

FREQUENTLY ASKED QUESTIONS

MAGB2 Battery powered modular flowmeter

QUESTION
ANSWER

What are MAGB2 advantages?

5-10 years battery life, MODBUS RTU communication, battery conservation when the pipe is empty, 0.4% accuracy as standard and 0.2% on request. Modular design.

QUESTION
ANSWER

What is the MAGB2 warranty?

2 years.

QUESTION
ANSWER

What are the available sizes for MAGB2?

From 25 to 600 mm.

QUESTION
ANSWER

What is the maximum battery life for MAGB2?

Dependent way of usage – standard 5pack battery pack will power the meter for up to 10 years. Each output used will reduce battery life.

QUESTION
ANSWER

How is it possible to know when the batteries are close to their lifetime?

MAGB2 will show an alert with the shape of a empty battery on the screen. In error code system will appear error on position 2.

QUESTION
ANSWER

Does the measurement stop when the battery drops below 20%?

When the battery falls below 1.2V, the measurement stops. You have plenty of time between the displayed error and the meter stopping measurement.

QUESTION
ANSWER

Does it send an alarm in case of an error?

You can use the pulse output, like any other error, to drive the signal out of the meter. To do this, navigate to the menu, go to User Settings - Relay Settings - Setting Signal = Error. Now, any time there is an error on the screen (including a low battery error), the relay will be in the connected state. Alternatively, the error code is also sent via GPRS and SMS.

QUESTION
ANSWER

Is it possible to exchange the battery? How?

Yes. Very simple, only opening the transmitter, plugging in the new battery pack and unplugging the old one in this order. The battery pack can be purchased as a spare part. User guide section 4.3 Changing the Battery.

QUESTION
ANSWER

Is it possible to use a different battery type for MAGB2?

We strongly recommend using the battery supplied and approved by the manufacturer to keep the guaranteed specifications of MAGB2 as declared in our manual. Battery can be ordered as Battery pack (5 pack).

QUESTION
ANSWER

Are the main battery and GSM/GPRS batteries rechargeable?

Only the GSM/GPRS battery is rechargeable.

QUESTION
ANSWER

Is it possible to externally power the MAG B2?

Yes, it's possible. However, only one power source can be used at a time.

QUESTION
ANSWER

What are the available communication features of the MAGB2?

USB communication using MODBUS RTU as standard. 3G/GSM/GPRS communication module, 4G LTE, LoRa and RS485 module available.

QUESTION
ANSWER

Is the MAGB2 available in compact and remote versions? What is the maximum length of the cable for the remote version?

Yes. MAGB2 is available in both versions. Maximum recommended cable length is 20 meters.

**QUESTION
ANSWER**

What applications are recommended for the MAGB2?

It is suitable for any application where power supply is not available. Some examples could be irrigation applications, flow monitoring in remote pipelines etc. It is important to mention – for applications where the flowrate is rapidly changing the battery powered electromagnetic flowmeter is not a good choice.

**QUESTION
ANSWER**

What is the MAGB2 accuracy?

0.4% from reading values for a velocity of, 0.5-10 m/s.

**QUESTION
ANSWER**

What types of mounting kits are available for MAGB2?

We offer the same types of mounting kits as for the type MAGX2. It means – Wall, Panel, DIN rail.

**QUESTION
ANSWER**

Is the battery life affected by the flowmeter size?

No, battery life is the same for all flowmeter sizes.

**QUESTION
ANSWER**

What factors affect the MAGB2 battery life?

The battery consumption is determined by pulse output usage (if this is high), connection to the computer (if connected for long periods, the consumption is higher), usage of any module, excitation frequency - the faster the excitation the more consumption, having the display switched on consumes the battery faster. The highest consumption is in the excitation frequency:

Excitation frequency [Hz]	6.25	3.125	1,5625	1/5	1/15	1/30	1/60
Average battery operation time [months]	4	8	16	72	96	120	120

**QUESTION
ANSWER**

How long can it remain all data (including the calibration data) without battery being installed?

All the settings are saved in non-volatile memory, it will remain there 50years guaranteed. There is in fact no limitation.

**QUESTION
ANSWER**

Is the measurement saved?

Yes, all the totalizers are saved every minute, so theoretically you can lose up to one minute of totalizers. See User Guide section 13 - Internal Backup.

**QUESTION
ANSWER**

What solution can ARKON offer for SMS communication for battery powered MAGB2?

Arkon can develop a customised solution for each installation according to end user requirements. Standard SMS solution is SMS communication from the flowmeter: The flowmeter sends flow and totalizers by SMS at specified intervals

**QUESTION
ANSWER**

Does the use of the 3G/GPRS/GSM module influence the battery life?

Yes, all 3G/GPRS/GSM modules are battery consuming. Consumption levels of the battery depend on the selected solution, number of repeats per day and on signal power. Module is equipped with its own battery but drains also main battery.

**QUESTION
ANSWER**

Is Arkon currently offering GPRS module for MAGB2?

Yes with 3G/GPRS/GSM module you can send data over GPRS to remote server.

**QUESTION
ANSWER**

How does MAGB2 measure? Is just one measurement every X seconds? It makes an average of measurements? Which are conditions for 10 years life of batteries?

The flowmeter takes a sample every X seconds. This sample time is selectable (60s, 30s, 15s, 5s, 1,5625Hz, 3,125Hz, 6,25Hz). Default setting for sample time is 15 seconds. To get the flow rate the flowmeter does the average of the last Y samples. The number of samples used for the average is selectable from 1 to 30 samples.

**QUESTION
ANSWER**

How many electrodes have MAGB2 and which functions have these electrodes?

MAGB2 has 4 electrodes (2 electrodes for measurement and 2 electrodes for earthing).

**QUESTION
ANSWER**

What is the maximal totalizer value?

The max value of the totalizer is 999 999 999 m3. After that the totalizer will be zero and it starts count from zero again.

**QUESTION
ANSWER**

How many digits has the MAGB2 display? How many decimals can be shown?

MAGB2 display has 10 digits for totalizer and for flowrate.

Totalizer can show from 3 to 0 decimals, depending on the total value. Number of decimals shown is not possible to be set by user.

Flowrate can show from 3 to 0 decimals. Number of decimals shown can be set by user

**QUESTION
ANSWER**

Which is the standard material for MAGB2 electrodes?

Hastelloy C-276

**QUESTION
ANSWER**

What are the conditions for 10 years life of batteries?

- Excitation frequency 30 or 60 sec

- Display on time set to 60 sec

- Not connected to computer.

- Pulse output not used.

- No module used.

- Temperature 20 deg C

**QUESTION
ANSWER**

What temperatures can the MAGB2 accept?

For ambient temperature: -20° to +60°

For medium temperature: 0° to +70°

For high medium temperature: PTFE liner and transmitter on remote version: 0° to 130°

**QUESTION
ANSWER**

Is the totalizer of the MAGB2 always counting?

No, in the menu it is possible to select if the totalizer should count or not.

**QUESTION
ANSWER**

How many totalizers has MAGB2 and how do they work?

It has 4 totalizers:

- *Positive volume*: It counts only the flow going on the direction set as "flow direction". It can only be reset to zero using service settings password

- *Negative volume*: It counts only the flow going on the opposite direction to the "flow direction" set. Only can be reset to 0 using service settings password

- *Total volume*: it counts flow regardless of the direction. $Total = Total+ - Total-$. Only can be reset to 0 using service settings password

- *Auxiliary volume*: It counts as *Total volume* but it can be reset to 0 in user settings

**QUESTION
ANSWER**

Is it MAGB2 suitable to be use with all liquids?

No, as all electromagnetic flowmeter, MAGB2 is only suitable for use with liquids with a minimum Conductivity of 5 μ S/cm and min 20 μ S/cm for demineralized water.

**QUESTION
ANSWER**

Where are MAGB2 calibrated?

