

Installation and operating instructions

NAXOM Module



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1. Installation of the water meter clip-on module

1.1. Compatibility with water meters:

- NAXOM OP-O4-1a* – only for selected radio profile and selected JS/JS90 1.6÷2.5 Smart+; JS 1.6÷2.5 Smart C+; JS/JS90 1.6÷2.5 Smart D+ water meters.
- NAXOM OP-O4-1b – for all available radio profiles and JS/JS90 1.6÷4 Smart +; JS 1.6÷4 Smart C+; JS/JS90 1.6÷4 Smart D+ water meters.
- NAXOM OP-O4-2 – for all available radio profiles and SV-RTK2.5÷4, SV-RTK16 series water meters.

* Does not apply to the water main profile.

1.2. Installation of the NAXOM module, OP-O4-1a

The first step in installing the OP-O4-1a module is to locate the centring protrusion on the housing. It has been indicated in the drawing below.

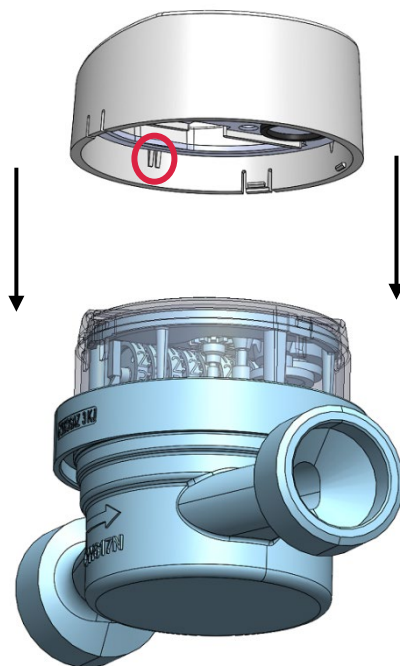


Fig. 1. View of the OP-O4-1a module, before mounting on the water meter.

The centring protrusion should be positioned so that when placing the module on the water meter glass, it is inside the recess located on the water meter glass at number 1.

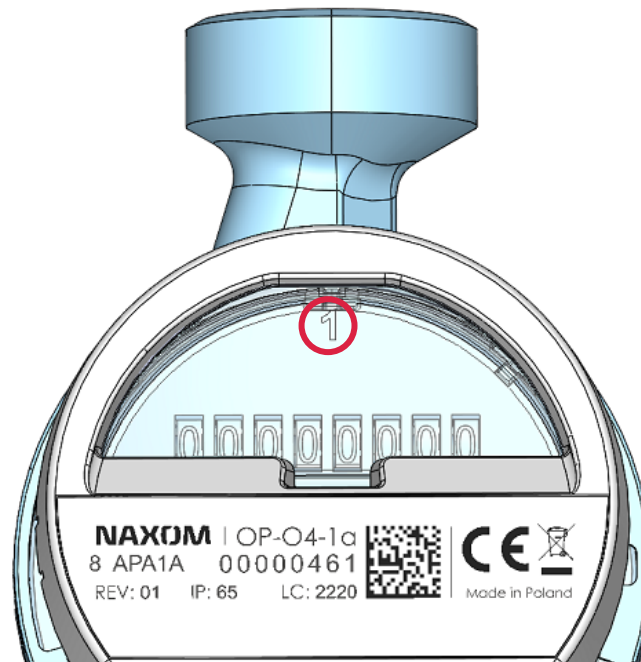


Fig. 2. View of digit "1" placed on the counter glass.

After correctly applying the module on the water meter glass, gently press it against the meter glass so that the module latches snap into place on the meter glass.

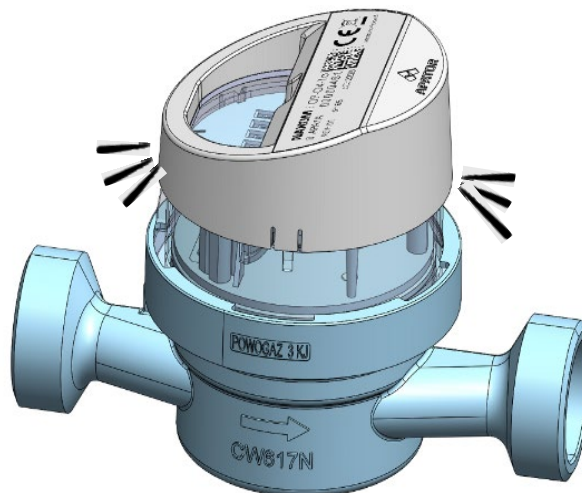


Fig. 3. View of the assembled JS Smart + water meter with the OP-O4-1a module.

