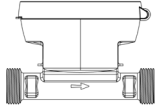




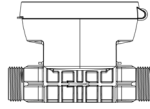
WATER METER TYPE

Ultrasonic water meters with brass body and integrated RF connectivity
Ultrimis NEO ULN
DN15-50



CE, MID, IP68, WM-Bus, LoRaWAN

Ultrasonic water meters with composite body and integrated RF connectivity
Ultrimis NEO ULN-01
DN15-20



CE, MID, IP68, WM-Bus, LoRaWAN

ACCESSORIES

Smartphone



Android, NFC

TestBox



Smartphone app

SPIDAP

Android, NFC



SHIPPING AND STORAGE

Protect against shocks and vibration

Store between 0°C and 25°C

SAFE OPERATING CONDITIONS

Do Not Touch Hot Surface	Do not touch damaged equipment	Do not touch damaged equipment	Risk of crushing	Do not apply extra load to equipment
Install/remove equipment only with shut-off valves closed	Risk of injury during installation, removal, or handling of the equipment	Possible leakage of cold or hot water under high pressure	Do not dispose of equipment with household waste	Prevent access to the equipment by unauthorized persons (including unsupervised children), or persons with reduced mental or physical abilities
Risk of electrolyte leakage	Risk of battery ignition	Do not operate equipment in extreme weather conditions	Do not remove, charge, recharge by other means, disassemble, throw into fire, or short-circuit the battery	

BASIC INFORMATION

Max water temperature: **T30: 0,1–30°C**
T50: 0,1–50°C
T70: 0,1–70°C

Ambient temperature **5 - 55°C**

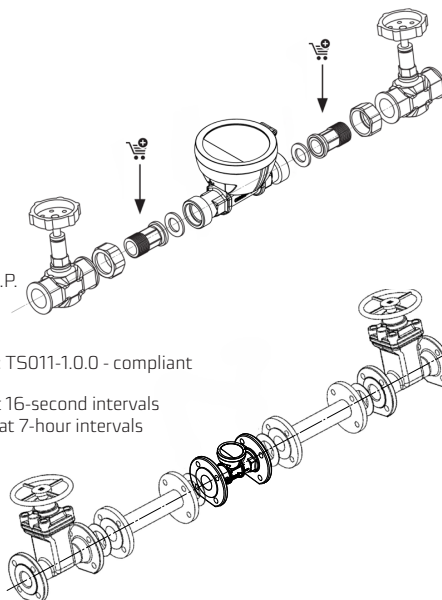
Operating pressure **16 bar***

Battery life **up to 16 years****
Two integrated 3 V DC lithium batteries
Lithium content – approx. 2 × 0.98 g

RF connectivity parameters: 868 MHz up to **25 mW** E.R.P.

Communication standard: WM-Bus, OMS-compliant
LoRaWAN Relay specification: TS011-1.0.0 - compliant

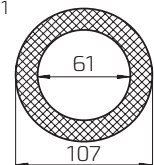
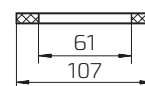
Communication standard: WM-Bus – radio frame sent at 16-second intervals
LoRaWAN – radio frame sent at 7-hour intervals



Ultrimis NEO		*** [mm]		[Nm]
ULN2,5	DN15	17	29	25
ULN2,5-01	DN15	17	29	15
ULN4	DN20	20	36	30
ULN4-01	DN20	20	36	20
ULN6,3	DN25	36	47	35
ULN10	DN32	44	54	40
ULN16	DN40	50	67	45
ULN25	DN50	24	24	-

*** Wrench size required for installation. The actual installation may feature other connection fitting dimensions.

Flanged **DN50** port gasket acc. to PN-EN 1514-1:2001



* 10 bar is available on special order

** Depending on the configuration and ambient conditions

PRODUCT FEATURES

Exit from shipping mode

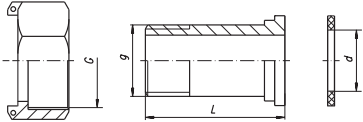
- Via NFC
- Minimum flow rate:
 - equivalent volume Q_2 , according to the device's R class, over 1 hour.

Alarms

- Zero flow: alarm triggered after 30 seconds
- Minimum flow / low flow: alarm trigger: flow $> 0,3 \times Q_2$ for 720 min
- Water main leak (bypass flow): alarm trigger: flow $> Q_4$ for 30 s
- Low battery: lifespan < 1 year
- Tampering detected: enclosure tamper
- Back flow: over > 30 s
- Temperature threshold exceeded:
 - T50: $< 2^\circ\text{C}$ or $> 50^\circ\text{C}$
 - T70: $< 2^\circ\text{C}$ or $> 70^\circ\text{C}$

ESSENTIAL INSTALLATION COMPONENTS

Half-unions available from Apator Powogaz S.A.



