

AUG 2025

COMPANY PROFILE



+971 (04) 345 1626

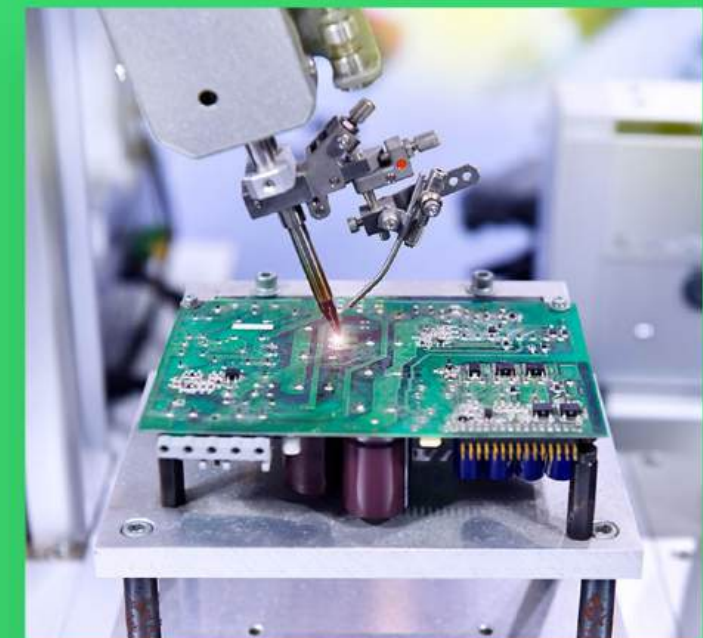
info@sensemi.com

www.sensemi.com

UAE : Warehouse 49 & 32, No. 04 - Zone 2, Al Hamra Industrial Free Zone,
Ras Al-Khaimah, United Arab Emirates

Azerbaijan: Baku-Guba Road, 32nd km (Opposite Sumgayit Chemical Industrial Park)
Sensemi DMCC Branch, Azerbaijan

Headquarters: Office No. 2302, 23rd Floor, Mazaya Business Avenue BB2,
Jumeirah Lakes Towers (JLT) Dubai, UAE



www.sensemi.com

COMPANY OVERVIEW

SenseMi Solutions is a global leader in smart metering technology, enabling the efficient and sustainable management of natural gas, electricity, and water. With a strong foundation in cutting-edge innovation and engineering excellence, we provide utilities and businesses with advanced metering infrastructure, intelligent data management, and IoT-enabled solutions to optimize resource consumption.



AUTOMATED ENERGY METER PRODUCTION LINE

Established in Dubai in 2016, SenseMi brings over 50 years of combined management expertise in energy systems and two decades of dedicated experience in smart metering technologies. Our solutions go beyond traditional metering by offering real-time insights, seamless connectivity, and automated decision-making tools, ensuring efficiency, accuracy, and sustainability.



AUTOMATED PRODUCTION LINE

With full in-house design and manufacturing capabilities, we produce advanced smart meters for electricity, gas, and water at our state-of-the-art production facility in Ras Al Khaimah (RAK). Our corporate headquarters and R&D center are located in Dubai, enabling us to drive innovation and quality control across every stage of development. Additionally, we maintain an international presence with a factory and regional offices in the CIS region, including Azerbaijan and Kazakhstan, supporting deployment and service in strategic global markets.



With a customer-first approach and a commitment to continuous technological advancement, we help utilities and industries reduce waste, enhance energy distribution, and drive digital transformation. SenseMi Solutions is at the forefront of creating a smarter, more sustainable future for energy and utility management worldwide.

ABOUT US

Driving efficiency, sustainability, and innovation—SenseMi Solutions is redefining the future of smart metering and energy management. Our advanced metering technologies provide real-time visibility, seamless connectivity, and intelligent automation to help utilities, businesses, and cities optimize their water, gas, and electricity networks.

With a deep expertise in engineering, IoT solutions, and data analytics, we develop next generation metering systems that enhance resource efficiency, improve grid reliability, and deliver long-term sustainability. From high-precision metering devices to cloud-based data management platforms, our solutions are designed to empower smarter decisions and create a more connected world.

At SenseMi Solutions, our mission goes beyond metering. We are dedicated to building smarter cities, minimizing environmental impact, and pioneering innovative solutions that redefine the way resources are measured, managed, and optimized.



OUR MISSION



We are dedicated to transforming energy and utility management with advanced smart metering solutions that empower businesses, utilities, and communities to make informed decisions about energy consumption.



By integrating IoT, AI-driven analytics, and smart grid technology, we deliver efficient, data-driven, and scalable solutions that help optimize resources, reduce operational costs, and minimize environmental impact.



With a strong focus on real-time data insights, seamless system integration, and intelligent automation, our goal is to enhance efficiency, reduce waste, and contribute to a more sustainable future.



Driving innovation is at the core of everything we do. We don't just keep up with change—we lead the way with purpose and vision.

OUR VISION

We envision a future where energy management is digital, data-driven, and sustainable—where smart cities and interconnected infrastructures seamlessly manage electricity, gas, and water resources with precision and efficiency.



Our goal is to set new industry standards in smart metering, AI-powered energy optimization, and blockchain-integrated metering solutions, ensuring that every business, government, and household has access to reliable, intelligent, and cost-effective metering technology.

We strive to become a leading global provider of smart utility management solutions, continuously innovating and shaping the future of digital energy ecosystems.

SenseMi - Paving the Way for a Smarter, Sustainable Tomorrow.

OUR CORE VALUES

A commitment to excellence, integrity, and innovation defines our approach to technology, customer service, and sustainable energy solutions.

1. Innovation & Excellence

Technology is constantly evolving, and so are we. By embracing cutting-edge advancements in smart metering, we ensure future-proof, high-performance solutions that drive efficiency and growth.

3. Customer-Centric Approach

Our success is built on understanding and anticipating customer needs, delivering tailored solutions that enhance efficiency, reliability, and long-term performance.

5. Global Leadership & Collaboration

With a strong international presence and a team of industry experts, we foster strategic partnerships that drive innovation and position us as a leader in the smart metering sector.

2. Sustainability & Responsibility

Our solutions are designed to optimize energy and resource efficiency, enabling businesses and consumers to reduce waste, lower costs, and minimize their environmental footprint.

4. Integrity & Trust

We operate with transparency, accountability, and ethical responsibility, building long-lasting relationships with clients, partners, and stakeholders worldwide.



AUTOMATED ENERGY METER PRODUCTION LINE

OUR HISTORY

SenseMi Solutions was founded in Dubai in 2016 with a vision to redefine smart metering technologies for electricity, gas, and water management. Backed by over 50 years of combined industry experience, we have expanded into global markets, providing scalable and innovative energy solutions to businesses, governments, and utility providers.

From pioneering AI-integrated metering to developing blockchain-enabled utility solutions, our journey has been one of relentless innovation, strategic growth, and industry leadership. With a strong presence in the Middle East, CIS countries, and beyond, we continue to push the boundaries of smart metering to shape the future of energy efficiency worldwide.





+971 (04) 345 1626

info@sensemi.com

www.sensemi.com

UAE : Warehouse 49 & 32, No. 04 - Zone 2, Al Hamra Industrial Free Zone, Ras Al-Khaimah, United Arab Emirates

Azerbaijan: Baku-Guba Road, 32nd km (Opposite Sumgayit Chemical Industrial Park) Sensemi DMCC Branch, Azerbaijan

Headquarters: Office No. 2302, 23rd Floor, Mazaya Business Avenue BB2, Jumeirah Lakes Towers (JLT) Dubai, UAE



SED FAMILY SMART ELECTRICITY METERS

EFFICIENCY, ACCURACY, AND SAFETY.



SINGLE PHASE (SED102)

SMART ELECTRICITY METER



PRODUCT OVERVIEW

The **SED102** Smart Electricity Meter is a single-phase meter designed with high flexibility for input communication. It boasts the capability to simultaneously accommodate up to three modules, comprising two communication modules and one input module.

FRONT VIEW DESCRIPTION:

DISPLAY

The digital display on the front cover provides real-time information such as energy consumption, voltage, and current.

DATA QUERY BUTTON

A button is included for users to query or cycle through different data on the display. This can help users' access additional information or navigate the meter's menu.

OPTICAL COMMUNICATION INTERFACE

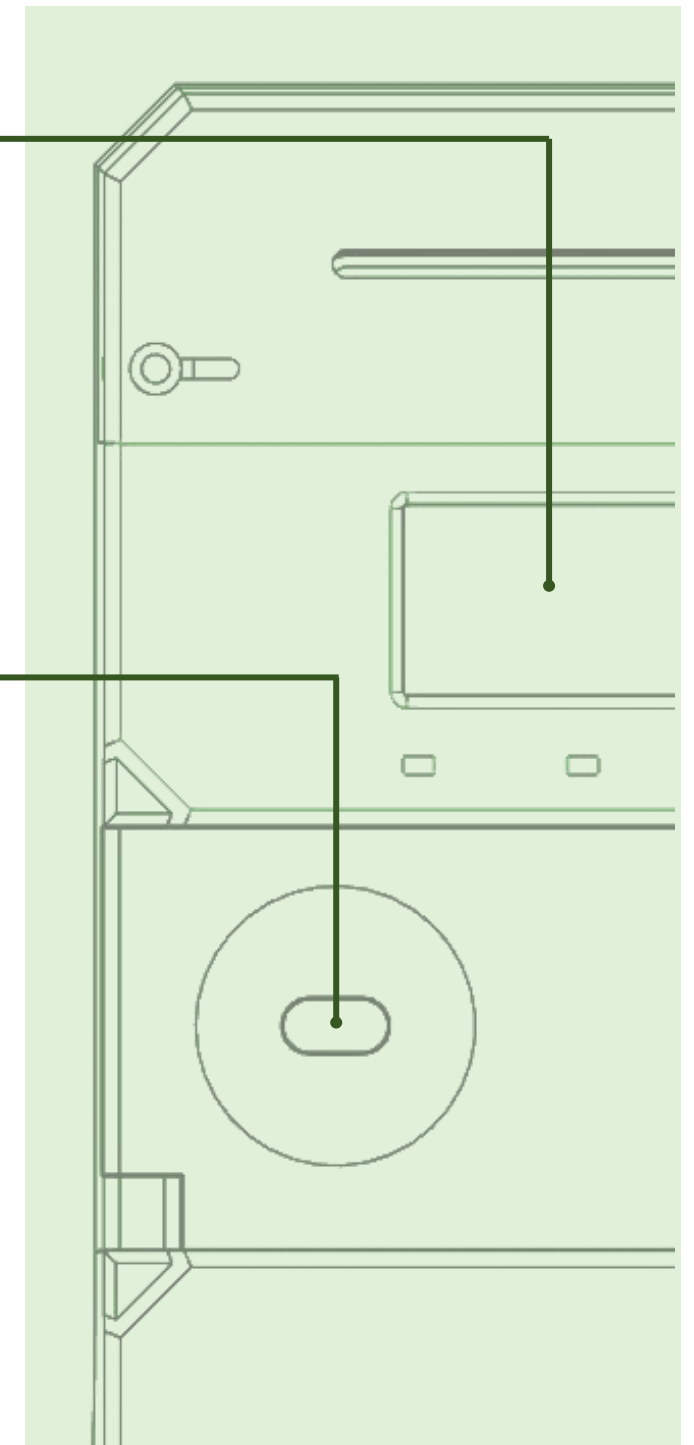
An optical communication interface is present for data exchange. This interface might be used for data reading, configuration and firmware upgrade.

METER INFORMATION

Important meter information is printed on both the front cover and the module door. This could include details like the meter's serial number, model, and other relevant specifications.

PROGRAM BUTTON

There is a sealable demand button that allows for demand reset. The sealable design ensures that the settings remain secure and tamper resistant.



MAJOR APPLICATION

The single-phase SED102 smart electricity meter has several major applications:



Remote Communication and Control:

The meter supports remote communication and control using a CAT.1+2G module. This enables two-way communication with utility providers or other relevant entities.



Digital Medium for Information Exchange:

The meter utilizes digital media for information exchange. This likely involves the use of digital signals or protocols for transmitting and receiving data, enhancing the efficiency and accuracy of communication.



Keypad and Button Input Unit:

The inclusion of a keypad and button input unit allows for user interaction. Users can input commands, query data, or navigate through the meter's features using the keypad and buttons.



Infrared Communication:

Infrared communication capability is included, allowing the meter to communicate with other devices or systems using infrared signals.



DLMS/COSEM Specification:

The meter adheres to the DLMS/COSEM (Device Language Message Specification/Companion Specification for Energy Metering) standard. This specification facilitates interoperability and allows the meter to connect seamlessly with the master station or other devices that also comply with the standard.



Protective PCB Board:

The electric meter's PCB (Printed Circuit Board) is coated with protective paint. This protective layer serves as a barrier against moisture, dust, and pests, ensuring the durability and reliability of the meter in various environmental conditions. The SED102 smart electricity meter offers a range of advanced features for communication, control, and measurement, making it suitable for modern energy management systems. These capabilities contribute to more efficient energy usage, billing, and overall utility operations.



Load Switch and other auxiliary equipment:

The load switch may enable remote control of electrical loads, contributing to demand response and load management strategies.



Measurement Unit:

The meter includes a measurement unit responsible for accurately measuring electricity consumption. This unit ensures precise data collection for billing and monitoring purposes.



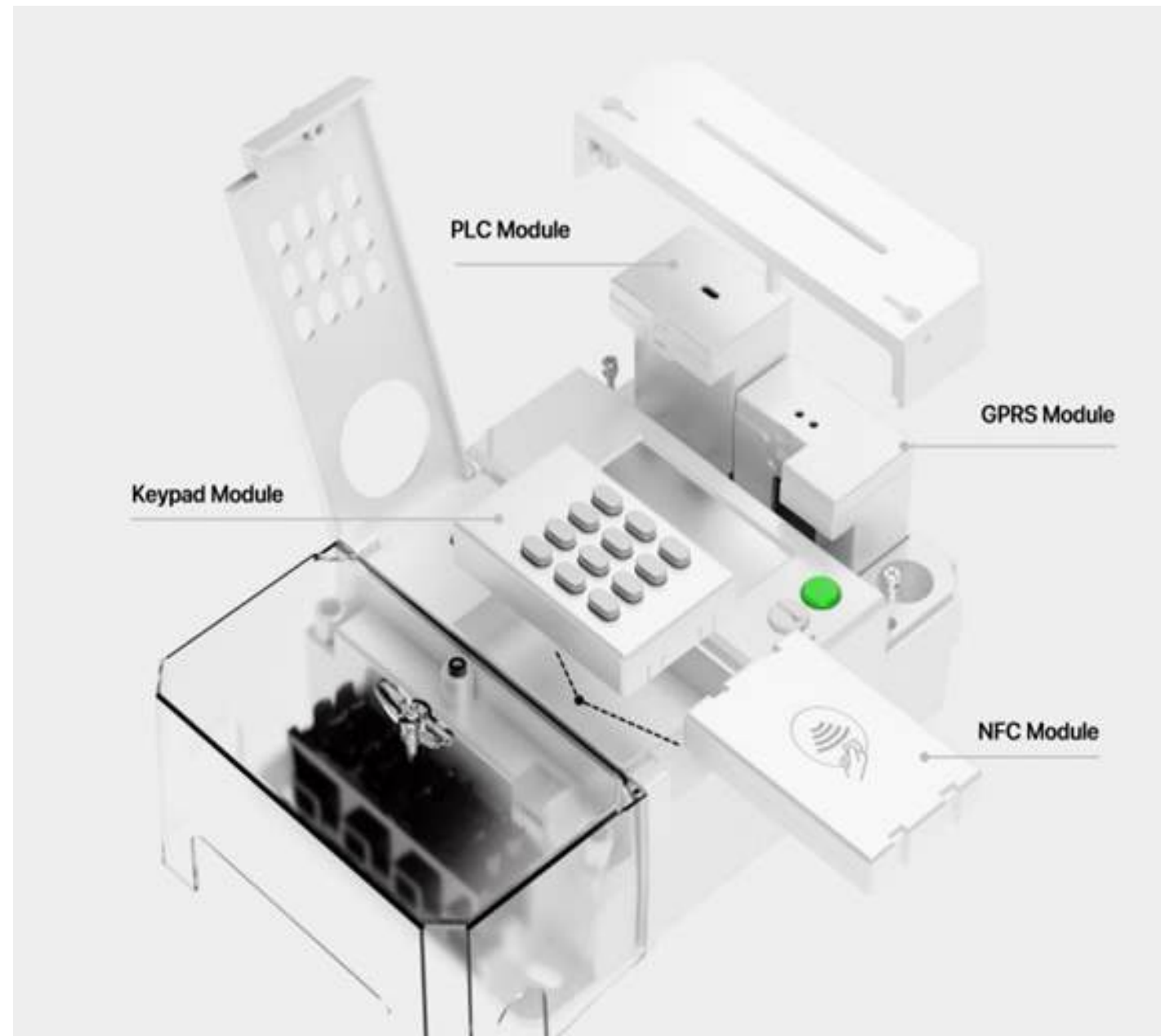
Display Unit:

A display unit is integrated into the meter, providing real-time information about energy consumption, voltage, and current. Users can easily access and monitor their electricity usage.








Real-Time Clock Unit:

The meter incorporates a real-time clock unit, enabling it to timestamp data and events accurately. This feature is crucial for time-of-use billing and tracking consumption patterns over specific time periods.



