

Operating Instructions

HTML Software

PSCS.WIFI for PSQ-S / AMS.2



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Subject to changes!

Content

1.	System requirements	3
2.	Functions	3
3.	WLAN connection	3
4.	Tile menu	4
4.1	Parameters	4
4.1.1	Change	4
4.1.1.1	Inputs / Outputs	4
4.1.1.1.1	Setpoint A	4
4.1.1.1.2	Setpoint B	6
4.1.1.1.3	Process controller	7
4.1.1.1.4	Actual value	7
4.1.1.1.5	Binary input	8
4.1.1.2	Valve adaption	9
4.1.1.2.1	Valve adaption	9
4.1.1.2.2	Valve curve	10
4.1.1.2.3	Speed curve	11
4.1.1.2.4	Intermediate positions	11
4.1.1.3	Commissioning	11
4.1.1.3.1	Automatic	11
4.1.1.3.2	Manual	12
4.1.1.4	Safety	13
4.1.1.4.1	Error of the Setpoint A	13
4.1.1.4.2	Torque error	13
4.1.1.4.3	Overtemperature	13
4.1.1.4.4	Mains power failure	14
4.1.1.5	Signal relays	14
4.1.1.6	Diagnosis	14
4.1.1.7	Settings	14
4.1.1.7.1	Language	14
4.1.1.7.2	eLabel	14
4.1.1.7.3	Clock	15
4.1.1.7.4	Display LCD	15
4.1.1.7.5	WIFI	15
4.1.1.8	Fieldbus	16
4.1.2	Parameter Export	16
4.1.3	Parameter Import	16
4.1.4	Sending via Mail	16
4.2	Local control	16
4.3	Diagnosis	16
4.3.1	Live View	16
4.3.2	Event Logging	17
4.3.3	Count Log	17
4.3.4	Histogram	18
4.3.4.1	Reaction histogram	18
4.3.4.2	Position histogram	18
4.3.5	Diagnosis Export	18
4.3.5.1	Count Log Export	18
4.3.5.2	Histogram Export	18
4.4	Settings	19
4.4.1	Update WLAN firmware	19
4.4.2	Language	19
4.5	User	19
4.6	Help	19

1. System requirements

To operate the software PSCS.WIFI the following computer requirements have to be met as a minimum:

- Operating system: Android, iOS, Windows, Linux
- Interfaces: WLAN
- Web browser

2. Functions

The software PSCS.WIFI serves for

- parameterization
- diagnostic
- commissioning
- local control

for smart actuators of PS Automation series PSQ-S und AMS.2 with a mobile device or PC via WLAN connection.

3. WLAN connection

- Switch on the power supply of the actuator.
- WIFI must be activated and parameterized correctly to connect the actuator with WLAN. The LED of the local control PSC.3 is blinking blue. See chapter 4.1.1.7.5 WIFI, chapter 3.6.18 WIFI in operating instruction PSC.3 and chapter 7.1.1.7.5 WIFI in operating instruction PSCS.2.
- Search for the SSID of the required actuator in the WLAN connection overview of your mobile device or PC. Connect with the selected actuator. The SSID is structured as follows: [actuator type]-[serial number], for example PSQS-0000999.
- For connection enter the password, see parameter menu WIFI of PSC.3 [P.18.1] or directly at the actuator (if local control PSC.3 is not available), chapter 3.6.18 WIFI [P18] in operating instruction PSC.3, and chapter 7.1.1.7.5 WIFI in operating instruction PSCS.2.
- During an active WIFI connection the blue LED of the local control PSC.3 is blinking constantly.
- Enter the set IP address in the browser's address bar, for example 192.168.1.1, see chapter 4.1.1.7.5 WIFI, chapter 7.1.1.7.5 WIFI in operating instruction PSCS.2 and chapter 3.6.18.1 Settings in operating instruction PSC.3.
- You will be connected to the web server of the actuator and the HTML parameter page is loaded.

Important: If WIFI and LAN are used simultaneously, please assign a different address on a computer for WIFI to avoid address conflicts, for example use 192.168.1.x for LAN and 192.168.2.x for WIFI.

4. Tile menu



Please note: Login with user name and password is required to use all of the functions.

4.1 Parameters

4.1.1 Change

In order to apply changed parameters within a menu you have to click the tick in the headline.



If you leave the menu without clicking the tick, the changes or entries will be rejected!



4.1.1.1 Inputs / Outputs

4.1.1.1.1 Setpoint A

Selection of the setpoint for position regulation by an external controller.

<
Setpoint-A
✓

Setpoint source: Fixed value ▾

Current

Setpoint CLOSED: 4 mA

Setpoint OPEN: 20 mA

Voltage

Setpoint CLOSED: 0 V

Setpoint OPEN: 10 V

PWM

Pulse min: 5 %

Pulse max: 95 %

Fixed value

Value: 1 times

Setpoint source

Selection of the setpoint source.

Current

Current selects the setpoint as analogue current signal in the range 0 mA to 20 mA.

Voltage

Voltage selects the setpoint as analogue voltage signal in the range 0 V to 10 V.

PWM

In order to use a PWM signal as Run command, the binary input BA must be parameterized as PWM .

