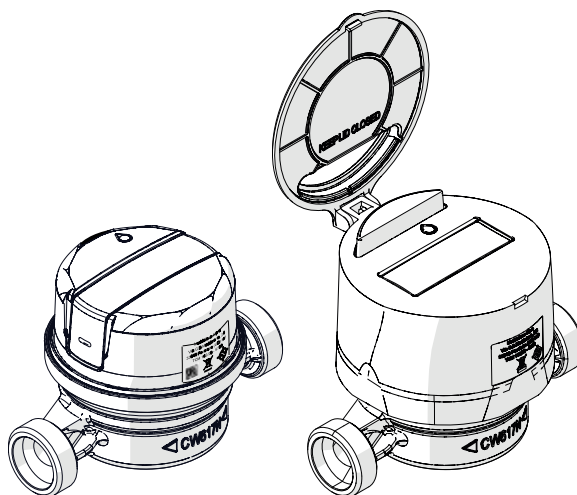


ElecTo SJ

Electronic single jet meter



INSTRUCTIONS FOR INSTALLATION, USE AND MAINTENANCE

Translation of the original instructions.

Before installing and using the device, carefully read this manual and store it together with the product.

Symbols used in this manual and relative meaning



WARNING!

Indicates particularly important information.



DANGER!

Identifies actions that may lead to injury or damage to the device if not performed correctly.



PROHIBITED

Indicates actions that **MUST NOT** be performed.

Compliance

Maddalena S.p.A. declares that **ElecTo SJ** is compliant with the mandatory requirements of the following directives and standards:

- Directive 2014/32/EU (MID - Measuring Instruments Directive)
- Directive 2014/53/EU (RED - Radio Equipment Directive)
- Directive 2011/65/EU and subsequent revisions (RoHS - Restriction of Hazardous Substances)

The full text of the Declaration of Conformity can be found on page 20 "**Compliance declaration**" and on the web page of the product.

Warranty

Conditions of sale and warranty

The conditions of sale and warranty are available on the website **www.maddalena.it**.

Warranty limitations

Maddalena S.p.A. declines all responsibility, with immediate invalidation of the warranty in relation to:

- Damage or defects caused by transport or loading/unloading
- Incorrect installation caused by a failure to observe the instructions provided
- Use for purposes other than those indicated in this manual
- Use by unqualified or untrained personnel

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WARNING!

Images for demonstration purposes only: elements may vary

1 General information

1.1 Warnings and safety rules



WARNINGS

- This manual is the property of Maddalena S.p.A. and reproduction or transfer to third parties of the contents of this document is prohibited. All rights reserved. This document represents an integral part of the product; ensure that it is always together with the product, even in case of sale/transfer to another owner, allowing its consultation by the user or authorised maintenance or repair personnel.
- Read this manual carefully before using the device to ensure safe operation.
- The device must be used as intended by Maddalena S.p.A., which is not liable for damage caused to persons, animals or property by installation, adjustment or maintenance errors or improper use of the device.
- After unpacking, ensure the delivery is intact and complete. If it does not correspond to what was ordered, contact the local distributor who sold you the device.
- The device must be installed and used in an area protected from freezing.
- The device must always be protected from extreme humidity and heat. Penetration of humidity and intense heat may damage the battery and the device. The maximum allowed operating temperature is 55°C.
- If in doubt about the condition and/or functionality of the device and its parts, please contact your local distributor for further information.
- Once the device has been commissioned, report any faults or malfunctions found to the product supplier.
- This device is not intended for use by persons with reduced mental or motor capacities, or lack of experience and knowledge (including children), unless they are supervised by a person responsible for their safety and given appropriate instruction on how to use the device.
- Any inappropriate behaviour not described in this document may damage the instrument. No parts inside this product are intended to be replaceable.
- The meter must be installed at a safe distance from other devices emitting heat or strong electromagnetic fields (to avoid disturbing conditions in the workplace).
- To avoid stress on the piping, the distance between connection points at the installation site must match the overall length of the meter, including gaskets.
- We recommend installing the meter as far as possible from potential sources of vibration (e.g. pumps).

1.2 Restrictions



PROHIBITED

- Modify and/or attempt to repair the product. All repairs must be performed exclusively by authorised personnel.
- In the event of complete destruction of the device with electrolyte leakage, the liquid must not be touched, nor should the vapors be inhaled, as they are corrosive and hazardous. Avoid contact with eyes and skin, and operate only in well-ventilated environments. The use of appropriate personal protective equipment (PPE) is mandatory.
- Leave the device exposed to the weather.
- Place the device near heat sources and expose it to direct sunlight.
- Place the device close to sources of electromagnetic interference.
- Use the device in environments where the temperature drops below 0°C.
- Open the device and/or replace the battery.
- Use solvents to clean the device.
- Incorrectly dispose of packaging material and keep it out of children's reach as it may represent a hazard. Disposal must be performed in line with applicable laws.
- Dispose of the device with household waste.