FEATURES

The characteristics of the single-phase SME102 smart electricity meter are as follows:

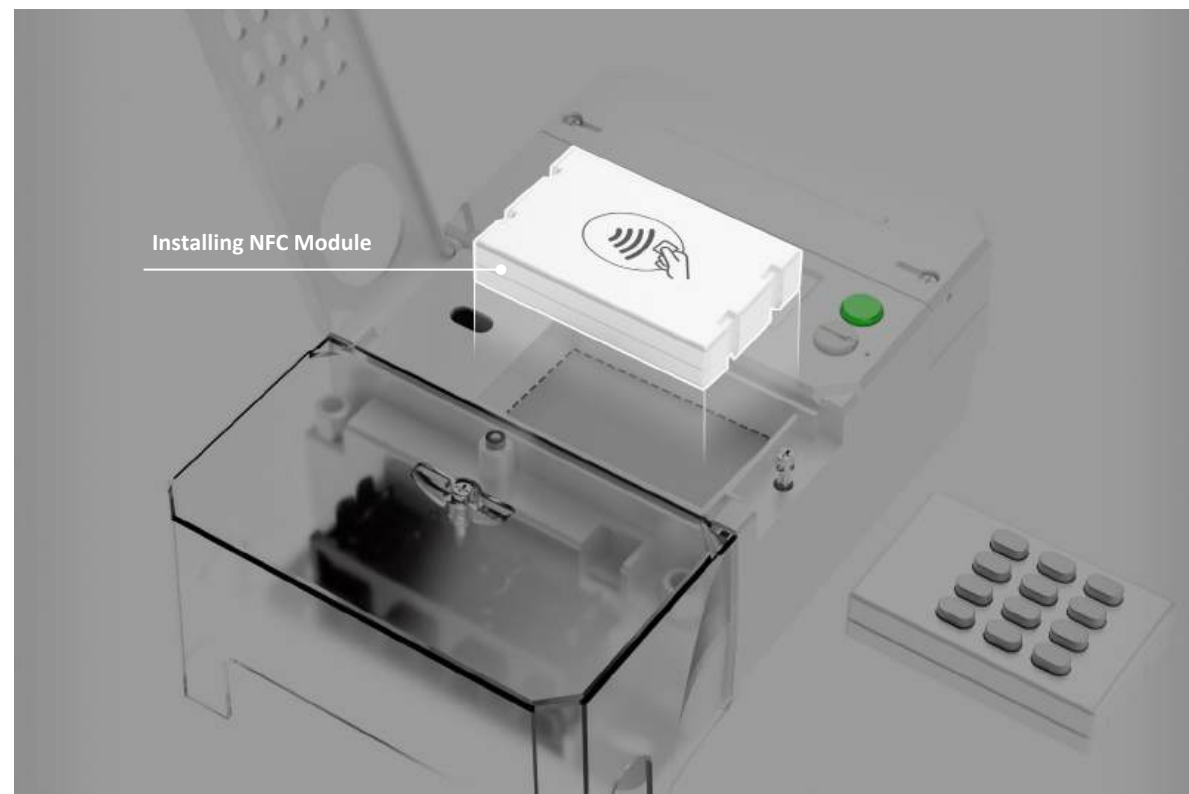
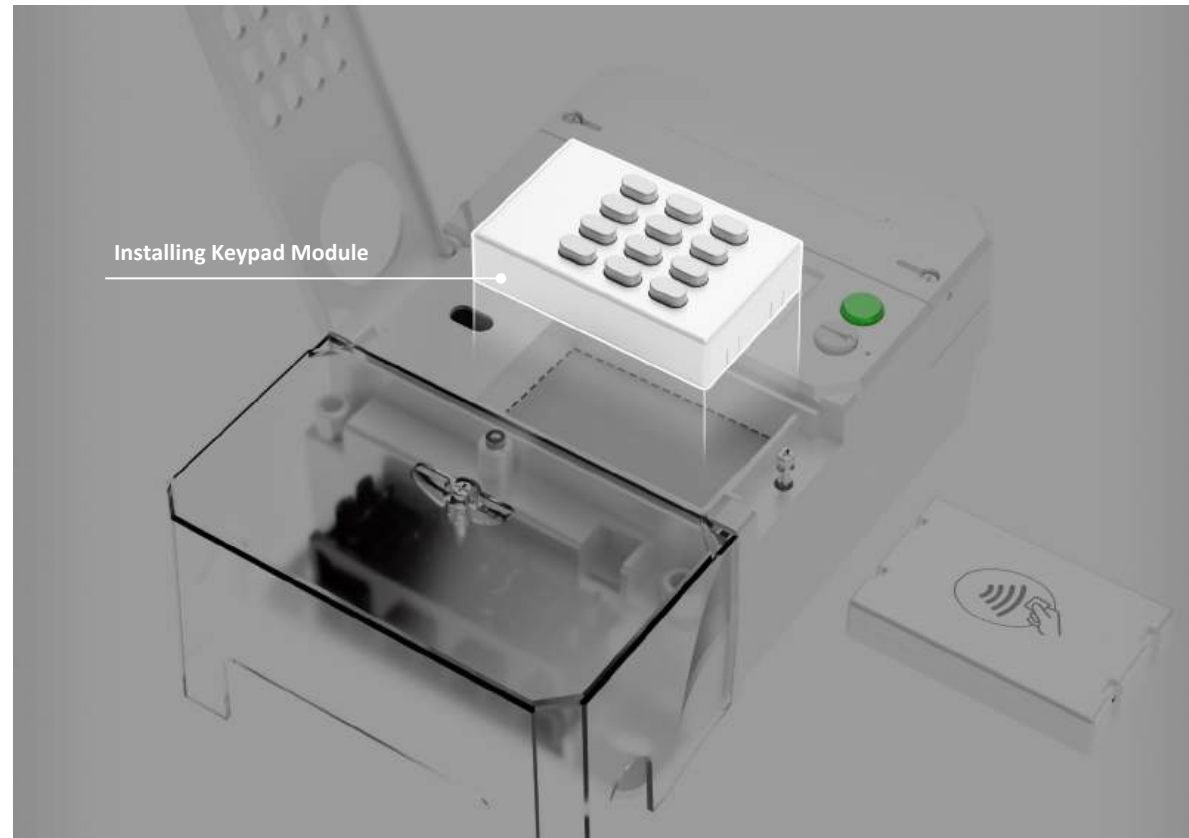
- 
Plug-In Remote Communication Module:
 The meter supports a plug-in remote communication module, allowing for flexible communication options and easy upgrades
- 
Plug-In Input Module (Keypad/NFC):
 It features a plug-in input module, supporting either a keypad or Near Field Communication (NFC) technology for user interaction and data input.
- 
DLMS/COSEM Specification:
 The meter complies with the DLMS/COSEM (Device Language Message Specification / Companion Specification for Energy Metering) standard. This ensures full interoperability with head-end systems and other compliant devices, enabling standardized data exchange, remote configuration, and secure communication across smart utility networks.
- 
Software Upgrade locally or remotely:
 The meter supports software upgrades, which can be performed either locally or remotely. This ensures that the meter can stay up-to-date with the latest features and security enhancements.
- 
Communication Data Encryption:
 Communication data encryption is implemented to ensure highly reliable and secure communication between the meter and external systems.







- 
Internal Magnetic Latching Relay:
 An internal large capacity magnetic latching relay is included, supporting load control through parameter configuration or communication commands. This allows for efficient management of electrical loads.



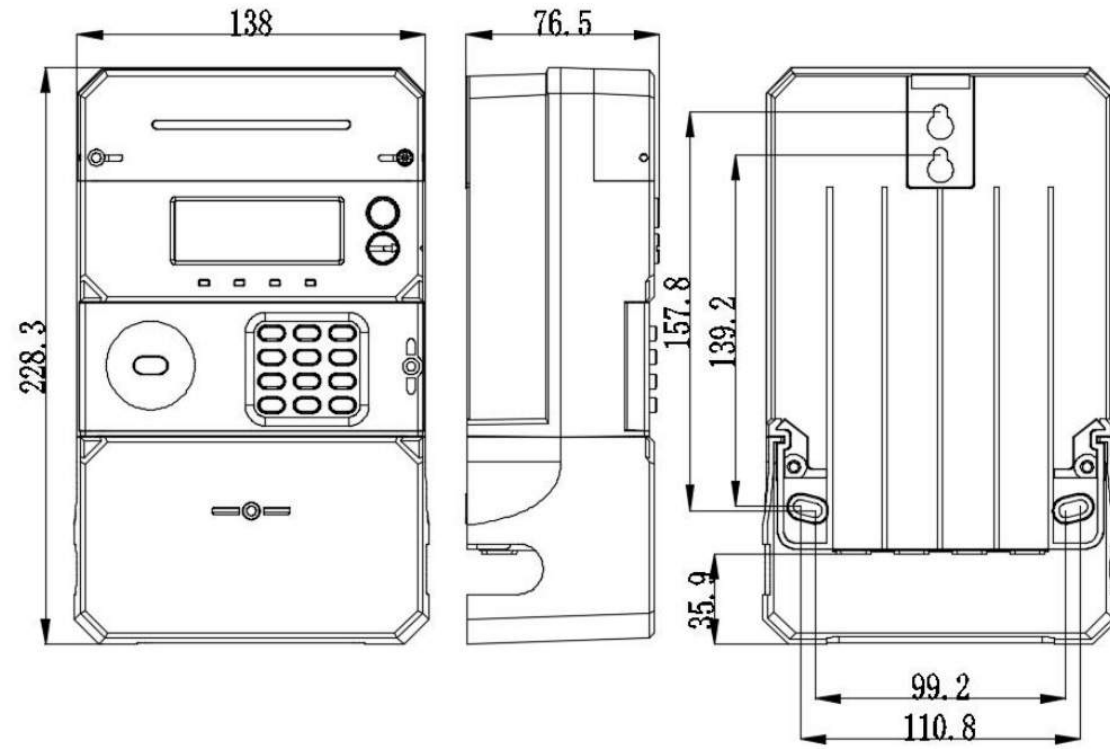
STS Standard:

The meter complies with the STS (Standard Transfer Specification) standard, which is often used for secure and standardized token-based prepayment systems. These characteristics collectively contribute to the functionality, reliability, and versatility of the SED102 smart electricity meter in various applications, offering advanced features for both users and utility providers.



- 
Active Energy Accuracy:
 The meter has a high level of accuracy for active energy measurement, complying with Class 1 standards as per IEC 62053-21.
- 
Wide Range of Current Measurement:
 The meter offers a wide range of current measurement, covering starting current to the maximum current, with accurate readings.
- 
Data Display:
 It provides data display functionality, including information presented on the meter's LCD display. Users can access real-time data about energy consumption, voltage, current, and more.
- 
Grid Parameter Detection:
 The meter can detect grid parameters in real-time, including power, voltage, current, power factor, etc. This information is crucial for monitoring and managing the electrical grid.
- 
Changeable Battery:
 The meter supports a changeable battery, ensuring that the display remains functional even in the absence of power. This is important for continuous monitoring and data retrieval.
- 
Real-Time Clock:
 A real-time clock is integrated into the meter, providing accurate timestamping for data and events

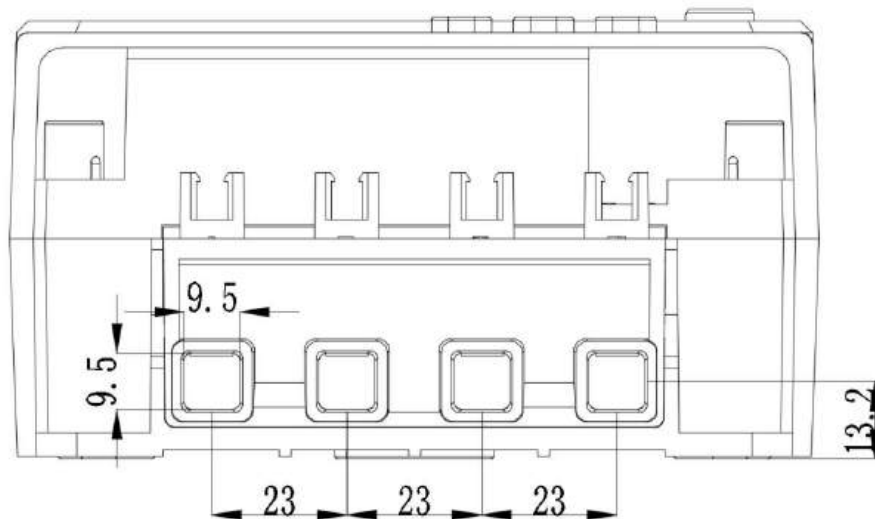
DIMENSIONS



*ALL UNITS ARE IN MM (MILIMETER)

TERMINAL

The meter is for front projection mounting. The terminal holes and screws are moving cage type.

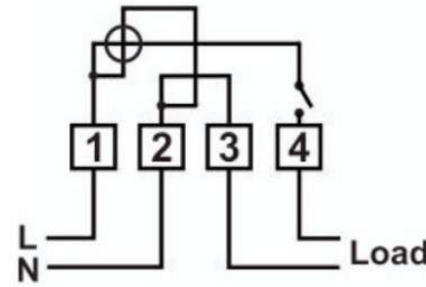


STANDARDS

IEC Standard	Description
IEC62053-21	Static meters for active energy (class 1)
IEC62053-23	Static meters for reactive energy (class 2)
IEC 62052-11	Electricity metering equipment (a.c.) – General requirements, tests and test conditions –Part 11: Metering equipment
IEC62053-31	Pulse output devices for electromechanical and electronic meters
IEC60695-2-11	Specifies a test method on an end product. It is intended to simulate the effects of thermal stresses produced by an electrically heated source to represent a fire hazard. This test method is used to check that, under defined test conditions, an end product exposed to an electrically heated source has either a limited ability to ignite or, if it ignites, a limited ability to propagate flame.
IEC 62056-21	Electricity metering – data exchange for meter reading, tariff and load control – Part 21Direct local data exchange
IEC62056-42	Electricity metering – Data exchange for meter reading, tariff and load control – Part 42:Physical layer services and procedures for connection-oriented asynchronous data exchange
IEC62056-6-1	Electricity measurement – meter reading, tariff control and load control data exchange: OBIS
IEC62056-6-2	Electricity measurement – meter reading, tariff control and load control data exchange: Interface
IEC62056-46	Electricity measurement – meter reading, tariff control and load control data exchange: HDLC protocol data link layer
IEC62056-5-3	Electricity measurement – meter reading, tariff control and load control data exchange: COSEM application layer
IEC62056-4-7	Electricity measurement – meter reading, tariff control and load control data exchange: IPv4network COSEM transmit
IEC62055-31	Payment systems - Part 31: Particular requirements - Static payment meters for active energy (classes 1 and 2)
IEC62055-41	Electricity metering – Payment systems –Part 41:Standard transfer specification (STS) – Application layer protocol for one-way token carrier systems
IEC62055-51	Electricity metering – payment systems - Part 51: Standard Transfer Specification – Physical Layer Protocol for one-way numeric and magnetic card token carriers

CONNECTION

The wiring diagram is laser printed on the terminal cover of the meter. This provides users with clear guidance on how to connect the meter according to their specific requirements. The Material used for the Microcontroller Unit (MCU) enclosure has good dielectric and mechanical strength with the minimum thickness of 2.0mm, ensuring durability and robustness.



The material used in the MCU enclosure complies with the IEC 60695-2-11 standard, which involves the glow wire test. This standard assesses the fire hazard of electrical equipment by exposing it to a simulated ignition source. These specifications reflect a focus on safety, durability, and compliance with industry standards for the materials used in the construction of the smart electricity meter. The inclusion of the wiring diagram on the terminal cover makes the installation process user friendly and efficient, allowing customers to follow clear instructions for proper connection.

Auxiliary Terminal Description and Electrical Characteristics

	RS485
--	-------

TECHNICAL PARAMETERS

Parameter	Specification
Reference voltage	230V
Working voltage	0.6Un~1.2Un
Reference current	5A
Maximum current	100A
Accuracy class	Class 1 (Active) ; Class 2 (Reactive)
Pulse constant	Active: 1000 imp/kWh ; Reactive:1000 imp/kvarh
Frequency	50Hz±5%
Temperature	Working temperature range:-40°C~+70°C Store temperature:-40°C~+70°C
Humidity	≤95%
Altitude	3000m

Parameter	Specification
Atmospheric pressure	63kPa-106kPa
Relay	Maximum switch current: up to 120A Short circuit ≤ 10ms: 3600A Mechanical life: ≥ 100000 OPS Electric life: ≥ 10000 OPS
Wiring	LNNL Connection for overhead and underground system
Voltage circuit consumption	≤ 1W and 5 VA @ 230V
Current circuit consumption	2VA @ 5A, 50Hz, 30° C
Starting current	4‰ Ib
Protection degree	IP54
Display format	LCD supports 8 digits Auto scroll mode, manual display mode , power off display mode
Button	The upper button is used for manual display The lower button (sealed) is used for Demand reset
Keyboard	12 keys with audible feedback, meter still IP54 Compliant
PCB Board	Conformal coated
Average Service life	≥15 years (Except for the battery, the average life of battery is not less than 10 years)
RTC Accuracy	0.5s/day at reference temperature, comply with IEC 62054-21
Communication interface (optional)	Optical: read and configure the meter locally Remote communication: RS485 / CAT.1+2G
Backup-power supply	Internal battery or Extend Replacement Battery. Support RTC, LCD with backlight during AC power off.
Measurement	One elements
Electrostatic Discharge Immunity	Contact Discharge : 10KV Air Discharge : 16KV
HF Electromagnetic Field Immunity	80 MHz to 2 GHz @10V/m with load; 80 MHz to 2 GHz @30V/mnoload
Fast Transient Burst	4kV
Radio Interference Test	Equipment of CISPR 22 Class B
Immunity to conducted disturbances induced by radio-frequency fields	150kHz – 80MHz 10V/M
Surge/Voltage Immunity	6KV
Impulse Voltage	8KV

MECHANICAL STRUCTURE

Material Used:

- The meter base and cover are made of non-metallic material.
- The material is non-hygroscopic (does not absorb moisture).
- It is UV stabilized, which means it can withstand exposure to sunlight without significant degradation.
- The material is flame retardant, offering safety in the event of a fire.
- It is polished, providing a smooth and aesthetically pleasing surface.
- The material has high impact-resilience, indicating its ability to absorb and withstand impacts without breaking.
- It has low dirt absorption properties, making it easier to clean and maintain. The material used for the terminal block is capable of passing the ISO 75-1 standard. ISO 75-1 is a standard for testing the temperature behavior of plastics.



NON-METALIC



NON-HYGROSCOPIC



UV STABILIZED



FLAME RETARDANT

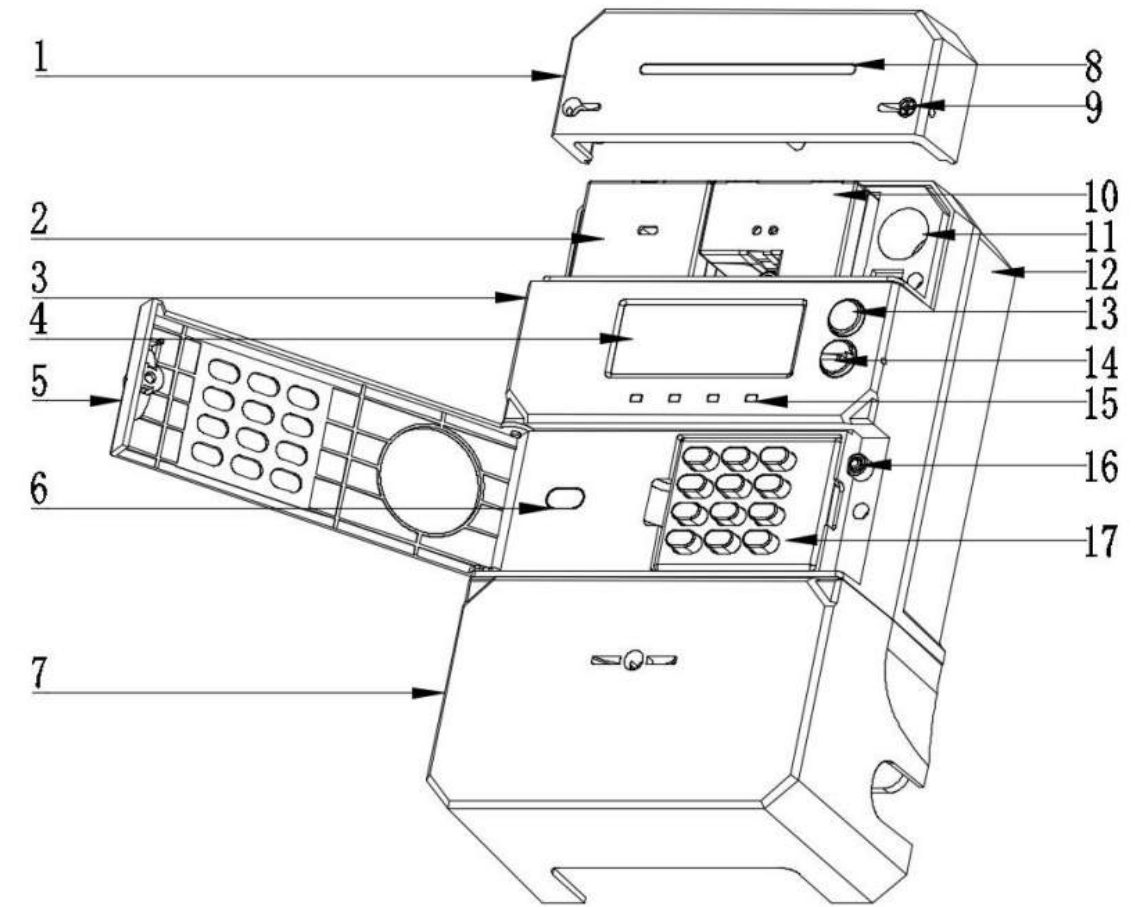


ISO 75-1



CASE COMPONENTS

The case includes various components that are visible from the outside.



1	Module cover	2	Replaceable PLC module	3	Top cover
4	LCD	5	Module cover 2	6	Optical port
7	Terminal cover	8	Module LED	9	Module cover screw
10	Replaceable CAT.1+2G module	11	Replaceable battery	12	Meter base
13	Display button	14	Demand reset button	15	Meter LED
16	Module cover open	17	keypad		

THREE PHASE (SED302)

SMART ELECTRICITY METER

PRODUCT OVERVIEW

The **SED302** Smart Electricity Meter is a three-phase meter designed for versatile communication and advanced energy monitoring. It supports up to three modules simultaneously, including two communication modules and one input module, enabling seamless integration with smart grid systems.

FRONT VIEW DESCRIPTION:

DISPLAY

The meter features an LCD display with 8 characters and up to 2 decimal points, providing real-time information on energy consumption, voltage, and current. The backlight is white for easy readability.

DATA QUERY BUTTON

Compliant display and demand button are available to allow users to interact with the meter, query data, and navigate menus. Additionally, sound feedback is provided when buttons are pressed.

