



U-Vend

**PREPAID
UTILITIES
MANAGEMENT**

Empowering you with Reliable, Smart Utilities, for an Uninterrupted Life

**MANAGE YOUR
PROPERTY'S
UTILITIES
WITH EASE**

CATALOGUE



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IVORY: Integrated Single-Phase Electricity Meter

TECHNICAL SPECIFICATIONS

GENERAL INFORMATION

The Ivory Integrated Single Phase electricity meter is a common base mounted Class1 ISP pre-payment meter. Building on EnLight's existing product design, the Ivory ISP is an affordable meter to meet the requirement of low-cost installations and low power users. It is available from 20A to 80A to meet a variety of demands.

The meter is rated at 230V (80A) with an operating temperature range of -15 °C to +55 °C with Class 1 active energy accuracy.

The meter is configurable for either STS pre-payment or post-payment operation. It incorporates a tamper detection and disconnection feature.

The large LCD display has language independent icons indicating the meter status. A low credit threshold function notifies the user of a low credit condition by audible alarm and indication on the LCD. The keypad incorporates braille features for the partially sighted.

SPECIFICATIONS

User Display	LCD to 8 digits values & language independent icons
User Interface	Keypad incorporating braille features
Visual Indicators	Rate, Relay Status, Status LEDs, LCD with language independent icons
Rate Indicator	1000 imp/kWh
Metering/ Payment Modes	Pre- and post-payment fully STS compliant
Disconnection	Zero Credit, Tamper, Reverse Energy, Over and Under Voltage, Over and Under Frequency, Over Power Limit
Tamper removal from the socket.	Magnetic. Detection of unit Reverse Energy Detection
Voltage Range	Un = 220V / 230V / 240V, 50Hz (80 % Un to 115 % Un)
Frequency	50Hz +/- 2 %



Current range	Ib=5A, I _{max} = 80A
Accuracy	Active Energy Class 1
Power supply and consumption	Power consumption less than 2W and 10VA
Temperature operating Range	-15 °C to +55 °C
Humidity Operating Range	<95 % RH
RF Immunity	30V/m
Sealing	Meter enclosure sealed for life with terminal seal provision
Product Reliability	Designed for a 15yr lifespan in the field
IP Rating	Common base IP52

KEY BENEFITS

- Large LCD display with language independent icons indicating the meter status.
- Keypad with braille incorporated features for the partially sighted.
- Low credit notification by audible alarm and indication on the LCD.
- Pre-payment and post-payment operating modes are available. Quality of supply Over and Under states for voltage,

LANDIS + GYR: 10-GM100

TECHNICAL SPECIFICATIONS

GENERAL INFORMATION

Meter Format
Single phase, 2 wire (Line1, N, N, Load1)
directly connected keypad prepayment meter

Meter Type Variants
Single Phase, 2 Wire 230V, 50 Hz
Single Phase, 2 Wire 220V, 50 Hz
Single Phase, 2 Wire 120V, 60 Hz

OPERATION

General
Prepayment Mode only
Credit Entry Mechanism
20 digit STS encrypted numbers,
via the keypad of the meter
Token Encryption Mechanism
20 digit STS1 according to IEC62055-41

ELECTRICAL RATINGS

Nominal Voltage (Un) – Rated Voltage
Refer to “Meter Type Variants”
Nominal Frequency
50 Hz and 60 Hz variants available
Operating Voltage Range
80% to 120% of Un
Maximum Continuous Current (Imax)
80 Amps (programmable to lower power limits)
Burden
Voltage circuit <1.5W / <10VA @ 230V, 50Hz
Current circuit <2.5 VA @ Ib=10A
Protective Class (according to IEC62052-11)
Class II (double insulated)

DISCONNECTION DEVICE

Type
1 (single pole) latching contactor 100A

TERMINALS

Layout
According to British Standard, BS5685
Mains Terminals
Type Double screw (M6) moving cage terminal
Material Mild Steel, yellow passivated
Maximum cable size 25mm²
Terminal Block Material
UV Stable Polycarbonate with flame-retardant
Resistance to heat & fire



Complies with 960°C glow wire (IEC60695-2-1)
Resistance to spread of fire
UL94-V0 rated @ 1.5mm. No toxic gases emitted:
“Green Material”

MAIN ENCLOSURE

Enclosure Details
Type ottom connected according to BS5685
Enclosure Material
UV Stable Polycarbonate with flame-retardant
Resistance to heat & fire
Complies with 960°C glow wire (IEC60695-2-1)
Resistance to spread of fire
UL94-V0 rated @ 1.5mm. No toxic gases emitted:
“Green Material”
Rating
Degree of protection IP54 (IEC60529)
Mounting Arrangements
Two mounting screws at the bottom (spacing according to BS5685).
Top mounting bracket available as an option
Sealing
Terminal cover 1 sealing screw
Meter enclosure Factory sealed with screw sealing plugs
inserted at the time of manufacture