1.3 Device description

ElecTo SJ is a single-jet meter with mechanical movement and fully electronic timing devices designed for measuring hot and cold water in residential applications.

ElecTo SJ measures the flow of water using a turbine and a magnetic drive (protected). **ElecTo SJ** is equipped with an electronic metering unit with a display showing the volume, flow rate and any active alarms.

ElecTo SJ is equipped with an integrated radio which uses Wireless M-Bus and/or LoRaWAN technology allowing remote data transmission. Data can be received using a special mobile reading kit or via concentrators and a fixed network.

The manual covers both wMBus and Multi-protocol versions (wMBus + LoRa) of **ElecTo SJ** meters, the latter version being described as "**Multi**".

The main technical features of **ElecTo SJ** are:

- Single jet with electronic register;
- Available in both cold and hot water versions;
- Accuracy class up to R160;
- Electronic timing device for calculating consumption, fully rotatable (360°);
- LCD display;
- Available with integrated wM-Bus (OMS) and/or LoRaWAN radio communication operating in the 868MHz band;
- Datalogging functionality: historic values are available relating to current volume, backflow volume, minimum and maximum flow rate;
- Power supply: long-lasting lithium battery (depending on the set configuration).

1.4 Usage limits

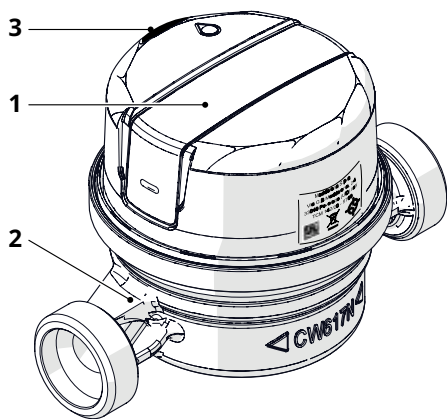
The product may only be used in accordance with the corresponding limits of use (see "Technical specifications (wMBus & Multi)").

1.4.1 Operating Conditions

- Ambient temperature: from -25°C to 55°C
- Recommended water hardness: from 15°F to 30°F
- Atmospheric pressure: from 86 kPa to 106 kPa
- pH: between 6.5 and 9.5
- Sodium (Na): max 200 mg/l
- Calcium (Ca): between 20 and 150 mg/l
- Chlorine (Cl): max 5 ppm
- Oxygen (O₂): max 10 ppm
- Installation: indoor or outdoor

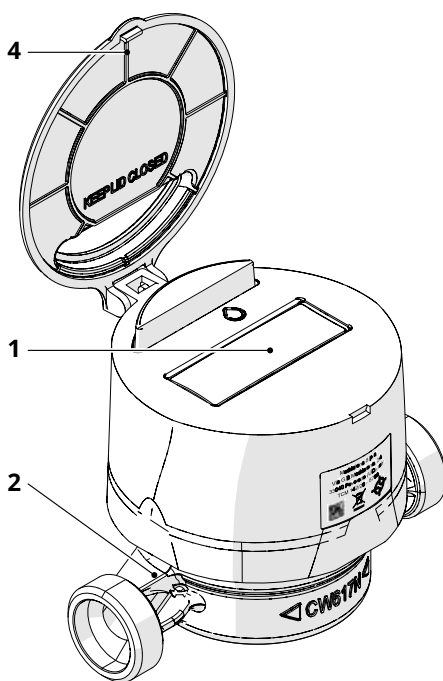
1.5 Structure

wMBus



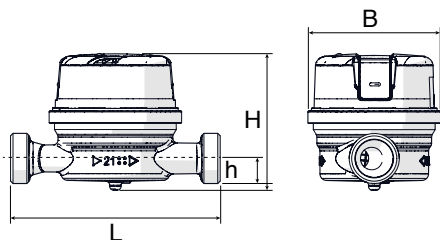
- 1 LCD display
- 2 Meter housing
- 3 Meter housing
- 4 Cover

Multi



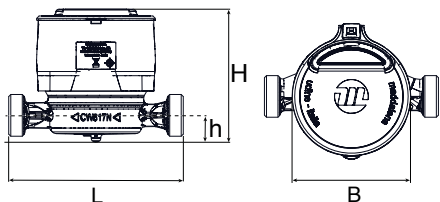
1.5.1 Dimensions

wMBus



DN		15	20
	inches	1/2	3/4
Thread	inches	G 3/4 B - G 1 B	G 1 B
L	mm	80 / 110 / 115 / 120 / 130	115 / 130
H	mm	72	
h	mm	11,7	16,7
B	mm	65	