OPTICAL COMMUNICATION INTERFACE

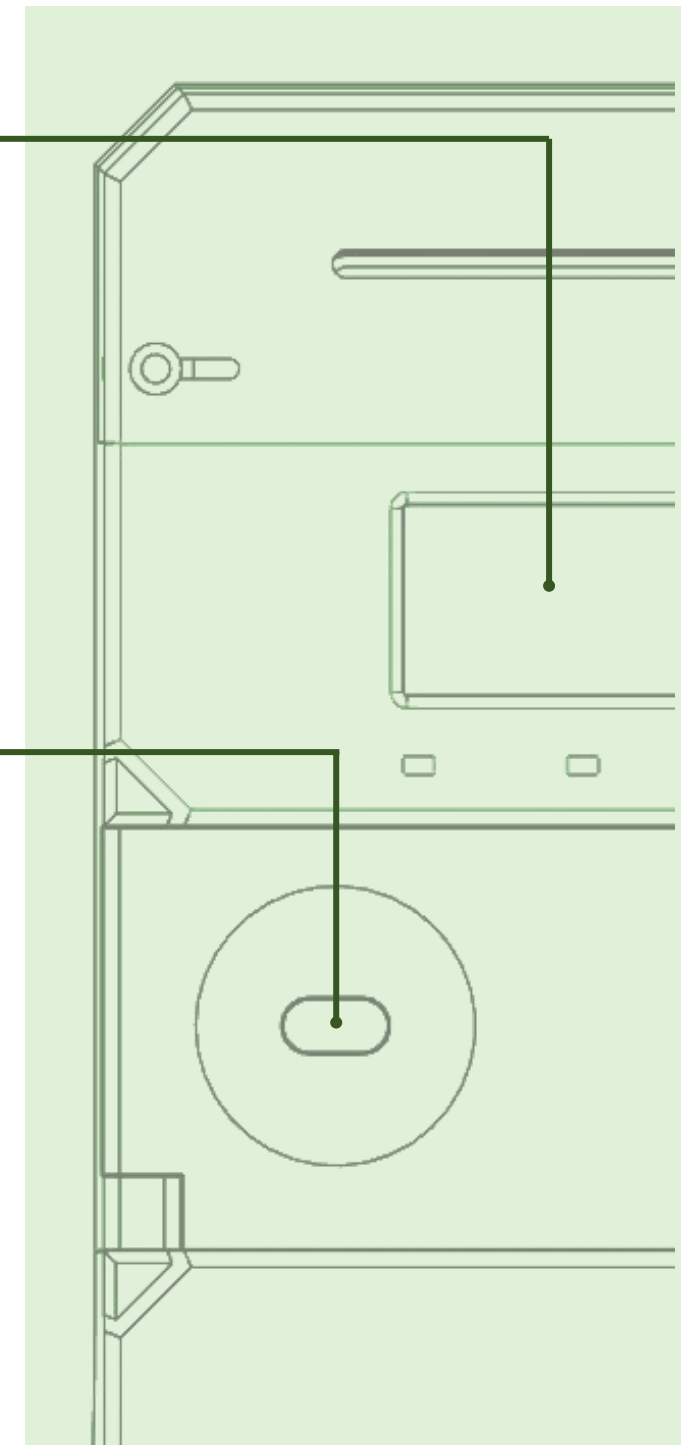
An optical communication interface is present for data exchange. This interface might be used for data reading, configuration and firmware upgrade.

METER INFORMATION

Essential information, such as the serial number and model details, is provided on the front and module covers, aiding identification and usage.

STS KEYPAD

The meter includes a keypad used for querying data information and recharge.



MAJOR APPLICATION



Remote Communication and Control:

Equipped with RS485 and wireless communication (CAT.1+2G) with a short antenna, it supports two-way communication, enhancing control and data collection capabilities.



DLMS/COSEM Protocol Compliance

The meter complies with DLMS/COSEM standards, ensuring compatibility and interoperability with other smart metering systems.



Load Profiles and Billing:

It records load profiles at 15-minute intervals for up to 100 days and supports monthly billing data storage for 12 months, providing detailed consumption records. Billing is reset automatically at the beginning of each month, with configurable settings.



Real-Time Clock Unit:

The meter has a real-time clock unit with an accuracy of less than 0.5 seconds per day, maintaining precise time for billing and event logging.



Hardware and Structure



Power and Backup:

A supercapacitor supports the "last gasp" function for sending final data during power outages, and internal/external batteries provide reliable backup power.



Cover and Terminal Materials:

The meter housing, including the cover, terminal cover, and terminal block, is made of polycarbonate (PC), with a white color for the main body and a transparent terminal cover. The terminal materials are copper, with nickel coating, and zinc-coated iron screws to ensure durability.



Dust and Water Protection:

The meter is rated with IP54 protection, providing resistance against dust and water, ensuring durability in various environmental conditions.



Sealing and Tamper Protection

The meter is equipped with multiple seal positions (top cover, terminal cover, module covers, MD button) to prevent tampering. The sealing material is aluminum caps by default

The Three Phase (SED302) Smart Electricity Meter offers advanced measurement, billing, and communication features for efficient energy usage, monitoring, and management, making it suitable for modern energy infrastructures.

BASIC PARAMETER

Accuracy	Active	IEC Class 1
	Reactive	IEC Class 2
Structure	Structure Type	BS
	Wiring connection	L1L1L2L2L3L3NN(3P4W)
Voltage	Nominal voltage Un	3*230/400V-3P4W
	Operating range	0.6Un--1.2Un
Current	Basic current I b	5A
	Max current I max	100A
	Active I start	0.4%Ib(IEC Class1 Direct)
	Reactive I start	0.5%Ib(IEC Class 2 Direct)
Frequency	Nominal frequency Fn	50Hz
	Operating range	50Hz±5%
Meter constant	Active (imp/kWh)	1000
	Reactive (imp/kVarh)	1000

OUTPUT UNITS

Display	Type	LCD
	Value display character number	8
	Max decimal	2
	Backlight	White
LED	Active pulse	Red
	Reactive pulse	Red
	Alarm	Red
	Credit(2 color)	Red&Green
Latch Relay	Pole number	3 Pole
	Maximum Switching Current	120A
Beep		Comply

COMMUNICATION

Local communication	RS485		Comply
	Optical port(with iron)		Comply
AMI communication	Wireless	Module type	CAT.1+2G
		Antenna	Short
UIU communication	PLC		/

REFERENCE STANDARD

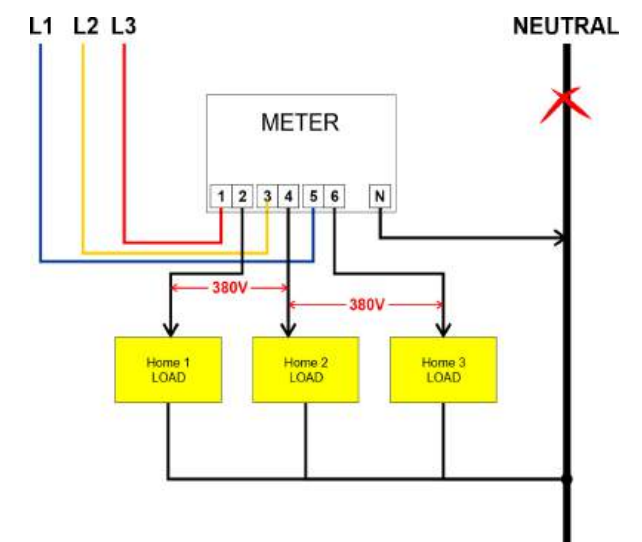
IEC	IEC 62053-21 IEC 62053-23 IEC 62052-11
Protocol	DLMS/COSEM



INPUT UNITS

Key & Detection	Display button	Comply
	Billing button	Comply
	STS keypad	Comply
	Meter cover	Comply
	Terminal cover	Comply
	Module cover	Comply
	Module cover 2	Comply
	Magnetic	Comply
	Others	display button and demand reset button require sound feedback

CONNECTIONS



STRUCTURE

Cover	Material	PC
	Color	White
Base cover	Material	PC
	Color	White
Terminal cover	Material	PC
	Color	Transparent
	Type	Extended
Terminal block	Block material	PC
	Color	White
	Wiring clamping type	Clamp cage
	Terminal material	Copper
	Terminal material coating	Nickel
	Clamping screw material	Iron(Default)
	Clamping screw coating	Zinc
Dust and water protection	IP54(Default)	
missing dimension	266.5 x 168 x 84.5	
Sealing	Type	Screw(Default)
	Seals material	plastic
	Seals fixed position1	Top cover
	Seals fixed position2	Terminal cover
	Seals fixed position3	Module cover (CAT.1+2G module cover)
	Seals fixed position3	Module cover 2 (keypad or nfc module cover)
	Seals fixed position4	MD button

REGISTER

Energy	Active energy	Comply
	Reactive energy	Comply
	Apparent energy	/
Demand	Calc method	Slide
	Period	15 min
	Number Of Interval	3
	Active energy	Comply
	Reactive energy	Comply
Instantaneous value	Apparent energy	/
	Voltage	Comply
	Current	Comply
	Active power	Comply
	Reactive power	Comply
	Apparent power	Comply
	Frequency	Comply
Power factor	Comply	

OTHERS HARDWARE

RTC	Accuracy	< 0.5s/d
Subsidiary power	Super capacitor	Comply (for last gasp)
	Internal battery	Comply
	External replaced battery	Comply
Measurement elements	Phase line	CT
	Neutral line	Shunt, meter need to be able to detect neutral missing as right image

LOAD PROFILE

Monthly billing	Billing count	Last 12th
	Billing time	The default billing time is 00:00:00 of the 1th day in each month.
	Billing data	<ol style="list-style-type: none"> 1. Date and Time 2. Active Energy import total +A (1.8.0) 3. Active Energy export total -A (2.8.0) 4. Reactive Energy import total +R (3.8.0) 5. Reactive Energy export total -R (4.8.0) 6. Active Energy in kWh for the current billing period 7. Reactive Energy in Varh for the current billing period 8. Remaining balance 9. Charging Amount of Current month 10. Current month consumption amount 11. Active maximum power 12. Reactive maximum power
Daily billing	Billing count	62
	Billing time	The default billing time is 00:00 of each day.
	Billing data	<ol style="list-style-type: none"> 1. Date and Time 2. Active Energy import total +A (1.8.0) 3. Active Energy export total -A (2.8.0) 4. Reactive Energy import total +R (3.8.0) 5. Reactive Energy export total -R (4.8.0) 3. Available credit 6. Current month consumption Amount
Load profile	Capture period	15 min
	Entries	100 days
	Capture objects (Energy)	<ol style="list-style-type: none"> 1. Date and Time 2. Time status 3. Active demand 4. Reactive demand 5. Import Active energy Wh 6. Import Reactive energy Varh 7. Active Energy import (1.8.0) 8. Reactive Energy import (3.8.0)
	Capture objects (Quality)	<ol style="list-style-type: none"> 1. Date and Time 2. Average active power 3. Average reactive power 4. Voltage A/B/C 5. Current A/B/C 6. Power factor A/B/C 7. Average Frequency



Limiter	Enable	Comply
	monitor object	active power import/current active power import by default
	Threshold value	22KW, configurable
	Othres	details check sheet 'limiter'
Over voltage	Enable	Comply
	Threshold value	Over voltage threshold :250V, configurable restore threshold: 240V, configurable
Over current	Enable	/
	Threshold value	/
No credit	Enable	Comply
Factory settings	Enable	/
Power off	Enable	/
Tamper	Enable	Comply
	tamper item	<ol style="list-style-type: none"> 1. Meter cover open, configurable 2. Terminal cover open, configurable 3. Magnetic field, configurable <p>When relay is open because above 3 tamper, relay can be closed via dlms command directly 00 01 01 00 5E 62 45 FF 02 00 12 00 00 and this status can be read by meter software</p>

THREE PHASE CT (SM306)

SMART CT METER



PRODUCT OVERVIEW

The Three-Phase Smart CT Meter is a high-accuracy metering device designed for utility-scale energy monitoring. It features dual plug-and-play communication modules, real-time data logging, and advanced anti-tamper detection, ensuring reliable performance and secure operation. With remote communication capabilities and compliance with DLMS/COSEM protocols, it enables seamless integration into smart grid systems.

PRODUCT FEATURES

- Dual plug-and-play communication modules.**
- Large LCD display for real-time meter monitoring.**
- Non-volatile memory for data retention without a backup battery.**
- Support for local and remote firmware upgrades.**

STANDARDS AND COMPLIANCE

- IEC 62052-11:**
 General requirements, tests, and test conditions for electricity metering equipment (a.c).
- IEC 62053-22:**
 Specific requirements for static meters for AC active energy (classes 0.1S, 0.2S, and 0.5S).
- IEC 62053-24:**
 Specific requirements for static meters measuring fundamental component reactive energy (classes 0.5S, 1S, 1, 2, and 3).
- DLMS/COSEM:**
 Device Language Message Specification and Companion Specification for Energy Metering.

Operating Voltage	3×57.7/100~3×240/415V
Voltage Range	0.8Un~1.2Un
Current rating	1(10)A
Starting current	Active Energy: 0.2% of Ib Reactive Energy: 0.4% of Ib
Frequency	50Hz±5%
Accuracy Class	Active Energy: CL 0.5S 10000 imp/kWh Reactive Energy: CL 1.0 10000 imp/kvarh

KEY FUNCTIONS

MEASUREMENTS

- kWh/kvarh (import, export, and absolute)
- Maximum kW/kvar demand (import, export)
- Cumulative kW/kvar demand (import, export)
- Per-phase instantaneous values: voltage, current, phase angle
- Total and per-phase instantaneous values: active power, reactive power, power factor
- Current date and time display
- Frequency measurement
- Optional neutral line current measurement

TARIFF FUNCTIONS

- Time of Use (TOU) measurement for import/export energies (kWh/kvarh) and import/export demands (kW/kvar), supporting up to 4 tariffs, 12 seasons, 12 weeks, 16 switches, and 100 special days.
- Up to 32 energy tariff and 32 demand tariff registers.
- Battery or supercapacitor to maintain clock and calendar functionality.

LCD DISPLAY

- 10-digits LCD with three decimal points for power and demand, and two decimal points for energy; decimal points are programmable.
- LCD size exceeds 24 cm², with digit height of 12mm.

LOAD PROFILES

- Records up to 100 days of 15-minute load profiles with 16 channels, on a FIFO basis.
- Configurable load profile intervals from 1 to 60 minutes.

BILLING

- Automatic monthly billing reset at 00:00:00 midnight on the 1st of each month, with configurable settings.
- Manual billing reset via demand reset button.
- Remote billing reset from the AMI central system.
- Storage of up to 12 months of billing data in the meter's memory.

POWER QUALITY

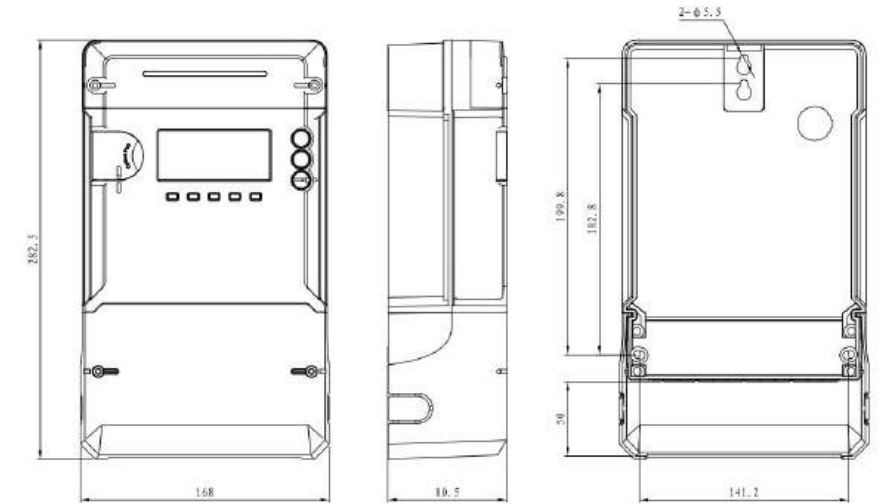
- Voltage unbalance detection.
- Current reverse detection.
- Over-voltage and under-voltage detection with configurable time thresholds.
- Long and short outage detection with configurable time thresholds.
- Over-current detection with configurable time thresholds.
- All power quality events are recorded in the meter's memory.



- Supports both scrolling and manual modes for displaying items, accessible via a push button.

ANTI-TAMPER FEATURES

- Detection of tampering events such as meter cover, terminal, and module cover opening, external magnetic fields, bypassing, etc.
- Tamper alarms displayed on the LCD and LED indicators.
- All tamper events are logged in the meter's memory and reported remotely to the AMI central system



COMMUNICATION

- Full compliance with DLMS/COSEM and IEC 62056-21 standards for optical ports.
- Plug-and-play modules for PLC (G3, BPLC, HPLC), RF, 2G, 3G, and 4G communication.
- RF/2G/3G/4G module with a supercapacitor capable of sending a "last gasp" message to the AMI central system.

TECHNICAL SPECIFICATIONS

EMC	Electrostatic discharges(Contact discharges)	8kV
	Electrostatic discharges(Air discharges)	15kV
	Fast transient burst test	4kV
	Surge immunity test	6kV
	Electromagnetic RF field (80MHz to 2000MHz)	10V/m(with current), 30V/m(without current)
Environment	Temperature Range: -40 °C ~ +70 °C Humidity: Up to 95%	

Connection	L1V1L1L2V2L2L3V3L3NN	Protective class	II
Real-time Clock Accuracy	0.5s/Day	Degree of protection	IP54
		Relay	Auxiliary relay:5A/250VAC

THREE PHASE CT/VT (SM307)

SMART CT/VT METER



PRODUCT OVERVIEW

The Three-Phase Smart CT/VT Meter is a versatile and highly efficient solution for precise energy measurement in high-voltage applications. It supports multiple tariffs, load profiling, and real-time power quality monitoring, ensuring optimized utility operations. With dual communication modules and advanced anti-tamper features, it provides secure, remote access for enhanced grid management.

PRODUCT FEATURES

- ▾ **Dual plug-and-play communication modules.**
- ▾ **Large LCD display for real-time meter monitoring.**
- ▾ **Non-volatile memory for data retention without a backup battery.**
- ▾ **Support for local and remote firmware upgrades.**

STANDARDS AND COMPLIANCE

- IEC 62052-11:**
 Electricity metering equipment (a.c.) – General requirements, tests, and test conditions – Part 11: Metering equipment.
- IEC 62053-22:**
 Electricity metering equipment – Particular requirements, Part 22: Static meters for AC active energy (Classes 0.1S, 0.2S, and 0.5S).
- IEC 62053-24:**
 Electricity metering equipment – Particular requirements, Part 24: Static meters for fundamental component reactive energy (Classes 0.5S, 1S, 1, 2, and 3).
- DLMS/COSEM:**
 Device Language Message Specification/Companion Specification for Energy Metering.

Operating Voltage	3×110V
Voltage Range	0.8Un~1.2Un
Current rating	1(10)A
Starting current	Active Energy: 0.2% of Ib Reactive Energy: 0.4% of Ib
Frequency	50Hz±5%
Accuracy Class	Active Energy: CL 0.5S 10000 imp/kWh Reactive Energy: CL 1.0 10000 imp/kvarh

KEY FUNCTIONS

MEASUREMENTS

- kWh/kvarh (import, export, and absolute).
- Maximum kW/kvar demand (import, export).
- Cumulative kW/kvar demand (import, export).
- Instantaneous per-phase values for voltage, current, and phase angle.
- Total and per-phase instantaneous values for active power, reactive power, and power factor.
- Real-time date and time display.
- Frequency measurement.

TARIFF FUNCTIONS

- Time of Use (TOU) measurement for import/export energies (kWh/kvarh) and import/export demands (kW/kvar), supporting up to 4 tariffs, 12 seasons, 12 weeks, 16 switches, and 100 special days.
- Up to 32 energy tariff and 32 demand tariff registers.
- Battery or supercapacitor to maintain clock and calendar functionality.

LCD DISPLAY

- 10-digits LCD with three decimal points for power and demand, and two decimal points for energy; decimal points are programmable.
- LCD size exceeds 24 cm², with digit height of 12mm.