HEXING: HEX115-P

TECHNICAL SPECIFICATIONS

GENERAL INFORMATION

Meter Format

Single phase, 2 wire (Line1, N, N, Load1) directly connected keypad prepayment meter

Meter Type Variants

Single Phase, 2 Wire 240V, 50 Hz

Single Phase, 2 Wire 230V, 50 Hz

Single Phase, 2 Wire 220V, 60 Hz

OPERATION

General

Prepayment Mode only

Credit Entry Mechanism

20 digit STS encrypted numbers, via the keypad of the meter

Token Encryption Mechanism

20 digit STS1 according to IEC62052-11

ELECTRICAL RATINGS

Nominal Voltage (Un) – Rated Voltage

Refer to "Meter Type Variants"

Nominal Frequency

50 Hz and 60 Hz variants available

Operating Voltage Range

80% to 120% of Un

Maximum Continuous Current (Imax)

80 Amps (programmable to lower power limits)

Burden

Voltage circuit <1.5W / <10VA @ 230V, 50Hz

Current circuit <2.5 VA @ Ib=10A

Protective Class (according to IEC62052-11)

Class II (double insulated). Degree IP54

DISCONNECTION DEVICE

Type

2400A (according to IEC62053-21)

TERMINALS

Layout

According to British Standard, BS7856

Mains Terminals

Type Double screw (M6) moving cage terminal

Material Mild Steel, yellow passivated

Maximum cable size 25mm²

Terminal Block Material

UV Stable Polycarbonate with flame-retardant

Resistance to heat & fire

Complies with 960°C glow wire (IEC62053-21)

Resistance to spread of fire

UL94-V0 rated @ 1.5mm. No toxic gases emitted:

"Green Material"



MAIN ENCLOSURE

Enclosure Details

Type ottom connected according to BS5685

Enclosure Material

UV Stable Polycarbonate with flame-retardant

Resistance to heat & fire

Complies with 960°C glow wire (IEC60695-2-1)

Resistance to spread of fire

UL94-V0 rated @ 1.5mm. No toxic gases emitted:

"Green Material"

Rating

Degree of protection IP54 (IEC62053)

Mounting Arrangements

Two mounting screws at the bottom (spacing according to BS5685). Top

mounting bracket available as an option

Sealing

Terminal cover 1 sealing screw

Meter enclosure Factory sealed with screw sealing plugs

inserted at the time of manufacture

HEXING: HXE330

TECHNICAL SPECIFICATIONS

ACCURACY

Active class 1
Reactive class 2(optional)

VOLTAGE

Reference voltage 3×230/ 400V
Operating voltage range 130V -240V(phase to neutral)

CURRENT

Basic current 5A
Maximum current 60A - 100A
Starting current <0.4%Ib

FREQUENCY

50Hz or 60Hz

TEMPERATURE

Operation range -25 °C to +55°C
Limit range for storage and transport -40 °C to +75°C

HUMIDITY

Up to 95%

POWER CONSUMPTION

Power consumption in voltage circuit (active) ≤2W
Power consumption in voltage circuit (apparent) ≤10 VA
Power consumption in current circuit ≤1 VA

INSULATION STRENGTH

AC voltage test 4kV during 1min
Impulse voltage test 1.2/50µs mains connections 6kV

EMC

Electrostatic discharges(Contact discharges) 8kV
Electrostatic discharges(Air discharges) 15kV

Surge immunity test 4kV
Fast transient burst test 4kV
Electromagnetic RF fields (80MHz to 2000MHz) 10V/m(with current),
30V/without current)

CONNECTION TERMINALS

φ 8mm

HOUSING

Protection degree IP54
Meter cove Opaque PC+ fiber glass
with a transparent window
Meter base Opaque PC+ fiber glass
Terminal cover Opaque PC+ fiber glass

DISPLAY

Digit size 10mm x 6mm
Number of digits 8



COMMUNICATION INTERFACE

Optical communication DLMS/COSEM
RS485 communication DLMS/COSEM
A plug-and play communication module DLMS/COSEM

WEIGHT

Net weight Approx. 1.73 kg (+PLC communication module)
Approx. 1.77 kg (+GPRS communication module)

DIMENSION

257 mm × 174 mm × 90 mm (Long terminal cover)



CONLOG: wBECNANO WITH wCIU

TECHNICAL SPECIFICATIONS

VOLTAGE RATINGS

Nominal voltage (-20% +15%)	
220 - 240 V AC	110 – 127 V AC
Supply frequency (±5%)	
50 Hz	60 Hz

SHORT CIRCUIT RATING	456VAC for 48 hours
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CURRENT RATINGS

2.5kVA	
Minimum current(Imin)	0.25A
Transitional current(Itr)	0.5A
Base current (Ib)	5 A
Maximum current (Imax)	60 A
Minimum starting current	Class 1 20mA
Utilisation category	UC2

