

# Counter, Totalizer, Dosing controller BAMOWIZ DOZ



## USER MANUAL

**BAMO** INTERNATIONAL

22, Rue de la Voie des Bans · Z.I. de la gare · 95100 ARGENTEUIL

Tel +33 (0)1 30 25 83 20 Web [www.bamo.eu](http://www.bamo.eu)

Fax +33 (0)1 34 10 16 05 E-mail [export@bamo.fr](mailto:export@bamo.fr)

Counter, Totalizer, Dosing  
controller

**BAMOWIZ DOZ**

30-03-2022

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## SAFETY INSTRUCTIONS

- Installation, commissioning and maintenance must be carried out by qualified technicians.
- Only connect the device to the voltage specified in the technical features and label.
- Disconnect all power sources from the device during interventions or maintenance tasks.
- The operation of the device must be in accordance with and strictly limited to the applications, as mentioned further on and on data-sheet.

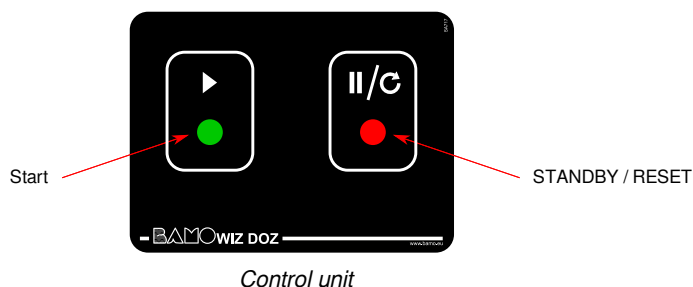
## APPLICATIONS

BAMOWIZ DOZ is a programmable counter and totalizer as well as a dosing system. The setpoint (Dosing quantity) is permanently accessible from the main display, which makes it ideal for applications that require regular adjustments. It accepts pulse signals from flow sensors operating in the range of 0.04 Hz to 10 kHz

## DESCRIPTION

The BAMOWIZ DOZ consists of two elements: A programmable monitor and a control unit. The BAMOWIZ DOZ converts the frequency (input signal) into a configurable physical quantity (m<sup>3</sup>, Liter, etc.) The graphic color touch screen facilitates settings through the menus and allows viewing of all parameters.

A dosing cycle may be started (or interrupted) from the control unit which supplies and directly controls a solenoid valve via the static output.



Controls of dosing start and stop can be remote from the control.

## TECHNICAL FEATURES

User interface	Graphic color touch screen, size 4/3 Resolution: 480 x 272 pixels
Languages	English - French - German - Polish - Portuguese - Spanish
Touch screen keyboard, alphanumeric	Dedicated for each language
<b>Counter, Totalizer for pulse flow sensors</b>	
Frequency input	Range from 0.04 Hz up to 10 kHz
Bounce-free counting	For dry contact (potential-free)
Relay outputs	3 N.O. contacts, to set; potential free Pulse mode or ON/OFF mode
Adjustable thresholds	Total of 8 thresholds to set and assigned to the 3 relays For the functions: Totalizer, counter or timer
Alarm delay	From 0 to 9999 s
Switching power	3 A / 250 V AC
Hysteresis	Adjustable from 0 to 100 %
Reset on Totalizer	Reset to zero of totalizer and number of cycles
Relay switching simulation	Manual test for each relay
1 Static output	Solenoid valve control (with an external power supply) 230 V AC; Max. 400 W Version 24 V DC; Max. 40 Watt Switching power: max. 40 W
Monitor, power supply	100 ... 240 V AC - 50/60 Hz
Consumption	5 VA Max.
Electrical connections	Screw terminals
Cable glands	Total: 5; PG 9
Mounting	Wall mount cabinet, IP 65 - ABS plastic
Ambient temperature limits	-10 ... +50 °C