1.3. Installation of the NAXOM module, OP-O4-1b

The first step in installing the OP-O4-1b module is to locate the centring protrusion on the housing. It has been indicated in the drawing below.

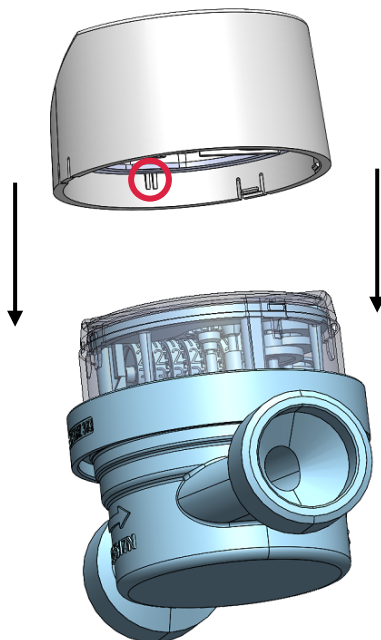


Fig. 4. View of the OP-O4-1b module, before mounting on the JS Smart + water meter.

The centring protrusion should be positioned so that when placing the module on the water meter glass, it is inside the recess located on the water meter glass at number 1.

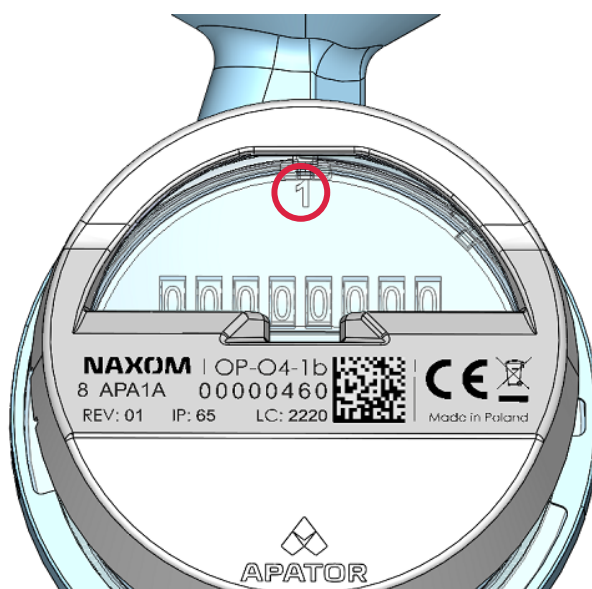


Fig. 5. View of digit "1" on the counter glass.

After correctly applying the module on the water meter glass, gently press it against the meter glass so that the module latches snap into place on the meter glass.

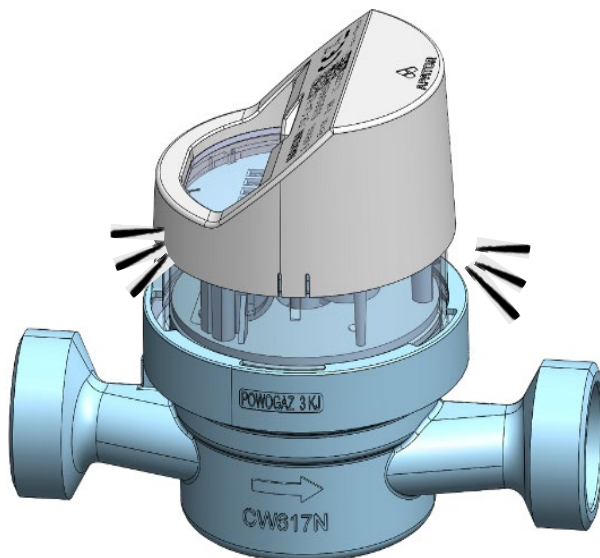


Fig. 6. View of the assembled JS Smart + water meter with the OP-04-1b module.

1.4. Installation of the NAXOM module, OP-04-2

The first step in installing the OP-04-2 module is to locate the centring protrusion on the housing. It has been indicated in the drawing below.