NOMINAL POWER CONSUMPTION	2W / 10VA
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ENVIRONMENTAL

Operating temperature	-10°C to +55°C
Storage and transport temperature	-25°C to +70°C
Humidity	95% non-condensing
IP rating	IP 54 (Meter) IP 52 (User interface unit)
RF immunity	30 V/m
Manufacture	Pb Free

STATUS INDICATORS

Power / load status
Rate Indicator (1 000 imp/kWh)

INSTALLATION

Location	Indoor
Footprint	DIN rail mounted (35mm) asymmetrical
Insulation class	Double insulation

TERMINALS

	LIVE	NEUTRAL
Type	Cage Clamps	Cage Clamp
Size	16mm ²	16mm ²



INTERROGATION

Type	RF Communication
Security	Security seals: Meter housing and terminal cover
	Ultrasonically welded meter housing
	Terminal cover tamper detection

PACKAGING

Units per carton (option1)	10 per carton
Units per carton(option2)	1 wBECnano and 1 wCIU
Carton weight (including box)	3.12kg

CONLOG: wBEC44X WITH CIU(X)

TECHNICAL SPECIFICATIONS

METER TYPE

Static	
Meter Connection Type	Direct Connected
Connection mode	(Phase, wires, elements) 1 Phase, 2 wire, 1 element
(Optional: 2 elements with neutral Measurement)	
Insulation protection class	Class II

VOLTAGE RATINGS

Nominal voltage (-20% +15%)	220 - 240 V AC 110 – 127 V AC
Supply frequency (±5%)	50 Hz 60 Hz

CURRENT RATINGS

Minimum current (I_{min})	0.25A
Transitional current (I_{tr})	0.5A
Base current (I_b)	5 A
Maximum current (I_{max})	100 A
Minimum starting current	Class 1 20 mA Class 2 25 mA
Utilisation category	UC2
Minimum start up (230V)	140 V
Minimum operating (230V)	130 V AC

NOMINAL POWER CONSUMPTION

2 W / 10 VA

ACCURACY

Class 1 and 2

LIMIT RANGE OF OPERATION

1.8 times the normal voltage for 48 hours

WITHSTAND RANGE OF OPERATION

1.9 times the nominal voltage for 48 hours

SHORT CIRCUIT RATING

Short-circuit withstand 3.0 kA

PROTECTION

Power overload	Thermal overload
Current overload	Line / load reversal
Over / under voltage	Extreme over current
Delayed reconnection	

ENVIRONMENTAL

Perating temperature	-10°C to +55°C
Storage temperature	-25°C to +70°C
Humidity	95% non-condensing
IP rating	IP 54 (Meter)



RF immunity	30 V/m
Manufacture	PB Free

STATUS INDICATORS

Power / load status
MCU / CIU/CBU communication status
Rate LED (1 000 imp/kWh)

INSTALLATION

Location	Indoor
Footprint	DIN rail mounted (35mm)
asymmetrical	
Insulation class	Double insulation

TERMINALS

Type	Live	Neutral
Size	Cage clamps 25mm ²	Cage clamp 25mm ²

INTERROGATION

Type	USB (Type B interface) Power Line Communication Optical
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SECURITY

Security seals



CONLOG: wBEC44(09) WITH wUIU(09)

TECHNICAL SPECIFICATIONS

Voltage ratings

Nominal voltage (-20% +15%)
220 - 240 V AC 110 – 127 V AC

Supply frequency (±5%)
50 Hz 60 Hz

Current ratings

Base current (Ib) 5 A
Maximum current (Imax) 100 A
Transient current (Itr) 0.5A

Minimum starting current
Class 1 20 mA
Class 2 25 mA
Utilisation category UC2
Minimum start up (230V) 120 V
Minimum operating (230V) 110 V AC

Nominal power consumption 1.31 W / 9 VA
Accuracy Class 1 or 2 (maintained throughout life of product)

Over voltage rating 1.8 times the nominal voltage for 48 hours
Short circuit rating Short-circuit withstand 3.0 kA
Impulse voltage protection 6kV

Protection

Power overload Thermal overload
Current overload Line / load reversal
Over / under voltage Extreme over current
Delayed reconnection

Environmental

Operating temperature -10°C to +55°C
Storage temperature -25°C to +70°C
Humidity 95% non-condensing
IP rating IP 54 (meter and user interface unit)
RF immunity 30 V/m
Status indicators Power / load status
MCU / wUIU communication status
Rate LED (1 000 pulses / kWh)

Installation

Footprint DIN rail mounted (35mm)
Insulation class asymmetrical
Double insulation

Terminals

Type **Live** **Neutral**
Size Cage clamps Cage clamp
25mm² 16mm²

Interrogation

Type Direct probe, USB,
radio frequency (RF)



Security

Security seals
Terminal cover
Tamper detection

RF interface

Category Non-specific SRDs
(ICASA notice 1114 of 2007)

Frequency band 433.05 MHz to 434.90 MHz
Modulation type GFSK
Maximum power output 10 mW ERP (10dBm)
Duty cycle < 0.01%

Packaging

Units per carton 10 per carton
Carton weight
(including box) 3.12kg

For further information,
please contact Conlog.