**EC Conformity:** These devices meet the legal requirements of the current European Directives.

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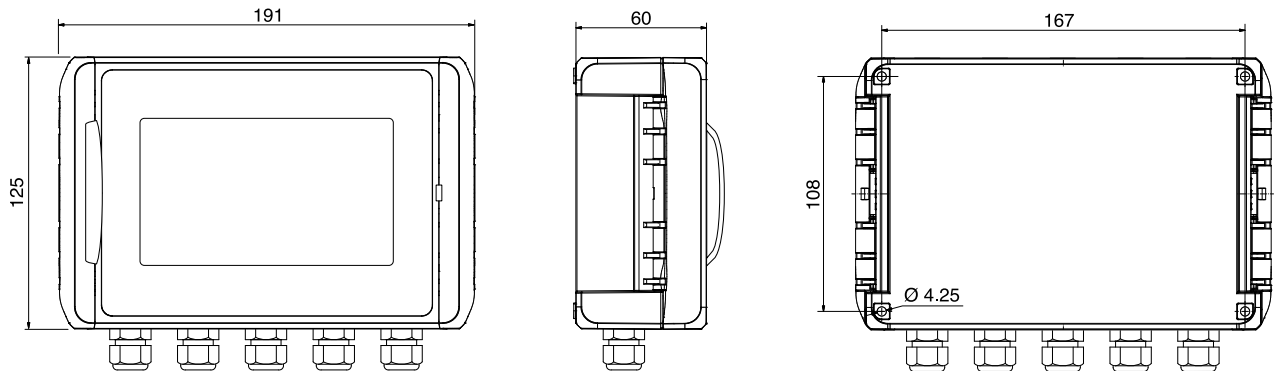
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## CODE NUMBERS

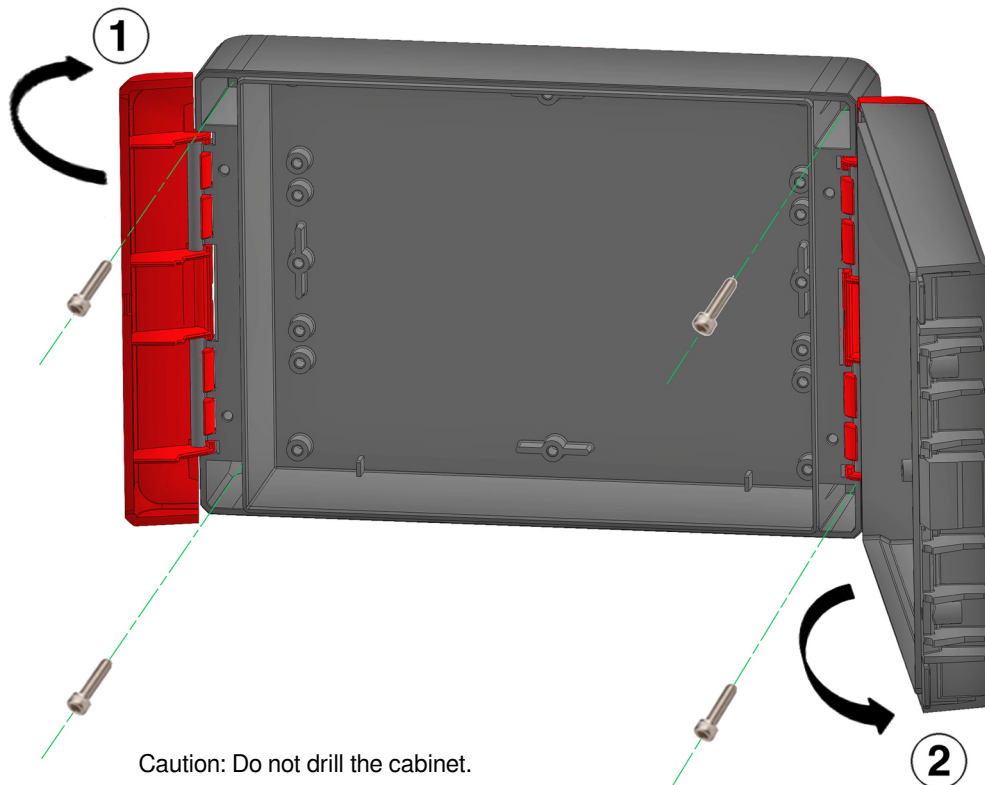
217 310	BAMOWIZ DOZ Monitor, 230 V AC
217 315	BAMOWIZ DOZ Control unit, 24 V DC
217 316	BAMOWIZ DOZ Control unit, 24 / 230 V AC

Note: Select the remote control unit according the voltage to supply to the solenoid valve.