LOAD PROFILES

- Records up to 100 days of 15-minute load profiles with 16 channels, on a FIFO basis.
- Configurable load profile intervals from 1 to 60 minutes.

BILLING

- Automatic monthly billing reset at 00:00:00 midnight on the 1st of each month, with configurable settings.
- Manual billing reset via demand reset button.
- Remote billing reset from the AMI central system.
- Storage of up to 12 months of billing data in the meter's memory.

POWER QUALITY

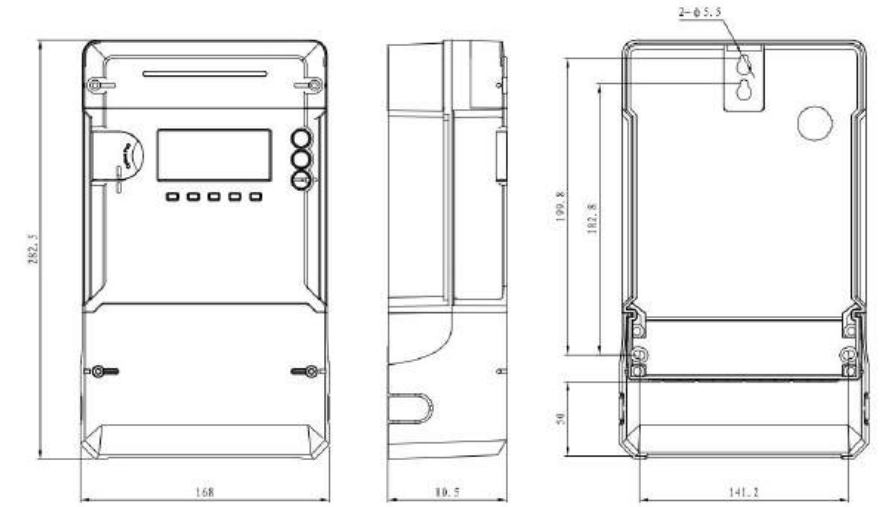
- Voltage unbalance detection.
- Current reverse detection.
- Over-voltage and under-voltage detection with configurable time thresholds.
- Long and short outage detection with configurable time thresholds.
- Over-current detection with configurable time thresholds.
- All power quality events are recorded in the meter's memory.



- Supports both scrolling and manual modes for displaying items, accessible via a push button.

ANTI-TAMPER FEATURES

- Detection of tampering events such as meter cover, terminal, and module cover opening, external magnetic fields, bypassing, etc.
- Tamper alarms displayed on the LCD and LED indicators.
- All tamper events are logged in the meter's memory and reported remotely to the AMI central system



COMMUNICATION

- Full compliance with DLMS/COSEM and IEC 62056-21 standards for optical ports.
- Plug-and-play modules for PLC (G3, BPLC, HPLC), RF, 2G, 3G, and 4G communication.
- RF/2G/3G/4G module with a supercapacitor capable of sending a "last gasp" message to the AMI central system.

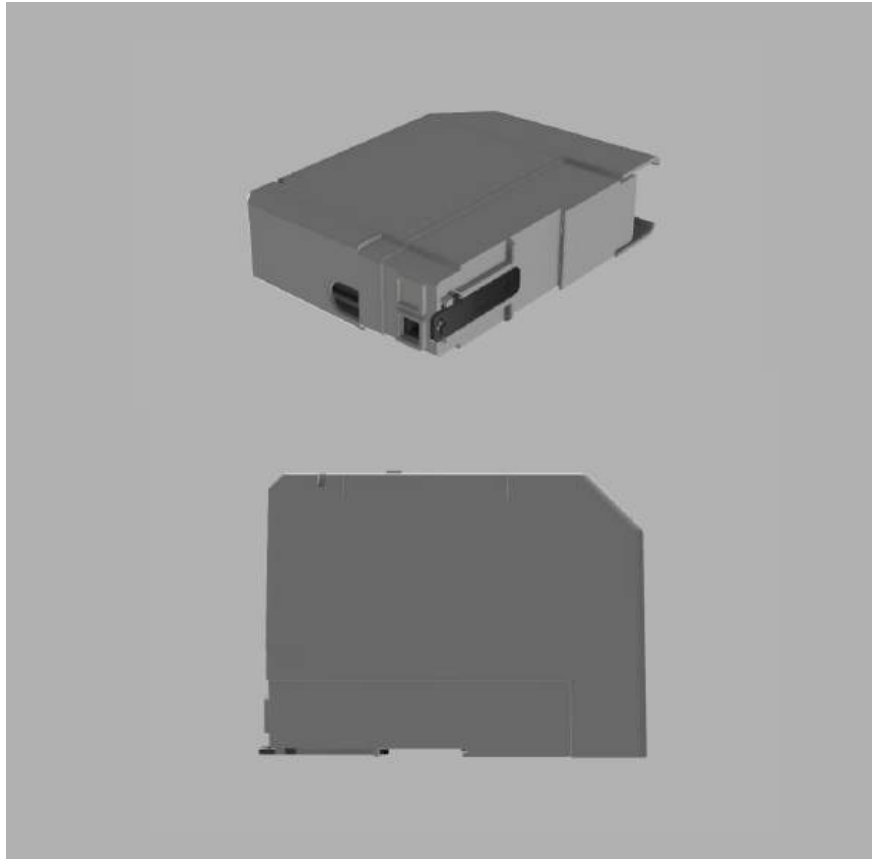
TECHNICAL SPECIFICATIONS

EMC	Electrostatic discharges(Contact discharges)	8kV
	Electrostatic discharges(Air discharges)	15kV
	Fast transient burst test	4kV
	Surge immunity test	6kV
	Electromagnetic RF field (80MHz to 2000MHz)	10V/m(with current), 30V/m(without current)
Environment	Temperature Range: -40 °C ~ +70 °C Humidity: Up to 95%	

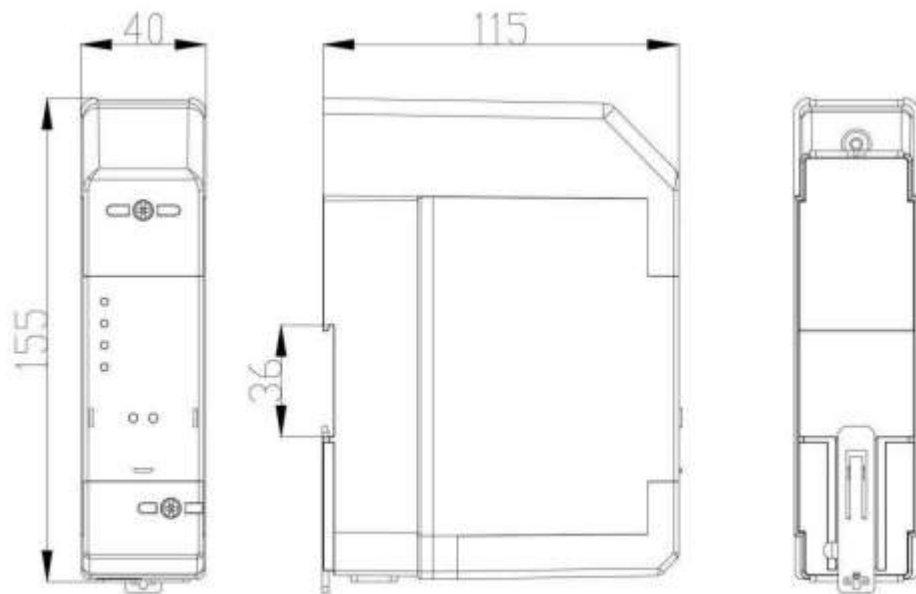
Connection	L1V1L1L2V2L2L3V3L3NN	Protective class	II
Real-time Clock Accuracy	0.5s/Day	Degree of protection	IP54
		Relay	Auxiliary relay:5A/250VAC

SINGLE PHASE DIN RAIL

SM120B2 SINGLE PHASE DIN RAIL SMART ELECTRICITY METER



DIMENSIONS



*ALL UNITS ARE IN MM (MILIMETER)

PRODUCT OVERVIEW

The SM120B2 is a versatile single-phase DIN Rail smart meter, designed for power grid monitoring, load control, and tamper detection. It features an advanced anti-tamper solution that helps utilities boost revenue and reduce line losses. Compliant with DLMS and FID2 open standards, the SM120B2 is an intelligent choice for residential customers.

PRODUCT FEATURES

- Top-in, bottom-out design.**
- Non-volatile memory for data storage without battery usage.**
- Replaceable internal and external batteries for clock maintenance.**
- Internal latching relay for disconnect control Data reading**
- Capability during power outages.**
- Anti-tamper design for enhanced security.**

TECHNICAL SPECIFICATIONS

Operating Voltage	230V
Voltage Range	0.6Un~1.2Un
Current rating	5(100)A
Starting current	0.4% of Ib
Frequency	50Hz±5%
Accuracy Class	Active Energy: CL 1.0 1000 imp/kWh Reactive Energy: CL 2.0 1000 imp/kvarh

STANDARDS AND COMPLIANCE

- Adheres to IEC standards (IEC 62052-11, IEC 62053-21, IEC 62053-23).
- Complies with interoperability standards (DLMS, FID2).

MAIN FUNCTIONS

MEASUREMENTS

- kWh (import, export, net, absolute).
- Kvarh (import, export).
- Kvah (import, export).
- Instantaneous values for voltage, phase line current, neutral line current.
- Instantaneous values for active power, reactive power, power factor.
- Current date and time.
- Phase angle measurement.
- Frequency measurement.

TARIFF FUNCTIONS

- Time of Use (TOU) measurement with up to 4 tariffs, 8 days, 12 seasons, 12 weeks, 16 switches, and 100 special days.
- Supports active and passive tariffs that can be updated at any time.
- Internal and external batteries maintain clock and calendar during power outages.

ANTI-TAMPER FEATURES

- Detection of meter cover tampering, terminal cover tampering, external magnetic fields, current reversal, unauthorized communication, and more.
- Tamper alarm displayed via LED.
- All tamper events are recorded in the meter memory.

LOAD PROFILES

- Records up to 100 days of 15-minute load profiles with 16 channels on a FIFO basis.
- Configurable load profile interval from 1 to 60 minutes.
- Records 5 load profiles, including Load Profile 1, Load Profile 2, Average Values Profile, Min. Values Profile, and Max. Values Profile.

BILLING

- Automatic monthly billing reset at 00:00:00 on the 1st day of each month (configurable).
- Local and remote billing reset via software.
- Storage of up to 17 months of data in meter memory.

DISCONNECT/RECONNECT SWITCH

- 1-pole 120A internal latching relay.
- Capable of 100,000 off-load cycles.
- Maximum switch voltage of up to 250V.
- Disconnection and reconnection based on tariff table, maximum current (fuse supervision), and maximum demand/allowed current (limiter).
- Scheduled disconnection and reconnection.
- Local or remote disconnection and reconnection requests.

POWER QUALITY

- Detection of over-voltage and under-voltage with configurable time thresholds.
- Long and short outage detection with configurable time thresholds.
- Phase loss and over-current detection with configurable time thresholds.
- All power quality events are recorded in the meter memory

COMMUNICATION

- Full compliance with IEC 62056-21 optical port standards.
- RS485 communication.
- Optional external 4G communication via RS485.

TECHNICAL SPECIFICATIONS

Real-time Clock Accuracy	≤0.5 (sec/day (IEC 62054-21))
Maximum withstand voltage	500V
Consumption	Current (1 VA), Voltage (1.5 W, 2.5 VA)
Insulation class	Double insulation
Temperature Range	Operating: -40 °C ~ +70 °C Storage: -40 °C ~ +85 °C
Degree of protection	IP51



+971 (04) 345 1626

info@sensemi.com

www.sensemi.com

UAE : Warehouse 49 & 32, No. 04 - Zone 2, Al Hamra Industrial Free Zone, Ras Al-Khaimah, United Arab Emirates

Azerbaijan: Baku-Guba Road, 32nd km (Opposite Sumgayit Chemical Industrial Park) Sensemi DMCC Branch, Azerbaijan

Headquarters: Office No. 2302, 23rd Floor, Mazaya Business Avenue BB2, Jumeirah Lakes Towers (JLT) Dubai, UAE



SWM FAMILY SMART WATER METERS CATALOGUE

EFFICIENCY, ACCURACY, AND SAFETY.






ULTRASONIC SMART WATER METER






Precision, Connectivity, and Sustainability for Smart Water Management



Smart, Compact & Versatile Design

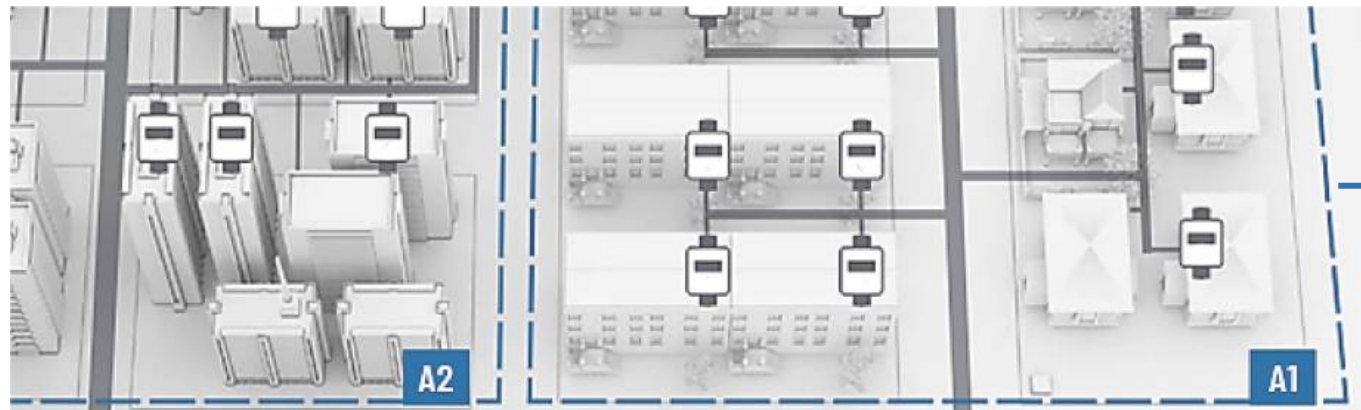
- 
Lightweight & Space-Saving
 Ideal for riser pipes, downpipes, or overhead installations.
- 
Drinking Water Compliant
 Constructed from high-quality, certified materials that meet the strictest safety regulations.
- 
Strong Anti-Interference & Low Power Consumption
 Ensures uninterrupted performance in challenging conditions.

Key Features & Benefits

- 
Highly Accurate & Reliable
 Ultrasonic technology eliminates mechanical wear, ensuring long-term stability and precision in water measurement.
- 
Advanced Connectivity & Remote Monitoring
 Supports multiple communication protocols for real-time data collection, leak detection, and remote management, enhancing operational efficiency.
- 
Minimal Maintenance & Extended Service Life
 With no moving parts, the meter experiences zero mechanical wear, leading to low operational costs and an extended lifespan of over 15 years.
- 
Optimized Water Distribution & Consumption Insights
 Delivers accurate billing, intelligent water allocation, and enhanced efficiency for modern smart water networks.
- 
Highly Secured Data & Fraud Resistance
 Features tamper-proof and fraud-resistant mechanisms with manipulation detection and encrypted data transmission, ensuring secure, accurate, and reliable water metering.

ADVANCED SMART WATER METERING – BUILT FOR A SMARTER, SUSTAINABLE FUTURE

Our Ultrasonic Smart Water Meters are engineered to transform traditional water metering into an intelligent, connected, and sustainable solution—ideal for residential, commercial, and urban utility networks.



Future-Ready Connectivity

Seamlessly integrating NB-IoT, LoRaWAN, and Wireless M-Bus (wM-Bus), these meters deliver reliable, energy-efficient, and scalable communication across any infrastructure.



ensures deep signal penetration in underground or indoor environments, offering licensed-band, low-power connectivity with over 15 years of battery life—perfect for dense urban deployments.



enables long-range, low energy communication with minimal infrastructure—ideal for wide-area city and rural coverage.



(Wireless M-Bus) supports short range, low-energy wireless communication optimized for building-level and retrofit applications, using a proven European standard.

REMOTE UPGRADE (FOTA):

Supports firmware updates over the air, keeping the system up to date without manual intervention.

These multi-protocol options allow utilities to deploy customized smart metering networks that are flexible, secure, and cost-effective.

Intelligent Data & Monitoring Capabilities

Beyond accurate metering, these devices continuously monitor and log critical operational data:



Real-time alerts for temperature changes, flow stagnation, and reverse flow, enabling fast intervention and preventive maintenance.



A built-in logbook stores up to 40 historical events, while the flow histogram provides visual consumption analysis—helping utilities detect inefficiencies, leaks, or tampering.



Stagnation detection supports hygiene monitoring by issuing alerts when no flow is recorded over preset durations.

— Low-Power Architecture & Battery Intelligence

Optimized for long-term deployment, the meter's low-energy design ensures over 15 years of battery life. An advanced battery management system monitors consumption and forecasts remaining power to maintain uninterrupted service.

— Firmware Over-The-Air (FOTA) Updates

Using the NB-IoT interface, firmware can be updated remotely—enabling compliance with evolving standards, adding new features, and resolving issues without replacing hardware.

— Engineered for Durability

Built with over 40 years of ultrasonic metering expertise, the device has no moving parts, making it highly resistant to wear, sediment, and harsh environmental conditions. Its IP68/IP66 protection ensures waterproof and UV-resistant operation, even under extreme temperature variations..

— Committed to Sustainability

The meter's compact, recyclable design reduces material usage, packaging waste, and transportation emissions. Long service life and remote maintenance further support sustainability goals.

Smart, efficient, and built to last—delivering intelligence, precision, and sustainability in one advanced solution.

SWM107

Ultrasonic Smart Water Meter with Valve Control



Advanced, Reliable, and Intelligent Water Metering with Remote Valve Control

The SWM107 Ultrasonic Smart Water Meter is a high-precision, intelligent metering solution designed for drinking water supply applications. Equipped with remote valve control functionality, it enables seamless automated water management, remote shut-off, and leak prevention, ensuring efficient utility operations. Built with premium materials and powered by cutting-edge ultrasonic technology, this advanced meter delivers exceptional accuracy, long-term reliability, and zero mechanical wear and tear. The integrated valve control system enhances operational efficiency, allowing utilities and consumers to manage water supply remotely, prevent unauthorized usage, and optimize resource allocation.

KEY FEATURES & BENEFITS



Precision Ultrasonic Measurement

Utilizes ultrasonic metering technology with no moving parts, ensuring long-term accuracy, reliability, and zero mechanical wear.



Remote Valve Control & Intelligent Automation

Supports intelligent water management through remote valve control, automated shut-off, and scheduled valve cleaning—ideal for efficient utility operations and smart city infrastructure.



Advanced Accuracy & Wide Range Ratio

Achieves Class 2 accuracy with multiple range ratio options (R100, R125, R160, R250), enabling precise measurement across variable flow conditions.



Multi-Protocol Communication Interfaces

Supports a wide array of communication interfaces including MBUS, RS485, Pulse, LoRaWAN, NB-IoT, Zigbee, 4G, and Wireless M-Bus (wMBUS), ensuring seamless integration and remote monitoring flexibility.



Tamper-Resistant & Secure Data Transmission

Built-in fraud resistance and tamper detection with encrypted data transmission ensure data integrity and metering reliability.



Leakage & Burst Pipe Detection with Auto Shut-Off

Integrated alarms for water drips and burst pipe events, with automatic shut-off functionality to prevent water loss and enhance system safety.



High-Quality Construction for Drinking Water Applications

Specially designed for drinking water metering using high-grade SS304/L316 copper for superior durability and corrosion resistance.



Temperature Adaptability (T30 / T50 / T70)

Built to perform across a range of environmental conditions, including cold and temperate climates. TAF-compliant.



Pre-Payment & Smart Billing Functionality

Equipped with remote pre-payment capabilities and T5557 swipe card compatibility, supporting flexible billing and customer-friendly utility management.

