution for Bulk Water Meter with Pulse Output, Cost-effective and High Reliability
- Remote Meter Data Collection and Data Analysis
- Touchable Button for convenient Data Query & Data Upload
- Fully sealed technology with protection level of IP68

Technical Data

Items Nominal Diameter DI $R(Q_3/Q_1)$ Overload Flowrate Q Permanent Flowrate Transition Flowrate C

Minimum readin
Minimum readin
Pressure Loss
Max. Working Press
Working Tempe
Protection Le
Signal Metho
Case Materi
Power Supp
Battery Lifesp
Valve

Shape and Installation Dimension

Nominal Diameter (mm)	DN	40	50	65	80	100	125	150	200	250	300	350	400	500
Length (mm)	L	260	200	200	225	250	250	300	350	450	500	500	600	800
Height (mm)	Н	249	252	262	272	282	297	341	371	480	516	560	647	785
Working height (mm)	H1	321	339	349	359	369	384	428	458	576	603	603	723	838
Height (mm)	G	360	400	400	400	400	400	500	500	710	730	730	830	930
Outside Diameter (mm)	D	150	165	185	200	220	250	285	340	405	460	520	580	715
Circle Diameter (mm)	D1	110	125	145	160	180	210	240	295	355	410	470	525	650
Connecting bolt quantity	nxM	2	4*M16	5	8	8*M16	5	8 * M20	12 * M20	12 *	M24	16 * M24	16 * M27	20 * M30

Items						Pa	ramete	ers					
Nominal Diameter DN (mm)	40	50	65	80	100	125	150	200	250	300	350	400	500
$R(Q_3/Q_1)$	50						80/	160					
Overload Flowrate Q ₄ (m ³ /h)	31.325	50	78.75	78.75	125	200	312.5	500	787.5	1250	1250	2000	3125
Permanent Flowrate Q ₃ (m ³ /h)	25	40	63	63	100	160	250	400	630	1000	1000	1600	2500
Transition Flowrate Q ₂ (m ³ /h)	0.8	0.8	1.26	1.26	2	3.2	5	8	12.6	20	20	32	50
Minimum Flowrate Q ₁ (m ³ /h)	0.5	0.5	0.7875	07875	1.25	2	3.125	5	7.875	12.5	12.5	20	31.25
Dermissible Error	$Q_2 \leq Q_2$	$Q < Q_4$	±2%	(T30)	, ±39	% (T50)						
Permissible Error	$Q_1 \leqslant Q_2$	$Q < Q_2$	±5%)									
Minimum reading (m ³)		999999.999				99999999.99 99999999.9							
Minimum reading (m ³)			0.0	005			0.005			0.05			
Pressure Loss $ riangle$ P	10	16	10	10	10	16	10	10	10	10	10	10	10
Max. Working Pressure (Mpa)	1.6												
Working Temperature	T30, T	50											
Protection Level	IP68												
Signal Method	Pulse	output											
Case Material	Spheroidal Graphite Cast Iron												
Power Supply	Lithiu	m batte	ery DC3.6	6V, rep	laceable	e							
Battery Lifespan	≥ 6 ye	ears											
Valve	Witho	ut valve	5										







Bulk Ultrasonic Smart Water Meter

Global Measurement **Innovation Partner**

SCL-61D6



Laison Bulk Ultrasonic Smart Water Meter adopts micro power consumption design (10 years of battery life), with extremely low starting flow and high accuracy, which is suitable for precise measurement of urban water supply pipeline and main meter on household metering, and also multiple no-power supply industrial fields.



Features

- Online self-verification function
- Large dynamic range R400, reached the precise measurement of minimum flowrate
- · 4-channel design for all series, dual-fracture surface, improve the accuracy under complex flow regime
- Integrated flowrate and pressure measurement, able to reach the demand of DMA monitoring
- Attached water temperature measurement function
- Battery powered, micro power consumption, measurement cycle 1s, one battery can work continuously over 10 years
- · Low starting flowrate (corresponding velocity 0.002m/s)
- Multiple transmission methods, RS-485, M-Bus, LoRa, Pulse output and NB-IoT
- The stainless steel pipe can be recycled and reduce the user cost.
- Quality seamless stainless steel cable, and precision machining by robot workshop

