

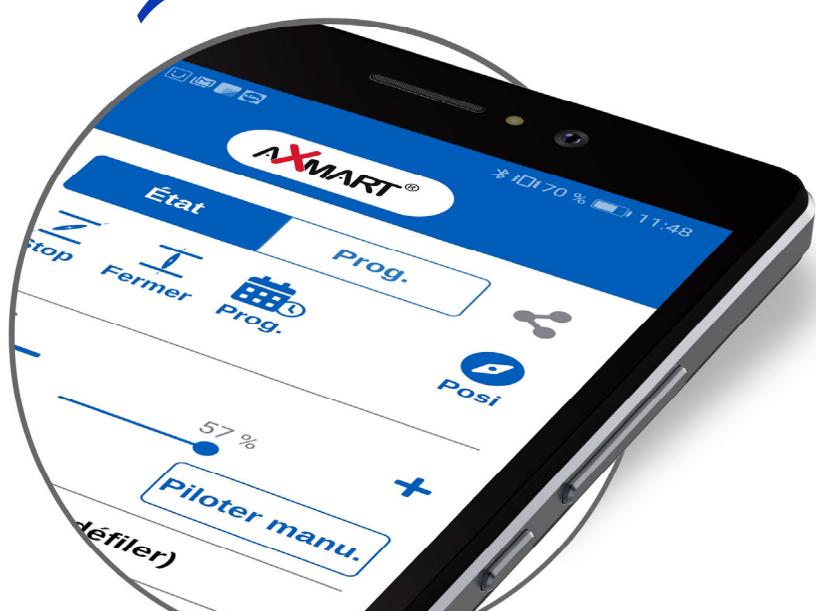
CR-TEC Engineering

Automated Valve Solutions



A~~X~~MART® v3

Installation and Operation Manual



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1. Download and install

The **AXMART®** is compatible with GS6, GPS, GFS, GP7, GP8 and GBH actuators versions. This software is free and available on Google Play for Android version (v5.0 or higher) and on Apple store for the Apple version.

Software name : **AXMART (v3)**

1.1 Android version

Installation :



OR



Exécution :

Icon of **AXMART**:



Access requested by **AXMART** :

- Access to position
- Access to gallery/photos

The device GPS must be activated

1.2 Apple version

Installation :



OR



Execution :

Icon of **AXMART**:



- Before launching **AXMART**, the device clock must be correct.
- During the switch between winter and summer time, a connection to the actuators is imperative for clocks synchronisation.

2. General description

Because of the screen size, the display isn't the same according the device (tablet or smartphone). Les functionalities are the same.

2.1 Smartphone display

The image shows two screenshots of the AXMART app interface on a smartphone. Both screenshots feature a blue header bar with the AXMART logo.

Left Screenshot: Connection to an actuator

- Header: AXMART®
- Content: A list of actuator connections:
 - ER10 GS6 -1**: 88:6b:0f:8f:89:fd
 - VT2400 GS6 -2**: 88:6b:0f:8d:45:bc
 - MT50 GS6 -3**: 88:6b:0f:4a:58:ab
 - VS150 GPS -4**: 88:6b:0f:7f:12:fc
- Bottom: **Start actuator scanning** button

Right Screenshot: Actuator status

- Header: AXMART®
- Content: Actuator status details for VS150 GPS -4:

Name	VS150 GPS -4
Current mode	Prog.
Id	88:6b:0f:7f:12:fc
Position	Open
Position	38%
Temperature	47°C
Min temperature	-9°C
- Bottom: Automatic refresh, Refresh status button

The image shows two screenshots of the AXMART app interface on a smartphone. Both screenshots feature a blue header bar with the AXMART logo.