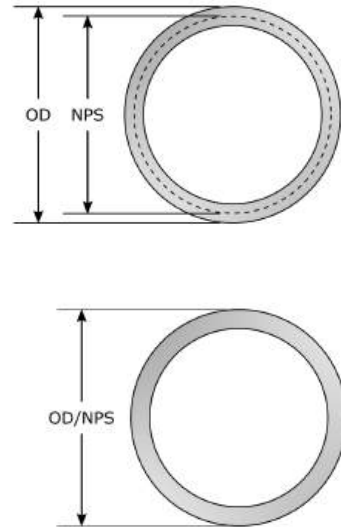


Full Compliance with International Standards

Certified in accordance with GB/T 778 and ISO 4064 standards, meeting global requirements for water meter performance and safety.

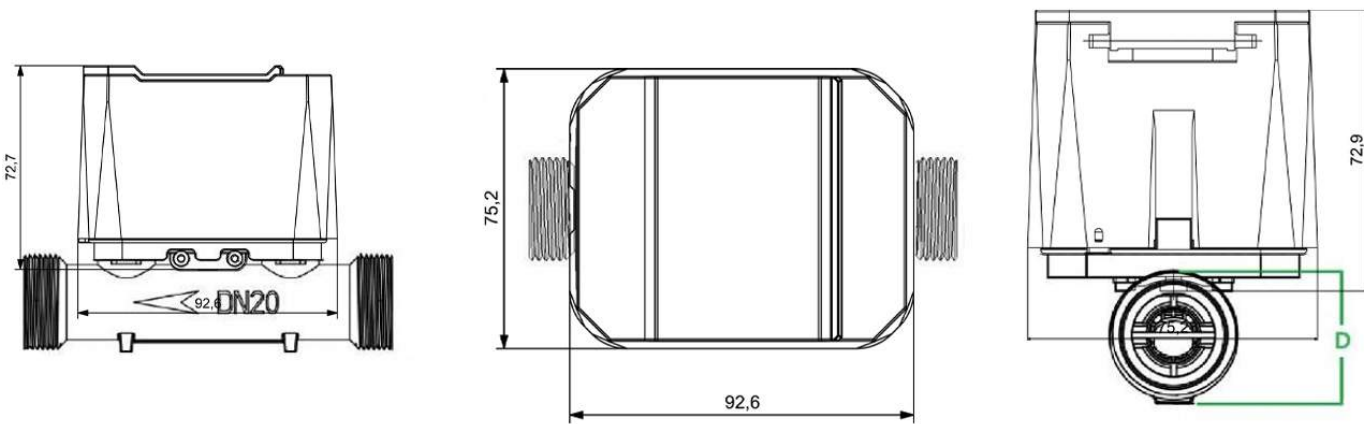
Applications

-  Residential and commercial drinking water metering
-  Smart city water management systems
-  Remote monitoring and billing applications
-  Water conservation and leakage detection initiatives



The SWM107 Ultrasonic Smart Water Meter is engineered for efficiency, precision, and smart connectivity, making it an ideal choice for modern water metering solutions.

External Dimensions



Diameter (mm)	DN15	DN20	DN25
Thread	G ³ / ₄ B	G1B	G1 ¹ / ₄ B
L(mm)	165	195	260
H(mm)	96.5	96.5	107
W(mm)	97	97	97

Technical Parameter

Performance	Parameter		
Diameter	DN15	DN20	DN25
Length(mm)	165	195	260
Q,(m ³ /h)	2.5	4	5
Start Flow(L/h)	2	2	3
Meteorologic Class	Q ³ /Q ¹ =100, 125, 160, 200, 250, 400;		
Accuracy Class	Class 2		
Pressure Stage	MAP16	Pressure loss	< 0.063MPa
Stage Temperature	T30/T50/T70; Default T30		
Data Storage	with daily storage, daily freeze, monthly storage, monthly freeze, annual storage (Customizable data storage mode according to customer requirements)		
Transmission	Optica I/M BUS/RS485/Pu lse/LoRaWa n/N B- loT/ Zigbee/4G/wMBUS; (Optional)		
Power	DC3.6V Lithium Battery		
Protection Class	IP68		
Environmental	Temperature: -25°C- + 55°C		
Installation	Horizontal or Vertical		
Battery Life	Life Period > 6 years		
Flow measure	Reverse flow is measurable		
Stream Field Sensitivity	UODO		

Ultrasonic Smart Water Meter

SWM103



Compact, High-Performance, and Smart Water Metering Solution

The SWM103 Ultrasonic Smart Water Meter is a compact and intelligent metering solution designed for residential, pure water, and drinking water applications. Featuring ultrasonic measurement technology, it delivers high-precision readings, exceptional durability, and zero mechanical wear, ensuring long-term stability and reliability.

KEY FEATURES & BENEFITS



Compact & Versatile for Residential and Pure Water Applications

Designed specifically for residential, pure water, and drinking water metering. Its compact structure makes it ideal for space-constrained installations.



High-Quality Pipe Construction

Manufactured using corrosion-resistant copper, ensuring long-lasting performance in demanding environments.



Temperature Adaptability (T30 / T50 / T70)

Designed for optimal performance in a variety of temperature conditions, supporting cold and temperate climates.



Tamper-Proof & Data-Secure Design

Equipped with tamper detection and encrypted data transmission to ensure fraud resistance and metering integrity.



Replaceable Battery for Extended Service Life

Designed with a replaceable battery module to simplify maintenance and reduce lifecycle costs while maintaining uninterrupted service.



Ultrasonic Metering Technology

Utilizes advanced ultrasonic technology for precise and stable water consumption measurement with zero mechanical wear—ensuring excellent long-term reliability and maintenance-free operation.



Superior Accuracy & Wide Measuring Range

Delivers Grade 2 accuracy with flexible range ratio options (R100, R125, R160, R250, R400), adapting to diverse consumption profiles and flow conditions. Complies with AF standards.



Leak & Burst Pipe Detection

Integrated with intelligent alarm functions for detecting water dripping and burst pipe events, supporting water conservation and network safety.



Flexible Communication Interfaces

Offers seamless integration with multiple communication protocols: MBUS, RS485, Pulse, LoRaWAN, NB-IoT, Zigbee, 4G, and Wireless M-Bus (wMBUS), enabling smart utility network compatibility.

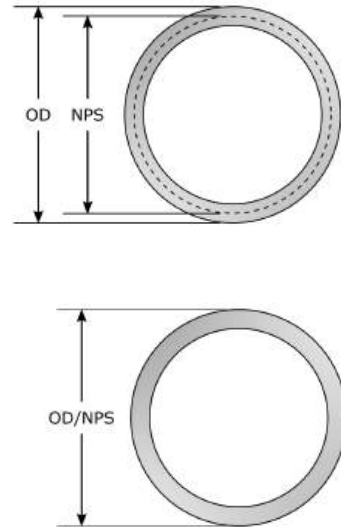


Certified to International Standards

Fully compliant with GB/T 778 and ISO 4064 standards, meeting international quality and performance benchmarks for ultrasonic water meters.

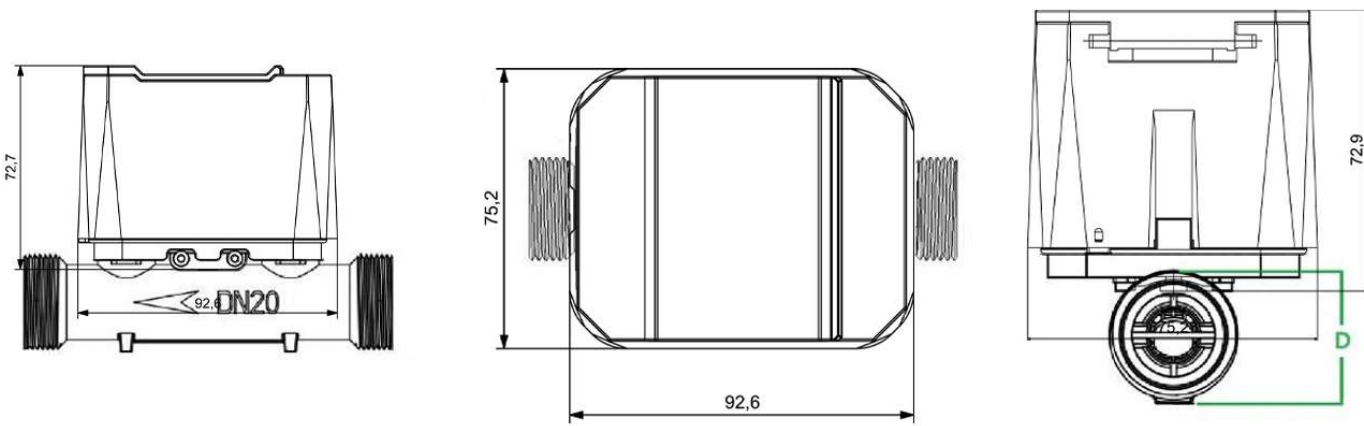
Applications

-  Residential and commercial water metering
-  Smart city water management systems
-  Remote monitoring and billing solutions
-  Leak detection and water conservation programs



The SWM103 Ultrasonic Smart Water Meter is designed for modern, efficient, and precise water metering, making it the ideal solution for next-generation smart water management systems.

External Dimensions



Diameter (mm)	DN15	DN20	DN25
Thread	G ³ / ₄ B	G1B	G1 ¹ / ₄ B
L(mm)	110/165	130/195	160/225
H(mm)	94	98.7	105.3
W(mm)	69	69	69

Technical Parameter

Performance	Parameter		
Diameter	DN15	DN20	DN25
Length(mm)	110/165	130/195	160/225
Q,(m ³ /h)	2.5	4	6.3
Start Flow(L/h)	2	2	2
Meteorologic Class	Q ³ /Q ¹ =100, 125, 160, 200, 250, 400;		
Accuracy Class	Class 2		
Pressure Stage	MAP16	Pressure loss	< 0.063MPa
Stage Temperature	T30/T50/T70; Default T30		
Data Storage	with daily storage, daily freeze, monthly storage, monthly freeze, annual storage (Customizable data storage mode according to customer requirements)		
Transmission	Optica I/M BUS/RS485/Pu lse/LoRaWa n/N B- loT/ Zigbee/4G/wMBUS; (Optional)		
Power	DC3.6V Lithium Battery		
Protection Class	IP68		
Environmental	Temperature: -25°C- + 55°C		
Installation	Horizontal or Vertical		
Battery Life	Life Period > 6 years		
Flow measure	Reverse flow is measurable		
Stream Field Sensitivity	UODO		

Ultrasonic Smart Water Meter

SWM103-P



Compact, High-Performance, and Smart Water Metering Solution

The SWM103 Ultrasonic Smart Water Meter is a compact and intelligent metering solution designed for residential, pure water, and drinking water applications. Featuring ultrasonic measurement technology, it delivers high-precision readings, exceptional durability, and zero mechanical wear, ensuring long-term stability and reliability.

KEY FEATURES & BENEFITS



Compact & Versatile for Residential and Pure Water Applications

Designed specifically for residential, pure water, and drinking water metering. Its compact structure makes it ideal for space-constrained installations.



High-Quality Pipe Construction

Manufactured using corrosion-resistant copper, ensuring long-lasting performance in demanding environments.



Temperature Adaptability (T30 / T50 / T70)

Designed for optimal performance in a variety of temperature conditions, supporting cold and temperate climates.



Tamper-Proof & Data-Secure Design

Equipped with tamper detection and encrypted data transmission to ensure fraud resistance and metering integrity.



Replaceable Battery for Extended Service Life

Designed with a replaceable battery module to simplify maintenance and reduce lifecycle costs while maintaining uninterrupted service.



Ultrasonic Metering Technology

Utilizes advanced ultrasonic technology for precise and stable water consumption measurement with zero mechanical wear—ensuring excellent long-term reliability and maintenance-free operation.



Superior Accuracy & Wide Measuring Range

Delivers Grade 2 accuracy with flexible range ratio options (R100, R125, R160, R250, R400), adapting to diverse consumption profiles and flow conditions. Complies with AF standards.



Leak & Burst Pipe Detection

Integrated with intelligent alarm functions for detecting water dripping and burst pipe events, supporting water conservation and network safety.



Flexible Communication Interfaces

Offers seamless integration with multiple communication protocols: MBUS, RS485, Pulse, LoRaWAN, NB-IoT, Zigbee, 4G, and Wireless M-Bus (wMBUS), enabling smart utility network compatibility.

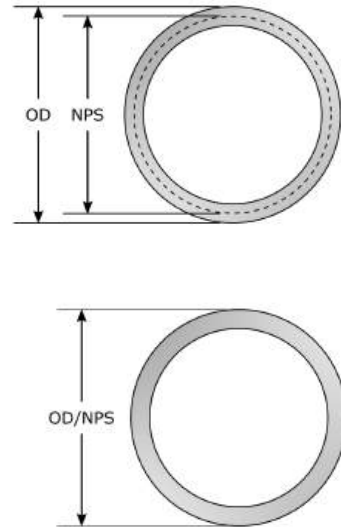


Certified to International Standards

Fully compliant with GB/T 778 and ISO 4064 standards, meeting international quality and performance benchmarks for ultrasonic water meters.

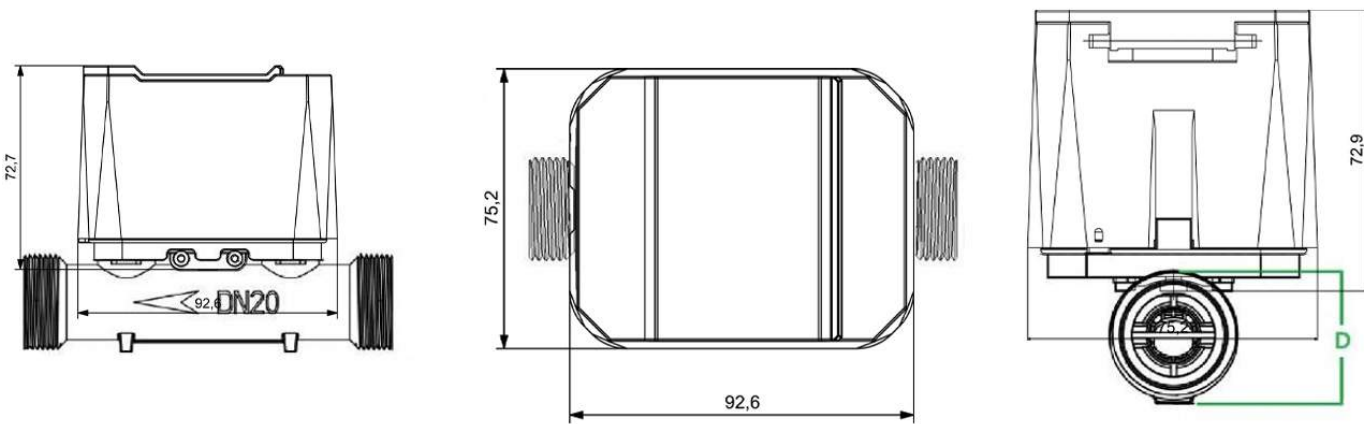
Applications

-  Residential and commercial water metering
-  Smart city water management systems
-  Remote monitoring and billing solutions
-  Leak detection and water conservation programs



The SWM103-P Ultrasonic Smart Water Meter is designed for modern, efficient, and precise water metering, making it the ideal solution for next-generation smart water management systems.

External Dimensions



Diameter (mm)	DN15	DN20	DN25
Thread	G ³ / ₄ B	G1B	G1 ¹ / ₄ B
L(mm)	110	130	160
H(mm)	94	98.7	105.3
W(mm)	69	69	69

Technical Parameter

Performance	Parameter		
Diameter	DN15	DN20	DN25
Length(mm)	110	130	160
Q,(m ³ /h)	2.5	4	6.3
Start Flow(L/h)	2	2	2
Meteorologic Class	Q ³ /Q ¹ =100, 125, 160, 200, 250, 400;		
Accuracy Class	Class 2		
Pressure Stage	MAP16	Pressure loss	< 0.063MPa
Stage Temperature	T30/T50/T70; Default T30		
Data Storage	with daily storage, daily freeze, monthly storage, monthly freeze, annual storage (Customizable data storage mode according to customer requirements)		
Transmission	Optica I/M BUS/RS485/Pu lse/LoRaWa n/N B- loT/ Zigbee/4G/wMBUS; (Optional)		
Power	DC3.6V Lithium Battery		
Protection Class	IP68		
Environmental	Temperature: -25°C- + 55°C		
Installation	Horizontal or Vertical		
Battery Life	Life Period > 6 years		
Flow measure	Reverse flow is measurable		
Stream Field Sensitivity	UODO		



+971 (04) 345 1626

info@sensemi.com

www.sensemi.com

UAE : Warehouse 49 & 32, No. 04 - Zone 2, Al Hamra Industrial Free Zone, Ras Al-Khaimah, United Arab Emirates

Azerbaijan: Baku-Guba Road, 32nd km (Opposite Sumgayit Chemical Industrial Park) Sensemi DMCC Branch, Azerbaijan

Headquarters: Office No. 2302, 23rd Floor, Mazaya Business Avenue BB2, Jumeirah Lakes Towers (JLT) Dubai, UAE



Q_{max} : 6m³/h
Q_{mi} : 0.04m³/h
V^c 1.2L 1.2L=1.2dm³
P_{max} 0.1bar
T^m -30°C~ +55°C
T^g -20°C~ +40°C
IP65
Valve Ve

SN:0000000
Frequency:EU868
SMART GAS METER G4

SGM FAMILY SMART GAS METERS CATALOGUE

EFFICIENCY, ACCURACY, AND SAFETY.



G4 DIAPHRAGM SMART MODULAR GAS METER

SGM101 SMART GAS METER



Efficiency, Accuracy, and Safety for Smart Gas Management

The Smart Gas Meter is an advanced IoT-enabled solution designed to enhance accuracy, efficiency, and safety in gas metering. It is ideal for residential, commercial, and industrial applications, ensuring precise consumption tracking, real-time monitoring, and seamless integration with modern utility networks. With plug and play communication modules, smart gas meters eliminate manual readings, reduce errors, and optimize gas distribution, making them a cornerstone of smart energy management.

KEY FEATURES & BENEFITS

1.

Improved Meter Reading Efficiency & Accuracy

Automatically collects daily consumption data, eliminating human errors and reducing manual meter reading costs. Shortens billing cycles and supports big data analysis for optimized utility operations

2.

Real-Time & Complex Pricing Capabilities

Enables flexible and dynamic pricing models, helping utilities manage gas demand efficiently while promoting energy conservation and optimizing revenue.

3.

Remote Monitoring of Meter Status & Gas Usage

Provides real-time gas consumption insights, supports peak demand management, and enables data-driven business decisions.

4.

Enhanced Home Gas Safety

Built-in safety monitoring features, including automatic valve control and gas leak detection, ensure reliable and secure gas usage.

5.

Gas Theft & Leakage Detection

Utilizes big data analytics to identify gas theft or pipeline leaks, ensuring precise monitoring of supplied and consumed gas

6.