All MAGB2 are calibrated on external calibration rigs traceable to international standards.

**QUESTION
ANSWER**

Why is MAGB2 calibrated externally?

To guarantee the impartiality of the calibrations

**QUESTION
ANSWER**

Is it possible to order a MAGB2 without calibration?

No, calibration has to be made as a quality control and verification of meters functionality. The calibration certificate is the proof of accuracy of the flowmeter and it is also the last verification of the flowmeter.

**QUESTION
ANSWER**

What does Arkon recommend to do when a MAGB2 needs to be calibrated?

All MAGB2 are delivered calibrated and does not need to be calibrated again. However if you want to calibrate them again Arkon has available an explanatory video. Please contact Arkon sales office for more details.

**QUESTION
ANSWER**

How can the MAGB2 be switched off?

By disconnecting the battery.

**QUESTION
ANSWER**

How is the MAGB2 delivered (Switched on or off)?

The flowmeter is delivered with the battery connected. However if customer knows the meter is going to stay on stock for a long time it is recommended to disconnect the battery.

**QUESTION
ANSWER**

For which installations is it necessary to use earthing rings?

It is necessary to use them for all installations in non-conductive pipes (i.e. plastic, concrete, rubber lined pipes, etc).

QUESTION
ANSWER

Which is the most common cause of fluctuations on the readings?

A bad earthing of the flowmeter, when there are different potential between the sensor and measured liquid.

QUESTION
ANSWER

Meter is installed in the correct direction of flow, but reading is constantly negative, what can I do?

Check all color codes of the wires from sensor cable match the transmitter termination inputs as per installation manual, if it is wired correctly and still negative flow is indicated, activate invert flow from settings, if all fails, checking stored calibration data values with factory is a good option.

QUESTION
ANSWER

Newly installed meter shows erratic flow, is it normal?

All flow meters are wet calibrated in the lab so if the sensor is not soaked for 24hours before installation this is quiet normal and stable readings can be observed within 24 hours of flow.

QUESTION
ANSWER

Installation is as per manual but readings are not stable, what can I do?

Check if earthing rings & rubber gaskets are correctly aligned, misalignment will cause internal flow turbulence.

Check the earthing resistance values are below 1Ω.

Disconnect the connection points between the earthing rings and earth wire, using a multimeter check for voltage discharge, between the two points, if there are values present this indicates a voltage discharge into the flow by an improperly earthed equipment usually a pump or valve or any other connected device in the vicinity, these stray currents will definatly effect the flow readings, properly earth all surrounding equipment.

QUESTION
ANSWER

Flow meter installed in pipe stopped showing flow or flow reading is erratic, what can I do?

Remove sensor and physically check for signs of contamination such as clay, oil & grease, biological micro film(might not be visible to the naked eye), clean sensor with surgical spirit and sponge, once all contaminants are removed flush with water, reinstall sensor as per manual.

QUESTION
ANSWER

Can the MAGB2 have both pulse output and RS485 Modbus (non-isolated, powered by the meter itself) on the same transmitter?

Yes, it can.

QUESTION
ANSWER

Why would a MAGB2, which previously worked fine, occasionally turn off and then either not light up the display or start having a blinking display?

If there are no signs of water ingress into the flowmeter. This may be due to a dead battery.

QUESTION
ANSWER

Does MAGB2 have OIML certification?

Yes, it does. A link to certificate: https://www.oiml.org/en/oiml-cs/en/files/pdf_c/r49-2013-cz1-2023-02-rev1.pdf

QUESTION
ANSWER
QUESTION
ANSWER

Does MAGB2 have MID certification?

Yes, it does. A link to certificate: https://typover.cmi.cz/typover_pdf/B/5905.pdf

What is MAGB2 warranty life?

2 years

QUESTION
ANSWER

Is the MAGB2 version approved for Hazardous Area?

No, currently Arkon does not offer any flowmeter approved for Hazardous Area.

QUESTION
ANSWER

How many modules can be used at the same time?

Only one module can be used/installed at the same time.