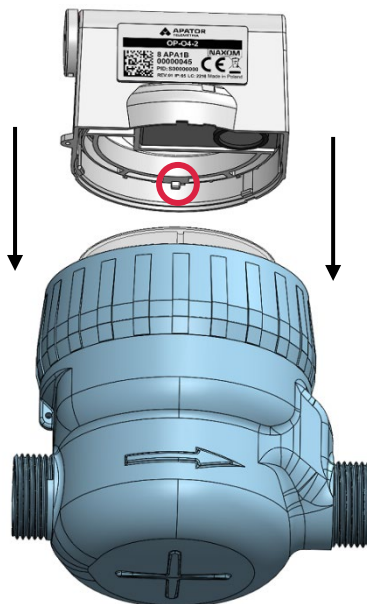


Fig. 7. View of the OP-04-2 module, before mounting on the SV-RTK water meter.

The centring protrusion should be positioned so that when placing the module on the water meter glass, it is inside the recess located on the water meter glass.

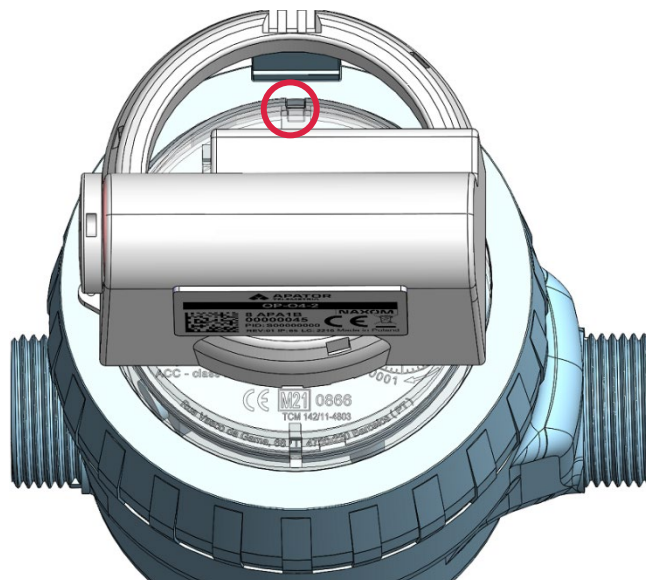


Fig. 8. View of the water meter glass.

After correctly applying the module on the water meter glass, gently press it against the meter glass so that the module latches snap into place on the meter glass.

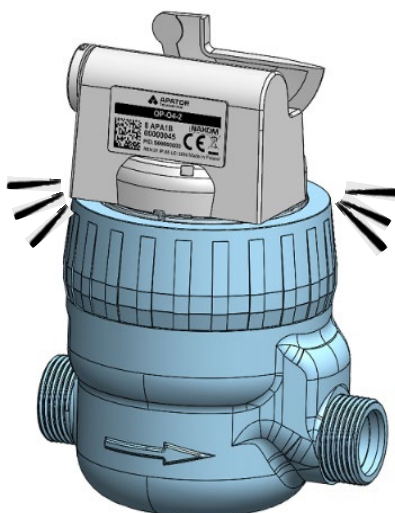


Fig. 9. View of the assembled SV-RTK water meter with the OP-04-2 module.

2. Configuration of the module in the SPIDAP Mobile application using the Installation and Service panel – “WM-Bus – installment”

The radio module produced by Apator Powogaz S.A. can be delivered to the customer in two ways:

- The module arrives at the customer's location installed on the water meter, fully configured and with the appropriate profile uploaded, depending on the type of water meter it is installed on. Such a module is ready for operation but remains in sleep mode. The customer must wake it up using a magnet. The factory configuration is confirmed by a warranty sticker placed at the connection between the radio module and the water meters.
- Only the module itself is delivered to the customer. The module must undergo the installation and configuration process on the operational water meter at the customer's location.

2.1. Waking up the module using a magnet

To wake up the sleeping module, place a neodymium magnet with a diameter of 10 mm and a thickness of 3 mm, or a ferrite magnet with a diameter of 20 mm and a thickness of 5 mm, against the module housing in the location indicated in the image below, directly above the optical system. The magnet should remain in place for at least 10 seconds. After completing the procedure, remove the magnet. An module equipped with the new software version (marked “REV: 02” as shown in the image) can also be woken up by a water flow of at least 2 liters in either direction—forward or reverse—which corresponds to two full rotations of the water meter dial. This method is only available when the module is mounted on the water meter.



Fig. 10. Waking up the module using the example of OP-O4-1a.