CONLOG: BEC23(09)

TECHNICAL SPECIFICATIONS

Voltage ratings

Nominal voltage (-20% +15%)
220 - 240 V AC

Supply frequency (±2%)
50 Hz

Current ratings

Base current (Ib) 5 A
Maximum current (Imax) 80 A
Transient current (Itr) 0.5A
Minimum starting current
Class 1 20 mA
Class 2 25 mA (Earth leakage only)
Utilisation category UC2

Nominal power consumption 1.6 W / 9 VA
Accuracy Class 1 or 2 (maintained throughout life of product)
Over voltage rating 420VAC for 48 hours
Short circuit rating Short-circuit withstand 2.5 kA

Protection

Power overload Over / under voltage
Current overload Line / load reversal
Thermal

Environmental

Operating temperature -10°C to +55°C
Storage temperature -25°C to +70°C
Humidity 95% non-condensing
IP rating PL - IP54 PE/PD - IP51
RF immunity 30 V/m

Status indicators

Rate LED (1 000 pulses / kWh)

Installation

Footprint Common wallbase
Insulation class Double insulation

Terminals

Live Neutral
Cage clamps Cage clamp

Interrogation Security

Type A (direct probe)
Meter housing
Provision for lead seals or wire seals

Tamper detection

Plastic seals
Load disconnection on tamper detection



Standards

IEC 62051-1	SANS 1524-4	SANS 1524-1-1
IEC 62052-11	SANS 15417	SANS 1524-1-2
IEC 62053-21	STS 101-1	HSAS 18001
IEC 62055-31	STS 201-15.1.0	ISO 14001
IEC 62055-41	DSP 34-749	ISO 9001
IEC 62055-51	DSP 34-1635	SANS 1524-1
IEC 62055-52	RES/RR/00/11740	

Packaging

Wallbase	Meter	Meter and Wallbase
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Units per carton
10

5

5

Carton weight (incl box)
4.2kg

3.9kg

8.7kg

For further information, please contact Conlog.



CONLOG: BEC21

TECHNICAL SPECIFICATIONS

Voltage ratings

Nominal voltage (-20% +±5%) 220VAC, 230VAC, 240VAC
Supply frequency (±5%) 50Hz/60Hz

Current ratings

Base current (Ib) 5 A
Maximum current (I_{max}) 60 A
Transient current (Itr) 0.5A

Minimum starting current

Class 1 20 mA

Utilisation category UC2

Nominal power consumption 2W/10VA

Accuracy Class 1 (maintained throughout life of product)

Over voltage rating 420VAC for 48 hours

Short circuit rating Short-circuit withstand 2.5 kA

Protection

Power overload Thermal overload
Current overload Line / load reversal
Over / under voltage

Environmental

Operating temperature -10°C to +55°C
Storage temperature -25°C to +70°C
Humidity 95% non-condensing
IP rating IP 54
RF immunity 30V/m

Status indicators

Credit Status LED
Rate LED (1 000 pulses / kWh)
Buzzer

Installation

Footprint 4 Terminal, bottom entry
Insulation class Double insulation

Terminals

Type Cage clamp
Maximum size 16mm²

Interrogation

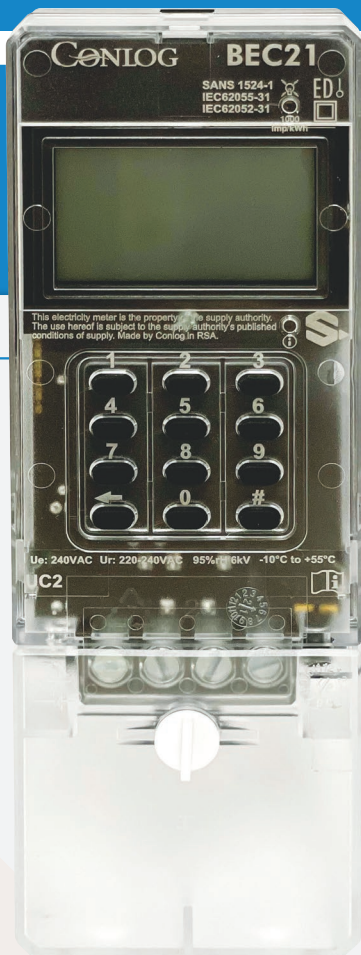
Type Near Field Communication (NFC)

Security

Meter housing Wire seals

Tamper Provision

Tamper terminal cover



Ultrasonically welded

Standards

IEC 62052-11 IEC 62055-52
IEC 62053-21 IEC 62056-21
IEC 62055-21 SANS 1524-1
IEC 62055-31 SANS 15417
IEC 62055-41 ISO 9001:2008
IEC 62055-51 ISO 14001:2004

Packaging

Units per carton

10 IN BOX

For further information, please contact Conlog.