Technical Parameters

lt	Items Parameters				S	hape	and	Insta	allati	on Di	men	sion							
Me	edium	Water or other homogeneous fluids in full pipe flow																	
Aco	curacy	Cl	ass 1		Class 2				וח	a ati a Cu				Ma	tal Casin	~			
Dynan	nic Range	R250	R315	R250	R315	R400		(Pl	th proc	asing	acor)	(Mo	IVIE tor with	a proceur	lg To conce	25)		
Nomina	al Diameter	DN65	5~DN300	D	N50~DN30))		(Meter WI	uipies	Sule Sei	1501)	(Me		rpiessui	e senso)		
Press	sure Loss		△ p10						1	E	\rightarrow			1					
Maximum W	orking Pressure	1.0Mpa/1.6Mpa/2	2.5Mpa (Standard is	1.6Mpa, or	ly DN200 is	1.0Mpa)										7			
Climatic B	Environment		-25°C ~+55°C , ≤	100%RH						л 📙	ц П								
Rating of	Water Temp.		T30、T50、T70,	default T3	D				н	IKG	ti Al								
Rating of Ups Sen	tream Flow Field sitivity		U5																
Rating of Do Field S	wnstream Flow Sensitivity		D3						_+	-	L U				L				
Types of Mechanical Con	Climatic and Environmental aditions		0						1 -		h f			1		f f			
Class of Electromagnetic Compatibility E2				D D1 D2	C				0 D1 D2										
Ope	eration		Magnetic inducti	ion button					1 1		\mathbb{V}			1	1 Arc				
Display	Indication	LCD, 10-digit	tal+prompting chara	cter (word	height: 12r	mm)									1				
Values	Displayed	Accumulated flo temperature (° C MM/D	owrate (m³), Instanta) Accumulated effec DD), Time (hh/mm/ss	aneous flov tive runnir s), Software	vrate (m³/h ng time (h), e version), Water Date (YY/	Nominal Diameter (mm)	Pressure (MPa)	Outside Diameter D	Flange Hole D1	Sealing Surface D2	Sealing Surface f	Flange Thickness b	No. of Flange Hole	Diameter of Flange Hole	Length L	Max. Width W	Height for Plastic Casing	Hei fo Me Cas
Displa	ay Range	Accumulate Instantaneo	d flowrate: -1999999 ous flowrate: -99999.	999.9m ³ ~+1 999m ³ /h~+	L9999999999. 99999.999n	9m³ n³/h	50	1.0/1.6/2.5	Ф165	Φ125	Ф102	3	20	n 4	d Ф18	200	186	H 278	2
	Photoelectric Interface	Ва	udrate:2400bps,Pr	otocol: EN	13757		65	1.0/1.6	Ф185 Ф185	Ф145 Ф145	Ф122 Ф122	3	20	4	Ф18 Ф19	200	196	293	3
	DC 405/04 D	Baudrate: 2400b	ps, 4800bps, 9600bp	s (optional), default:	2400bps;		2.5	Φ10J	Φ143 Φ160	Φ122 Φ120	2	22	0	Φ10 Φ10	200	202	295	3
Data	RS-485/M-Bus	Transmission di T-188	stance: ≤ 1200m, P 8. Modbus (optional)	vrotocol: El	Laison	son, CJ/	80	1.0/1.0	Φ200	Φ160	Φ136 Φ130	3	20	0	Φ18 Φ10	225	203	211	- 3.
Communi		Radio Frequer	ncy, transmission dis	stance: 200	0m (open s	pace),		2.5	Φ200	Φ160	Φ138	3	24	8	Φ18	225	203	311	3
cation	Communication		frequency band: 470	0MHz-510M	1Hz		100	1.0/1.6	Φ220	Φ180	Φ158	3	22	8	Φ18	250	220	329	3
		Nar	row Band Internet of	f Things (N	IB-loT)			2.5	Φ235	Φ190	Φ162	3	26	8	Φ22	250	235	333	3.
	Pulse output	Passive output. V	/oltage: Maximum D(C24V; Curre	ent: Maximu	um 50mA	125	1.0/1.6	Φ250	Φ210	Φ188	3	22	8	Φ18	250	250	358	3
Data	Storago	Storage by EEP	ROM of cumulative f	lowrate an	d effective i	running		2.5	Φ270	Φ220	Φ188	3	28	8	Φ26	250	270	364	3
Data	Storage	failure) Autom	atic storage of the da	ata above f	vears atter p or past 24 n	nonths	150	1.0/1.6	Φ285	Φ240	Φ212	3	24	8	Φ22	300	285	388	4(
Measu	ring Cycle		1 secon	d				2.5	Ф300	Φ250	Φ218	3	30	8	Ф26	300	300	394	4
	_ *		Battery DC	3.6V				1.0	Ф340	Φ295	Ф268	3	24	8	Φ22	350	340	448	4
Powe	er Supply	(One batte	ery can work continu	iously over	10 years [№]	te)	200	1.6	Ф340	Ф295	Ф268	3	26	12	Φ22	350	340	448	40
	Flow	DC10V~	DC36V, ≥ 20mA (Sp	ecity while	e ordering)			2.5	Ф360	Ф310	Φ278	3	32	12	Φ26	350	360	455	4
Power	measurement		<0.4mV	V				1.0	Φ395	Ф350	Ф320	3	26	12	Φ22	400	395	527	53
onsumption	Wireless Comm.	Average powe	er consumption <0.3	mW, Maxir	num curren	t<1A	250	1.6	Φ405	Ф355	Ф320	3	29	12	Φ26	400	405	532	54
Protec	tion Level		IP68					2.5	Φ425	Ф370	Ф335	3	35	12	Ф30	400	425	542	5
For the nor	n-integral meter ve	ersion, the cable c	onnecting the measu	uring unit a	nd display	is in a		1.0	Φ445	Ф400	Ф370	4	26	12	Φ22	450	445	578	5
Standa Note: All pa	ard length of 1.5m	. For cable length	other than this, plea	se specify	on ordering	r Weak	300	1.6	Ф460	Ф410	Ф378	4	32	12	Ф26	450	460	585	59
Note: All parameters are standard basis, products with NB-IOI do not support dual-power. Weak signal strength repeat of data transmission high alarm frequency will shorten battery life		1											500	-					