Multi

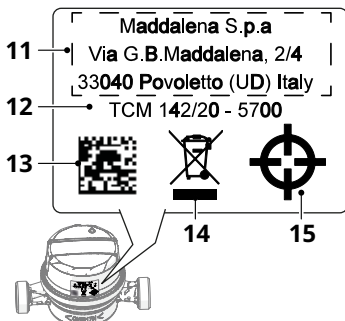
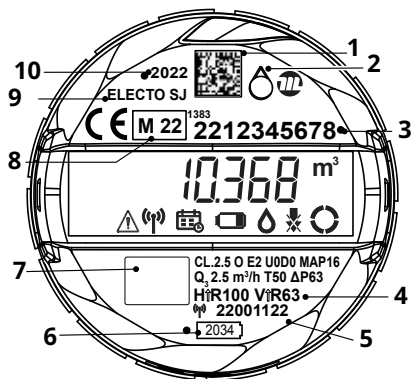


DN		15	20
	inches	1/2	3/4
Thread	inches	G 3/4 B - G 1 B	G 1 B
L	mm	80 / 110 / 115 / 120 / 130	115 / 130
H	mm	84	
h	mm	16,7	
B	mm	75	

1.6 Identification

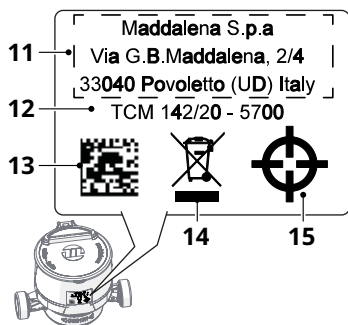
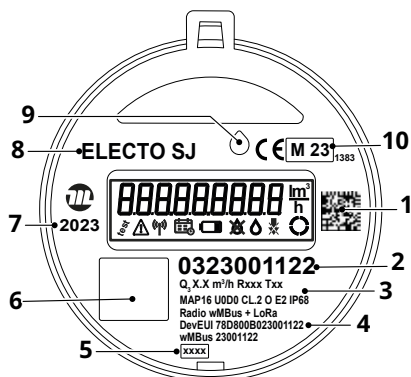
The **ElecTo SJ** meter has its identification data marked on it.

wMBus



- 1 QR code
- 2 LED
- 3 Meter serial number
- 4 Metrological Characteristics
- 5 Wireless serial number
- 6 Battery expiration date
- 7 Space for customer's logo (optional)
- 8 Additional MID Marking
- 9 Product name
- 10 Year of manufacture
- 11 Manufacturer's address
- 12 Type-approval number (certificate)
- 13 Internal QR traceability
- 14 WEEE marking
- 15 Magnetic key symbol

Multi



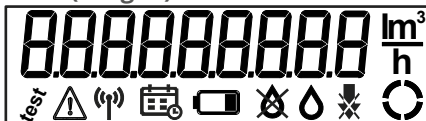
- 1 QR code
- 2 Meter serial number
- 3 Measurements
- 4 Connectivity data
- 5 Battery expiration date
- 6 Year of manufacture
- 7 Space for customer's logo (optional)
- 8 Product name
- 9 LED
- 10 Additional MID Marking
- 11 Manufacturer's address
- 12 Type-approval number (certificate)
- 13 Internal QR traceability
- 14 WEEE marking
- 15 Magnetic key symbol

1.7 Display

wMBus (8 digits)



Multi (9 digits)



The display is a passive LCD.

The display is set in fixed mode with the following automatic display cycle:

- for 60 seconds, the Main view;
- for 12 seconds, the Periodic readings;
- for a further 12 seconds, the Display Test and firmware version.

Icon	Description
	Test Activated during test mode
	Error Activated when an error is displayed
	Transmission antenna Signals radio transmission or radio enabled
	Calendar Activated when billing dates are displayed
	Battery Activated when the calculated service life is coming to an end or when the voltage drops below the minimum value (in which case the error icon also lights up)
	No flow indicator Activates when no instrument flow rate is detected
	Leakage Activated when the leakage alarm is triggered
	Backflow Activated when the reverse flow alarm is triggered
	Star indicator The indicator, consisting of 2 arc segments, follows the flow by rotating clockwise for direct flow and anticlockwise for reverse flow

1.7.1 Main view

- The volume measured is displayed for 12 seconds;
- The flow rate is displayed for 3 seconds;
- The display cycle is automatically repeated 4 times, for a total of 60 seconds ($12+3=15 \times 4=60$).