CONLOG: wBEC62(09) WITH wUIU

TECHNICAL SPECIFICATIONS

110/120/127 VAC

Nominal voltage (-20% +15%)

Supply frequency (±5%)

Base Current (lb)

220 VAC

Nominal voltage (-20% +15%)

Supply frequency (±5%)

Base Current (lb)

230/240 VAC

Nominal voltage (-20% +15%)

Supply frequency (±5%)

Base Current (lb)

Current ratings

Max current (Imax)

Min starting current

Class 1

Class 2

Utilisation category

Nominal power consumption

Accuracy

Over voltage rating

Short circuit rating

Protection

Environmental

Operating temperature

Storage temperature

Humidity

IP rating

RF immunity

Status indicators

Installation

Footprint

Insulation class

Terminals

Type

Maximum size

Security

Meter housing

Terminal cover

Tamper protection

Standards

Packaging

110/120/127 VAC

60Hz

10A

220 VAC

50Hz

10A

230/240 VAC

50Hz

5A

100A

40mA

50mA

UC2

1.6W / 9VA

Class 1 and 2 (maintained throughout life cycle of product)

420VAC for 48 hours

Short-circuit withstand 3.0kA

Power overload Thermal overload

Current overload Phase imbalance

Over / under voltage

-10°C to +55°C

-25°C to +70°C

95% non-condensing

IP 54

30V/m

Load / power status

MCU / wUIU communication status

Rate LED (1000 pulses / kWh)

BS7856

Double insulation

Live

Cage clamp

25mm²

Neutral

Cage clamp

25mm²

Communication

Type B (USB)

Security seals

Serialised plastic security seals

Tamper terminal cover

Load disconnection on tamper detection

No power tamper (optional)

IEC 62051-1

IEC 62052-11

IEC 62053-21

IEC 62055-31

IEC 62055-41

IEC 62055-51

IEC 62055-52

IEC 60950-1

SANS 1524-4

SANS 15417

STS 101-1

STS 201-15.1.0

DSP 34-749

DSP 34-1635

RES/RR/00/11740

ETSI EN 300 220-1

SANS 1524-1-1

SANS 1524-1-2

OHSAS 18001

ISO 14001

ISO 9001

SANS 1524-1

IEC 62056-21

SANS 300 220-1

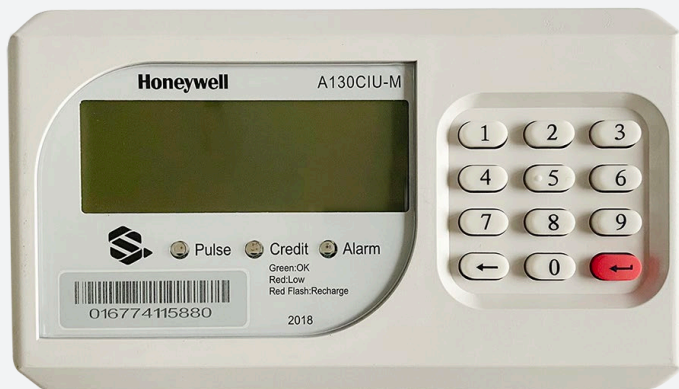
Units per box 1

For further packaging information, kindly contact Conlog





HONEYWELL STS: AS130PS-M with M-Bus CIU



TECHNICAL SPECIFICATIONS

The Honeywell single phase split type prepayment meter consists of a prepayment energy meter and customer interface unit.

The meter is installed externally for measuring power consumption, while the customer interface unit is installed indoors to allow users to view power consumption and check credit status.

Overview

The meter measures bidirectional active energy consumption, in accordance with the latest IEC standards and with STS (Standard Transfer Specification) for data encryption and decryption.

Communications

There are two options available.

- The A130PS-P with the A130CIU-P uses Power Line Carrier (PLC) to communicate between meter and CIU.
- The A130PS-M with the A130CIU-M uses Meter Bus (M-Bus) to communicate between meter and CIU.

Features include:

- Tamper detection
- Emergency Credit
- Bi-Directional operation.
- Compact Size
- Load Limiting
- Low Credit Alarm

Application:

- Suitable for installations rated up to 100A

UTILITY WATER METER

**FREE
STRAINER**



WITH THIS WATER METER



TECHNICAL SPECIFICATIONS

PERFORMANCE SPECIFICATION

The water meter must adhere to the following performance specifications:

- Maximum rate of flow (Qs) must be achieved at a pressure drop not in excess of 100 kPa across the inlet/outlet of the meter.
- The water meter must be approved for Vertical and Horizontal Installation.
- The water meter must have the following capabilities:

METER SIZE				15mm	20mm
Q4	Qs	Maximum Flowrate ± 2%	m³/h	3	5
Q3	Qp	Nominal Flowrate ± 2%	m³/h	1.5	2.5
Q2	Qt	Transitional Flowrate ± 2%	l/h	22.5	37.5
Q1	Qmin	Minimum Flowrate ± 5%	l/h	15	25
Starting Flow			l/h	5.7	9.5
Nominal Working Pressure			kPa	1600	1600
Accuracy Class				Class 'C'	Class 'C'
Pulse Output (l)				0.5	0.5
DN				20	25

TRANSMISSION: The transmission must be direct type mechanical drive to prevent magnetic interference.