2.2. Installation and configuration of the module on the operational water meter

Before starting to use the mobile application, Bluetooth must be enabled on the phone to connect to the APT-VERTI-1 converter located nearby. The converter must have a software version of at least **FW: 3.5** to support NAXOM modules (the software version can be checked on the nameplate). Then log in to the SPIDAP Mobile application (Fig. 11). After logging in, select settings in the upper left corner (Fig. 12) and go to Bluetooth devices (Fig. 13). Once the converter is turned on, select it from the device list (it can be recognized by the device's serial number, which is located on the label at the back of the converter), as shown in Fig. 14.

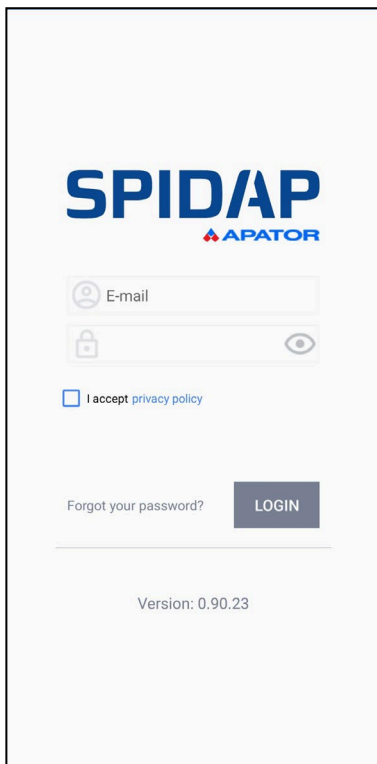


Fig. 11. Logging in to the application.

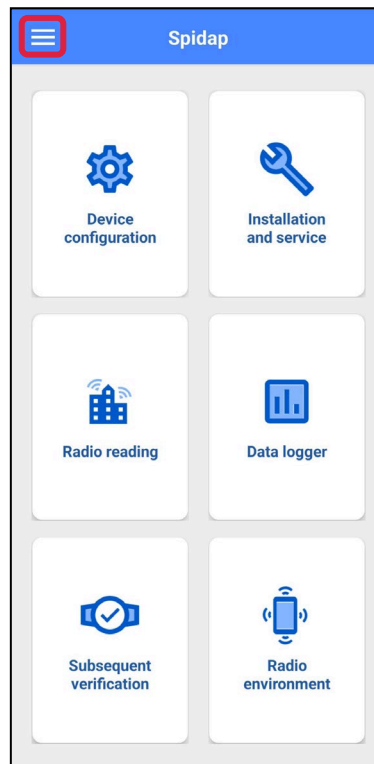


Fig. 12. Launching settings.

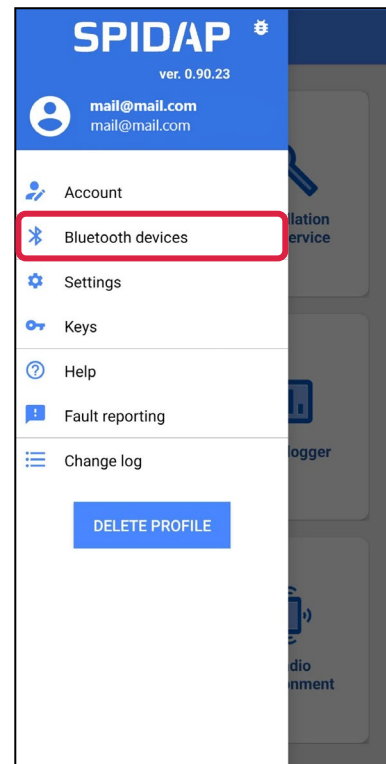


Fig. 13. Selecting "Bluetooth devices".

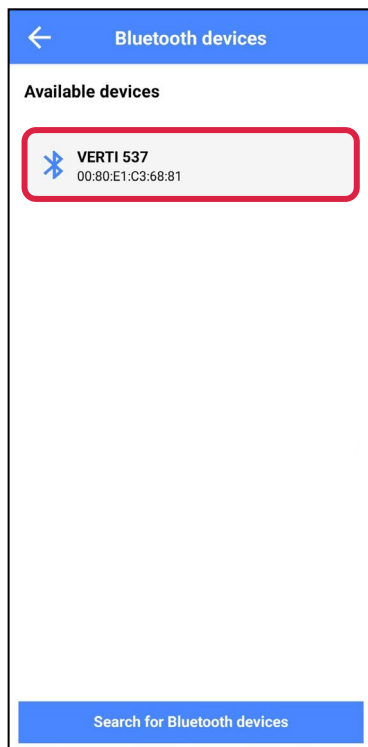


Fig. 14. Selecting APT-VERTI-1.