1.7.2 Periodic readings

Following an automatic sequence, billing date references are displayed:

- Billing date 1: displays the date for 3 seconds (e.g. 12.05.21 indicates 12 May 2021);
- Billing value 1: displays the volume recorded on the billing date for 3 seconds;
- Billing date 2: displays the date for 3 seconds (e.g. 02.09.21 indicates 2 September 2021);
- Billing value 2: displays the volume recorded on the billing date for 3 seconds.

Billing date 1 is set, by default, to 31/12 each year;

Billing date 2 is set, by default, to the end of each month.

1.7.3 Display test and firmware version

The display is presented as follows:

- all segments on the display are illuminated for 3 seconds;
- all segments on the display are turned off for 3 seconds;
- the installed firmware version is displayed for 3 seconds. The displayed format is MM.m-mF, in which MM indicates the number (2 digits) of the main version, mm indicates the number (2 digits) of the secondary version and F represents the firmware (e.g. 01.68F);
- the firmware CRC for 3 seconds. The format displayed, using all digits of the display, is 32-bit hexadecimal using both digits and letters (0-9/A-F);
- any error codes for 3 seconds (e.g. Err XXXX, where XXXX is the hexadecimal code for the error). See table “Error codes”.

1.7.4 General display information

The digital display behaves in the same way as a mechanical meter. In the event of backward flow, the volume decreases until it has reached the value closest to zero, at which point it will once again display 999999.999. Likewise, on reaching the maximum value 999999.999 the meter will revert to displaying values starting from 0. The direction of flow is identified by the rotation of the star indicator in the bottom right-hand corner of the display.

1.8 Alarms

ElecTo SJ is able to detect, store, and transmit the following alarms via radio:

Alarm	Description	Possible status	Default
Suspected leak	Continuous flow rate detected	ON/OFF	ON
Fraud	Magnetic field detected	Always ON	ON
Backflow	Reverse flow rate for a preset threshold	ON/OFF	ON
Over-consumption	Flow rate exceeds a threshold for a preset period	ON/OFF	OFF
No consumption	The meter detects no consumption for a preset period	ON/OFF	ON
Reversed meter	Constant negative consumption for more than 10 days	ON/OFF	ON
Verification period expiry	The meter has exceeded the verification period	ON/OFF	OFF
Low battery voltage	Battery voltage is too low	Always ON	ON
Low battery charge	Battery is flat	ON/OFF	ON
Metrological checksum error	The firmware (flash memory) is corrupted	Always ON	ON

1.8.1 Alarm transmission (LoRaWAN mode)

- if an alarm condition occurs and the frame has not yet been sent in the current window, it is sent early;
- if an alarm condition occurs and the frame has already been sent in the current window, an event frame is sent.

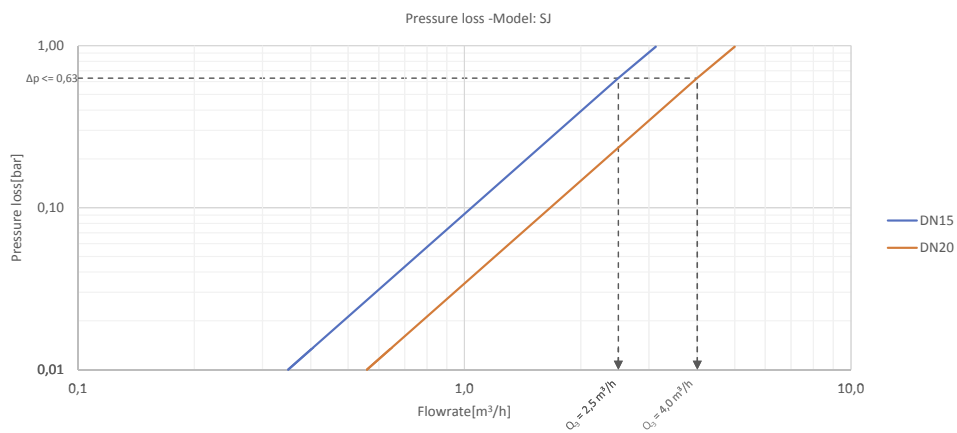
1.9 Technical specifications (wMBus & Multi)

Description	DN 15		DN 20		U.M.
Accuracy class	2				
Maximum reading	99999.999 (wMBus) 999999.999 (Multi)				m³
Maximum working pressure	16				bar
Temperature classes	T30: from +0.1 to +30 T50: from +0.1 to +50 T30/90: from +30 to +90				°C
Sensitivity class for installation conditions	U0-D0				
Protection class	IP68*				
Environmental class	O				
Electromagnetic class	E2				
Rated flow Q3	1,6	2,5	2,5	4,0	m³/h
Installation positions and R (Q3/Q1)	H↑ ≤100 - H→; V ↓ ≤50 - V ↑ ≤40;	H↑ ≤160 - H→; V ↓ ≤80 - V ↑ ≤63;	H↑ ≤100 - H→; V ↓ ≤50 - V ↑ ≤40;	H↑ ≤160 - H→; V ↓ ≤80 - V ↑ ≤63;	
Pressure drop	0,63				bar
Pressure range	from 0.3 bar to 16 bar				