Left Screenshot: Operating and control mode selection

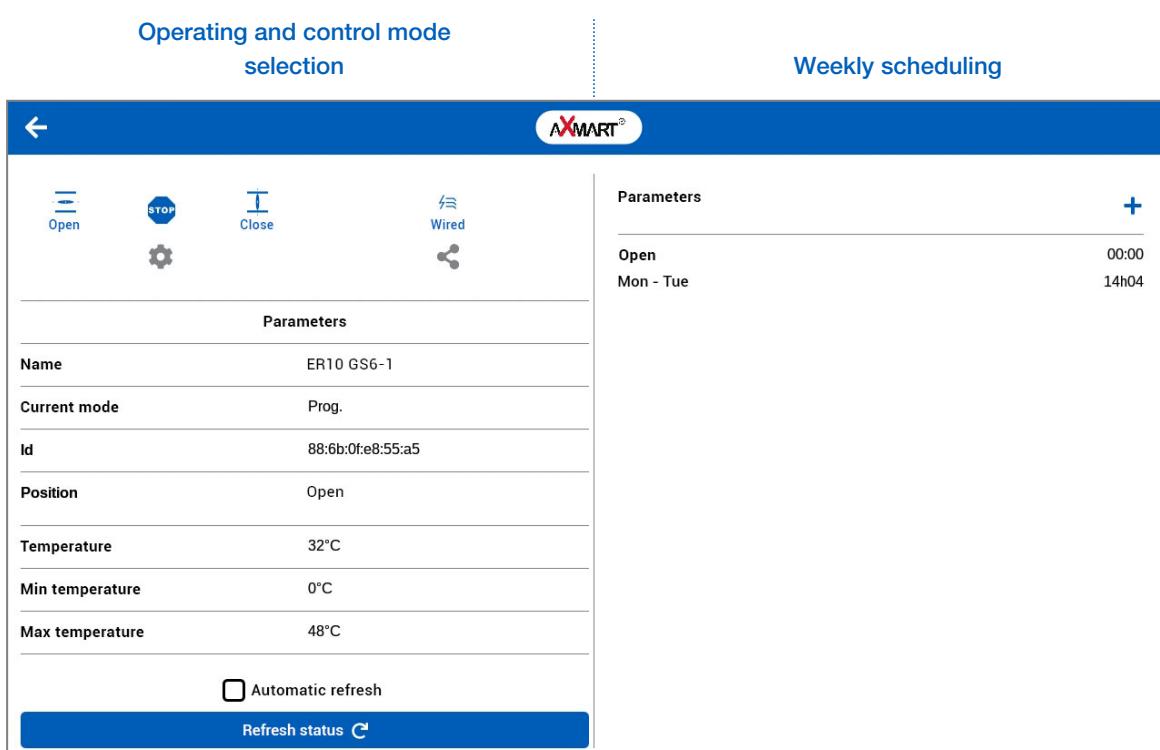
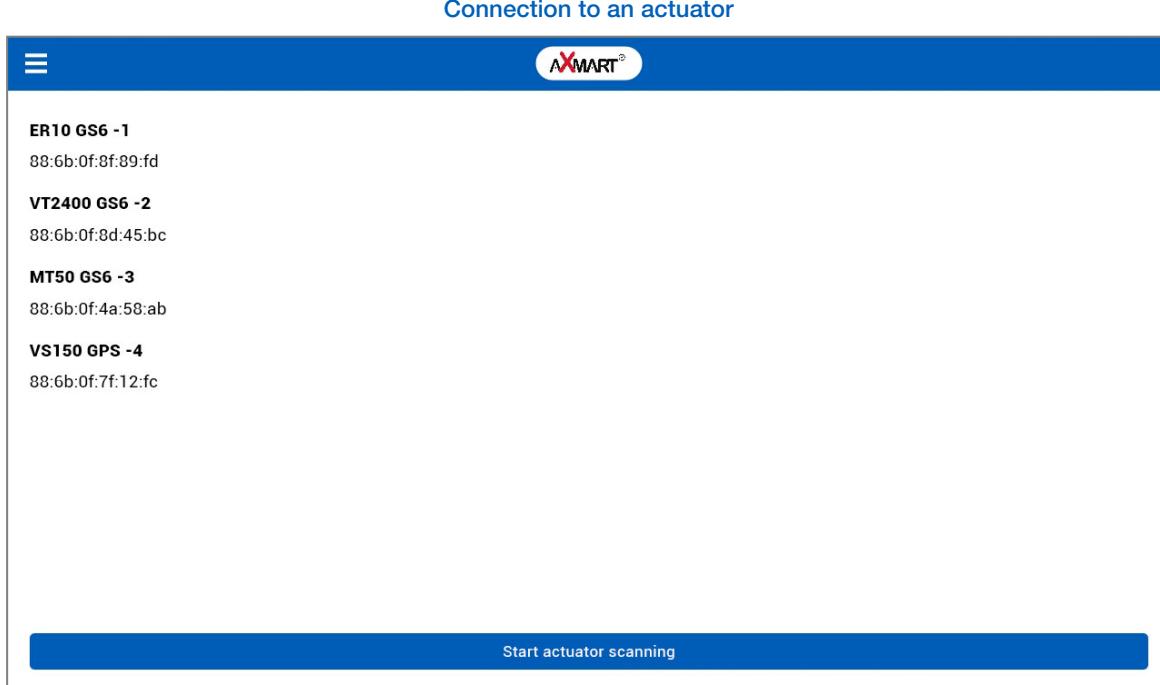
- Header: AXMART®
- Content: Control buttons and parameters for VS150 GPS -4:
 - Control buttons: Open, Inter, Close, STOP, Prog., Posi
 - Position slider: 38 %
 - Manual control button
 - Parameters section: Name (VS150 GPS -4), Current mode (Prog.), Id (88:6b:0f:7f:12:fc), Position (Open), Automatic refresh
 - Bottom: Refresh status button