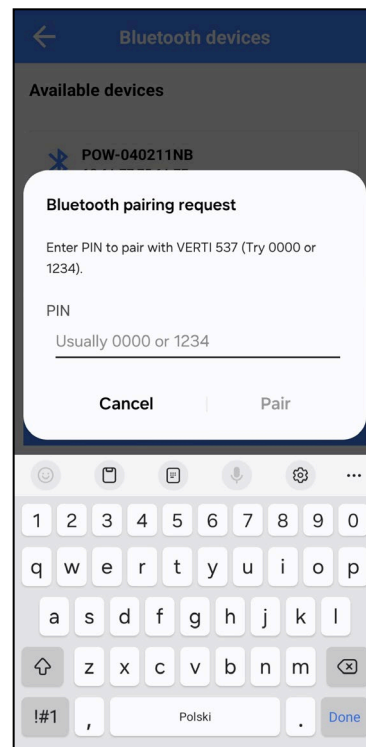


Fig. 15. Entering the PIN code to pair the converter with the application.

After selecting the VERTI converter, the “Bluetooth pairing request” window will appear (Fig. 15). The password for the converter is: 0000. After confirmation, the device will be paired.

Next, go to the “Installation and Service” tab with the APT-VERTI-1 converter enabled and select the “WM-Bus – installment” field.

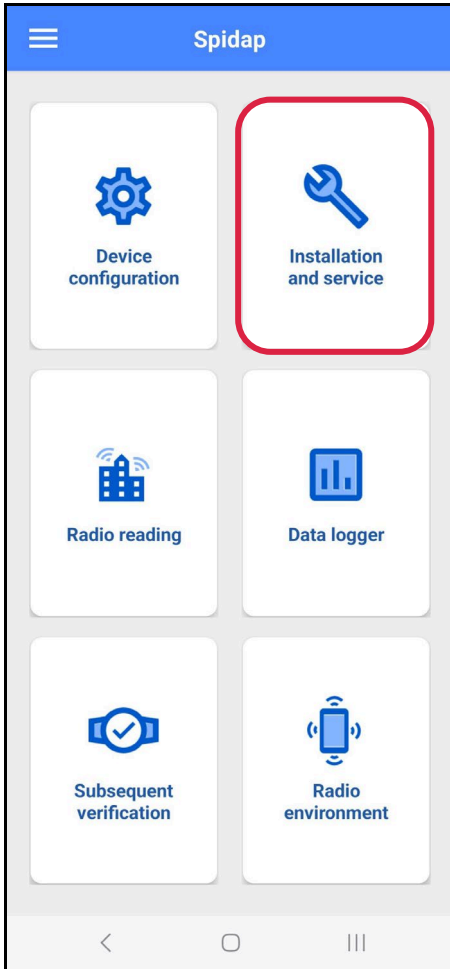


Fig. 16. SPIDAP Mobile application dashboard.

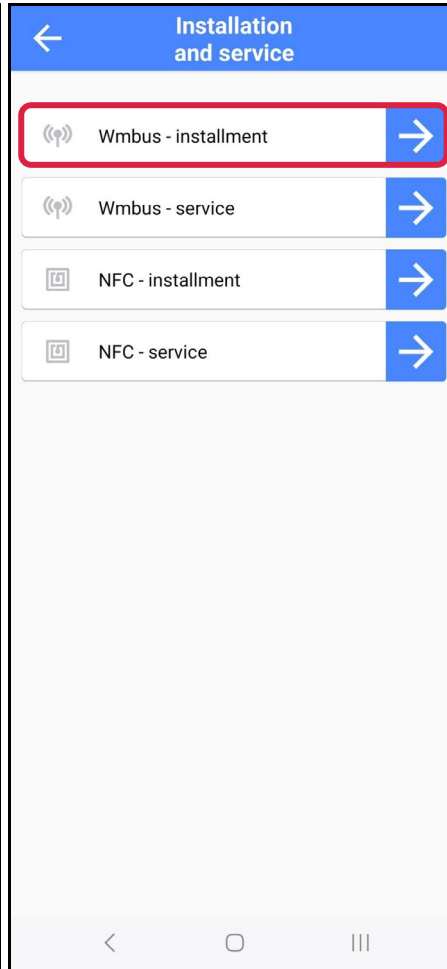


Fig. 17. “Installation and Service” module.