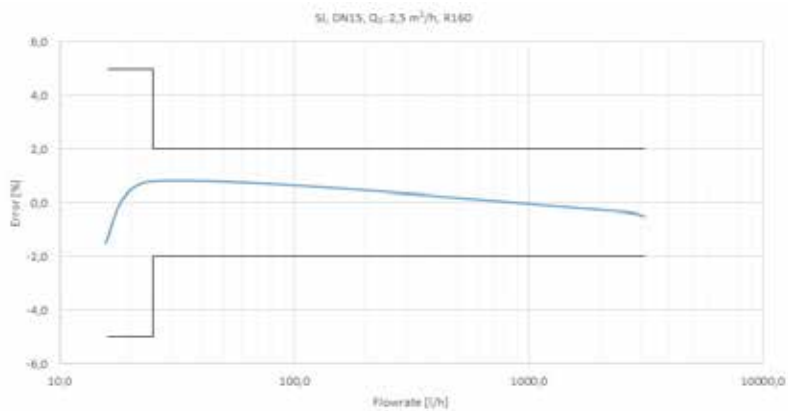
* Only wMBus model: 96h under 1 m³ of water at ambient temperature.
Only Multi model: 720h under 1 m³ of water at ambient temperature.

1.10 Additional technical specifications

1.10.1 Pressure drop (wMBus & Multi)



1.10.2 Typical error curve (wMBus & Multi)



1.11 Technical specifications for electronic timing device

Features	Description
Environmental class	O
Mechanical class	M1
Electronic class	E2
Temperature range for storage	from -10 °C to +60 °C
Ambient temperature range	from -25 °C to +55 °C

1.12 Radio technical specifications

wMBus

Features	Description
Standard	Wireless M-Bus (EN13757), OMS
Modes	T1 (Default), C1
Operating frequency range	868.0 - 868.6 / 868.7 - 869.2 MHz
Radiated power	14dBm max
Antenna gain	1 dB
Range	500 m in open air
Device class	Radio class 1
Certifications/Approvals	CE in compliance with European standards
	RED 2014/53/EU RoHS 2011/65/EU and subsequent revisions
Data sent	Meter serial number, total volume, instant flow, date, alarms
Configuration	By radio, through the Android app
Data transmission frequency (default)	Every 2 minutes, from Monday to Friday, from 08:00 to 18:00
Encryption	AES mode 5, not active
Alarms (default)	Magnetic tampering Suspected leak (consumption of at least 1 litre every 15 minutes for 48 hours) Flow rate limit exceeded (disabled) Backflow (reverse flow for more than 100 litres) Meter blocked (no consumption for at least 30 days) Reversed meter (reverse flow lasts for more than 10 days) Note: The limits can be modified using the settings kit

Multi

Features	Description
Status radio	Activation by passage of water (10L)
Local configuration	Via optional settings kit
Communication standard	Wireless M-Bus, OMS (always present)
	LoRaWAN™ v. 1.03 class A (optional)
Modes	wMBus T1, C1
	LoRa SF7-12, BW125-500, CR=4/5
Operating frequency range	863 to 870 MHz
Radiated power	14dBm max
Transmission distance*	Up to 15Km in LoRaWAN™
	Up to 500mt in wM-Bus
Device class	Radio class 1
Data sent	LoRaWAN (OTAA) - measurement data transmission (alarms, hourly/daily consumption) twice a day - supervision data transmission (alarms, device status information) once a week
	wM-Bus (OMS) - Tiny frame (default): current volume, date and time, volume on billing date, billing date, errors - Short frame: current volume, volume on billing date, meter serial number, alarms - Long frame (n C1 mode only): same as short frame with the addition of values from the last 12 months

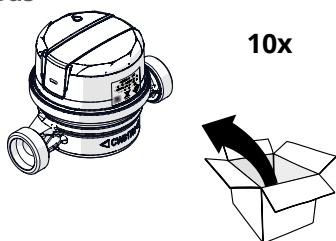
* in line of sight

Factory radio configuration	Dual mode (MULTI)	
	wM-Bus	LoRaWAN
Data sent	Tiny Frame C1: current volume, date and time, volume on billing date, billing date, errors	Date and time, daily consumption up to 7 previous days, alarms
Transmission time	08:00 - 18:00	00:00 - 24:00
Transmission frequency	30secs	2per day
Encryption	active	native
Alarms (default)	backflow (100 litres), suspected leak (observation frequency 15 min / observation period 48 hours), max flow rate (disabled)	
Battery Duration	13 years	