Electromagnetic Flow Meter

Global Measurement **Innovation Partner**

PMF-G



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Electromagnetic flow meter is a kind of speed meter, which has a high accuracy and reliability, adopts the sensor and smart converter so that it does not only have the measurement, display and other functions, but also supports the remote data transmission, wireless remote control, alarm and other functions. It is widely used in petroleum, chemical engineering, steel, food, electricity, paper, water treatment, water supply, heat supply, environmental protection and other industries.





Features

- · Humanized interface design, flow bar graph display, real-time display of instantaneous and cumulative flow
- Low pressure loss, large dynamic range, high measurement accuracy
- Intelligent filter processing to effectively eliminate interference
- Maintenance-free and good protection performance
- Good pressure resistance sealing ability

Basic Working Process



Shape and Installation Dimension



UN		312
(mm)	L	W
100	250	22
125	250	25
150	300	28
200	350	34
250	450	39
300	500	44
350	550	50
400	600	56
500	500	67
600	600	78
700	700	86
800	800	97
900	900	107
1000	1000	117
1200	1200	140



	н
	380
	410
	440
	495
	560
	600
	670
	720
	820
	930
	1010
	1110
5	1210
5	1310
5	1540



DN		Size	
(mm)	L	W	н
100	250	220	285
125	250	250	315
150	300	285	345
200	350	340	400
250	450	395	465
300	500	445	505
350	350550505400600565		575
400			625
500	500	670	725
600	600	780	835
700	700	860	915
800	800	975	1015
900	900	1075	1115
1000	1000	1175	1215
1200	1200	1405	1445