Right Screenshot: Weekly scheduling

- Header: AXMART®
- Content: Weekly scheduling tasks:

Inter	10:00
Mon - Tue - Wed - Thu - Fri	09h15
Open	10:00
Mon - Tue - Fri - Sat - Sun	16h10

2.2 Tablet display



3. Connection to an actuator

The screenshot shows the AXMART mobile application interface. At the top, there is a blue header bar with a menu icon (three horizontal lines) and the AXMART logo. Below the header, a list of connected actuators is displayed in a white area:

- ER10 GS6 -1**
88:6b:0f:8f:89:fd
- VT2400 GS6 -2**
88:6b:0f:8d:45:bc
- MT50 GS6 -3**
88:6b:0f:4a:58:ab
- VS150 GPS -4**
88:6b:0f:7f:12:fc

At the bottom of the screen, there is a blue button labeled "Start actuator scanning".

For each actuator, the list shows the name of the actuator and the MAC address (Media Access Control).

After the connection, the display switches automatically to the status of the actuator (see chap. 4).

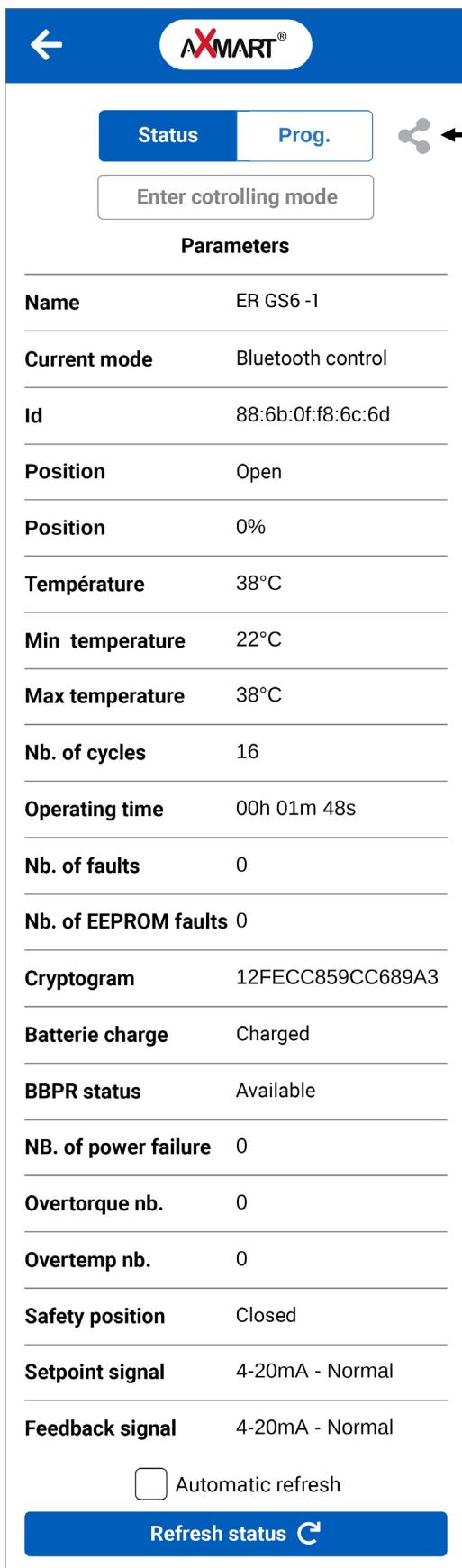
It's possible to launch new detections of actuators



One actuator can be connected at only one device at the same time.