	G [cal]	g [cal]	d [mm]	L [mm]	Index
Set of half-unions DN15 mm	3/4	1/2	17	37,5	0616-101-015
Set of half-unions DN20 mm	1	3/4	23	45,5	0616-101-020
Set of half-unions DN25 mm	1 1/4	1	29	46,5	0616-101-025
Set of half-unions DN32 mm	1 1/2	1 1/4	36	56	0616-101-032
Set of half-unions DN40 mm	2	1 1/2	43	66	0616-101-040
Set of half-unions DN50 mm	2 1/2	2	54	74,2	0616-101-050

CLASSIFICATION OF ENVIRONMENTAL CONDITIONS

Environmental classification – Climate and mechanical conditions: Class **B** (EN ISO 4064: 2014)

Environmental classification – mechanical conditions: Class **M1** (Directive 2014/32/UE of 26 February 2014)

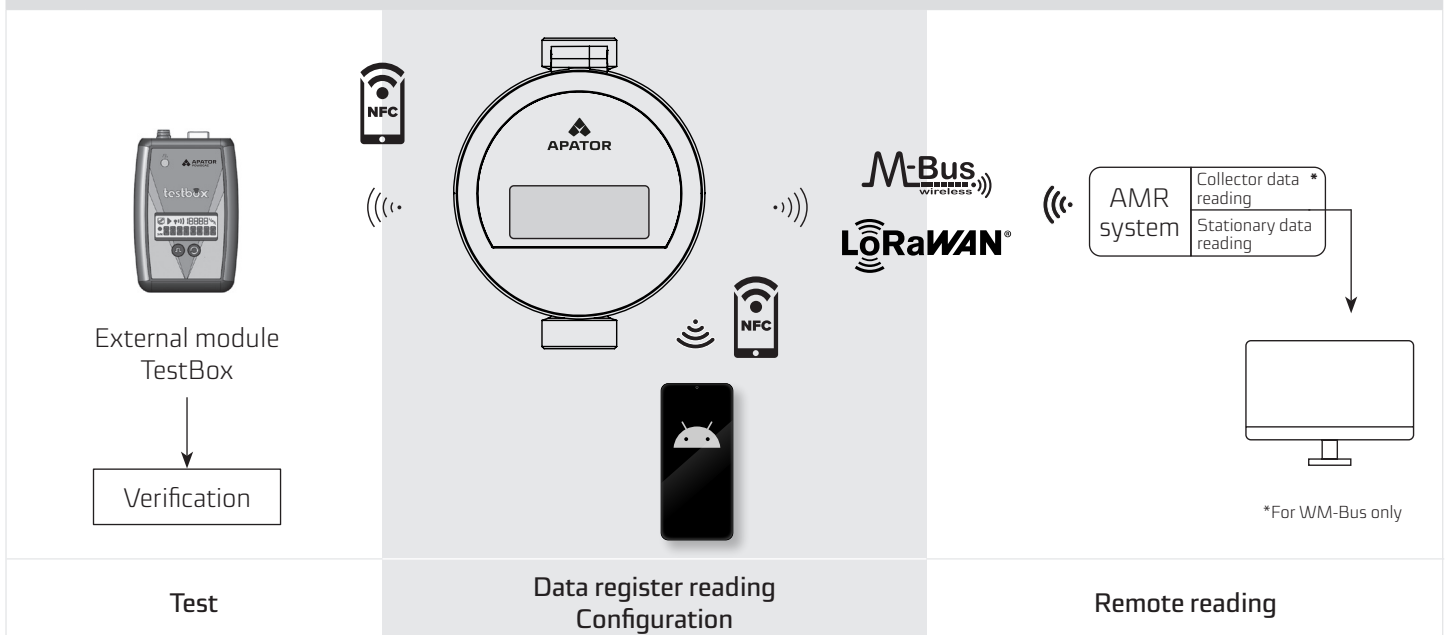
Electromagnetic conditions: Class **E1 & E2** (EN ISO 4064: 2014 and Directive 2014/32/UE of 26 February 2014)

COMPATIBILITY AND INSTALLATION REQUIREMENTS

	H1	H2	V	U0 D0	U5 D3
Ultrimis NEO ULN, ULN-01				CE-compliant	Per manufacturer

*If there is any fitting other than standard connectors before or after the water meter (which may disturb the flow), it is recommended to extend the straight pipe sections: upstream of the meter to $U5 = 5 \times DN$, and downstream to $D3 = 3 \times DN$. In the case of fittings that strongly disturb the flow profile, these values can be increased two- to threefold.