Items	Parameters						
Nominal Diameters DN (mm)		100~1200mm					
Velocity Range		0 - 10 m/s					
Degree of accuracy			±0.5%R				
Medium Conductivity	≥ 5u	S/cm,act	ual conductivity ≥ 30uS,	/cm			
	1.0MPa	1.6Mpa	2.5Mpa				
Nominal Pressure	DN100-DN800	DN100- DN800	DN100-DN60	00			
Environment Temperature	Senso	r	0°C - 80°C or -25°C - +12 +250°C	0°C or +70°C -			
	Incorporate	e type	-10°C - +55°	C			
	CR chloropren liner (C	e rubber R)	+80°C				
Highest Medium	Fluorosilio rubber(FV	cone 'MQ)	+70°C - +250	°C			
Temperature	Polytetrafluoro lining(F	ethylene 4)	+90% 05 +120%				
	Politef linin Teflon(P	g(F46) FA)	-				
Output Signal	4 - 20mA; Pulse/Frequency 2kHz(Default), 5KHz(Max); R						
Supply Voltage	110/220VAC(100-240VAC), 50Hz/60Hz; 24VDC ± 10%						
Cable entry size	$M20 \times 1.5$ (Standard nylon waterproof connector, optional explosion-proof metal connector)						
Power Dissipation			≤ 15VA				
Digital Communication	RS-485, Sup	port stand	lard MOD BUS-RTU proto	col; GPRS			
Signal Electrode and The Ground Electrode Material	Stainless s	teel 316L, tan	Hastelloy C, Hastelloy B, t talum, platinum	itanium,			
Form of Electric Pole	Interpolatin	g, extrapo	lating electrode need to o	customize			
Number of Electrodes	Standard configuration 3-4 electrodes (two measuring electrodes plus a grounding electrode), according to the ca configuration						
Connecting Flange Material	Standard carbon steel and stainless steel are needed to be customized						
Crounding Ding Material	Stainless steel	and stain	less steel that contains m etc.	olybdenum,			
Grounding King Material	DN100- DN400	Stainless st	eel 1Cr18Ni9Ti(Ordinary stainless steel SUS321)	austenitic			
Protection Level		Separate	body-type	IP68、IP65			
		Incorpo	rate type	IP65			
Interval / Wire Length	10m standard configuration connecting line, optional 1 20m, 25m, 30m. (Separate Body-style)						



Communal Water Dispenser

Standpipe Water Dispenser

Global Measurement Innovation Partner





LAISON Standpipe Prepaid Water Meter is designed for Communal water dispenser in rural areas, it allows multiple customers to get water by using Customer Cards.

By putting the Customer Card on the meter, the end-user can draw water and in the meantime, the Communal Water Dispenser measures and calculates in real-time of Consumed and Remaining Credit on the Customer Card.

Moreover, Flexible water purchase ways are provided by LAISON, either at Vending Points by Cash or at appointed Vendors through POS is available, also by integrated to local E-payment platforms like Mobile Money, Online banking, etc., Customers can Purchase Water and Recharge Customer Cards on their own Smart Mobile Phones with NFC function.



Features

- Prepayment working mode, water supply cut off when credit runs out
- One Meter, multiple users for public water supply
- · Real Time Monetary calculation in the meter and Real Time Display on LED when getting water
- AC Power Supply with internal Storage Battery for backup (12V, 12Ah), Solar Panel Solution optional
- · Integrated GPRS Communication Module for meter's configuration, monitoring and real-time transaction record upload
- Inerasable Massive Transaction Record Storage in meter
- Illegal Meter Cover Open detection & alarm to avoid possible tamper

Basic Working Process





Shape and Installation Dimension





Items	Parameters
General Parar	neters
Material	Meter Body: 304 Stainless Steel Advertising Board: Tempered Glass
Dimension	Complete Meter: 165cm×35cm×20cm Flange Base: 30cm×23cm
Flow Meter for Measure	High accuracy Impeller flowmeter
Measure Accuracy	1/28L
Inlet Diameter	DN20
Control Valve	Electromagnetic Valve
Strainer	Removable Strainer available
Power Supply	,
Working Voltage	AC Power, 180-240V, 50-60HZ; Solar Panel Solution optional
Vorking Current	<0.35A under 230V
nternal Storage Battery	12V, 12Ah Automatic Recharge under constant voltage and current
Display	
Display of Credit	LED, EIGHT(8) DIGITS, TWO(2) Lines display the Remaining Credit and Water Volume in Card respectively
Advertising Board	With Backlight available
Communicati	on
Communication	GPRS Communication integrated
Data automatic uploaded	Transaction, Meter Running Status, Meter Tamper Event etc.
Data Storage	in meter
Transaction Record	No less than 20000 Transaction Record



www.laisongroup.com

Meter Interface Unit (MIU) for Mechanical Meter Retrofit

MIU

LAISON Meter Interface Unit (MIU) is an innovation design aiming at upgrading the existing traditional mechanical water/gas meter with pulse output to a smart meter, for Automatic Meter Data Upload by integrated GPRS/NB-IoT/LoRaWAN module inside, thus improving the meter reading efficiency, providing a comprehensive, cost-effective solution for utilities to cater for the Internet of Things.





Features

- Compatible with different kinds of meters WITH PULSE OUTPUT
- Touchable button on MIU Interface for convenient Data Query & Data Upload
- LCD Display for easy info. checking by End-user
- Electronic Module fully sealed for better IP protection
- SIM card easily insert & replace
- Automatic Upload Meter Data by GPRS/NB-IoT/LoRa/ LoRaWAN Comm. for further data statistics and analysis.
- Remote Meter Parameter Checking & Valve Control



Water Meter + MIU



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S L'AISON

S. NB-IOT

LAISON NB-IOT Module No.0120180400190



Gas Meter + MIU



Bolk Meter + MIU

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Items		Parameters
Dimension	mm	89mm (Length)×136mm(Height) ×69mm(Width)
Materials		Acrylonitrile Styrene acrylate copolymer (ASA)
Working Temperature	°C	-10°C ~ 60°C
Working Humidity	%RH	≪ 95%RH
Storage Temperature	°C	-40°C ~ 70°C
Protection Lev	vel	IP68
Communication Module		NB-IoT/GPRS/LoRa/LoRaWAN Comm. Infrared Comm. Reserved
Communication Distance		NB-IoT/GPRS/LoRaWAN: depends on local NB- IoT/GPRS/LoRaWAN Comm. Station coverage LoRa: ≤ 1Km (Typical) Infrared: ≤ 2m without any obstacle
Power Supp	ly	Lithium battery DC3.6V,replaceable







Split Type STS Prepaid Gas Meter

G1.6/2.5/4.0

LAISON Split Type STS Prepaid Gas Meter with AMR/AMI function can realize prepayment function and remote semi-automatic/automatic meter data collection through integrated LoRa RF wireless Comm. Module inside.

For Prepaid Function, it complies with International STS Standard IEC 62055-41,51 and gets the STS certification. Customers can purchase gas through multiple methods (Vending Points, Agency, Customer Self-service, etc.), and obtain a 20 digit recharge token. By inputting the recharge token through Customer Interface Unit (CIU), the Gas Meter will be recharged successfully.



Features

AMR Functions

Meter Installation Location (GIS) info. Collection Meter Reading Task Download from LAPIS Server Meter reading path optimization Automatic Meter Data Collection and upload Remote Meter Valve Control

AMI Functions

Automatic Meter Data Upload

like Hourly/Monthly Consumption Data Record, Battery Voltage, Meter Alarm Event etc.

Automatic Real Time Clock (RTC) Calibration

Real Time Communication, Remotely Control Valve Open/Close

Massive Data Storage

10 years' Hourly/Monthly Consumption Data Record Meter Event Record during whole meters' lifespan, such as meter re-start, valve operation failure, magnetic interference, etc.

Anti-magnetic interference

If external magnetic interference happens, the meter shall close the valve and record this event with exact time and event type.

Low Battery Detection & Warning

2 Levels of Low Battery Warning Data auto-save & Valve Close when battery low

Basic Working Process



Shape and Installation Dimension





н	w	D	E
224	201	167	67.5

Technical Parameters

Parameters Mod	Parameters Model		G2.5	G4.0			
Nominal Flowrate (Q _n)	m³/h	1.6	2.5	4.0			
Maximum Flowrate (Q _{max})	m³/h	2.5	4.0	6.0			
Minimum Flowrate (Q _{min})	m³/h	0.016	0.025	0.040			
Maximum Pressure Loss (P _{max})	Ра		≤ 200				
Working Pressure	kPa		$0.5 \sim 50$				
Working Temperature	°C	-10 ~ +55					
Storage Temperature	°C	-20 ~ +60					
Relative Humidity	%RH	≤ 93%RH					
Cyclic Volume	dm ³	1.2					
Dorminsible Error		$Q_{min}\leqslant$	Q<0.1Q _{max}	±3%			
Permissible Error		0.1Q _{max}	$\leq Q < Q_{max}$	±1.5%			
Max. Reading of the Counter	m ³		99999.999				
Pulse Equivalent	m ³	0.01					
Case Material		Aluminum Body/Steel Body					
Protection Level			IP66				
Power Supply	V	Lith	nium Battery [DC3.6V			
Battery Lifespan	years		≥ 6 years				





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LAISON G1.6(K) Prepaid Gas Meter 2018

Integrated Keypad STS Prepaid Gas Meter

G1.6(K)

LAISON Integrated Keypad STS Prepaid Gas Meter, with a TOUCH KEYPAD on the Meter Case for Meter Recharge & Data Query, conforming to STS Standard IEC 62055-41,51 and is certified by STSA (STS Association). Gas purchase could be done in multiply ways like at LAISON Vending System, Mobile Vending POS or SMS via customer self-service. Additionally, the client can choose IR PAD as an option to recharge the Token, which is suitable for customers whose installation location is relatively hidden and not easy to touch.