4. Stat

The status screen shows all actuator parameters in real time.



The screenshot shows the AXMART® Status screen with the following interface elements:

- Top Bar:** Includes a back arrow, the AXMART® logo, and tabs for "Status" (selected) and "Prog.".
- Control Buttons:** "Enter controlling mode" and a "Parameters" section.
- Share icon:** An icon with three dots connected by lines, followed by a text label "Sharing actuator status (see chapter 5.5)" with an arrow pointing to it.
- Table of Parameters:** A list of actuator status parameters with their descriptions.

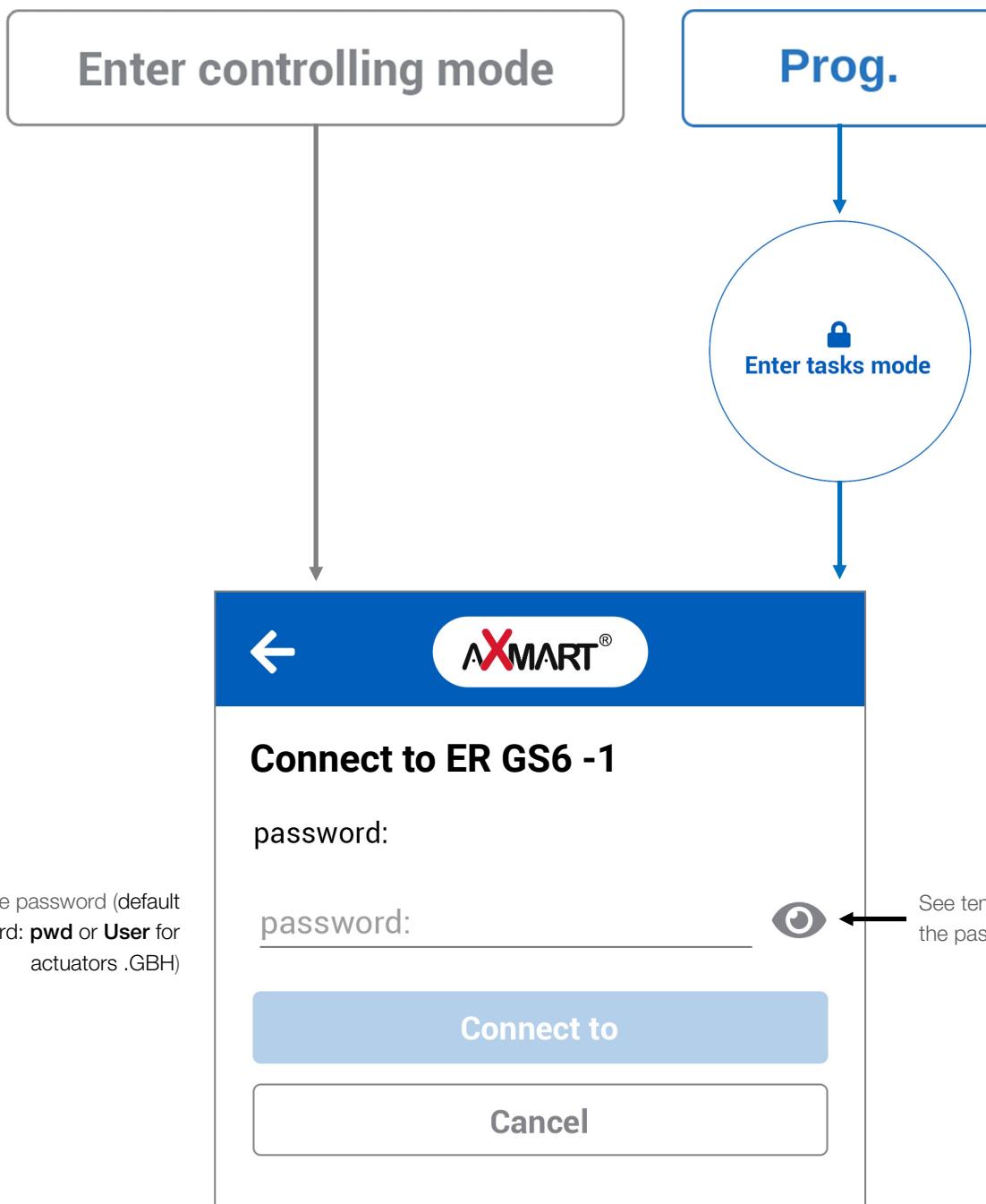
Name	ER GS6 -1	Actuator name
Current mode	Bluetooth control	Current selected control mode (Bluetooth®, prog, posi and wired)
Id	88:6b:0f:f8:6c:6d	Actuator MAC address
Position	Open	Current position (open, closed, intermediate)
Position	0%	Current position (percentage of opening)
Température	38°C	Current temperature inside actuator enclosure
Min temperature	22°C	Minimum temperature
Max temperature	38°C	Maximum temperature
Nb. of cycles	16	Number of operating periods before and after a rest period (since the first start of the actuator)
Operating time	00h 01m 48s	Total functioning time
Nb. of faults	0	Number of errors (temperature, overtorque)
Nb. of EEPROM faults	0	Internal number of errors (microcuts during writing memory).
Cryptogram	12FECC859CC689A3	Password encryption. Needed for password recovery process.
Batterie charge	Charged	Battery charge status
BBPR status	Available	BBPR availability (battery connected, safety temperature not reached and charge level > 70 %)
NB. of power failure	0	Number of power cuts and starts of BBPR unit
Overtorque nb.	0	Number of overtorques
Overtemp nb.	0	Number of excessive temperature
Safety position	Closed	Backup position, reached in case of power failure
Setpoint signal	4-20mA - Normal	Type of setpoint analogic signal (4-20 mA or 0-10 V)
Feedback signal	4-20mA - Normal	Type of feedback analogic signal (4-20 mA or 0-10 V)

