FAQ — FREQUENTLY ASKED QUESTIONS

IR-MB-PULSE

Wired M-Bus Transmission Module

1. Which products are compatible with the module?

The module is compatible with:

- **HYDROCAL-M4** (only meters from serial number **05053000**);
- **HYDROSONIC** (only modules from serial number **24636000**);
- **HYDRODIGIT-S1/M1**, both **Combo** and **wM-Bus** (all meters starting from **MID 2022** and from module serial number **24636000**).

2. Which types of meters can be connected to the impulse inputs of the module?

It is possible to connect all types of meters (**water, gas, electricity, HCA, etc.**) in accordance with the type of impulse and available measurement units.

3. What is the correct procedure to start the synchronization of the module with the meter?

After installing the module on the meter according to the mounting instructions, to start the synchronization process, proceed as follows:

- On **HYDROCAL-M4**, press T1 or T2 on the meter to activate the display. Within 30 seconds, either pass a magnet over the module or connect the MBus network.
- On **HYDRODIGIT-S1/M1** and **HYDROSONIC**, pass the magnet over the module or power the MBus network. Always ensure that the IR (infrared) is clean on both the module and the meter.

4. Which transmission modes are configurable?

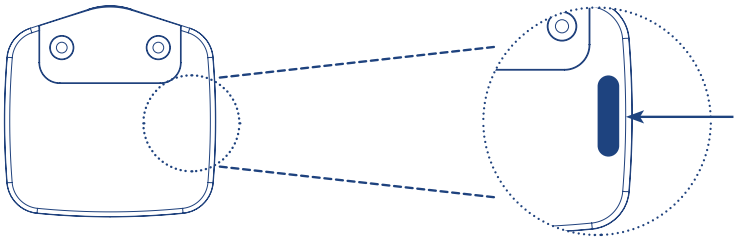
- Radio transmission (**wM-Bus or LoRaWAN**) with **impulsive** inputs (only **HYDROCAL-M4**);
- **MBus transmission** with **impulsive** inputs (only **HYDROCAL-M4**);
- **MBus transmission only** (all available meters).

5. What IP protection rating does the module have?

The module has an **IP68** protection rating with a maximum immersion of **24** continuous hours at a depth of **1 meter**.

6. Where is the reed switch of the module located?

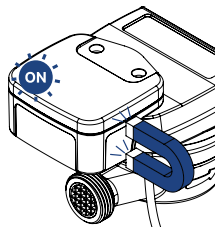
It is located on the top of the module, near the 'BMETERS' logo as shown in the image below:



positioned underneath the module's casing

7. How should I position the magnet to activate the module?

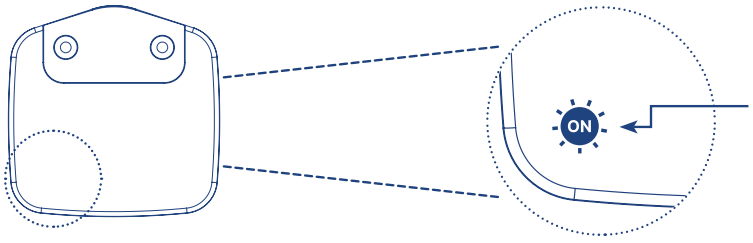
Position the magnet for about **~2** seconds to activate the synchronization, as shown in the image below:



Example of activation via magnet

8. Where is the LED located on the module?

The LED is positioned at the **bottom left** relative to the module's silkscreen printing, as shown in the image below:



Position of the LED on the module

9. Is it possible to use impulsive inputs if the module is connected to a water meter?

No, it is not possible because the technical specifications of water meters **do not provide for the use and recording of impulsive inputs**.

10. What is the maximum load of the module on the MBus network?

Less than **1,5 mA**.

11. Can the module be queried via MBus using both primary and secondary addresses?

Yes, both are active. If the primary address has not been set, ensure that there are no other devices connected with a primary address of 0 (**default value**). For the thermal energy meter **HYDROCAL-M4**, heating and cooling data are sent on the same address with a single MBus telegram.

12. What is the minimum limit for MBus queries?

BMeters guarantees the **maximum battery life (10 years)** with a minimum query interval of **15 minutes**.

13. Is it possible to query the module below the minimum limit specified by BMeters?

Yes, but this will affect the battery life, which in the case of frequent readings might fall below the **minimum threshold** before the end of the warranty period.

Note: The module is a metering device and NOT a continuous monitoring device.

14. What happens if the MBus network experiences a blackout, and how does the module behave?

The module continues to synchronize with the meter and save the values of impulsive inputs if used. Once the network is restored, the module will resume transmitting the updated data.

15. How many years does the battery last without MBus power?

The **estimated maximum battery life** remains **10 years**.