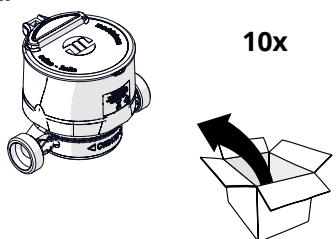
2 Installation

2.1 Receipt of the product

wMBus



Multi



- Seal + gasket kit
- Fittings kit (optional)



WARNING!

The quick guide is an integral part of the device and should therefore be read and stored carefully.



PROHIBITED

Packaging material must be properly disposed of and kept out of children's reach as it may represent a hazard. Disposal must be performed in line with applicable laws.

2.2 Assembly (wMBus & Multi)

Authorised personnel: specialised installer or plumber, assigned by the metering operator.



WARNING!

Only authorised and suitably trained personnel with sufficient technical experience may install and operate the device.

Before installing the device, make sure that the two sections of tube are even to prevent mechanical stress, clean them with care (especially in the case of empty tubes) and let water run for a while, using a stub pipe on the tube instead of the meter.

If there is no water in the pipeline, open the valve upstream of the device before installing it. This is necessary because opening the valve after installation is complete may cause air suction that could damage the device.

Before using the meter, first fully remove air from the pipe and the device itself. The interception/adjustment valves must be fully open when doing this. Open the valve at the start first and then the valve at the end.

When replacing the meter, it is recommended to replace the gasket on the fitting. Recommended gasket hardness: minimum 80 Shore A.

Tighten the nut with a torque wrench and use a counter wrench to hold the meter in position. Maximum tightening torque: 40 Nm.

Install the meter:

- protected from frost (insulate it if necessary with insulation material) and in the lower part of the system to prevent air accumulation;
- protected from blows and tampering, where readings are easy to make;
- so that the direction of the arrow on the device coincides with the flow direction.

Install proper interception valves upstream and downstream of the meter to permit maintenance operations and inspections on the device, as well as to check the system.

The installation of a non-return valve inside or outside the meter is also recommended (see dedicated data sheet).



WARNING!

Before positioning the seal, make sure that it is not damaged.

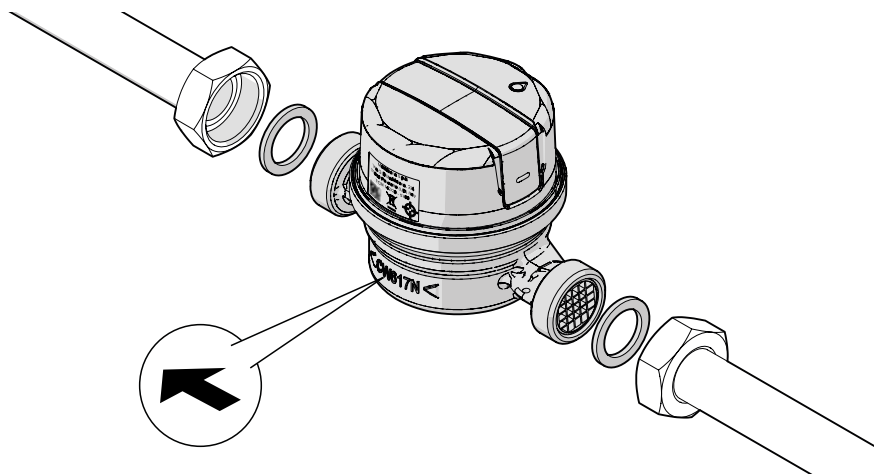
Make sure that the seal is not damaged during installation.

Make sure that the level of the seal matches that of the tubing.

Check that the seal does not protrude from the tube.

Make sure that the surfaces of the flange are clean and undamaged.

Check that the meter is installed in the correct direction and that there is no air in the system.



WARNING!

Check the seal hold to prevent leakage.

Installation position

Observe the indications on the dial (letters H and V):

- H: the meter must be installed with the dial in a horizontal position;
- V: the meter must be installed with the dial in a vertical position;
- H and V: the meter may be installed with the dial in either a horizontal or vertical position;
- If not shown, avoid vertical installations with downward flow, or with the dial facing downwards.

Straight sections and flow straighteners

When using straight sections upstream and/or downstream of the meter, refer to letters U and D on the dial. If the letters U and/or D are followed by the letter S, install a flow straightener.