Fig. 18. VERTI converter.

After selecting the “WM-Bus – installment” tab, a window for module configuration will appear. Select the appropriate device type to be installed on the water meter, choose the profile corresponding to the module and the size of the water meter, and then fill in: the radio number of the module, the serial number of the water meter, and the water meter reading. Then enter the access code, which is the AES key (description of where to find the key is in point 2.3.). The security key can also be downloaded directly using the cloud icon: ☁. Leave the “Action” field unchanged – it is by default selected as “Record”. After completing all the data, confirm the installation of the module by selecting the “Execute” option.

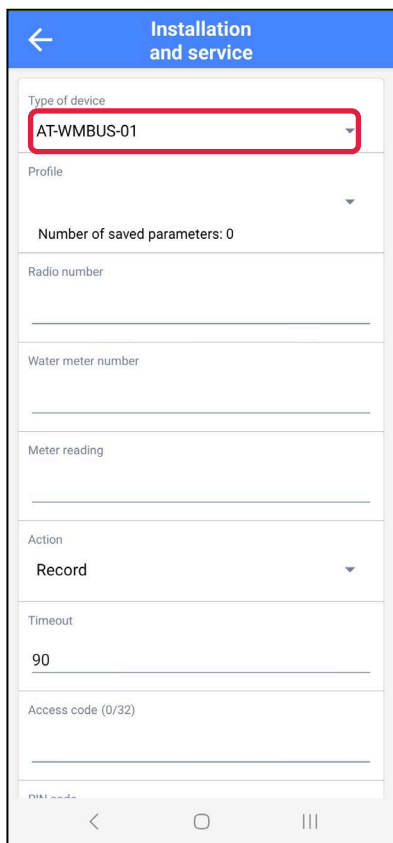


Fig. 19. View of the configuration window.

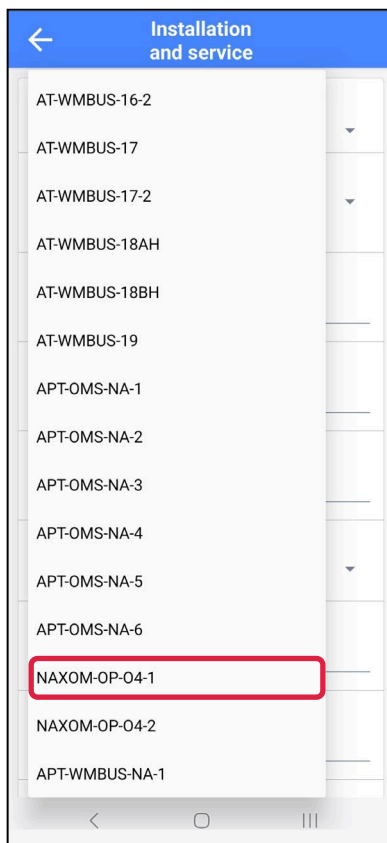


Fig. 20. Selection of device type.

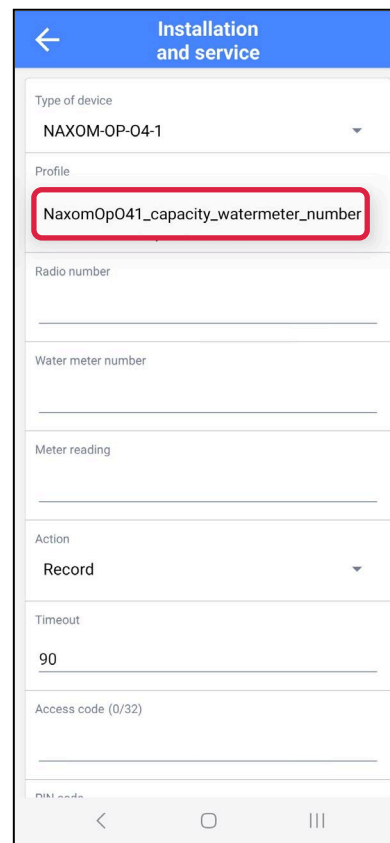
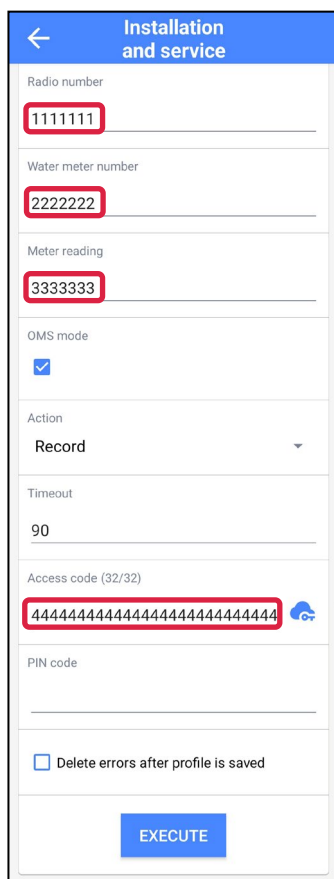