Opportunities for Business Expansion

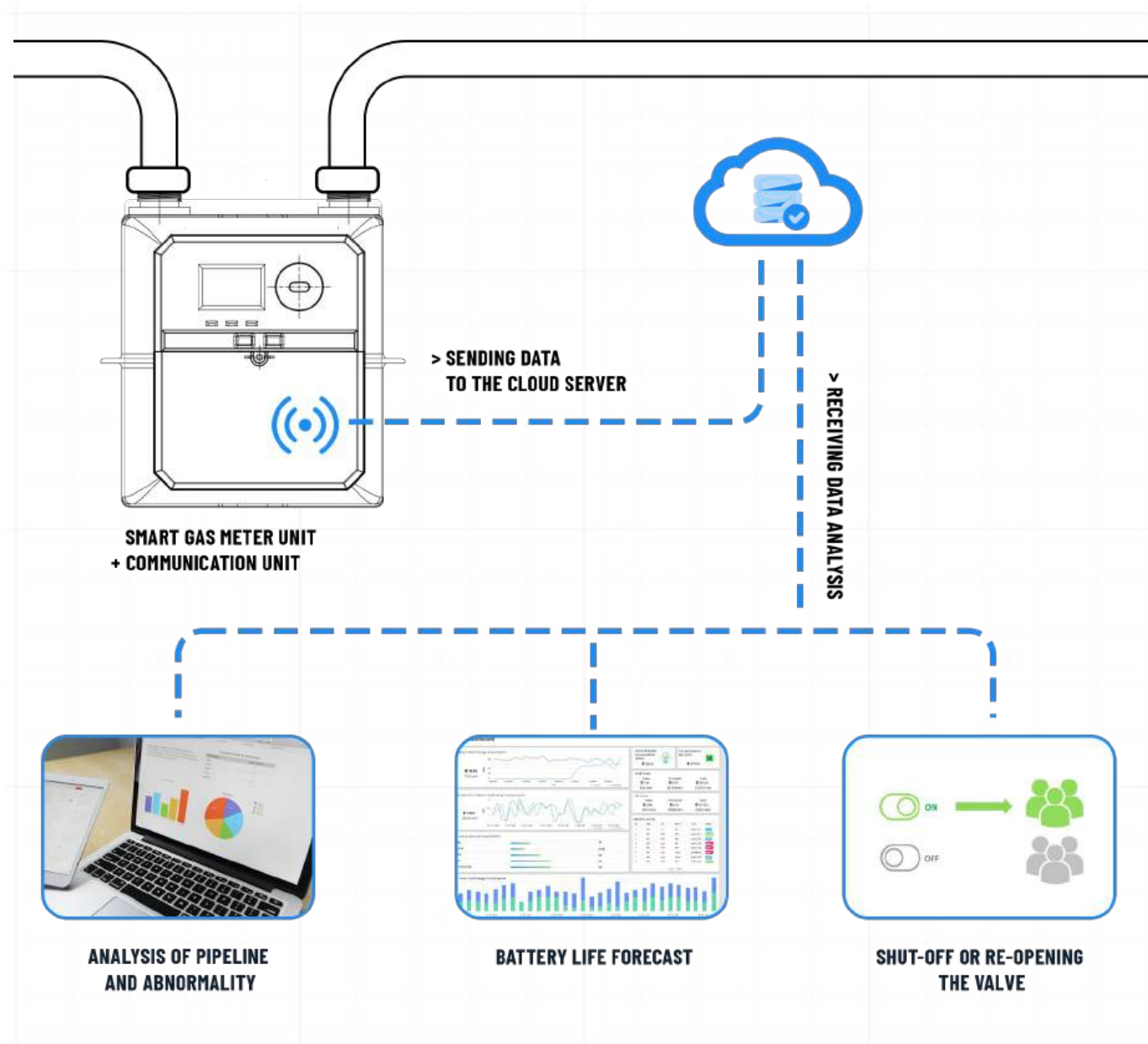
The smart gas meter ecosystem enables new business opportunities, such as gas-related smart home devices, insurance services, and ecommerce integrations.

7.

Convenient User Experience

Supports online billing and payments, offering consumers greater control over their gas usage and spending..

SMART GAS SOLUTION STRUCTURE



MODULAR SMART GAS METER

A Future-Proof, High-Performance Solution for Utility Companies

The Modular Smart Gas Meter is an advanced metering device designed to meet the rigorous smart metering standards of the European Union, Russian Federation, and other global markets. Built on a modular design philosophy, it features a fully separable communication module and smart controller, allowing on-site upgrades to accommodate evolving communication technologies. This future-ready architecture enables long-term stability, adaptability, and high-value services for gas companies. Utility providers can modernize their infrastructure cost-effectively by transitioning from traditional to smart metering without replacing the entire meter.

KEY COMPONENTS & HOW IT WORKS

BASE UNIT THE DIGITAL GAS METER

ACCURATE MEASUREMENT

Ensures precise gas consumption tracking, eliminating billing discrepancies

Modular Design

The core meter remains unchanged, while communication modules can be upgraded or replaced as technology evolves.

Investment Flexibility

Utility companies can begin with a basic meter and upgrade over time, spreading investment costs efficiently.

COMMUNICATION MODULES (OPTIONAL ADD-ONS)

Supported Technologies

NB-IoT, LTE-M, LoRaWAN, Sigfox, and GPRS.

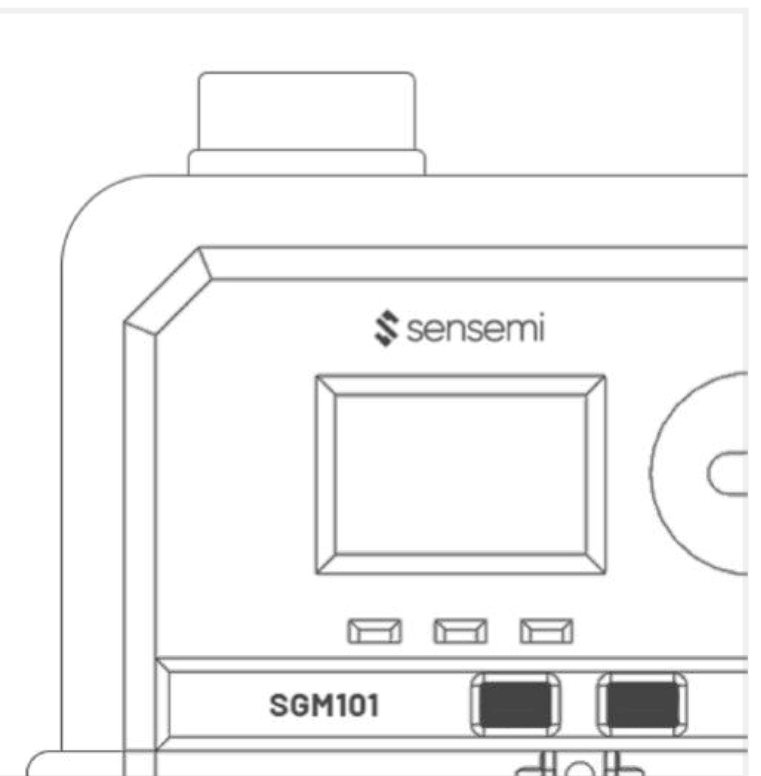
Functionality

Enables wireless data transmission to a central system for remote monitoring and smart gas management.

Seamless Integration

Communication modules can be replaced or upgraded on-site without dismantling the meter or updating firmware.

SUPPORTED TECHNOLOGIES:



BENEFITS

Smart Meter Conversion: Start Simple, Upgrade Later

Start with a basic digital meter and upgrade to a smart meter by adding a communication module. This modular approach minimizes costs, prevents service disruption, and allows utilities to modernize at their own pace.

Unified System Management

Seamlessly integrates gas, water, and electricity meters into a centralized Platform enabling efficient monitoring, streamlined operations, and improved resource allocation.

Cost Efficiency & Energy-Saving Operation

Gradual upgrades reduce initial investment, while automated data collection and improved billing accuracy lead to long-term cost savings. Low power consumption extends battery life, reducing maintenance costs.

Modular Communication Design & Extensive Connectivity Options

Supports NB-IoT, LTE-M, LoRaWAN, LoRa Mesh, and Sigfox, ensuring low power, long-range, and secure communication. The modular design allows easy adaptation to evolving technologies without replacing the meter.

Future-Proof & Scalable Design

Modular architecture allows for easy integration of emerging technologies, ensuring long-term adaptability and effortless expansion from small-scale to nationwide deployments



Easy Installation & Seamless Integration

Standard fittings and plug-and-play communication modules simplify installation, reduce setup time, and ensure effortless integration with existing utility infrastructure.

High-Accuracy Measurement

Triple Hall sensors provide precise gas pulse readings, ensuring accurate consumption tracking for billing and data analysis.

Advanced Tamper Detection & Security

Built-in tamper detection mechanisms identify unauthorized access, reverse flow, and manipulation attempts, enhancing security and regulatory compliance.

Remote Monitoring & Over-the-Air (OTA) Updates

Real-time data transmission and OTA firmware updates enable proactive diagnostics, seamless software upgrades, and enhanced service reliability with minimal manual intervention.

Wide Operating Temperature Range

Built for extreme conditions, the meter operates reliably in -50°C to $+60^{\circ}\text{C}$ (-58°F to $+140^{\circ}\text{F}$), making it ideal for harsh environments.

Features



Versatile replaceable communication modules

The single base meter supports multiple interchangeable communication modules, including GPRS, NB-IoT, LoRaWAN, Sigfox, and more. Modules can be replaced on-site without dismantling the meter or updating firmware, ensuring seamless network adaptation. The meter integrates with IoT platforms, allowing efficient remote management and connectivity.



Flexible and Convenient Payment Options

Supports prepayment and post-payment methods, allowing customers to pay online, via mobile apps, or directly from their smartphones. Compatible with IC card functions for secure access and payment flexibility.



Remote Management and Upgradability

• Remote Control:

Allows operators to manage meter settings and functions remotely, minimizing on-site visits

• Remote Upgrade (FOTA):

Supports firmware updates over the air, keeping the system up to date without manual intervention.



Robust Communication and Connectivity

• High Penetration:

Strong signal penetration for stable connectivity, even in dense urban or underground environments.

• Wide Coverage:

Supports long-range communication protocols, ensuring reliable data transmission in remote areas.



Advanced safety features

Equipped with gas usage monitoring, reverse flow detection, and overflow protection, ensuring enhanced safety and operational reliability. The integrated valve control system offers multiple control logics, providing greater flexibility and security in gas distribution.



Low Power Consumption

Designed for energy efficiency, reducing battery drain and extending operational life, making it ideal for long-term installations.



ACCURATE AND EFFICIENT METERING

• Electronic Temperature Compensation:

Automatically adjusts gas flow measurements for temperature variations, maintaining accuracy under different conditions.

• Detailed Metering:

Provides high-precision gas usage data, supporting accurate billing and consumption analysis.

• Automatic Meter Reading:

Enables data collection without manual intervention, improving accuracy and reducing labor costs.



Intelligent Monitoring and Diagnostics

• Real-Time Self-Diagnostics:

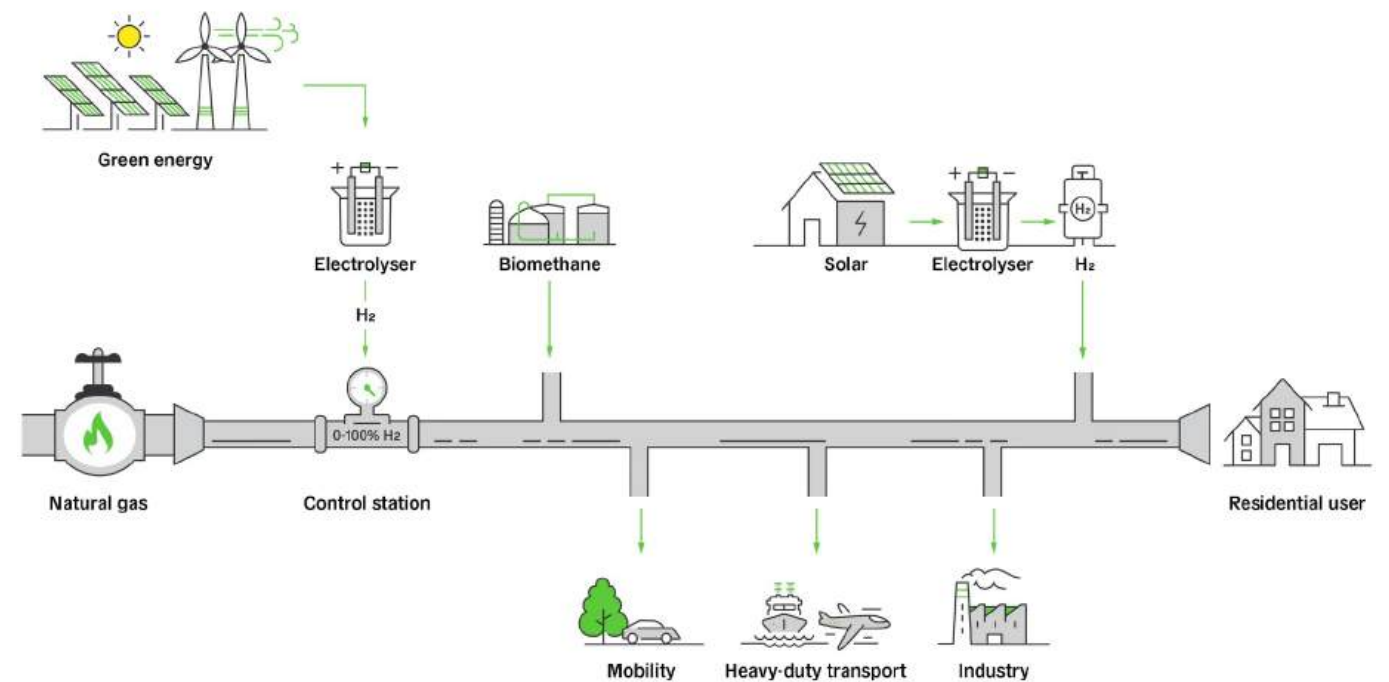
Continuously monitors system performance, detecting anomalies and potential issues for proactive maintenance.

• Remote Alarm:

Provides high-precision gas usage data, supporting accurate billing and consumption analysis.

• Optical Port Local Communication:

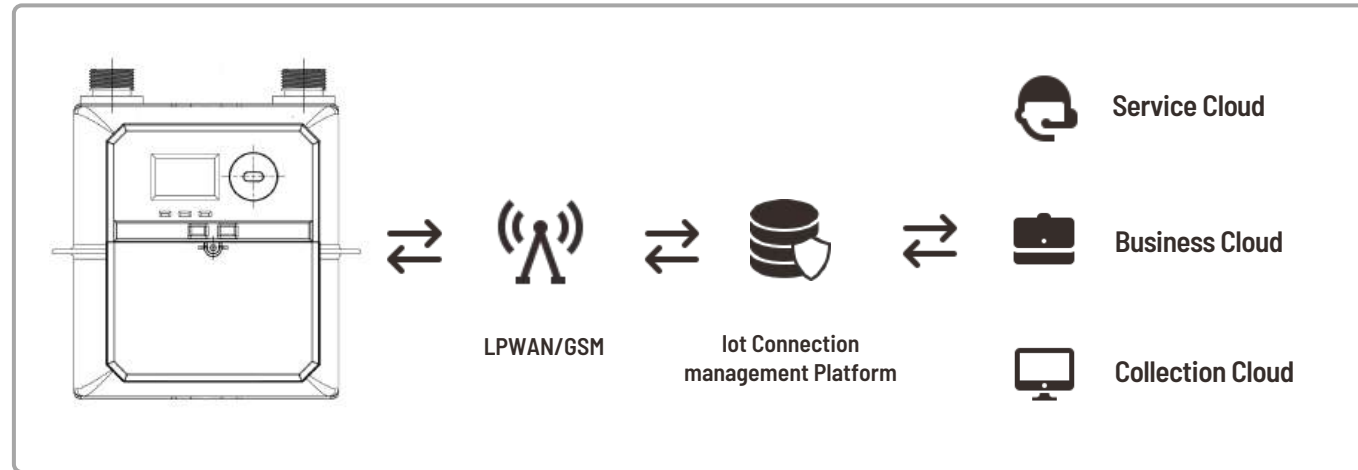
Facilitates on-site maintenance and troubleshooting without network connectivity.



Why Choose the Modular Smart Gas Meter?

The Modular Smart Gas Meter from SenseMi provides unmatched adaptability, cost efficiency, and future-proof performance for utility companies. Its modular design supports seamless upgrades with evolving communication technologies like GPRS, NB-IoT, LoRaWAN, and Sigfox. With its robust security features, IoT integration, and remote management capabilities, it ensures efficient gas distribution, real-time monitoring, and flexible billing options.

SOLUTION ARCHITECTURE



TECHNICAL PARAMETERS

Technical Parameters												
Type	G1.6	G2.5	G4	G4	G6	G10	G10	G16	G16	G25	G40	G40
Q _{max} (m ³ /h)	2.5	4	6	6	10	16	16	25	65	40	65	65
Q _{min} (m ³ /h)	0.016	0.025	0.04	0.4	0.06	0.1	0.1	0.16	0.16	0.25	0.4	0.25
Accuracy Class	1.5											
Maximum Permissible Error (MPE)	0.1Q _{max} < q < Q _{max} ± 1% Q _{min} < q < 0.1Q _{max} 2%											
Max. Working Pressure (kPa)	50											
Pressure Absorption (Pa)	< 250						< 375					
Working Temperature (°C)	- 30°C ~ +55°C											
Ingress Protection level	IP65											
communication mode	NB-IoT/GPRS/Sigfox/LoRaWAN						NB-IoT/GPRS					
Valve Lifetime (time)	>100000											
Battery Life (year)	≥ 10 years						≥ 10 years					

SPECIFICATIONS

Feature	Description
Meter Sizes	Available in G4 and G6 sizes to suit different flow rate requirements
Gas Pulse Reading	Triple Hall sensor configuration for high-precision monitoring
Tamper Detection	Integrated mechanisms for detecting unauthorized access or interference
Communication Modules	Modular design supporting various communication modules
Wireless Connectivity	Compatible with LoRaWAN, LoRa Mesh, NB-IoT, and other communication protocols
Power Supply	Low-power consumption design with long-lasting battery life
Operating Temperature	-30°C to +55°C
Environmental Protection	IP66-rated enclosure for protection against dust and water ingress, suitable for outdoor installations
Dimensions	G4 Meter: [182×95×136mm], G6 Meter: [200×113×160mm]
Flow Rate Capacity	G4: Q _{max} 6 m ³ /h, G6: Q _{max} 10 m ³ /h (or specify actual flow rates)
Compliance Standards	Compliant with [List relevant certifications and standards, e.g., MID, ATEX, IECEx]
Installation	Compatible with standard gas meter fittings; easy to install
Display	Optional LCD display for local readings (if applicable)
Data Logging	Internal memory for data storage and logging
Firmware Updates	Supports over-the-air (OTA) firmware updates
Battery Life	Up to [Insert battery life, e.g., 10 years], depending on usage a communication frequency
Security	Data encryption and secure communication protocols to protect data transmission
Diagnostic Features	Remote diagnostics and monitoring capabilities
Material Construction	Durable materials suitable for various environmental conditions
Mounting Options	Wall-mounted or pipe-mounted configurations available
Alarm Notifications	Configurable alerts for tampering, low battery, and other critical events
User Interface	Web-based and mobile applications for monitoring and management (if applicable)

ADVANCED SMART CONVERSION OF MECHANICAL METERS

Elevate Your Utility Management with Smartization!