Allowable water pressure (ISO 4064-1)

The maximum allowable pressure (MAP) is 16 bar, and is displayed on the meter dial. If not indicated on the dial, it must be 10 bar. These values must never be exceeded.

The maximum allowable pressure (MAP) downstream of the meter must be greater than or equal to 0.03 Mpa (0,3 bar).

Commissioning

Before putting the meter into operation, completely vent the air from both the pipe and the meter itself (rotate it if necessary). The interception/adjustment valves must be fully open when doing this. Open the valve at the start first and then the valve at the end.

3 Seals

A seal is applied to the meter: it cannot be opened without breaking it. Any intervention must therefore be carried out by a centre authorised by the manufacturer.

4 Use

ElecTo SJ is ideal for both cold and hot water residential use where compactness, flexibility and the availability of an integrated radio reading make the difference.

The water meter is not suitable for installations where the water is particularly heavy, sandy, rich in algae, sludge and debris, or contains air.

Stray currents, generated by poorly insulated electrical systems, can cause rapid corrosion of metallic materials, especially in humid environments. To prevent this phenomenon, it is essential to ensure proper grounding and to avoid the flow of stray currents through metal structures.

The normal operating phase is remote meter reading through radio modules. In AMR (fixed) mode, each radio module (wMBus (OMS) and/or LoRaWAN) transmits the reading at a programmable frequency. In mobile mode (Walk-By/Drive-By), the radio module wMBus emits a data frame with the measurements. To receive the radio module signal, hold a suitable receiver near the meter. The fixed (AMR) system reads data automatically.



WARNING!

Data can be read using a variety of software. Please refer to the accounting manager for specific usage information on the reading software.



WARNING!

It is recommended to keep the lid closed once the installation steps are completed.

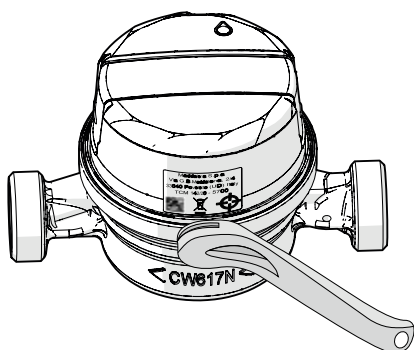
5 Radio configuration

ElecTo SJ is supplied with factory-set setup data.

The radio is activated after the passage of 10 litres of water.

Programming mode is activated by tapping the magnetic key symbol with the magnetic key.

The cumulative time for this mode is 120 minutes.



For the wMBus version, the app to use is **ElecTo SJ**, while for the Multiprotocol version, the **ElecTo Multi** app must be used. Both can be downloaded from the Android Play Store.

For further information, contact the manufacturer.

The app allows the following parameters to be read and programmed:

- Radio settings
- Radio AES key
- Periodic reading
- Alarms setting
- Alarms reset
- Date/time synchronization
- Delivery point

6 Datalogging

Historic values are available relating to:

- current water volume;
- current water volume in opposite direction;
- minimum flow rate and date;
- maximum flow rate and date;
- error codes (Status);
- total use time;
- error free use time;
- average use temperature.

These values are available for four time buffers:

Data period	Storage period
15 minutes	9 days
Hourly	37 days
Daily	896 days
Monthly	21 years

7 Error codes

The error code is displayed in hexadecimal format.

The instrument identifies 4 errors which may also occur simultaneously.

Hexadecimal format	Description
0080	Out Of Operating Temperature
0400	Low Battery Voltage
1000	Metrological verification period expired
4000	Metrological Wrong Checksum

Example of simultaneous errors

Low battery voltage + Metrological verification period expired: Err 1400

8 Test mode

ElecTo SJ can be temporarily set to a high resolution in order to carry out measurement tests.

Contact the manufacturer for further information.

9 Maintenance

9.1 Battery (default)

The meter is fitted with a lithium battery 3.6V that cannot be recharged or replaced. The estimated lifespan of the battery is calculated using factory set-up and with the following operating conditions:

- from -10°C to +0°C for 10% of the lifespan
- from 1°C to +30°C for 80% of the lifespan
- from +31°C to +55°C for 10% of the lifespan



WARNING!

Humidity and intense heat may damage the battery and reduce its lifespan.

The device calculates the useful remaining life of the battery based on memorized parameters, for example, estimated consumption of the electronic board in standby, consumption in transmission and the number of transmissions made.

Battery life depends on the data transmission frequency you choose to set.

9.2 Cleaning

No particular cleaning procedures are required. However, the installation area should be kept clean and periodic checks should be performed to ensure the required environmental conditions are met.