## DIMENSIONS



## INSTALLATION



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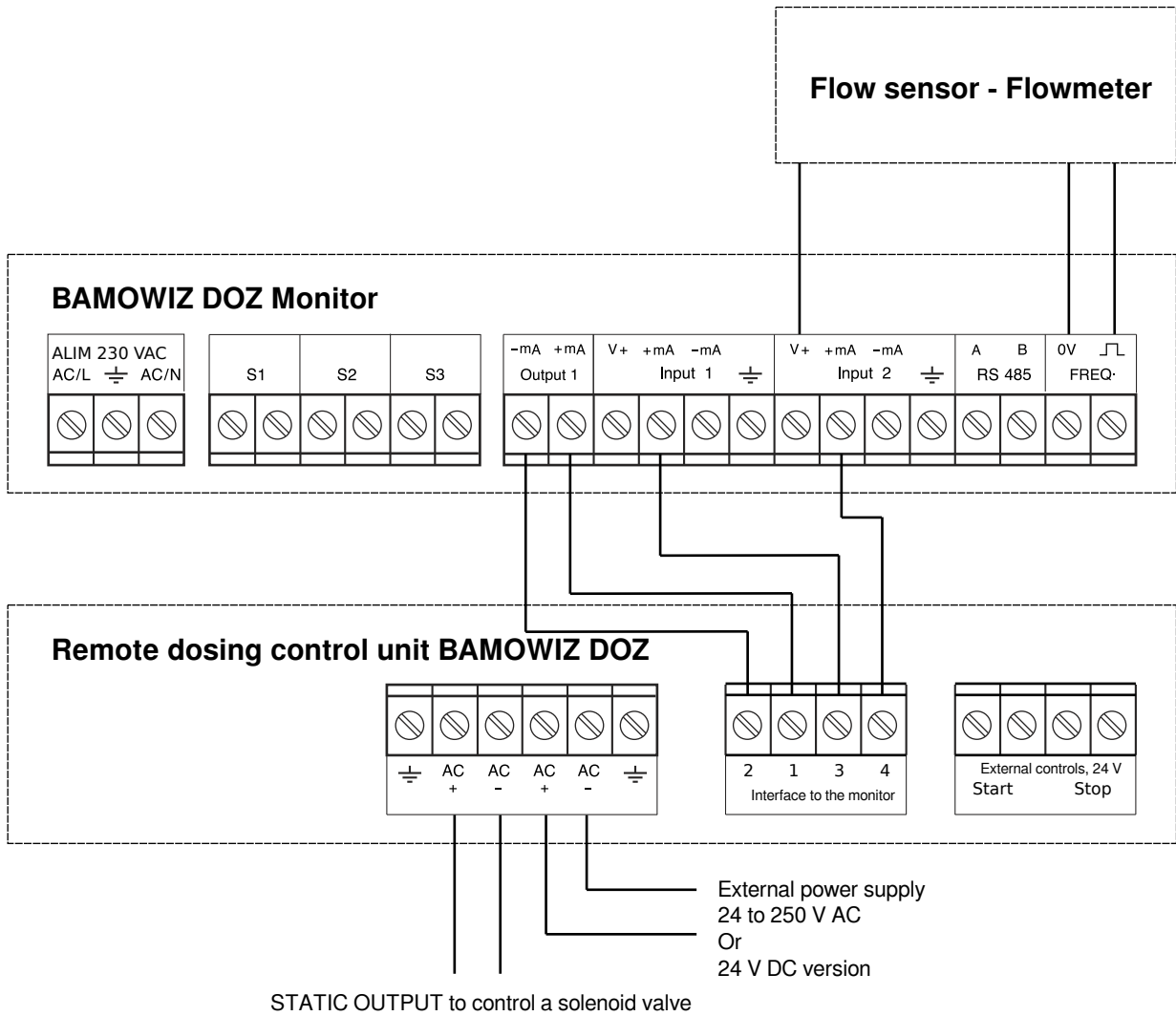
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# ELECTRICAL CONNECTIONS



## DESCRIPTION OF ICONS



**HOME**  
Return to alphanumeric display



**SETTINGS**  
Access to serial number and version of your BAMOWIZ  
Access to screen saver (set up available only in MODIFICATION MODE)



