



Water Management Unit: Technical Brochure





- Smart Automatic Meter Reading and Billing
- Centralized Automatic Data Collection
- Convert Mechanical meters to Smart AMR Meters
- View water consumption through the Lesira Portal

This is a smart battery powered retrofittable AMR device for pulse output water meters. It features wireless transmission of Meter Consumption Information via IOT networks - Sigfox, LoRaWAN & LesiraNet - for consumption monitoring and reports viewed through the **Lesira Portal**.



Features

FEATURES:

- Converts mechanical meters to Smart AMR meters
- Long Range Wireless communication via IoT Networks (LesiraNet, SigFox, LoRaWAN)
- Radio Frequency: 868 MHz
- Automatic Detection & Notification of Tamperers & Leaks
- Data automatically exports to municipal billing system and / or Lesira Portal™
- Managed through the Lesira Online Water Meter Management Portal
- Battery life: 10 years
- Waterproof
- Less than 10 minutes to install

VARIOUS MOUNTING OPTIONS

- Piston Meter mounting
- Panel Mount
- Wall Mount
- Ground Level

PRODUCT CODE TABLE:

PRODUCT CODE	DESCRIPTION
WMU – L	Water Management Unit – Lora
WMU - S	Water Management Unit – Sigfox



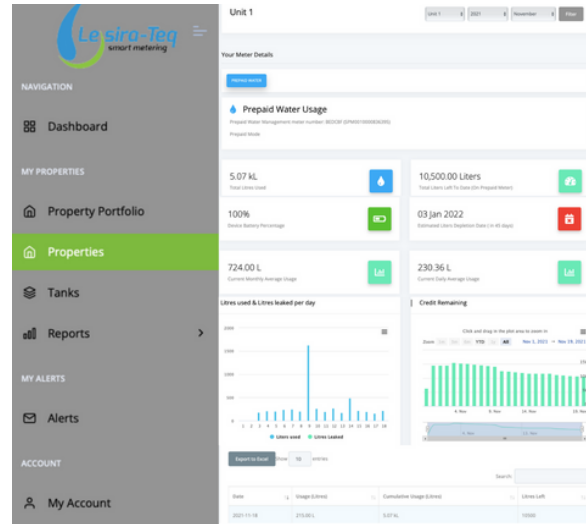
Advantages

ADVANTAGES TO THE BILLING AGENCY:

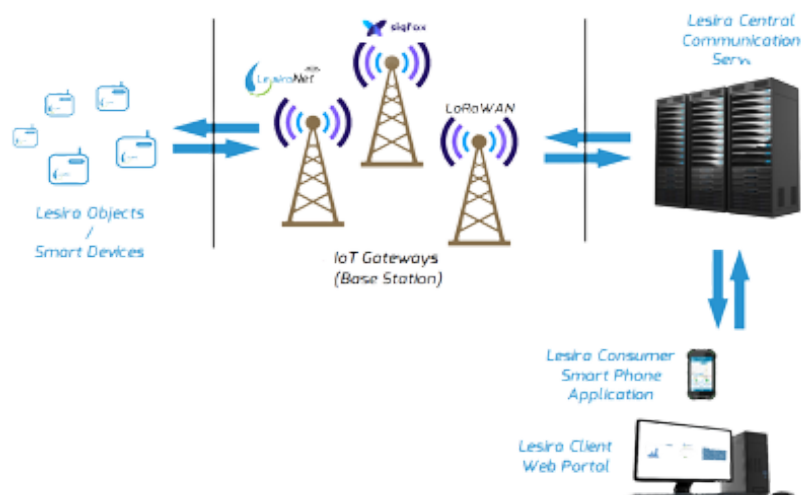
1. Settable meter consumption alerts. Possible leak detection (Automated notification)
 - Burst pipe detection (Automated notification)
 2. Consumer / Authority ability to set daily/monthly consumption limit
 - Over-limit daily / monthly warnings
 - Daily / Monthly Dispensing Limits
 3. Meter bypass detection notification, based on meter information and consumption analysis
 4. Ability to profile time of usage per zone / area / stand .
 5. Automatic generation of consumption report per zone / area / stand
 6. Centralized meter reading:
 - Fixed Network: Flexible meter reading intervals, typically daily, weekly & Monthly
- OR
- Drive-by / walk-by relevant meter data last 5 months billing totalisers
7. No Fixed Network infrastructure management headaches
 8. All gathered data exportable to billing systems (API or flat file)
 9. Optional Daily / weekly / monthly usage notification in Rand value to consumer via e-mail
 10. Quick and easy installation (less than 10 minutes).
 11. Audit information available after installation:
 - GPS coordinates for each meter at time of installation
 - Photos of installation, meter serial & totaliser at time of installation
 - Asset management and tracking exportable to Municipal GIS system
 12. Ability to change valve state remotely (Open / Close)
 13. Remotely settable valve settings:
 - Tariff structure
 - Dispensing structure