Our cost-effective, retrofit solution modernizes mechanical gas meters, enabling real-time data management, remote monitoring, and automated billing. By integrating advanced smart modules, utility companies can enhance operational efficiency, streamline resource management, and optimize service delivery—all without replacing existing infrastructure

Transforming Mechanical Meters into Smart Meters

The Gas Meter Module converts traditional mechanical gas meters into intelligent, connected devices, eliminating the need for a full system replacement. Equipped with NB-IoT and LoRaWAN communication, it automates meter reading, improves billing accuracy, and enables remote management. Ideal for gas distribution networks, sub-metering applications, and institutions requiring precise consumption tracking, this module provides a seamless solution for hard-to-reach areas where manual readings are impractical. Its flexible installation allows for effortless retrofitting onto existing meters or integration into new deployments, ensuring a smooth transition to smart metering technology

KEY COMPONENTS & HOW GAS METER READER MODULE WORKS

1. Mechanical Meter Base

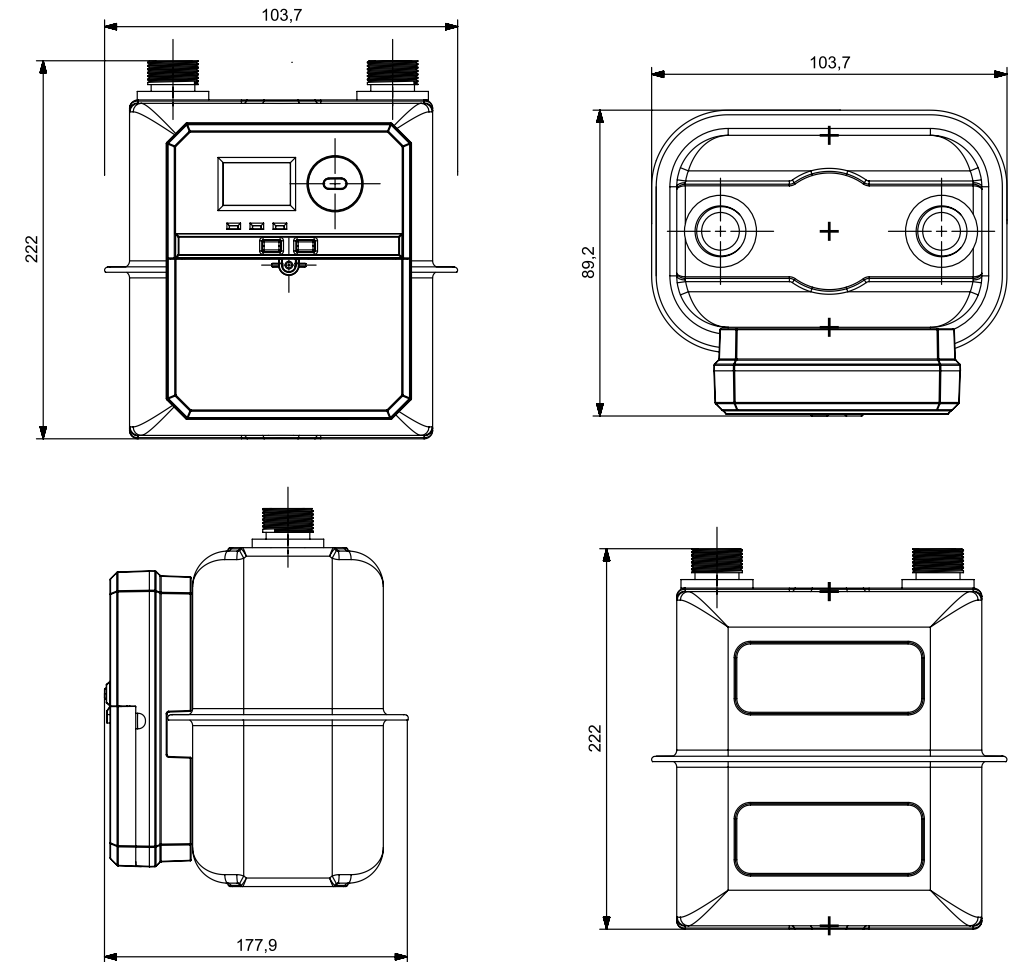
The mechanical meter base retains its primary function of measuring gas consumption while utilizing existing infrastructure. When integrated with the smart module, its readings are digitally calibrated, ensuring higher accuracy and more precise billing. This enhancement allows utility companies to modernize their metering systems without replacing the entire meter, making the transition to smart technology cost-effective and efficient

2. Smart Module (NB-IoT/LoRaWAN Communication Unit)

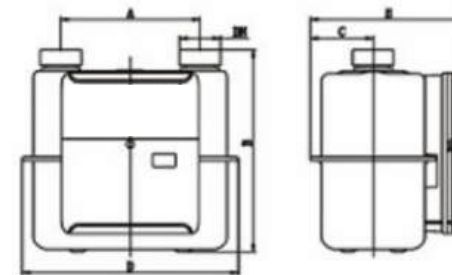
The smart module is a compact, attachable device that seamlessly upgrades mechanical meters into intelligent, connected systems. Equipped with advanced communication technologies such as NB-IoT and LoRaWAN, it enables wireless data transmission, sending real-time gas usage information to a central management system. This integration allows for remote monitoring, automated billing, and enhanced anomaly detection, significantly improving operational efficiency. The module is designed to be scalable, supporting future upgrades and new communication technologies, ensuring long-term adaptability for utility providers.

DIMENSIONS

SGM101 G4 SMART GAS METER



METER BODY SIZES COMPARISON



Type	G1.6~4	G4/G6	G6	G10	G16	G25
A(mm)	110/152.4	130	250	152.4	200	300
B(mm)	227	224.4	260	272	327.5	437
C(mm)	68.8	67.5	77	85	96	132
D(mm)	236.5	204	329	254.5	316	438.8
E(mm)	171.5	170.2	202	197.1	224	294
Thread	G1¼"; G3/4"; M30x2, or customized		G1¼"	G2"	G2"	G2½"

*ALL UNITS ARE IN MM (MILIMETER)

GAS METER READER MODULE

RGM101 SMART READER MODULE



ACCESS PRECISE, UP-TO-DATE INFORMATION ON GAS CONSUMPTION

WITH SENSEMI'S AMI GAS METER MODULE

The Gas Meter Reader Module transforms traditional mechanical gas meters into intelligent, connected devices, enabling precise remote monitoring and data-driven management. Utilizing NB-IoT and LoRaWAN communication technologies, it wirelessly transmits real-time consumption data to utility providers, forming an integral part of an Advanced Meter Infrastructure (AMI) system. This module is an ideal solution for gas distribution companies, sub-metering applications, and institutions such as hospitals, retailers, and schools, ensuring accurate consumption tracking in hard-to-read locations.

KEY FEATURES & ADVANTAGES

1.

Effortless Retrofit Capability

Easily integrates with existing gas meters, eliminating the need for costly replacements. Custom adapters can also be provided for wider network compatibility.

2.

Wireless Data Transmission & Smart Connectivity

Leverages LoRaWAN/NB-IoT to transmit gas usage data directly to the back office, ensuring secure, reliable, and real-time communication.

3.

Precision Measurement with Advanced Magnetic Sensor

The built-in magnetic sensor detects pulses directly from the meter, eliminating the need for third-party pulser boxes, ensuring accurate and seamless data capture.

4.

Long-Lasting Battery Performance

Powered by a lithium battery, providing up to 5 years of operation with daily readouts and extending to 10 years with weekly transmissions, reducing maintenance costs.

5.

Tamper Detection & Security

Detects unauthorized device removal, lid opening, or external magnetic interference, triggering instant alerts to prevent fraud and unauthorized access.

6.

Robust Data Security & Encrypted Communication

Ensures high compression and security standards, protecting metering data through a proprietary WAN protocol.

7.

Intelligent Device Health Monitoring

Includes a built-in temperature sensor to monitor ambient conditions, ensuring optimal performance and longevity.

8.

User-Friendly Display & Diagnostics

Equipped with an intuitive digital display, providing clear visibility of readings, diagnostics, and installation status, simplifying operation for field technicians.

9.

Plug-and-Play Installation

Easily attaches to mechanical gas meters without significant modifications, allowing for fast, hassle-free deployment.

BENEFITS OF THE GAS METER READER MODULE



Upgrade Existing Infrastructure Without Full Replacement

Utility companies can retrofit their current mechanical meters, eliminating the need for costly replacements while gaining smart metering capabilities.



Enhanced Data Accuracy & Centralized Management

Provides real-time gas consumption data, improving billing precision and enabling better energy distribution planning. Aggregates data from multiple meters into a single platform for streamlined reporting and analysis.



Cost Efficiency & Energy-Saving Operation

Gradual upgrades reduce initial investment, while automated data collection and improved billing accuracy lead to long-term cost savings. Low power consumption extends battery life, reducing maintenance costs.



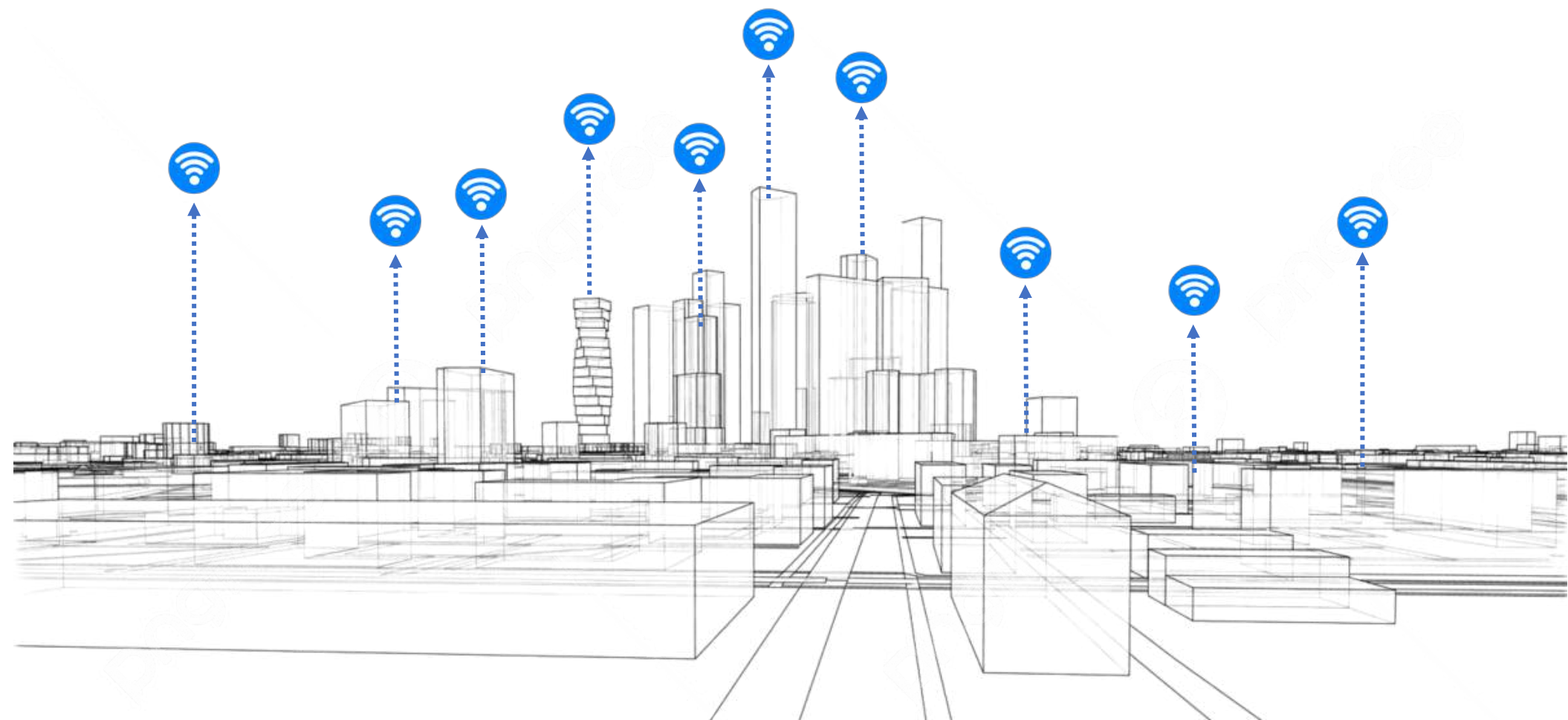
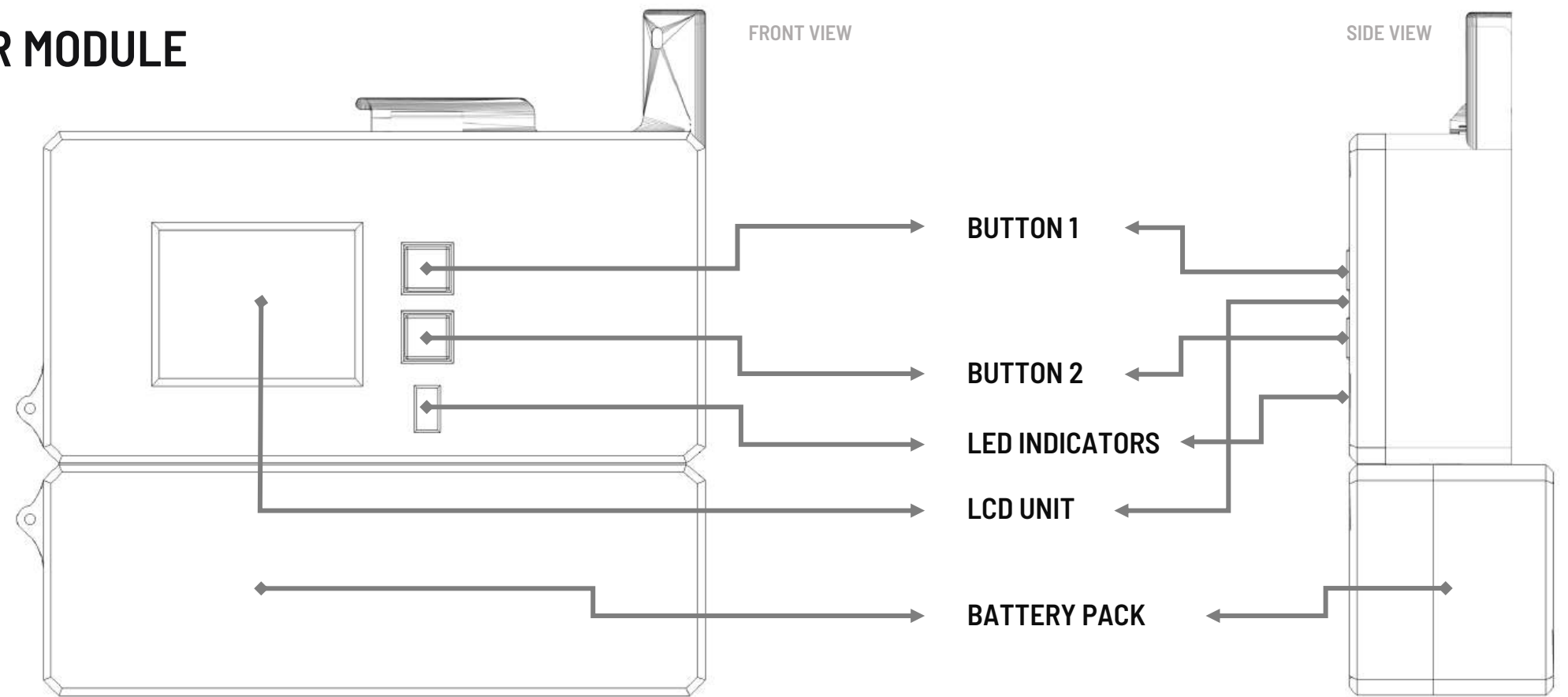
Unified Multi-Utility System Control

Integrates seamlessly with gas, water, and electricity meters, allowing utility providers to monitor and manage all meters from one central platform, enhancing operational efficiency.

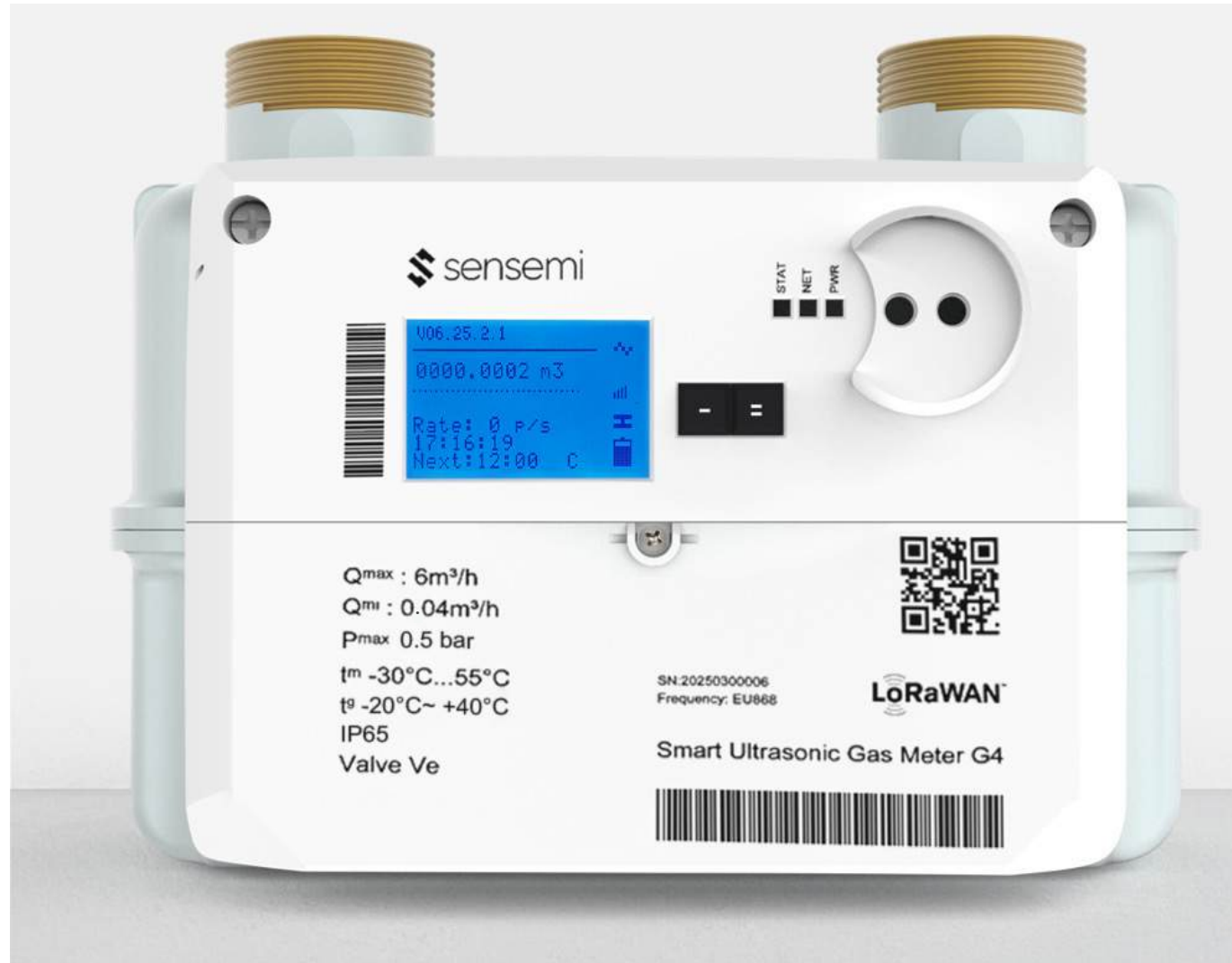


Future-Proof & Scalable Design

Modular architecture allows for easy integration of emerging technologies, ensuring long-term adaptability and effortless expansion from small-scale to nationwide deployments.



ULTRASONIC SMART GAS METER



Product Overview

The Ultrasonic Smart Gas Meter utilizes cutting-edge ultrasonic measurement technology to provide high-precision, durable, and maintenance-free metering. With no moving parts, it ensures exceptional accuracy, long-term stability, and an extended measurement range, making it a superior alternative to traditional diaphragm meters. Its compact, lightweight design enhances installation flexibility, while advanced digital capabilities support seamless integration with smart utility networks.

Working Principle

The meter determines gas flow rate by analyzing the time difference between ultrasonic waves traveling in opposite directions (T1 for U1→U2 and T2 for U2→U1). Using this data, the system precisely calculates the flow velocity and adjusts the reading based on the cross-sectional area of the flow channel, delivering accurate, real-time gas consumption measurement.

ULTRASONIC SMART GAS METER - BENEFITS

1.

Exceptional Measurement Accuracy & Sensitivity

Utilizing ultrasonic technology, this meter ensures high-precision gas flow measurement, detecting even minimal gas flow variations for accurate billing and consumption analysis.

2.

Long-Term Reliability & Maintenance-Free Operation

With no moving parts, the meter offers consistent performance over its lifespan, eliminating mechanical wear, reducing maintenance needs, and ensuring long-term stability.

3.

Compact, Lightweight & Space-Saving Design

Smaller and lighter than traditional diaphragm meters, allowing for flexible installation in space-constrained environments.

4.

Strong Anti-Interference & Secure Data Transmission

The digital signal output is immune to magnetic interference, ensuring reliable performance and tamper-resistant data accuracy.

5.

Advanced Safety Mechanisms for Leak Prevention

Equipped with overflow, reverse flow, and continuous flow detection, the meter automatically closes the valve to prevent leaks, appliance malfunctions, and pipeline damage.

6.

Built-in Fire & Hazard Detection

Integrated high-temperature sensors detect potential fire hazards, triggering automatic gas shut-off and real-time alerts to ensure safety.

7.

Tamper & Disassembly Detection

Monitors unauthorized access, water ingress, or physical tampering, reporting security threats in real-time and maintaining system integrity.

8.

Optimized Performance with Temperature & Pressure Compensation

Built-in temperature and pressure sensors adjust volume readings to Standard Temperature and Pressure (STP) conditions, ensuring consistent and precise measurement.

9.

Future-Proof with IoT Connectivity & Remote Management

Supports seamless integration with smart grids, enabling real-time monitoring, automated diagnostics, and remote control, enhancing operational efficiency.

ULTRASONIC SMART GAS METER - KEY FEATURES



Compact and Lightweight Design

Smaller and lighter than traditional diaphragm meters, allowing for easy installation and space-saving deployment.



High Reliability & No Moving Parts

The ultrasonic measurement system ensures long-term accuracy, eliminating mechanical wear and the need for frequent recalibration.



Built-in Temperature & Pressure Compensation

Integrated sensors automatically adjust readings under standard temperature (STP) conditions, delivering accurate and standardized measurements.



Ultra-High Sensitivity & Accuracy

Detects even minimal gas flow variations, ensuring precise metering across a wide range ratio (up to 375:1 for G4W and 260:1 for G40W).



Strong Anti-Interference Technology

The digital signal output is immune to magnetic interference, ensuring secure and tamper-resistant data transmission.



Advanced Gas Safety Features

- **Overflow Detection:**

Closes the valve at excessive flow rates to prevent pipeline damage.

- **Reverse Flow Detection:**

Detects incorrect gas flow direction and automatically shuts the valve.

- **Continuous Flow Detection:**

Prevents accidents caused by leaks or forgotten appliances.

- **High-Temperature Detection:**

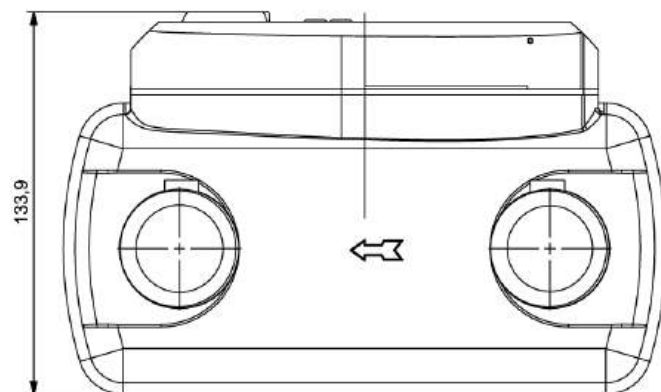
Shuts the valve and sends alerts in case of fire hazards.

- **Air & Water Ingress Detection:**

Detects unauthorized disassembly or water intrusion, securing the gas pipeline system.

- **Tamper & Disassembly Detection:**

Monitors and records battery cover removal, meter disassembly, and tampering attempts, alerting the system to potential fraud.

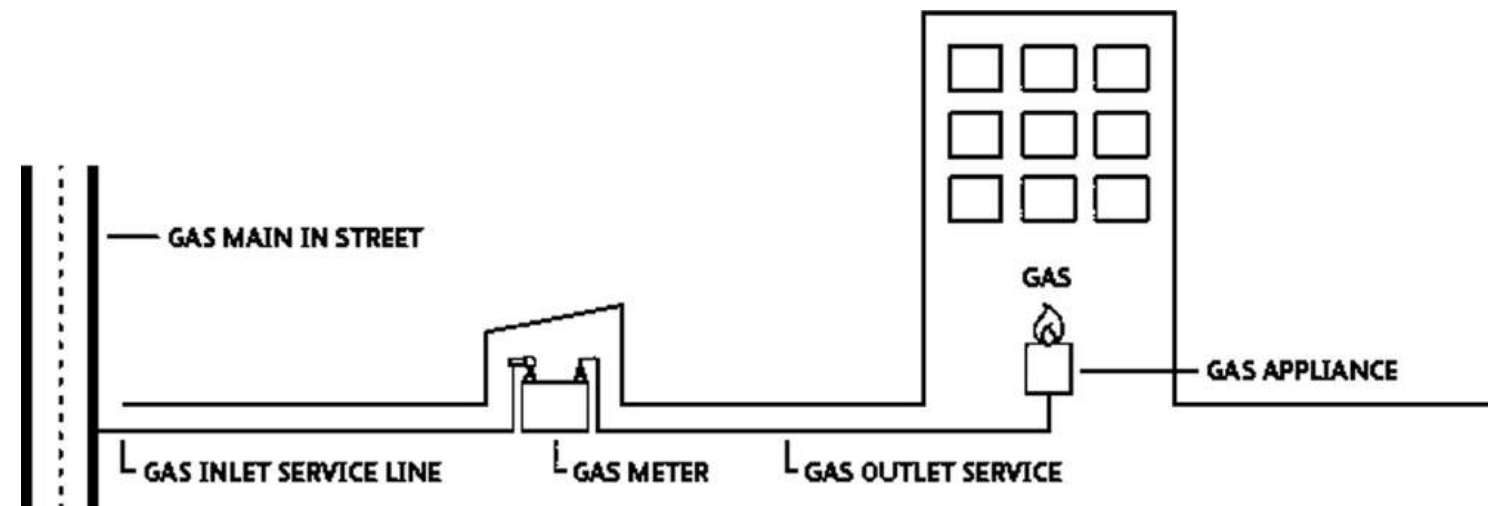


WHY CHOOSE THE ULTRASONIC SMART GAS METER?

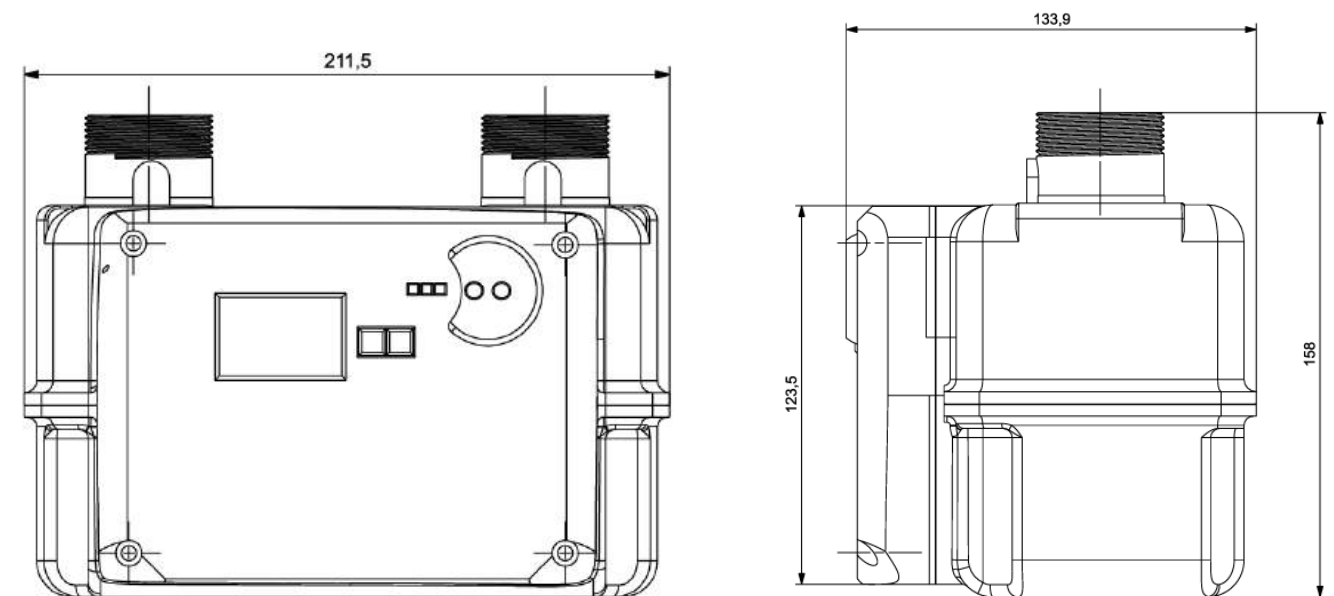
Smart. Safe. Reliable

The Ultrasonic Smart Gas Meter is an intelligent, future-ready solution for modern gas measurement and safety. Its precision, reliability, and innovative safety mechanisms deliver unmatched value for both consumers and utilities. With advanced features like digital metering, tamper detection, and environmental compensation, this meter ensures efficiency, safety, and compliance with industry standards.

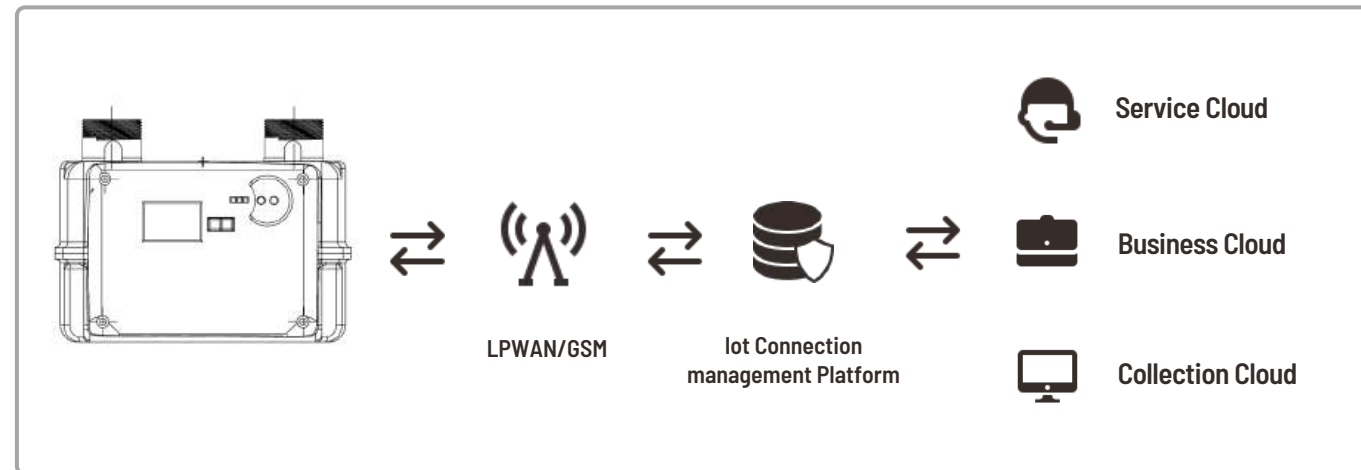
Discover the next level of gas metering with the Ultrasonic Smart Gas Meter.



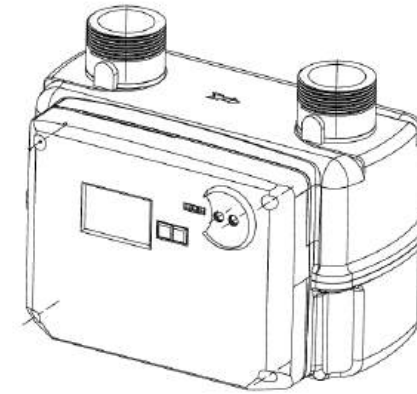
DIMENSIONS



SOLUTION ARCHITECTURE



METER BODY SIZES COMPARISON

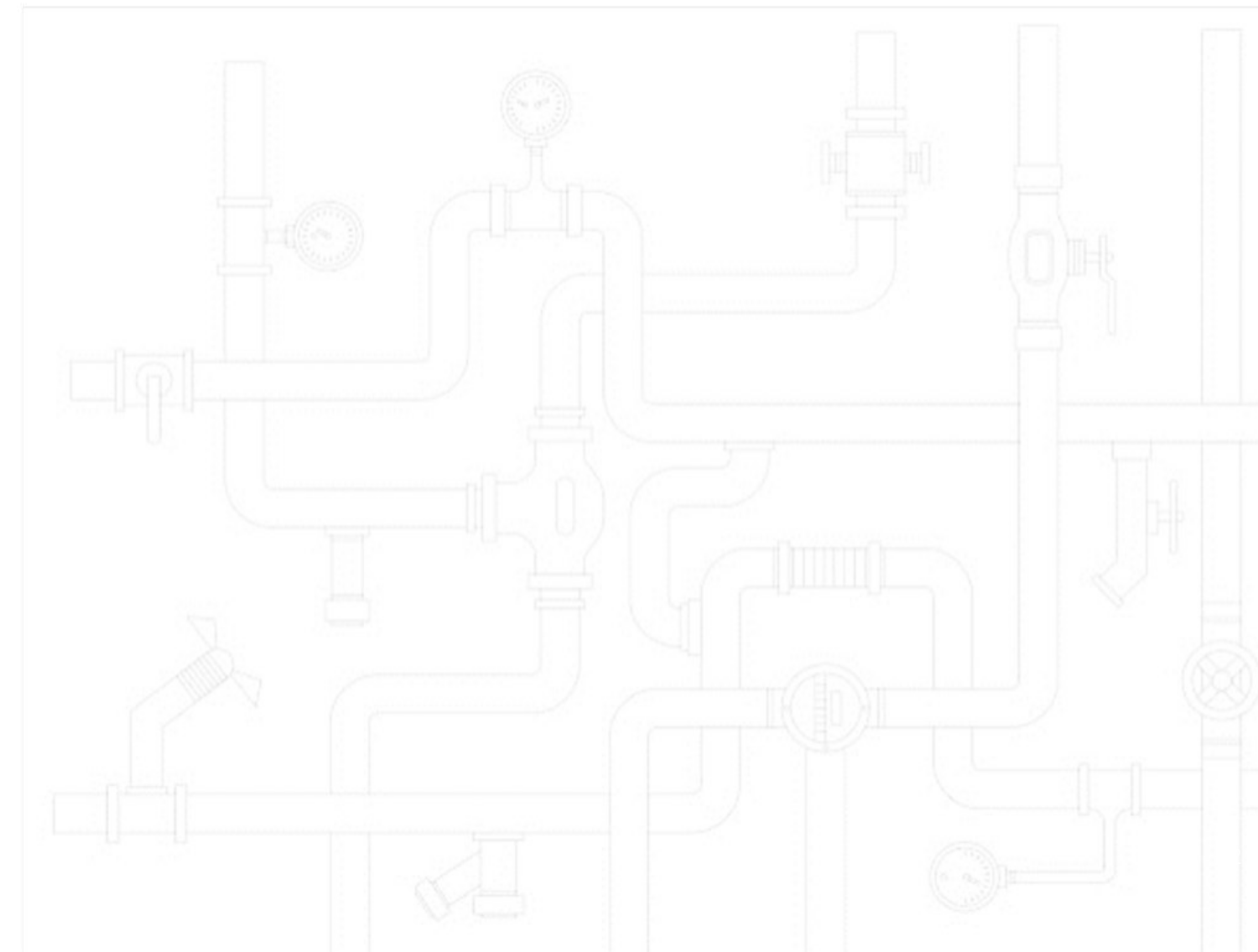


	G1.6-G4	G6-G10	G16-G16	G25-G40
Length (mm)	201	239	270	373
Width (mm)	99	132	142	190
Height (mm)	162	180.5	193	210
Inter-axis (mm)	130	152.4	160	220
Thread	M30×2	M42×2	G2"	G2½"

*ALL UNITS ARE IN MM (MILIMETER)

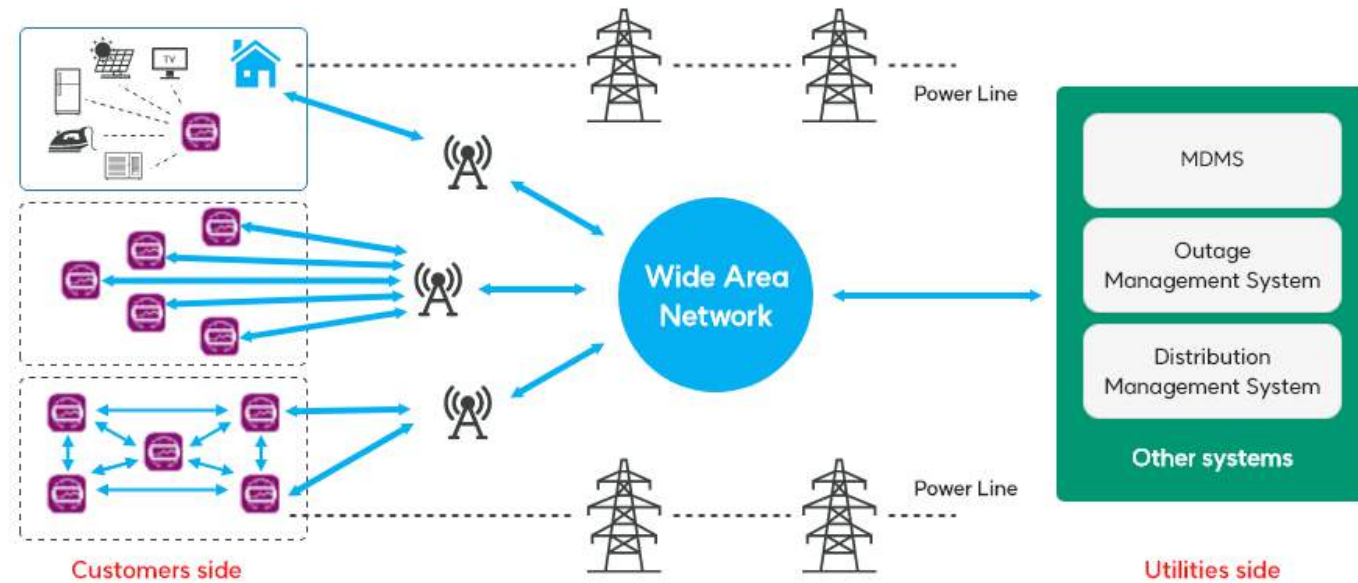
TECHNICAL PARAMETERS

Technical Parameters												
Type	G1.6	G2.5	G4	G4	G6	G10	G10	G16	G16	G25	G40	G40
Qmax (m3/h)	2.5	4	6	6	10	16	16	25	65	40	65	65
Qmin (m3/h)	0.016	0.025	0.04	0.4	0.06	0.1	0.1	0.16	0.16	0.25	0.4	0.25
Accuracy Class	1.5											
Maximum Permissible Error (MPE)	0.1Qmax < q < Qmax ± 1% Qmin < q < 0.1Qmax 2%											
Max. Working Pressure (kPa)	50											
Pressure Absorption (Pa)	< 250						< 375					
Working Temperature (°C)	- 30°C ~ +55°C											
Ingress Protection level	IP65											
communication mode	NB-IoT/GPRS/Sigfox/LoRaWAN						NB-IoT/GPRS					
Valve Lifetime (time)	>100000											
Battery Life (year)	≥ 10 years						≥ 10 years					



SENSEMI AMI PLATFORM

Intelligent, Scalable, and Efficient Utility Management



High-Performance Data Management

The SenseMi AMR/AMI System is a high-performance, multi-protocol data collection platform designed for seamless metering data acquisition, automated billing, and real-time web-based monitoring. With its scalable architecture and robust performance, it enables utilities to efficiently manage metering networks, ensuring accurate data collection and streamlined operations.



Automated Reports & Long-Term Data Storage

The system automatically generates daily and monthly reports, featuring hourly and daily consumption profiles. These reports are securely stored in the data archive for up to 20 years, allowing for remote access to historical consumption data whenever needed.



Optimizing Utility Operations with the SenseMi AMI Platform

By automating data acquisition, streamlining billing, and providing real-time analytics, the SenseMi AMI Platform empowers utility providers with accurate insights, enhanced efficiency, and scalable smart metering solutions.



Comprehensive Metering Data & Reporting Rich Periodic Readouts for Real-Time Insights

Each daily readout delivers detailed real-time data, including:

- Current Meter Status:**
 Electronic meter health, internal valve status, gas temperature, and GSM communication status.
- Periodic Statistics:**
 Average and maximum temperature, instantaneous flow rates, and hourly flow insights.
- Historical Data Archive:**
 Consumption trends, index values, and six recorded temperature readings every four hours.

Seamless Billing Integration

The platform automatically integrates metering data into existing billing systems, eliminating manual processes and enhancing operational efficiency. This ensures accurate invoicing, reduced administrative workload, and improved revenue management.

User-Friendly Web Interface

All meter data is accessible via an intuitive web application, featuring clear, easy-to-read dashboards for enhanced data visibility and accessibility. This ensures that utility managers can quickly analyze consumption trends and system performance.

Automated System Processes

Designed for efficiency and reliability, the system automates onsite installation management, device monitoring, and routine maintenance. These automated workflows reduce human intervention, minimize errors, and improve overall system performance.

Flexible Hosting Solutions

The platform is available as a cloud-hosted service, allowing utilities to leverage remote data access, reduce infrastructure costs, and ensure secure, scalable performance.