At the bottom of the screen, there is a checkbox labeled "Automatic refresh" and a blue button labeled "Refresh status" with a circular arrow icon.

5. Functionalities

5.1 Control activation

The functionalities described from this section allow the actuator control. Therefore, the actuator password is required (default password: **pwd** or **User** for actuators .GBH).



Enter the password (default password: **pwd** or **User** for actuators .GBH)

At the first connection, the following message appears :



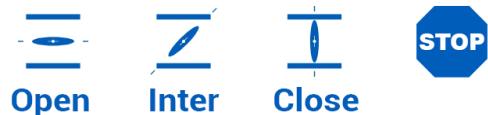
Restricted functionalities: password change.

It is then mandatory to customise the security settings by changing the password (Chapter 6.2).

5.2 Functioning modes

Mode « Bluetooth® control » :

This mode is activated using these functions:

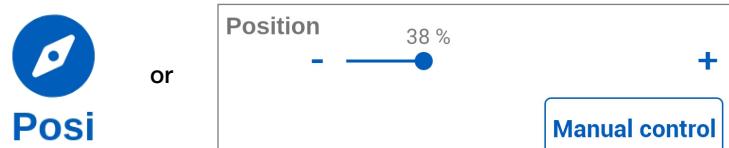


Actuator status	
Parameters	
Current mode	Bluetooth Control

This mode allows a local control (on-off) of the actuator.

Mode « Positioning » :

This mode is activated using these functions:



Actuator status	
Parameters	
Current mode	POSI

This mode allows a local control of the actuator with percentage of opening.

This mode also gives priority to electric wiring on terminals 15/16 (setpoint) and 13/14 (feedback)

Mode « Wired control » :

This mode is activated using this function:



Wired

Actuator status	
Parameters	
Current mode	Wired control

This mode gives priority to electric wiring on power supply terminals (1, 2, 3 and 4).

Mode « Weekly scheduling » :

This mode is activated using this function:



This mode gives priority to stored tasks of the scheduler.

Actuator status	
Parameters	
Current mode	Prog.



Each functioning mode activation deactivates the other ones. Before exiting AXMART, It's mandatory selecting the mode corresponding to the desired use of the actuator.

5.3 Local control

AXMART allows to locally manipulate the actuator.

Basic control :



- Drives the actuator until open position (90°) or final position (180°) in case of 3-position-actuator.



Drives the actuator until intermediate position (in case of 3-position-actuator).

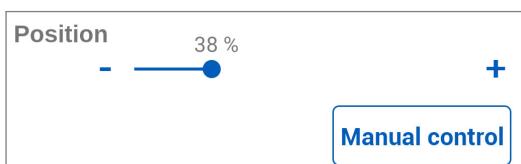


Drives the actuator until closed position (0°)



Actuator stops

Control with percentage of opening (positioning) :



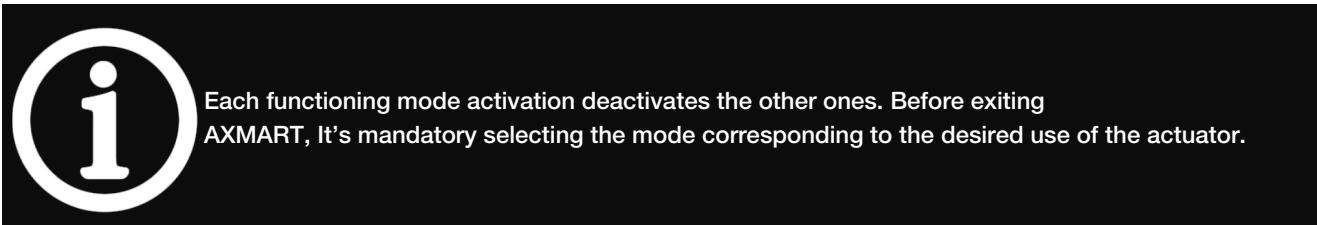
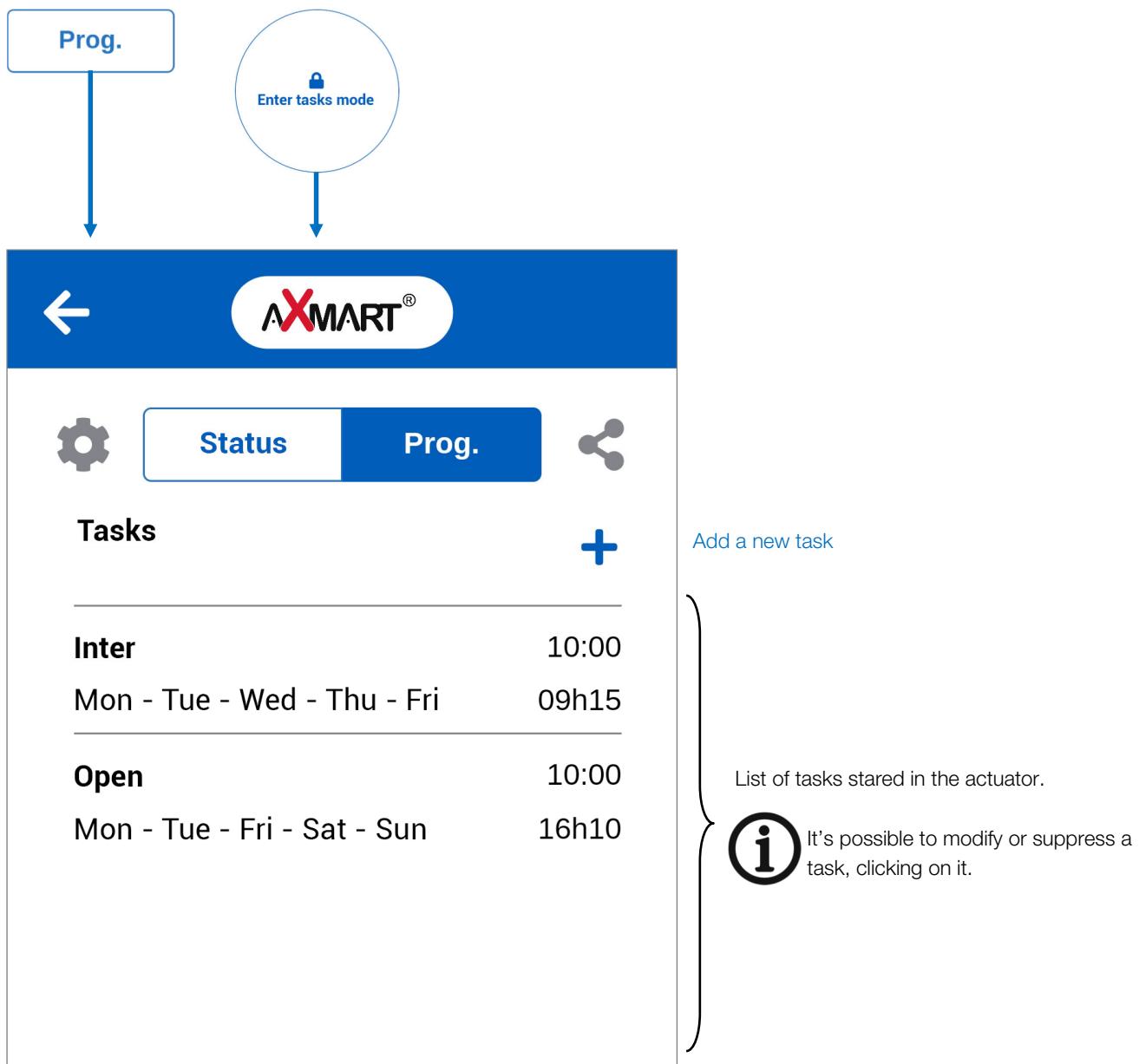
Using « Manual control » drives the actuator to the selected percentage of opening.