Fig. 21. Selection of module profile.



Required fields to fill in:

- Radio number
- Water meter number
- Meter reading
- Access code (AES key)

During programming, the VERTI converter must remain always powered on!

Fig. 22. Entries to be filled in during module configuration in the SPIDAP Mobile program.

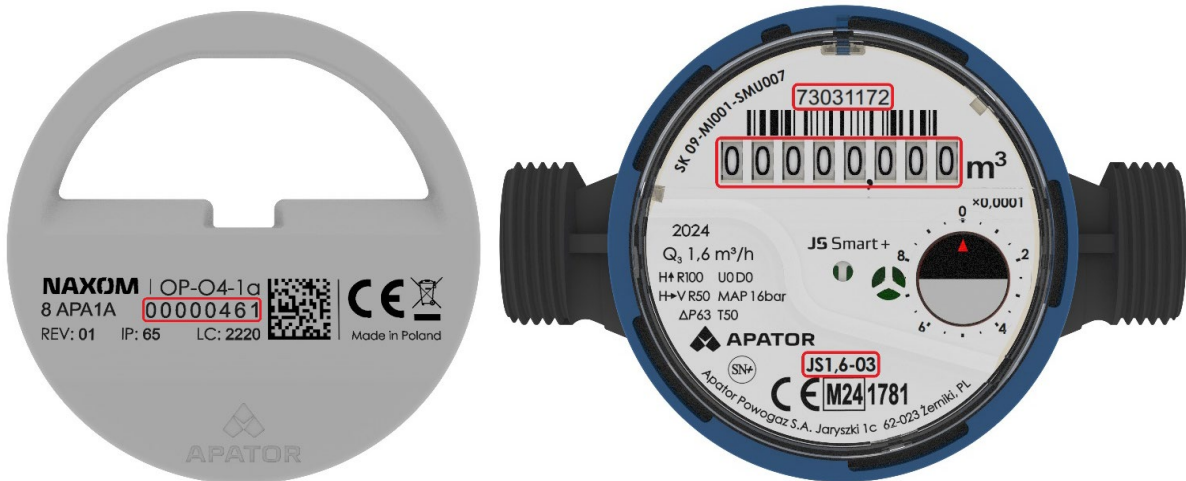


Fig. 23. The image shows the OP-O4-1a module with the radio number highlighted, along with the information required for configuring the module in SPIDAP Mobile using the example of the JS1.6-03 water meter. Similar information layout applies to SV-RTK2.5÷4 and SV-RTK16 water meters.

2.3. AES keys (access codes)

Data sent by the modules OP-O4-1a, OP-O4-1b, and OP-O4-2 are originally secured with individual access codes, known as AES keys. After purchasing the modules, their serial numbers and AES keys are automatically assigned to the customer's account in SPIDAP Engine, allowing the customer to securely retrieve them from their account. This is the safest way to distribute sensitive data.