**LANGUAGES**  
Language selection



**MENU**  
Access to parameter settings



**PADLOCK**  
Open: means MODIFICATION mode  
Closed: means CONSULTATION (review) mode



**RETURN**  
Back to the previous screen



**ARROWS**  
Cursors to navigate within the menus



**ON / OFF**  
To enable (ON) or disable (OFF) settings of an entry



**SAVE**  
To save the settings



**ESCAPE**  
To cancel any modification on the input settings



**RELAY STATUS S1, S2, S3**  
Display relays status and settings resume



**CURSOR**  
To navigate within the menus  
*Alternative display to Arrows in some menus*



**SELECTION**  
Scrolling through choices

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## SCREEN SETTINGS

### LANGUAGE SELECTION

Direct access to the language of your choice.

- From the main screen, go to MENU.
- Press "SETTINGS" to view the icon LANGUAGES
- Select your language, pressing the corresponding flag.

### CONSULTATION (review) mode or MODIFICATION (set up) mode

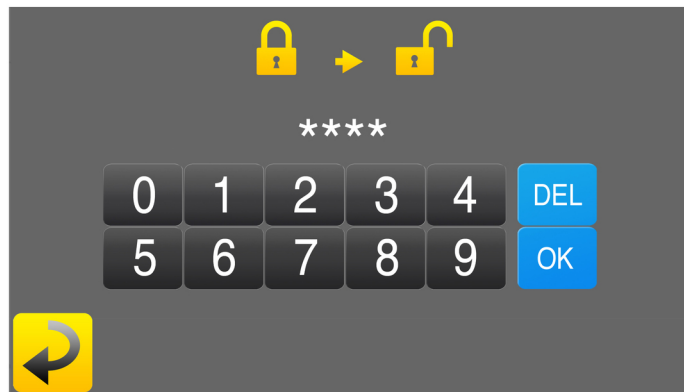
CONSULTATION mode allows the end-user to review all settings.  
This mode corresponds to a closed padlock icon.

To change settings, you have to use the MODIFICATION mode.  
This mode is protected by a password: the last 4 numbers of the serial number.

Example : S/N : 20000-01  
**Password is: 0001**

Note: Serial number of your BAMOWIZ is on the sticker on side of the cabinet. You can find it as well through the menu SETTINGS.

- From the main screen, go to MENU.
- Press the padlock icon and type the last four number of S/N.
- Pressing "OK" the BAMOWIZ is set in MODIFICATION mode (Open padlock)



In case of mistyping, the display shows "ERROR".  
After 30 minutes, the BAMOWIZ reset automatically in CONSULTATION mode.

### SCREEN SAVER

Access from the menu SETTINGS (in MODIFICATION mode): allows to set the brightness of screen saver mode (it runs after 30 min of non activity)

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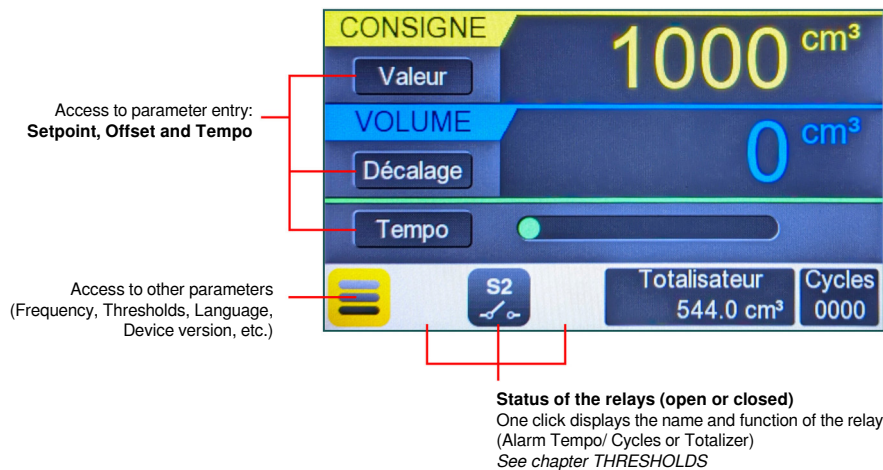
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## SETTINGS

### MAIN DISPLAY: Viewing and setting Setpoint, Offset and Tempo



The main display shows:

- The setpoint
- The volume\*
- Downcount of TEMPO\*\*
- The status of each relay S1, S2 & S3
- The Totalization
- The number of cycles

\* Volume counted during a dosing cycle (Reset at each start).