Features

- · Various ways of Gas purchase like at Vending Points by Cash, appointed Vendor by POS or Customer Self-service by E-payment (Mobile Money, Online Bank, etc.).
- · Audible & visual alarm in predefined case for gentle reminder, such as insufficient gas credit, low battery etc..
- Full backlight on the Meter's LCD, it could be easily read even at night.
- · Last Time Recharge Gas Volume, Remaining Gas Volume, Total Consumed Gas Volume, Valve Status, Low Battery, etc. could be easily inquired by entering a 2-digit Query Token.
- · Emergency Gas, customers could still consume gas even if the balance credit in the meter is used up if Overdraft Function is activated.
- · If external magnetic interference happens, the meter shall close the valve and record this event with exact time and event type.
- 10 years' Data Record Storage

Basic Working Process



Shape and Installation Dimension











н	w	D	E	F
		mm		
225	166	142	88	118.3

Parameters Model		G1.6(K)			
Nominal Flowrate (Q _n)	m³/h	1.6			
Maximum Flowrate (Q _{max})	m³/h	2.5			
Minimum Flowrate (Q _{min})	m³/h	0.016			
Maximum Pressure Loss (P _{max})	Ра	≤ 200			
Working Pressure	kPa	$0.5 \sim 50$			
Working Temperature	°C	-20°C ~ +50°C			
Storage Temperature	°C	-30°C ∼ +60°C			
Working Humidity	%RH	≤ 93%RH			
Cyclic Volume	dm³	0.9			
Dormissible Frror		$\rm Q_{min} \leqslant Q < 0.1 Q_{max}$	±3%		
Permissible Error		$0.1Q_{\text{max}} \leqslant Q < Q_{\text{max}}$	±1.5%		
Max. Reading of the Counter	m³	99999.99			
Pulse Equivalent	m³	0.01			
Case material		Aluminum Body			
Protection Level		IP68			
Power Supply	V	Lithium Battery DC3.6V			
Battery Lifespan	years	≥ 6 years			





0 0 0 0 0 2 2

IoT Postpaid Gas Meter

G1.6/2.5/4.0(S)

LAISON IoT Postpaid Gas Meters Type G1.6, G2.5, G4 (S) integrating with GPRS/NB-IoT/LoRaWAN etc. IoT network communication module to realize Remote Automatic Meter Data Collection, are suitable for Domestic and Commercial applications mainly with a purpose for measuring accurate flow-rate of both Piped Natural Gas (PNG) or Liquefied Petroleum Gas (LPG).

The Gas Meters have key components like central body which is produced using injection moulding process with special grade polymer materials, which have a property of high resistant to gas corrosion. Diaphragms are manufactured using quality polyester fibre with special vulcanization process. The key parts of the gas meter like valve and valve seats are manufactured with Bakelite material under high-accurate process control method and having high wear resistance, low water absorption, low friction, high inner stability which ensures the accurate performance of Gas Meters.

Meters are equipped with unidirectional register with anti-reverse device to protect Gas Meter for temper proof operation. And LAISON Split Type Postpaid Gas Meters fulfills technical requirements of BS:EN:1359-2016.



Features

- Highly sensitive and Accurate
- · Calibrated and performed for precise flow measurement
- Strong and robust design
- Anti Corrosion structure and all weather resistant
- Highly durable with consistent performance for long period
- Compatible for retro-fitment with AMR system
- Remote Meter Data Collection and Data Analysis
- Touchable Button for convenient Data Query & Data Upload

Error & Pressure Loss Curve







Shape and Installation Dimension



ERROR CURVE (%)

PRESSURE LOSS CURVE (Pa)



Model Size	Н	W1	W2 m	D	B1	B2
G1.6(S)	236	176	194	96	112.5	133
G2.5(S)	236	176	194	96	112.5	133
G4.0(S)	236	176	194	96	112.5	133