16. Can the module be reset to factory settings?

Yes, by holding the magnet on the module's reed switch for **more than 12 seconds**, the factory reset process will begin. The module's LED will remain on for about **~2** seconds and then it will turn off.

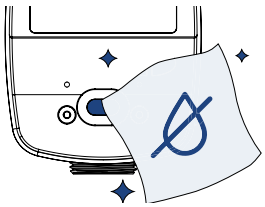
17. What is the difference between the two kits received with the module?

The screw kit differs as follows:

- **HYDRODIGIT-S1** — Kit n°2 screws with dimensions Ø3mm x 12mm in length;
- **HYDROSONIC / HYDROCAL-M4** — Kit n°2 screws with dimensions Ø3mm x 17mm in length.

18. Can I install the module if the meter's infrared port is dirty?

No, you should always ensure that the infrared ports of both the module and the meter are clean and that the LED is clearly visible before installing the module. If not, clean them with a soft, dry cloth.



Clean the infrared ports thoroughly!

19. In which cases does the module's LED activate, and what do its flashes signify?

The LED lights up when synchronization of the module starts, according to the **frequencies** described in the table. Points **4-5** are visible only when connected to the **HYDROCAL-M4** thermal energy meter:

1	ON OFF	2 sec	Magnet Pass (Initial Activation)
2	ON OFF	1,8 sec	IR Connection with Meter (max. 3 min)
3	ON OFF	1 sec	Data Exchange Configuration
4	OFF	8 sec	Waiting for Updated Data Exchange - HYDROCAL-M4 only
5	ON OFF	0,1 sec	Sending Updated Data (5 sec) - HYDROCAL-M4 only
6	ON OFF	12 sec	Connection Established (20 min)
7	OFF	-	Device Active in Power-Saving Mode

20. What types of pulses can be connected to inputs 1 and/or 2 of the module?

The types of **pulses** that can be connected to the inputs are listed in the table below:

Electronic outputs	› Open collector › Open drain
Mechanical switches	› Reed › Relays
Residual voltage when switched	< 1V
Max frequency	< 25 Hz
Min pulse width	> 40 ms (25 Hz) > 100 ms (10 Hz)

21. How far can the module cables be extended?

Impulsive inputs can be extended up to a total of 10 meters. The MBus cable can be extended according to the network specifications:
(https://www.bmeters.com/wp-content/uploads/2021/07/v1.1_WIRING_MBUS_EN.pdf)
and the link https://m-bus.com/documentation-wired/04-physical-layer

22. Is it mandatory to configure the HYDROCAL-M4 meter before synchronization?

Yes, you need to follow the **instructions for configuring** the meter.

23. Is it possible to move the module from one meter to another?

Yes, it is possible by following the initial configuration procedure before installation. For the **HYDROCAL-M4** thermal energy meter, it is necessary to enable the **'Force Module Data Update'** field using the **BMetering NFC Config** app or **BMetering** software.

24. What should be done if the module starts synchronization without being connected to a meter?

The module will make several attempts to synchronize and then revert to **energy saving mode**. Wait for the attempts to complete or proceed with the installation procedure.

25. Is it possible to use both the MBus network and the meter's radio transmission?

No, when the MBus connection is activated, the module will automatically disable the radio transmission of the meter on which it is installed.

26. What should be done if the module does not start synchronization after connecting to the MBus network?

Pass the magnet over the module and follow the installation or synchronization instructions.

27. What are the default MBus addresses?

The primary address is 0, while the secondary address is the serial number of the meter on which the module has been installed and synchronized.

28. Is the product still covered by warranty if the reading frequency is lower than that specified by BMeters?

No, if the reading frequency has caused the battery to **discharge prematurely**, the warranty will **no longer be valid**. The module keeps a log in memory of the frequency and the number of queries received.

29. Is the battery of the module replaceable?

No, the battery **cannot be replaced**.

30. Does the module's battery charge when connected to the MBus network?

No, the battery is **not rechargeable.**

31. Is it possible to update the module's firmware?

Yes, please contact your supplier to find out the timeline and procedures.

32. If the module runs out of power, is it possible to recover the data?

Yes, by submitting a return request to the address **ticket.bmeters.com**.

33. Do I need to wait for authorization from BMeters to proceed with the return?

Yes, all returns **must be authorized in advance**; any unauthorized returns will be rejected.

B METERS srl
Via Friuli, 3
33050 Gonars (UD)
Italy

Tel: +39 0432 931415
Tel: +39 0432 1690412
Fax: +39 0432 992661

Sales/info: info@bmeters.com
Support: ticket@bmeters.com
www.bmeters.com

To visit the product page for **IR-MB-PULSE** scan the **QR code**