TYPE OF DIAL: The meter dial must be of the sealed, wet dial type to prevent dirt from obscuring the reading and also preventing condensation from forming under the lens. The counter of the meter must be orientated to allow reading from the inlet side of the meter.

The counter window must be strong enough so that it cannot be penetrated, by means of a needle or similar sharp instrument in order to stop the counter from operating, without destroying the unit and allowing an uncontrollable discharge of water.

METER PROTECTION: The water meter shall be provided with the following protection.

- **Strainers:** A suitable fine mesh strainer of the following minimum dimensions to be internally fitted.

METER SIZE	APERTURE SIZE	MESH AREA
15mm	0,75mm	2 844mm ²
20mm	0,75mm	2 844mm ²

- **Reverse Flow Restrictor / Non-return Valves:** All meters must be fitted with an in-built non-removable maintenance free non-return valve that shall prevent meter reversal.
- **Sealing:** Water meters shall be provided with a means of sealing so that after sealing, both before and after the water meter has been properly installed, there shall be no possibility of dismantling or altering the water meter or its adjustment device without visibly damaging the seal. The meters shall be sealed subsequent to manufacture and before delivery to the purchaser.

METER BODY: The domestic water meter shall have a durable case protecting the measuring chamber in which the vane operates. The mounting casing shall not be repaired in any manner. The inlet and outlet nipples shall be located in the same horizontal plane.

The meter body to be manufactured from specially blended UV stabilised engineering plastic. The materials used in the construction of the meter shall be designed to withstand treated (potable) water and all potable water supplied to WHO

International regulations and to operate normally for 5 years without any need for normal maintenance or repair and without the maximum error exceeding the specified limits. The domestic water meter must be constructed of materials which are resistant to internal and external corrosion and if necessary be protected by some suitable surface treatment. All materials of the water meter which are in contact with the water flowing through the water meter shall be non-toxic and non-tainting. Water temperature variations within the working range shall not affect the materials used in the construction of the water meter. All internal plastic components to be constructed of virgin materials.

ADDITIONAL REQUIREMENTS

In addition, the water meters offered must comply with the following requirements:-

- The water meter must be suitable for rhythmic pulsating flows.
- Accuracy performance to be Class 'C' Specification. To reduce the volume of water escaping measurement (low flows) and promote a longer service life.
- Shaped, vertical grooves must be incorporated in the piston to improve the meter performance and reliability in the presence of suspended solids.
- All internal plastic components to be constructed of virgin materials.
- Spare parts for all Water Meters offered must be locally available and still be available for a period of ten years after purchase of the water meter.
- The water meter should be completely waterproof.



BULK WATER MANAGEMENT SOLUTION



TECHNICAL SPECIFICATIONS

The bulk solution consists of a bulk class B meter and hydraulic bulk valve which is then controlled by a Inzalo Utility Systems Water Management Device. Must be installed on a Horizontal Pipeline only. Pipeline must be used before installation. Meters must be constantly full of water during operation. Water

temperature - Max 50 degrees C / Minimum 0.1 degrees C (unfrozen) Nominal Pressure - 16 Bar
Compliance : SANS 1529-1, ISO4064, SANS1123, ISO9001-2015, ICASA, CE, SAFETY, NRCS

METER

Size	Type	Class	Max Flow (m3/h)	Nominal Flow (m3/h)	Transitional Flow (m3/h)	Min Flow (m3)	Min Reading (m3)	Max Reading (m3)	Factor	Pulse Value (per Pulse)	Length (mm)	Replaceable Meter Mechanism
40mm	LXLC-40	B	20	10	0,8	0,2	0,0005	999999	x1	100l	200	YES
50mm	LXLC-50	B	30	15	3	0,45	0,0005	999999	x1	100l	200	YES
80mm	LXLC-80	B	80	40	8	1,2	0,002	999999	x1	100l	225	YES
100mm	LXLC-100	B	120	60	12	1,8	0,002	999999	x1	100l	250	YES
150mm	LXLC-150	B	300	150	30	4,5	0,002	999999	x1	100l	300	YES
200mm	LXLC-200	B	500	250	50	7,5	0,002	999999	x1	100l	350	YES

VALVE

Type	Kv Value (l/sec)	Max Flow (l/sec)	Min (mm) (l/sec)	Length
40mm#106-PG-WDM	7,6	8	0,1	229
50mm#106-PG-WDM	13	13	0,3	238
80mm#206-PG-WDM	14	19	0,3	305
100mm#206-PG-WDM	36	37	0,3	381
150mm#206-PG-WDM	60	65	0,6	511
200mm#S206-PG-WDM	120	145	0,1	635



inzalo
utilitysystems





AQUADATA IoT

TECHNICAL SPECIFICATIONS

Inzalo Utility System's Aquadata is compatible with most pulse output water meters, and provides meter readings, and other configurable data based on customer requirements, via IoT networks.

