FREQUENTLY ASKED QUESTIONS

MAGB2 Battery powered modular flowmeter

QUESTION ***What are MAGB2 advantages?***
ANSWER 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 ***What is the MAGB2 warranty?***
ANSWER 2 years.

QUESTION ***What are the available sizes for MAGB2?***
ANSWER From 25 to 600 mm.

QUESTION ***What is the maximum battery life for MAGB2?***
ANSWER 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 ***Is it possible to exchange the battery? How?***
ANSWER 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 ***Is it possible to use a different battery type for MAGB2?***
ANSWER 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 ***Are the main battery and GSM/GPRS batteries rechargeable?***
ANSWER Only the GSM/GPRS battery is rechargeable***.***

QUESTION ***Is it possible to externally power the MAG B2?***
ANSWER Yes, it's possible. However, only one power source can be used at a time.

QUESTION ***What are the available communication features of the MAGB2?***
ANSWER USB communication using MODBUS RTU as standard. 3G/GSM/GPRS communication module, 4G LTE, LoRa and RS485 module available.

QUESTION ***Is the MAGB2 available in compact and remote versions? What is the maximum length of the cable for the remote version?***
ANSWER Yes. MAGB2 is available in both versions. Maximum recommended cable length is 20 meters.

QUESTION ***What applications are recommended for the MAGB2?***
ANSWER 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 ***What is the MAGB2 accuracy?***
ANSWER 0.4% from reading values for a velocity of, 0.5-10 m/s.

QUESTION ***What types of mounting kits are available for MAGB2?***
ANSWER We offer the same types of mounting kits as for the type MAGX2. It means – Wall, Panel, DIN rail.

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

QUESTION ***What factors affect the MAGB2 battery life?***
ANSWER 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 ***How long can it remain all data (including the calibration data) without battery being installed?***
ANSWER All the settings are saved in non-volatile memory, it will remain there 50years guaranteed. There is in fact no limitation.

QUESTION ***What solution can ARKON offer for SMS communication for battery powered MAGB2?***
ANSWER 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 ***Does the use of the 3G/GPRS/GSM module influence the battery life?***
ANSWER 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 ***Is Arkon currently offering GPRS module for MAGB2?***
ANSWER Yes with 3G/GPRS/GSM module you can send data over GPRS to remote server.

QUESTION ***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?***
ANSWER 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 ***How many electrodes have MAGB2 and which functions have these electrodes?***
ANSWER MAGB2 has 4 electrodes (2 electrodes for measurement and 2 electrodes for earthing).

QUESTION ***What is the maximal totalizer value?***
ANSWER 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 ***How many digits has the MAGB2 display? How many decimals can be shown?***
ANSWER 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 ***Which is the standard material for MAGB2 electrodes?***
ANSWER Hastelloy C-276

QUESTION ***What are the conditions for 10 years life of batteries?***
ANSWER
- 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 ***What temperatures can the MAGB2 accept?***
ANSWER 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 ***Is the totalizer of the MAGB2 always counting?***
ANSWER No, in the menu it is possible to select if the totalizer should count or not.

QUESTION ***How many totalizers has MAGB2 and how do they work?***
ANSWER 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 ***Is it MAGB2 suitable to be use with all liquids?***
ANSWER No, as all electromagnetic flowmeter, MAGB2 is only suitable for use with liquids with a minimum Conductivity of 5µS/cm and min 20µS/cm for demineralized water.

QUESTION ***Where are MAGB2 calibrated?***
ANSWER All MAGB2 are calibrated on external calibration rigs traceable to international standards.

QUESTION ***Why is MAGB2 calibrated externally?***
ANSWER To guarantee the impartiality of the calibrations

QUESTION ***Is it possible to order a MAGB2 without calibration?***
ANSWER 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 ***What does Arkon recommend to do when a MAGB2 needs to be calibrated?***
ANSWER 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 ***How is it possible to know when the batteries are close to their lifetime?***
ANSWER 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 ***How can the MAGB2 be switched off?***
ANSWER By disconnecting the battery.

QUESTION ***How is the MAGB2 delivered (Switched on or off)?***
ANSWER 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 ***For which installations is it necessary to use earthing rings?***
ANSWER It is necessary to use them for all installations in non-conductive pipes (i.e. plastic, concrete, rubber lined pipes, etc).

QUESTION ***Which is the most common cause of fluctuations on the readings?***
ANSWER A bad earthing of the flowmeter, when there are different potential between the sensor and measured liquid.

QUESTION ***Meter is installed in the correct direction of flow, but reading is constantly negative, what can I do?***
ANSWER 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 ***Newly installed meter shows erratic flow, is it normall?***
ANSWER 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 ***Installation is as per manual but readings are not stable, what can I do?***
ANSWER Check if earthing rings & rubber gaskets are correctly aligned, misalignment will cause internal flow turbulance.
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 ***Flow meter installed in pipe stopped showing flow or flow reading is erratic, what can I do?***
ANSWER 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 contaminents are removed flush with water, reinstall sensor as per manual.

QUESTION ***Can the MAGB2 have both pulse output and RS485 Modbus (non-isolated, powered by the meter itself) on the same transmitter?***
ANSWER Yes, it can.

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

QUESTION ***Does MAGB2 have OIML certification?***
ANSWER 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 ***Does MAGB2 have MID certification?***
ANSWER Yes, it does. A link to certificate: https://typover.cmi.cz/typover_pdf/B/5905.pdf
QUESTION ***What is MAGB2 warranty life?***
ANSWER 2 years

QUESTION ***Is the MAGB2 version approved for Hazardous Area?***
ANSWER No, currently Arkon does not offer any flowmeter approved for Hazardous Area.

QUESTION ***How many modules can be used at the same time?***
ANSWER Only one module can be used/installed at the same time.

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