ADVANTAGES TO THE USER:

1. Free Lesira Portal that provides the consumer with the user-friendly graphs and tabled information:



2. Powerful first step in smart home management - empowers user to have a better utilities management strategy based on accurate and timeous usage information.
3. Graphical display of usage patterns, e.g., daily usage from device
4. Provides interface to set water saving goals.
5. Automatic leak or excessive water usage warning via e-mail / Lesira Portal
6. Automatic Possible Bypass detection notification via e-mail / Lesira Portal
7. Ability to change valve state (Open / Close)



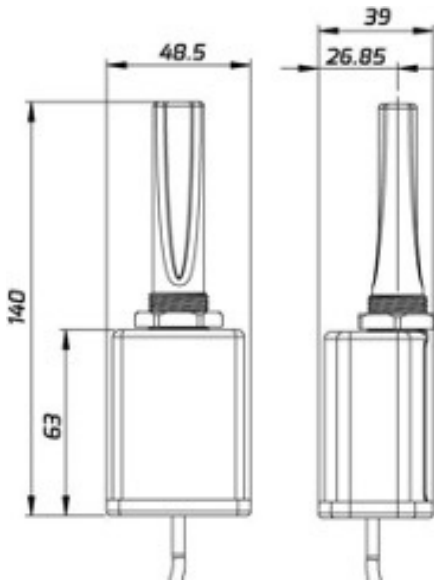
TECHNICAL SPECIFICATIONS

- Versatile Mounting Options:
 - Panel Mount
 - Wall mount
- Long Range Wireless communication via IoT Networks.
(LesiraNet, LoRaWAN)
- Waterproof
- Probe options:
 - Probe Wire length: 3m / 10m
 - Lesira Smart Probe for Piston Meter connections
 - Open Wire Probe for connection to various reed pickup / inductive pulse output devices

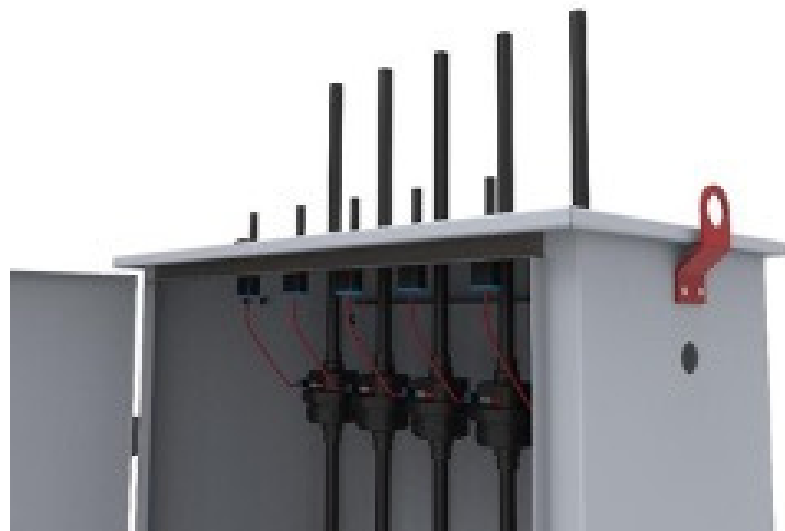


WMU-S WITH WALL MOUNT BRACKET

DIMENSIONS OF WMU-PM:



WMU- PM RETROFITTED INTO STEEL ENCLOSURE



PRODUCT CODE TABLE:

PRODUCT CODE	DESCRIPTION
WMU-PM-L-3M	Water Management Unit, LoRa, Panel Mount 3m Wired Probe
WMU-PM-L-10M	Water Management Unit, LoRa, Panel Mount 10m Wired Probe
BKT-WM-WMU-PM	Bracket Kit, Wall Mount, WMU-PM
WMU-PM-L-3M-RP	Water Management Unit, LoRa, Panel Mount 3m Wired Probe, Reed
WMU-PM-L-10M-RP	Water Management Unit, LoRa, Panel Mount 10m Wired Probe, Reed

TECHNICAL SPECIFICATIONS

- Long Range Wireless communication via IoT Network
- Waterproof
- Can be connected to various meters that has pulse outputs (Reed sensing probes, Inductive sensing probes, and piston typemeters with pickup probe preparation).
- Probe options:
 - Probe Wire length: 3m / 10m
 - Lesira Smart Probe for Piston Meter connections
 - Open Wire Probe for connection to various reed pickup / inductive pulse output devices



PRODUCT CODE: WMU-S-EXT

PRODUCT CODE TABLE:

PRODUCT CODE	DESCRIPTION
WMU-EXT-S-3M	Water Management Unit, Sigfox, 3m Wired Probe
WMU-EXT-S-10M	Water Management Unit, Sigfox, 10m Wired Probe
WMU-EXT-L-10M	Water Management Unit, Lora, 10M Wired Probe
WMU-EXT-L-3M	Water Management Unit, Lora, 3M Wired Probe



Technical Specifications

TECHNICAL SPECIFICATIONS

- Available Connections:
 - 15 mm Compression Connections
 - 20mm Compression Connections
 - 25mm Compression Connections
- Integrated Manual Shut-off Valve
- Integrated Non-Return Valve
- Integrated Strainer
- Incorporates Class C Plastic Piston Type Meter (Brass on request)
- Robust plastic box with UV protection
- Volumetric meter using rotating piston for accuracy
- Mechanical Meter Totalizer visible

WORKING CONDITIONS:

- Water Temperature: 29C - 409C
- Water Pressure: ≤ 1.6MPa (16bar)

INSTALLATION REQUIREMENTS

- Pipeline must be flushed before installation.
- Meter should be constantly full of water during installation.

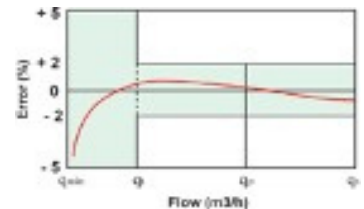
MAXIMUM PERMISSABLE ERRORS

- In the lower zone from Q_{min} inclusive up to but not excluding Q_t is $\pm 5\%$
- In the upper zone from Q_t inclusive

MAIN TECHNICAL SPECIFICATIONS:

OVERLOAD FLOW (Q_s)	PERMANENT FLOW (Q_p)	TRANSITIONAL FLOW (Q_t)	MINIMUM FLOW (Q_{min})	MIN READING	MAX READING
m ³ /h		L/h		m ³	
3	1.5	22.5	15	0.0001	9999

FLOW ERROR



PRODUCT CODE TABLE:

PRODUCT CODE	DESCRIPTION
WMU-L-PB2-CF-20	Water Management Unit, LoRa, Above Ground Pillar Box, 15mm Compression Connections
WMU-S-PB2-CF-20	Water Management Unit, Sigfox, Above Ground Pillar Box, 15mm Compression Connections
WMU-L-PB2-CF-20	Water Management Unit, LoRa, Above Ground Pillar Box, 20mm Compression Connections
WMU-S-PB2-CF-20	Water Management Unit, Sigfox, Above Ground Pillar Box, 20mm Compression Connections
WMU-L-PB2-CF-25	Water Management Unit, LoRa, Above Ground Pillar Box, 25mm Compression Connections
WMU-S-PB2-CF-25	Water Management Unit, Sigfox, Above Ground Pillar Box, 25mm Compression Connections

TECHNICAL SPECIFICATIONS

- Robust plastic box with UV protection
- Available Connections:
 - 15 mm Compression Connections
 - 20mm Compression Connections
 - 25mm Compression Connections
 - 15mm / ¾" BSP Connections
 - 20mm / 1" BSP Connections
- Maximum admissible pressure: 1.6MPa
- Manual Shut-off Valve included
- Integrated Non-Return Valve (Piston meter)
- Integrated strainer (Piston meter)
- Incorporates Class C Brass or Plastic Piston Type Meter (Sold separately. See Product Code table below)
- Easy meter swop-out (Tailpiece fittings)



PRODUCT CODE TABLE:

PRODUCT CODE	DESCRIPTION
GLB-CF-15-MS	Mounting Solution Ground Level Box, 15mm Compression Connections
GLB-CF-20-MS	Mounting Solution Ground Level Box, 20mm Compression Connections
GLB-CF-25-MS	Mounting Solution Ground Level Box, 25mm Compression Connections
GLB-BSP-15-MS	Mounting Solution Ground Level Box, ¾" BSP Connections
GLB-BSP-20-MS	Mounting Solution Ground Level Box, 1" BSP Connections
CPP-15	Conventional Plastic Piston Meter 15mm, ¾" BSP Connections
CPP-15-B	Conventional Plastic Piston Meter 20mm, ¾" BSP Connections
CPP-20	Conventional Plastic Piston Meter 20mm, 1" BSP Connections
CPP-20-B	Conventional Brass Piston Meter 20mm, 1" BSP Connections
FIT-TP-15-PL	Fitting Tail-Piece set with Nut 15mm Plastic, ¾" BSP Connections
FIT-TP-15-BR	Fitting Tail-Piece set with Nut 15mm Brass, ¾" BSP Connections
FIT-TP-20-PL	Fitting Tail-Piece set with Nut 20mm Plastic, 1" BSP Connections
FIT-TP-20-BR	Fitting Tail-Piece set with Nut 20mm Brass, 1" BSP Connections



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Lesira-Teq

QUALITY & COMPLIANCE:



