

# FREQUENTLY ASKED QUESTIONS

## MAGB1 BATTERY POWERED FLOWMETER

**QUESTION  
ANSWER**

***What are MAGB1 advantages?***

5-10 years battery life, MODBUS RTU communication, battery conservation when the pipe is empty, 0.5% accuracy.

**QUESTION  
ANSWER**

***What is the MAGB1 warranty ?***

2 years.

**QUESTION  
ANSWER**

***What are the available sizes for MAGB1?***

From 20 to 250 mm. (other sizes on request)

**QUESTION  
ANSWER**

***What is the maximum battery life for MAGB1?***

Dependent on battery pack – standard 5pack battery pack will power the meter for up to 10 years.

**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.

**QUESTION  
ANSWER**

***Is it possible to use a different battery type for MAGB1?***

We strongly recommend using the battery supplied and approved by the manufacturer to keep the guaranteed specifications of MAGB1 as declared in our manual. Battery can be ordered as Battery pack (5 pack).

**QUESTION  
ANSWER**

***What are the available communication features of the MAGB1?***

USB communication using MODBUS RTU and an isolated binary output as standard. 3G/GSM/GPRS communication module, MBUS and RS485 module available

**QUESTION  
ANSWER**

***Is the MAGB1 available in compact and remote versions? What is the maximum length of the cable for the remote version?***

Yes. MAGB1 is available in both versions. Maximum recommended cable length is 20 meters.

**QUESTION  
ANSWER**

***What applications are recommended for the MAGB1?***

It is suitable for any application where power supply is not available, Some example could be irrigation applications, flow monitoring in remote pipelines etc

**QUESTION  
ANSWER**

***What is the MAGB1 accuracy?***

For sizes 20 to 150mm: 0.5% from reading values for a velocity of, 0.5-10 m/s.

For sizes 200-250mm: 2% from reading values for a velocity of, 0.5-10 m/s.

**QUESTION  
ANSWER**

***What types of mounting kits are available for MAGB1?***

We offer the same types of mounting kits as for the type MAGX2. It means – Wall, Panel, DIN rail. Nevertheless from year 2010 we offer mounting kits made of polyamide with 30% part of glass.

**QUESTION  
ANSWER**

***What factors affect the MAGB1 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), 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	<b>1/15</b>	1/30	1/60
Average battery operation time [months]	4	8	16	72	<b>96</b>	120	120

**QUESTION**  
**ANSWER**

***Is the battery life affected by the flowmeter size?***  
No, battery life is the same for all flowmeter sizes.

**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**

***What solution can ARKON offer for SMS communication for battery powered MAGB1?***  
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. Module is equipped with its own battery.

**QUESTION**  
**ANSWER**

***Is Arkon currently offering GPRS module for MAGB1?***  
Yes with 3G/GPRS/GSM module you can send data over GPRS to remote server.

**QUESTION**  
**ANSWER**

***Is any extra software needed for GSM-SMS solution?***  
No, you can use your mobile phone or SMS server

**QUESTION**  
**ANSWER**

***Does 3G/GPRS/GSM module have any extra consumption?***  
Yes it have, the lifetime of batteries will be shorter, it depends on number of repeats per day and on signal power.

**QUESTION**  
**ANSWER**

***How does MAGB1 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. Default setting for number of samples used to get the flow rate is 4 samples.

**QUESTION**  
**ANSWER**

***How many electrodes have MAGB1 and which functions have these electrodes?***  
MAGB1 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 MAGB1 display? How many decimals can be shown?***  
MAGB1 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 MAGB1 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  
- Fast excitation button: off  
- Not connected to computer.  
- Pulse output not used.  
- Temperature 20 deg C

**QUESTION**  
**ANSWER**

***What temperatures can the MAGB1 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 MAGB1 always counting?***

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

**QUESTION**  
**ANSWER**

***How many totalizers has MAGB1 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 factory 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 factory settings password
- *Total volume*: it counts any flow regardless of the direction. So that value will be the addition of *Total+* and *Total-*. Only can be reset to 0 using factory settings password
- *Auxiliary volume*: It counts as *Total volume* but it can be reset to 0 in user settings

**QUESTION**  
**ANSWER**

***Is it MAGB1 suitable to be use with all liquids?***

No, as all electromagnetic flowmeter, MAGB1 is only suitable for use with liquids with a minimum conductivity of 5µS

**QUESTION**  
**ANSWER**

***Where are MAGB1 calibrated?***

All MAGB1 are calibrated on external calibration rigs traceable to international standards.

**QUESTION**  
**ANSWER**

***Why is MAGB1 calibrated externally?***

To guarantee the impartiality of the calibrations

**QUESTION**  
**ANSWER**

***Is it possible to order a MAGB1 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 MAGB1 needs to be calibrated?***

All MAGB1 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 is it possible to know when the batteries are close to their lifetime?***

MAGB1 will show an alert with the shape of a empty battery on the screen.

**QUESTION**  
**ANSWER**

***How can the MAGB1 be switched off?***

By disconnecting the battery.

**QUESTION**  
**ANSWER**

***How is the MAGB1 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 possible to send the flowmeter with the battery disconnected.

**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 potentials between the units part of the loop.

**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 definitely affect 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

**3G/LTE module does not respond or reply back with confirmations, everything is connected properly and all communication confirmations are indicated on screen.**

- Check with the communication provider if the inserted sim has 2 way sms activated, the sim has enough credit or the postpaid package is active.
- Remove the sim, insert into a phone and try to send and receive messages, if messages are working, try to browse the internet, if all works insert the sim back into the module and reconnect both batteries and observe the communication confirmations.
- Some communication towers block connectivity from unknown devices to mobile towers due to security reasons, calling the relevant operator and discussing the issue with their technical team will help resolve these issues.