Parameters Model		G1.6(S)	G2.5(S	;)	G4(S)	
Nominal Flowrate (Qn) m3/h		1.6	2.5		4	
Maximum Flowrate (Qmax)	m3/h	2.5	4		6	
Minimum Flowrate (Qmin)	m3/h	0.016	0.025		0.04	
Cyclic volume	dm3	1.2	1.2		1.2	
Operating pressure range	mbar	≤ 2	≤ 2		≤ 2	
Operating Temperature	°C	-25°C~+55°		55°C		
Dormissible Error		Qmin ≤ Q<0.1Qmax			±3%	
Permissible Error		0.1Qmax ≤ Q < Qmax		±1.5%		
Max. Reading of the Counter m3		99999.999				
End Connections m3		NPT; M30X2; ¾ as per BS 746; 1" as per BS 746; As per Customer Requirement			'as per BS rement	
Distance between CTC	mm	110	110		152.4	
Approx Weight k		1.8				
Communication Method		GPRS/NB-IoT/LoRaWAN Comm.			omm.	
Power Supply	V	Lithium battery DC3.6V, replaceable			aceable	
Battery Lifespan ye		≤ 6 years				





LAISON



Meter Data Management System



States - Alt Management -

0128235230473 0128235230473

Came_38_4/1 8000147852 Case,38,471 80001235H 8785230000 Case_37_491 40012582 047357530 Case_36_491 406001253F 22664700H Case, 32, API 500214507N 85585640 Case, 32AA, API 50001500485 857-675400

& Customer Info.

* Lost Purchased Date

Regional Water Consumption

Monthly Consumption / m* : Weekly Consumption / m* : Daily Consumption / m* :

Wonthly Consumption / m²: 15371172 Weekly Consumption / m²: 287212.3 Daily Consumption / m²: 465327.4

Name 10 34.

Cme_40_4/1 2001256 8574(250)

 Case_20A_AP1
 60001000
 8475757500

 Case_21B_AP1
 500044785A
 80000005

Name 012002000472 (0.212002220473 Tel. Colorer Type Sufware 575 Ald Molec No. 012200020475 Address

DMA ~						1. rost - 0
	-					
Residential Date	Carbon Inc.	~	Radiat No.	Address		Report V
2021-06-12-00-04-25	Software STS AM	0	012903503473			• 1000
2021-03-24 12:25:57	Mandiakazi-Trade	684.3	0120100213427			· Noral
2021-03-24 12:32:13	Mandiakazi-Domentic	400	0120010000403			· toral
2021-03-24 12:21 10	Mandiakaci-Trade	0	0120130212025			· toni
2021-03-24 12:13:51	Mandiakazi-Trade	0	0120190210107			· Send
2021-03-24 12:07:36	Mandiakazi-Domestic	0	012019021040			· time
2021-00-24 12:00:20	Mandiakazi-Domestic	0	0120190213054			· formal
2021-03-24 11:40-21	Mandakasi-Public	2000	0120010013040			toral
2021-00-24 11:24:39	Mandiakaci-Trade	1000	0120180213773			tornal
2021-03-24 11:21:33	Mandlakaci Public	2000	0123018011896			toral
					Total 053 items (1 2	3 16 > Goto 1
lume						





MTN

Compliant to STS standard IEC 62055-41,51

Compatible with all Laison prepaid water, gas and electricity meter

Integrated with Mobile Money Platforms such as MTN, Airtel, M-pesa, etc.





LAISON



AMI (Advanced Metering Infrastructure) Solution

By deploying the AMI system, the remote meter data, including Hourly/Monthly Consumption Data, Meter Battery Voltage, Run Status, etc. can be automatically uploaded to LAISON MDM System through GPRS/NBloT network.

Walk by AMR (Automatic Meter Reading) Solution

By walking along or driving along the street, basic Meter Data could be collected automatically by LAISON MDT (Mobile Data Terminal) which equipped with LAISON Walk-by Data Collection APP (AquaRadius App.) and MDC (Mobile Data Collector), and be uploaded to MDM System by GPRS or WIFI.

Remote Control & Alarm

Automatic alarm notification by email or SMS. Support Hourly Water Consumption Curve Analysis, Meter Status Monitoring, Remote Valve Control, Pressure Adjustment, etc..



Meter Data Mangement System

1) The water company can obtain diversified Statistic Reports such as Detailed Sales Reports, Aggregated Sales Report, Operate Log, Statistic Report, Frozen Data, Token Generation Record, Historical Vendor Recharge Record, etc., to provide data support for water company decision-making.

(2) Customer could inquire the Total Consumption, Historical Purchase Records, Battery Status, etc. on mobile phone whenever and wherever possible.



•System Architecture

Nocturnal Factor Coefficient

Minimum Night Flow (MNF)

Minimum Night-time Water ConsumptionCoefficient



· DMA Leakage Monitoring

Through the GIS management mode of dividing multiple districts, wireless communication is used to transmit real-time data such as flow, pressure and water quality, so as to timely and accurately grasp the operation of the pipe network in each metering area, make statistical analysis and evaluation on the leakage status of each district, intuitively reflect the regional leakage situation, and assist the location of leakage points, so as to provide scientific basis for optimizing water supply dispatching management.