3. Other information

3.1. Information contained on the module housing

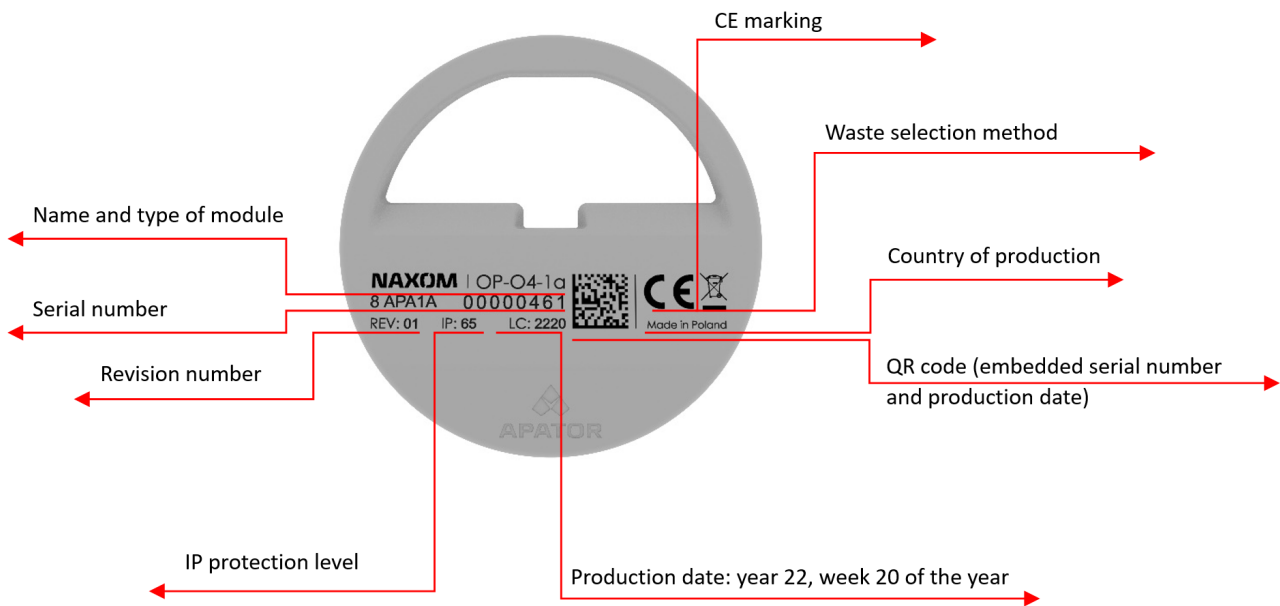


Fig. 24. Information contained on the OP-O4-1a module housing.

3.2. Information transmitted in the radio frame

- Volume
- Water meter number
- Current date and time of the device
- Event flags
- Event details
- Volume history
- Current flow

3.3. Module profiles

Tabela 1. Profiles for NAXOM modules.

| Water meter + profile* | Transmission frequency** [s] | Transmission hours | Transmission days | Logged readings | Module model | Battery life*** |
|------------------------|------------------------------|--------------------|-------------------|-----------------|--------------|-----------------|
| JS 1,6 ST, SM | 70 | 6-18 | Mon-Fri | 12 | OP-O4-1a | 12 years max. |
| JS 1,6 WOD | 30 | 6-18 | Mon-Fri | 12 | OP-O4-1b | 12 years max. |
| JS 2,5 ST, SM | 85 | 6-18 | Mon-Fri | 12 | OP-O4-1a | 12 years max. |
| JS 2,5 WOD | 30 | 6-17 | Mon-Fri | 4 | OP-O4-1b | 12 years max. |
| JS 4 ST, SM | 40 | 6-18 | Mon-Fri | 12 | OP-O4-1b | 12 years max. |
| JS 4 WOD | 30 | 6-17 | Mon-Fri | 4 | OP-O4-1b | 12 years max. |
| SV RTK 2,5 ST SM | 40 | 6-18 | Mon-Fri | 12 | OP-O4-2 | 12 years max. |
| SV RTK 2,5 WOD | 30 | 6-17 | Mon-Fri | 4 | OP-O4-2 | 12 years max. |
| SV RTK 4,0 ST SM | 40 | 6-18 | Mon-Fri | 12 | OP-O4-2 | 12 years max. |
| SV RTK 4,0 WOD | 30 | 6-17 | Mon-Fri | 4 | OP-O4-2 | 12 years max. |
| SV RTK 16 ST SM | 40 | 6-18 | Mon-Fri | 12 | OP-O4-2 | 12 years max. |
| SV RTK 16 WOD | 30 | 6-17 | Mon-Fri | 4 | OP-O4-2 | 12 years max. |

* Symbols:

ST – Stationary System

SM – Housing Co-operative

WOD – Water Main

** During other hours, the module transmits data every 768 seconds.

*** Temperature-dependent:

Module operation in the following temperature ranges: 80% of operating time at 30°C maximum; 10% of operating time at 30–40°C; 10% of operating time at 55°C maximum. The applied temperature profile matches the average temperature profile for the housing sector.

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