CONNECTION EXAMPLE DIAGRAM





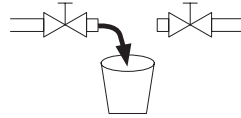
INSTALLATION AND OPERATING RECOMMENDATIONS



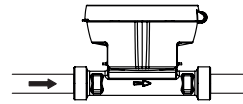
This product should be installed by a professional licensed for servicing and operation of water and sewage systems.



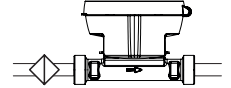
Close the upstream and downstream valves before installing/removing the product.



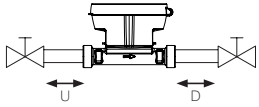
When installing or removing the water meter, place a container to collect the liquid, clean the threaded ends, and flush the system section the water meter will be installed in.



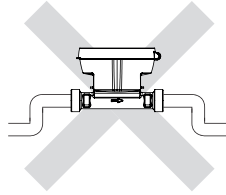
Mind the indicated direction of water flow.



Install a separating filter upstream of the water meter.



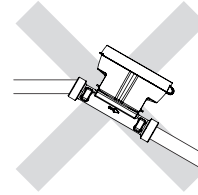
Keep the straight line sections upstream and downstream of the water meter as shown in the table below



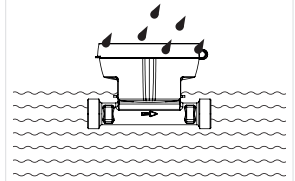
Protect from air pockets; do not install in the highest points of the system.



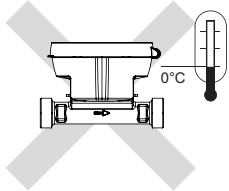
Have the water meter serviced if defective.



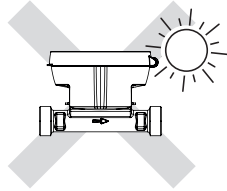
Prevent stresses from misalignment with the pipeline.



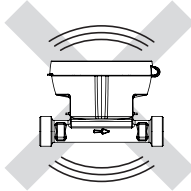
This device is suitable operation in wet or flooding conditions per IP68



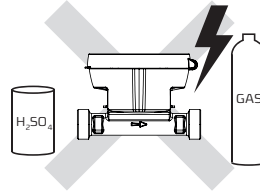
Protect from freezing.



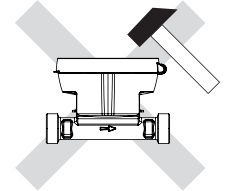
Protect from high temperature and UV light.



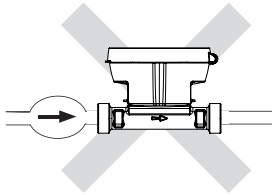
Protect from vibration.



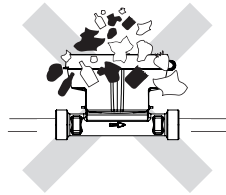
Do not use near sources of acids, gases and/or electrical systems.



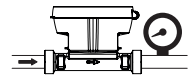
Protect from shocks.



Protect from hydraulic shocks.



Keep the installation site clean.



Minimum water meter downstream pressure
 $P_{min} \geq 0,3 \text{ bar}$



Do not dispose of the device with household waste. Bring the device to a selective waste collection point. Please recycle.

NOTE: See www.apator.com for detailed information about the operating principle and conditions.

WARNINGS:

This manual is the property of Apator Powogaz S.A., and all rights to this document are reserved. Any copying or distribution of this manual is strictly prohibited. As this manual is part of the device, it should be kept with the device to ensure access to information for both the user and qualified service personnel. It is recommended to read this manual before first using the device to ensure safe and proper operation.

Apator Powogaz S.A. shall not be held liable for any personal injuries, indirect damages, or material losses resulting from improper installation or incorrect use of the device, inconsistent with its intended purpose.

PROHIBITED:

The device must be used in accordance with this manual, and any modifications, attempts at self-repair, or improper use of the device are prohibited. In case of malfunction or suspected issues with the device, contact qualified service personnel.

Apator Powogaz S.A. has the right to modify and improve the manufactured equipment without prior notice.



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