• Establish the management system of district measurement and total score meter analysis

Build a five level regional measurement management system of "company, branch company, District, branch line, household meter" interconnection, so as to provide effective technical support for cell measurement, water change control, and scientific control of pipe network leakage



•Artificial Intelligence Algorithm

Using the artificial intelligence algorithm based on big data and graph neural network(GNN), reliable leakage monitoring service is provided with the data collected by the partition metering system.













AquaMall Pro

AquaMall Pro APP. is an application running on LAISON PoS (Point of Sale) for Mobile Vending to LAISON STS Prepaid Water Meters. The appointed vendor could purchase water in bulk firstly from the Water Authority and resell to neighbors via POS.



Main functions

- View vendor's Water Sales Quota and Self-recharging (Mobile Payment)
- · Generate a 20 digit recharge token and print invoice after purchasing
- Inquiry and statistics of water sales / transaction records.



AquaTrans Pro

neighbors via POS.

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Main functions

- Refund operation available if purchase wrong

HANGZHOU | CHINA



AquaTrans Pro APP. is an application running on LAISON PoS for Mobile Vending to LAISON smart card prepaid water meter. The appointed vendor could purchase water in bulk firstly from Water Authority and re-sell to

AquaCyber

AquaCyber APP is designed for the End User to realize Remote Meter Data Checking of LAISON IoT Smart Water Meter, corresponding meter data like Total Water Purchase/Consume Volume, Remaining Credit, Meter Running status, etc. Could be queried in AquaCyber anytime when requested. Moreover, it supports Customer Selfservice Water Purchase via E-payment Platform like online bank, mobile money etc..

- View operator's Water Sales Quota and Self-recharging (Mobile Payment)
- Read and Recharge the Customer Card via NFC function on POS
- Inquiry and statistics of water sales / transaction records.

Main functions

- Customer Self-service Water Purchase (Mobile Payment)
- Query Meter Data whenever and wherever possible, including Remaining Water, Total Purchased, Total Consumed, Meter running Status etc.
- Inquiry and statistics of Historical Purchase Bill and Water consumption records (Daily/Monthly/yearly)



AquaRadius

AquaRadius APP. is an application that runs on LAISON MDT (Mobile Data Terminal) for Walk-by AMR Prepaid Water Meter, realizing semi-automatic Meter Data Collection. By connecting the MDC (Mobile Data Collector) to POS, it could communicate with the meter through LoRa Wireless thus collect the meter's data within a radius of 500m and then upload to LAISON MDM System via GPRS/WIFI.



Main functions

- Collect Meters' GIS Info. and upload to the MDM System
- The recommended Walking Path is adjusted automatically to collect all the meters' data in the Meter Reading Task
- Single Meter Reading & Mechanical meter reading data Input for failed meters
- Meter Data Checking (Hourly/Monthly Consumed Water)
- Control meter value open or close



AquaLink

LAISON AugaLink APP. is an application run on LAISON MDT (Mobile Data Terminal) for Meter Data Collection of Postpaid Water Meter which is equipped with Wireless Communication Module. Corresponding Meter Data includes Total Consumed Water, Meter's Real Time Clock (RTC), Battery Voltage etc. will be collected easily for monitoring and analyzing.



Main functions

- Collect Meters' GIS Info. and upload to Center System;
- The recommended Walking Path is adjusted automatically to collect all the meters' data in the Meter Reading Task;
- Single Meter Reading & Mechanical Data Input for failed meters;
- Meter Data Checking (Hourly/Monthly Consumed Water).



AquaStream

AquaStream APP. is an application running on LAISON POS for Mobile Vending to End-users for the Communal Water Dispenser. The appointed vendor could purchase water in bulk firstly from the Water Authority and resell to neighbors via POS.

Main functions

- Balance Query
- Account, Remake Card, etc.
- to check the meter on site.



• View operator's Water Sales Quota and Self-recharging (Mobile Payment) • Daily Operation including Customer Registration, Water Vending and

• Customer Card Management includes Report Loss, Remove Loss, Cancel

• Tool Card Management on POS, making it easy for the Maintenance staff

• Inquiry and statistics of water sales records (Weekly/Monthly/yearly)





Welcome to the LAISON YouTube channel!

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