\*\* Countdown stops once the setpoint is reached (otherwise it alarms the operator).

From the main display, the following parameters can be entered:

### SETPOINT

Press the "Value" key to enter the setpoint (Volume to reach)

### OFFSET

Press the "OFFSET" key to enter the real volume passed at the time the circuit was closed.

*Example: Setpoint at 1 litre.*

*The closing time of the solenoid valve generated 1.010 litre instead of the requested 1 litre.*

*To compensate for this discrepancy between set point and volume reached at the end of the cycle, the 10 ml discrepancy can be entered in the BAMOWIZ in order to order the circuit to close at 990 ml.*

*There will then really be 1 litre delivered.*

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## TEMPO

Press the TEMPO button to enter a time in seconds. This is the maximum time determined by the operator to reach the setpoint.

When starting the dosage (pressing the green button of the remote unit) a countdown of the programmed duration (TEMPO) is carried out. In the case of exceeding the TEMPO value, the symbol " || " (pause) will flash on the screen and the color of the time bar will alternate between red and green:



It is recommended to set an alert threshold assigned to one of the relay output to send the information remotely (see § Threshold). In this case, the assigned relay will close if the setpoint is not reached at the end of the TEMPO.

Pressing the red RESET button on remote control unit, acknowledges the alarm and changes the status of the relay. To access the following parameters, the padlock must be unlocked. Enter the password, then press OK

## FREQUENCIES

Hereafter: Details of the steps to set the frequency input:  
Go to the menu "FREQUENCY"

<b>Measurement unit</b>	Enter the unit of measurement through the keyboard (example: cm <sup>3</sup> )
<b>Corresponding frequency to 1 measurement unit</b>	Enter the frequency corresponding to the measurement unit: Fréquence ? = for 1 Unit
<b>Pulse value</b>	Result of calculation from values entered in frequency and unit
<b>Bounce-free counting</b>	This function avoid counting any bounces of a dry contact when it is activated. The filter blocks frequencies above 4 Hz; Use this function only for dry contact signals with frequency Max. < 4 Hz. Select ON to enable this function Select OFF to disable this function (Default value: OFF)

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## THRESHOLDS

Hereafter: Detail of the steps to set the thresholds (Maximum 8):

To add a threshold, click on the symbol " + " then click on the threshold to set it up.  
Each threshold can be assigned to relay or S1, or S2, or S3. These are open by default and close when energized.

**Designation** Type the threshold name with the keyboard

**Select the measurement parameter:** 3 possibilities:  
- Alarm TEMPO  
- CYCLES  
- TOTALIZER

### Alarm TEMPO

Use this mode to assign a threshold to the TEMPO (configured from the main display - see § SETTINGS).

**Threshold action** To assign the threshold to one of the relay or S1, or S2, or S3.

*Example: Set up TEMPO at 10 seconds; After a dosing is initiated, if the counted volume does not reach the setpoint within the 10 seconds, the "Alarm TEMPO" function will trigger and the assigned relay will close.*

### CYCLES

Use this mode to set an alert when the number of cycles reaches the value recorded in this menu.

**Pulse mode ?** On / OFF

Select OFF for a "threshold" mode  
Note: The contact will remain closed until operator acknowledges

Select ON to use "pulse" mode  
If the selection is ON, enter the pulse duration in seconds in the menu.

**Energized** Enter the number of cycles required to energize the relay

**Threshold action** To assign the threshold to one of the relay or S1, or S2, or S3.

### TOTALIZER

Use this mode to set an alert when the totalizer reaches the set volume

**Pulse mode ?** ON / OFF

Select OFF for a "threshold" mode  
Note: Contact will remain closed until operator acknowledges

Select ON to use "pulse" mode  
If the selection is ON, enter the value of the pulse duration in seconds in the menu "Energized duration".

**Energized** Saisir a volume

**Threshold action** To assign the threshold to one of the relay or S1, or S2, or S3.

## TEST OF RELAYS

This menu allows to manually test each relay.  
When entering this menu, by default, the relays are at rest. To test a relay, press the SELECT key to switch from Rest mode to Energized mode.

## TOTALIZER RESET

Use this menu to reset the totalizer or/and cycles count, to zero, through the key RESET.

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