The device can communicate directly with the cloud, allowing for almost instant communication.

The Aquadata technology overcomes some of the common challenges faced by conventional billing systems, such as:

- Inaccurate meter readings and billing
- Inability to do accurate water balancing to account for all water consumption.
- Lag between consumption and revenue collection
- Estimates

The Aquadata is encapsulated in a sealed ABS housing that meets IP68 requirements. It connects to the water meter by means of a probe, and is able to be installed indoors or outdoors.

LoRa and Sigfox IoT networks enable the modernisation of the AMR process and ensures that water management reporting is updated, stored and accurately captured in an energy-efficient manner.

KEY FEATURES

- Automatic meter readings by IoT networks
- Allows load profiling
- Helps in payment dispute resolution
- Incorporates tamper proofing measures
- Radio Configuration options: LoRa or Sigfox Long Range Radio
- Can be retrofitted to any approved magnetic pulse output water meter
- Leak detection
- Accurate zonal balancing using synchronised meter readings
- No proprietary billing system required
- System interrogation via IoT networks
- Collect meter readings, Total to date, Alarm status, probe tamper and battery





WMD AQUAFLOW

TECHNICAL SPECIFICATIONS

Utility Systems' innovative water management device (WMD) has evolved. The AquaFlow is Utility Systems' next generation water management device, and its first IoT device that can communicate directly with the cloud via IoT networks, allowing for meter readings, water management and loading of prepaid water tokens.

The AquaFlow utilises the proven, secure and wireless LoRa or Sigfox networks for greater meter interrogation. By linking the AquaFlow to a pulse output water meter, water service providers can receive data directly to their back-end database systems via the cloud. This allows for Advance Metering Infrastructure (AMI) and modernises Automated Meter Reading (AMR) which is crucial for reporting purposes.

LoRa and Sigfox IoT networks enable the modernisation of the AMR/AMI process and ensures that water management reporting is updated, stored and accurately captured in an energy-efficient manner.

KEY FEATURES

- Daily or monthly carry-over where service providers allow it
- Leak and tamper detection
- Radio Configuration options: LoRa Long Range Radio, Proprietary Short Range Radio, or Sigfox Long Range Radio
- In-field replaceable battery pack
- Vertical or horizontal mounting
- Above ground installation
- IP68 waterproof rating
- Operating temperature range: 1°C to 60°C
- Compatible with Automated Meter Reading (AMR)





ULTRASONIC WATER METER



TECHNICAL SPECIFICATIONS

GENERAL

LAISSON 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.

TECHNICAL DATA

Items		Parameters		
Nominal Diameter (DN)	mm	15	20	25
Q_3	m ³ /h	2.5	4.0	4.0
Starting flow		2.5	4.0	4.0
R (Q_3/Q_1)		200/250/400 Optional		
Working Temperature		T30/T50 Optional		
Max. Working Pressure	MPa	1.6		
Pressure Loss Δp (Mpa)		≤ 0.063		
Class of Upstream Flow Field Sensitivity		U10		
Class of Downstream Flow Field Sensitivity		D5		
Protective Level		IP68		
Communication Method		Bluetooth Comm. Reserved Infrared		
Bluetooth Frequency		ISM 2.4G		
Communication Method		Downlink: Infrared /Lora Comm. Uplink: Optional with GPRS/NB-IoT/LoRa/Sigfox Comm. Reserve with upgrade port, Support local firmware upgrade.		
Display Resolution		Consumption 0.001 m ³ Instantaneous flow rate 0.001 m ³ /h Water temperature 0.01		
Pipe Section Material		Brass		
Power Supply		Lithium battery DC3.6V, replaceable		



SMART WATER METER - BLUETOOTH



TECHNICAL SPECIFICATIONS

GENERAL

The Laison smart water meter with Bluetooth capabilities allows users to enter tokens and read meter data from a smartphone app. The app is called Aqua Blue and can be downloaded by visiting the following link from your web browser: <https://www.laisontech.com/lapis/app/AquaBlue.apk>

LAIISON Parise Series Bluetooth STS Prepaid Water Meter (Hereafter referred as Parise Bluetooth Water Meter) is multi-jet impeller water meter integrated with Smart Electronic Module with Bluetooth Communication Technology to realize Water Measurement, Prepaid, Online Meter Monitoring, bi-directional communication with Smart Mobile Phone & Meter Data Management (MDM) system etc. functions.

By adopting patented nano-coating technology, Ultra-low Power Consumption Design, coding calibration technology etc., it features in High Protection Level, Long Battery Lifespan, High Sensitivity, Strong Anti-interference ability.