PROHIBITED

It is forbidden to use abrasive products, methyl alcohol, hydrochloric acid (35%), sodium bicarbonate (10%), tricresyl phosphate, benzol, concentrated ethanol, toluol, industrial petrol, methylisobutylketone, acrylonitrile, cosmetic solvents, sodium hydrate (10%), ammonium hydrate (10%), nitric acid (40%), potassium dichromate, acetone, diesel naphtha, petrol.

9.3 Disposal

The device is made from various materials such as: metal and plastic materials, electrical and electronic components. It must be disposed of in accordance with current local regulations on industrial and special waste. It must not be disposed of with household waste.

Based on current investigations and knowledge, as well as information provided by our suppliers in relation to Article 33 of the REACH Regulation, our Company has identified the following SVHC present in concentrations above the 0.1% w/w threshold, which may be found in products containing brass components:

SUBSTANCE	CAS N°	EC N°
Lead	7439-92-1	231-100-4

It should be noted that not all products with brass components exceed the 0.1% w/w threshold.

Our Company is not subject to registration requirements, as the SVHC present are not intended to be released under normal or reasonably foreseeable conditions of use, in accordance with Article 7, paragraph 1(b).

At the end of the product's life, ensure safe removal and responsible disposal of components, including recycling of batteries, in compliance with applicable environmental laws in the country of installation.



10 Compliance declaration



DICHIARAZIONE DI CONFORMITÀ UE / UKCA EU / UKCA DECLARATION OF CONFORMITY

Modello Model	ELECTO SJ
Nome e indirizzo del fabbricante Name and address of the manufacturer	Maddalena S.p.A. Via G.B. Maddalena 2/4 – 33040 Povoletto (UD), Italy

La presente dichiarazione di conformità è emessa sotto la responsabilità esclusiva del fabbricante.
This declaration of conformity is issued under the sole responsibility of the manufacturer.

Oggetto Object	Contatore per acqua a getto unico con radio integrata Single Jet water meter with integrated radio
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L'oggetto della dichiarazione di cui sopra è conforme alla pertinente normativa di armonizzazione dell'Unione:
The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

Direttiva concernente l'armonizzazione delle legislazioni degli Stati membri relative alla messa a disposizione sul mercato di strumenti di misura	2014/32/EU
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Directive on the harmonisation of the laws of the
Member States relating to the making available on
the market of measuring instruments

Direttiva apparecchiature radio (RED) Radio equipment directive (RED)	2014/53/EU
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Restrizione dell'uso di determinate sostanze pericolose (RoHS) e successivi aggiornamenti Restriction of the use of certain hazardous substances (RoHS) and subsequent updates	(EU) 2017/2102
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La conformità è stata verificata in accordo alle seguenti norme armonizzate e specifiche tecniche:
The conformity was checked in according to the following harmonized standards and technical specification:

EN ISO 4064 :2017	EN 62479:2010
EN 301 489-3 V2.1.1	EN61000-6-3:2007+A1:2011
EN 301 489-1 V2.2.3	EN61000-6-2:2005+AC:2005
EN 300 220-1 V3.1.1	EN 62368-1:2014 + A11:2017 + AC:2017
EN 300 220-2 V3.2.1	EN 50581



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Capitale sociale - Share capital: 2.080.000 € | C.F. e reg. impr. - Tax id. and business reg. no. UD 80008170302 | P.IVA - VAT no. IT00612140006 |
N. REA - REA no. UD128629 | Export reg. UD007790 | PEC: amministrazione@maddalena.legalmail.it



Nome e numero dell'organismo notificato <i>Name and number of the notified body</i>	Attività <i>Activity</i>	Certificato nr. <i>Certificate no.</i>
Czech Metrology Institute, NB 1383 Okružní 31 638 00 Brno Czech Republic	Certificato di esame UE del tipo in accordo al Modulo B della Direttiva 2014/32/UE <i>EU-type certification in accordance with Module B of Directive 2014/32/UE</i>	TCM 142/20-5700
Czech Metrology Institute, NB 1383 Okružní 31 638 00 Brno Czech Republic	Certificazione di prodotti, collaudo e controlli finali in accordo al Modulo D della Direttiva 2014/32/UE <i>Certification of production, final product inspection and testing in accordance with Module D of Directive 2014/32/UE</i>	0119-SJ-A010-08

Povoletto, 28/03/2023

MADDALENA S.p.A.
IL PRESIDENTE
Legale Rappresentante
Dot. Ing. Franco Maddalena
Dott. Ing. Franco Maddalena
Amministratore Delegato
Chief Executive Officer



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Maddalena S.p.A. reserves the right to change its products at any time and without prior notice, with the aim of improving them and without compromising primary features. All the graphic illustrations and/or photographs appearing in this document can be represented with optional accessories that vary in relation to the country where the device is used.