Each functioning mode activation deactivates the other ones. Before exiting AXMART, It's mandatory selecting the mode corresponding to the desired use of the actuator.

5.4 Weekly scheduling

With AXMART, it's possible to automate and making standalone the actuators, using a weekly scheduler (capacity of 20 tasks).



Task scheduling:

The screenshot shows a mobile application interface for task scheduling. At the top is a blue header bar with a back arrow icon and the AXMART logo. Below the header, the title "Task (slot n.0 on ER GS6 -1)" is displayed. The form contains the following fields:

- Start time:** 16:10
- Position:** Open
- Duration:** 10 : 0
- Final position:** Close
- Days:** Mon (filled), Tue (filled), Wed (empty), Thu (empty), Fri (filled), Sat (filled), Sun (filled)
- Buttons:** Delete (trash icon), Save (blue button), Cancel (white button)

Task starting time

Position the actuator has to reach or position inversion

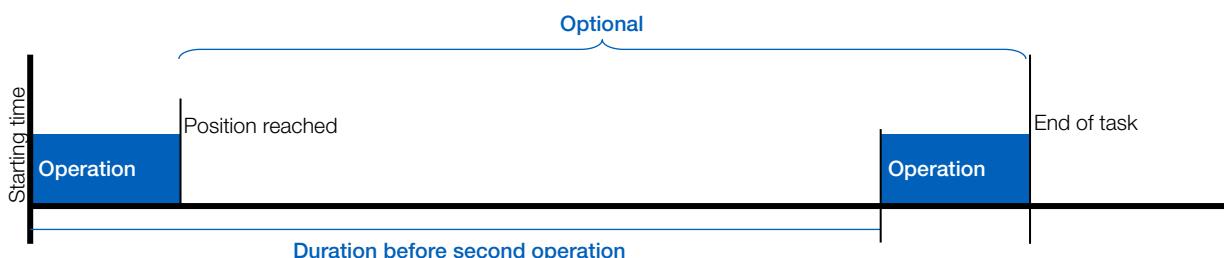
Optional: Duration hold-position time

(i) (This duration includes the actuator operating time)

Optional: position to reach after the previous duration

Days for task start

Example of two operations with an hold position time:



Each functioning mode activation deactivates the other ones. Before exiting AXMART, It's mandatory selecting the mode corresponding to the desired use of the actuator.