FEATURES

- Patented Nano-coating Technology and independent sealing, to ensure the normal working of meters in submerge conditions
- STS Prepaid Working Mode, complies with STS Protocol IEC 62055-41,51
- Bluetooth technology integrated, to realize Flexible Water Purchase, Meter Recharge and Remote Data Collection functions together with LAISON designed APP and Meter Data Management (MDM) System
- Ultra-low Power consumption, powered by lithium battery with more than 6 years
- 2 levels of Low - battery warning, Data Auto-save & Valve Close when power off
- Massive Data storage, 10 years' Hourly/Monthly Consumption Data Record
- Automatic Meter Data Upload, such as Hourly/Monthly Consumption Data, Battery Voltage, Metering Running Status, Event Record etc.
- Water Leakage Detection & Alarm

TECHNICAL DATA

Items		Parameters	
Nominal Diameter (DN)	mm	15	20
Q_3	m ³ /h	2.5	4.0
$R (Q_3/Q_1)$		100/160	
Working Temperature		T30/T50	
Max. Working Pressure	MPa	1.0/1.6	
Pulse Equivalent	m ³	0.1 (100 liters)/ 0.01 (10 liters)	
Class of Upstream Flow Field Sensitivity		U10	
Class of Downstream Flow Field Sensitivity		D5	
Protective Level		IP68	
Permissible Error		$Q_2 \leq Q < Q_1$	2%
Permissible Error		$Q_1 \leq Q < Q_2$	5%
Communication Method		Bluetooth Comm. Reserved Infrared	
Bluetooth Frequency		ISM 2.4G	
Communication Distance		10-20m by Bluetooth Comm. (Signal attenuation of two walls or above)	
Communication Distance		≤2m by Infrared Comm. without obstacle	
Case Material		ABS/PC Plastic alloy, UV resistance	
Power Supply		Lithium battery DC3.6V, replaceable	
Battery Lifespan		≥6 years	



SMART WATER METER - GPRS



TECHNICAL SPECIFICATIONS

GENERAL

The self-developed LAISON GPRS Smart Water Meter realizes bidirectional data communication between meter and MDM System through GPRS Communication, thus realizing Meter Remote Prepayment, Daily/Weekly/Monthly Automatic Meter Data Uploaded, Real-time Meter Remote Communication, Remote On/Off value switch valve, etc.

LAISON GPRS Water Meter complies to International STS Standard IEC62055 - 45,51 gets certified from STSA. Customers could purchase water through multiple methods (Vending Points, Agency, Customer Self-service, etc.), then obtain 20-digit recharge code to the corresponding smart meter through the GPRS network to recharge remotely without external keyboard input.

Meanwhile, meter data such as Hourly Consumed Water, Meter Battery Voltage, Running Status, etc. could be automatically uploaded to the MDM System through GPRS for further statistics and analysis. And diversified statistical reports can help water companies make scientific decisions.

FEATURES

- STS Prepaid Working Mode, Remote Meter Recharge via GPRS/NB-IoT/LoraWAN
- Real Time Clock (RTC) function, regular Remote 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 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

TECHNICAL DATA

Brass Body, Multi-jet, Wet Dial Type GPRS Mechanical Water Meter				
Items		Parameters		
Nominal Diameter (DN)	mm	15	20	25
Q ₃	m ³ /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	m ³	0.1/0.01 optional		
Class of Upstream Flow Field Sensitivity		U10		
Class of Downstream Flow Field Sensitivity		D5		
Protective Level		IP68		
Permissible Error		Q ₂ ≤ Q < Q ₄	2%	
Permissible Error		Q ₁ ≤ Q < Q ₂	5%	
Communication Method		GPRS Comm.		
Communication Method		Reserved Infrared Comm.		
Communication Distance		Depends on local GPRS comm. station coverage		
Communication Distance		≤2m by Infrared Comm. without obstacle		
Power Supply		Lithium battery DC3.6V, replaceable		
Battery Lifespan		≥6 years		



SPLIT TYPE STS WATER METER WITH AMR/AMI FUNCTION (LoRa)

TECHNICAL SPECIFICATIONS

GENERAL

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

- STS Prepaid Working Mode, Meter Recharge & Data Query via CIU
- 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
- 10 years historical meter data storage
- Prepaid and Postpaid Working Mode switchable

TECHNICAL DATA

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		
Max. Working Pressure	MPa	1.0/1.6		
Pulse Equivalent	m³	0.1/0.01 optional		
Class of Upstream Flow Field Sensitivity		U10		
Class of Downstream Flow Field Sensitivity		D5		
Protective Level		IP68		
Permissible Error		Q ₂ ≤ Q < Q ₄		2%
Permissible Error		Q ₁ ≤ Q < Q ₂		5%
Communication Method		LoRa RF Wireless Comm.		
		Reserved Infrared Comm.		
LoRa RF Wireless Comm. Frequency		470-495MHz (default), 863-879MHz optional		
Communication Distance		≤ 1km by LoRa RF Wireless Com. ≤2m by Infrared Comm. without obstacle		
Case Material		Brass / Plastic Body		
Power Supply		Lithium battery DC3.6V, replaceable		
Battery Lifespan		≥6 years		