5.5 Sharing and sending status report



The icon allows sending a complete report including all actuator parameters and using the communication functions available on the device (Bluetooth®, Wifi direct, cloud, Email...)

Report content (available in English only):

Actuator VS300 GS6 -1 (88:6b:0f:8f:89:fd)

Generated on : dd/mm/yyyy - hh:mm:ss

State

Property	Value						
Name	VS150 GPS -4						
Address	88:6b:0f:8f:89:fd (NB when generated on iOS, MAC addresses ends by XX:XX:XX)						
Status mode	OK						
Temperature	45°C						
Temperature Min	-9°C						
Temperature Max	64°C						
Cycle counter	2504						
Working time	06h 36m 21s						
Fault counter	245						
EEPROM error counter	0						
Current mode	Prog.						
Password	12FEC69B94						
Charging level	Charged						
Battery status	Available						
Nb power fail	242						
Nb torque fault	220						
Nb temperature fault	25						
Actuator position	0%						
Start ramp	0						
Torque limit	80						
Torque delay	1						
Gear unlock	0						
Temp regulation	10						
Temp security	70						
BBPR position	Closed						
Pilotage wired	0						
SetPoint sensor point	4-20mA						
SetPoint sensor direction	Rising						
Feedback sensor point	4-20mA						
Feedback sensor direction	Rising						
Type	GS6						
Rotation direction	Normal						
Tasks	SlotId	Duration	Time	Command		Position	
	0	10:00	16h10	Ouvrir		Fermeture	
	Mon	Tue	Wed	Thu	Fri	Sat	Sun
	TRUE	TRUE	FALSE	FALSE	TRUE	TRUE	TRUE
User picture	 						

6. Actuator setup

Clicking on  icon gives access to setup screen.

6.1 Modification of the actuator name

Type in the field « **Name** » the new name of the actuator (12 characters maximum).

→ **Enter**



A screenshot of a mobile application interface titled "Settings". At the top right is the AXMART logo. Below it, there is a "Name" field containing the text "VS150 GPS -4". To the left of the field is a back arrow icon.

6.2 Modification of the actuator password

for obvious safety reasons , the password must be modified at the first use of the actuator. Type the new password in the field « **Password**».

The icon  shows the characters.

 8 characters maximum
Available characters: a-z, A-Z, 0-9 only

→ **Enter**



A screenshot of a mobile application interface titled "Settings". In the "Password" field, three dots are visible, indicating a password has been entered. To the right of the field is an "eye" icon used for password visibility.

6.3 Wiring setup

Concerns the control with the actuator electric wiring.

- **4-wires** : specific wiring with all terminals of the power supply terminal block or for pulse control wiring.
- **Standard** : for all other wiring including positioning.

Wiring
Standard **4-wires**

→ **Enter**

6.4 Positioning setup

The setpoint signal (terminals 15/16) is the actuator positioning signal. The feedback signal gives the actuator position (terminals 13/14).

- **0-10 V** : Setpoint or feedback with voltage range
 $0 \text{ V} = 0^\circ ; 10 \text{ V} = 90^\circ$
- **4-20 mA** : Setpoint or feedback with intensity range
 $4 \text{ mA} = 0^\circ ; 20 \text{ mA} = 90^\circ$
- **Normal** : Correspondence signal/position as described above
- **Inverted** : Inverted voltage/intensity ranges
 $10 \text{ V} = 0^\circ ; 0 \text{ V} = 90^\circ$ and $20 \text{ mA} = 0^\circ ; 4 \text{ mA} = 90^\circ$

Positioning

Setpoint signal

0-10mV	4-20mA
--------	--------

Normal Inverted

Feedback signal

0-10mV	4-20mA
--------	--------

Normal Inverted

→ Enter

6.5 FAILSAFE safety position setup

The FAILSAFE system insure that the actuator will reach a predetermined safety position in case of power failure.

- **Open** : The valve reaches open position in case of power failure.
- **Closed** : The valve reaches closed position in case of power failure (default).
- **Inactive**: The FAILSAFE unit is disabled (example : maintenance...)

FAILSAFE

Safety position

Open	Inactive	Closed
------	----------	--------

→ Enter

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