Fixed value

Fixed value, e.g. for use in conjunction with the process controller in the range 0-1000 ‰

Dead band

Setting the trigger threshold in the range of 5-100 ‰ of the max. setpoint.

Averaging

Averaging of the setpoint in the range of 1 to 64 times.

4.1.1.1.2 Setpoint B

Selection of the setpoint B that can be used for optional functions.

<**Setpoint-B**>

Setpoint source:

Setpoint function:

Current

Setpoint MIN: mA

Setpoint MAX: mA

Voltage

Setpoint MIN: V

Setpoint MAX: V

Fixed value

Value: ‰

Dead band

Value: ‰

Averaging

Averaging: times

ProcessController

Kp:

Tn: s

Working direction:

Setpoint source

Selection of the setpoint source

Set-value function

Off

Setpoint B is off

Process controller

Activation of the integrated process controller

Rotational speed regulator

Activation of the integrated rotational speed regulator via setpoint B, enabling the actuator speed to be continuously adjusted between min. 25% and max. 100%.

Current

Current selects the setpoint as analogue current signal in the range 0 mA to 20 mA.

Voltage

Voltage selects the setpoint as analogue voltage signal in the range 0 V to 10 .

PWM

In order to use a PWM signal as Run command, the binary input BA must be parameterized as PWM .

Fixed value

Fixed value, e.g. for use in conjunction with the process controller in the range 0-1000 ‰.

Dead band

Setting the trigger threshold in the range of 5-100 ‰ of the max. setpoint.

Averaging

Averaging of the setpoint in the range of 1 to 64 times.

4.1.1.1.3 Process controller

Kp

Amplification factor

Tn

Delay time

Working direction

Working direction of the process sensor positive / negative

4.1.1.1.4 Actual value

< **Actual value** ✓

Setpoint output:

Current

Actual value CLOSED: mA

Actual value OPEN: mA

Voltage

Actual value CLOSED: V

Actual value OPEN: V

Source

Value:

Actual-value output

Active feedback signal of the valve position

Current

Actual-value current can be selected in the range 0 mA to 20 mA.

Voltage

Actual-value voltage can be selected in the range 0 V to 10 V.

Source

Selection of the actual-value source.

4.1.1.1.5 Binary input

The actuator has galvanically isolated binary multi-voltage input ports, BA/BB have a common neutral line connection COM. BC is galvanically isolated from BA/BB.

If a voltage is present at a binary input port, the actuator drives to the parameterized position regardless of the analogue or digital setpoint applied.

The prioritization is implemented from BA (highest priority) to BC (lowest priority). Exception when parametrizing BA PWM.

Binary input

Input BA

Value: OPEN

Input BB

Value: Stop

Input BC

Value: CLOSED

BA

Selection of the function for the binary input

BB

Selection of the function for the binary input

BC

Selection of the function for the binary input

4.1.1.2 Valve adaption

4.1.1.2.1 Valve adaption

Valve adaption - values	
Close direction	<input type="text" value="CW"/>
Cut-Off Valve OPEN	<input type="text" value="Position"/>
Cut-Off Valve CLOSE	<input type="text" value="Torque"/>
Angle	<input type="text" value="90"/> °
Torque	<input type="text" value="100"/> %
Torque Increase	<input type="text" value="100"/> %
TorqueIncreaseTime	<input type="text" value="0"/> ms
Shut-Off Valve OPEN	<input type="text" value="95"/> %
Shut-Off Valve CLOSE	<input type="text" value="5"/> %
Limit Valve OPEN	<input type="text" value="Off"/>
Limit Valve CLOSE	<input type="text" value="Off"/>
Speed	<input type="text" value="100"/> %
Speed Fail Safe	<input type="text" value="100"/> %
Torque Control	<input type="text" value="Current"/>

Close direction

Selection of the close direction of the actuator.

Cut-off valve OPEN: "Position" or "Torque"

Cut-off in the open position of the valve.

Cut-off valve CLOSE

Cut-off in the closed position of the valve.

Angle

Valve travel in degrees. Adjustable angle: min. 10° and max. 108°.

Note: For automatic commissioning with two torque dependent end positions, this value is calculated by the actuator.

Torque

The operation torque can be adjusted between 30% and 100% of the actuator nominal torque.

Torque increase

The torque increase can be adjusted between 30% and 120% of the actuator nominal torque. The torque increase is only active, if the torque increase time is adjusted to more than 0 ms. Please note that the torque increase has to be adjusted separately from the torque.

The time during which the torque increase is active: range 0-2000 ms.

Shut off

Shut-Off Valve OPEN

Shut-off range 80-100%, which will be used to drive to the end position during a torque shut-off.

Shut-Off Valve CLOSE

Shut-off range 0-20%, which will be used to drive to the end position during a torque shut-off.

Limiting

Limit valve OPEN

End position limit 80-100%, which will not be exceeded after set-up.

OFF: No limit active.

Limit valve CLOSE

End position limit 0-20%, which will not be exceeded after set-up.

OFF: No limit active.

Speed

Global rotational speed limiting as upper limit of the characteristic curve for rotational speed as well as the rotational speed, which will be used during emergency operation regardless of the characteristic curve for rotational speed or the rotational speed regulator.

Torque control

Current

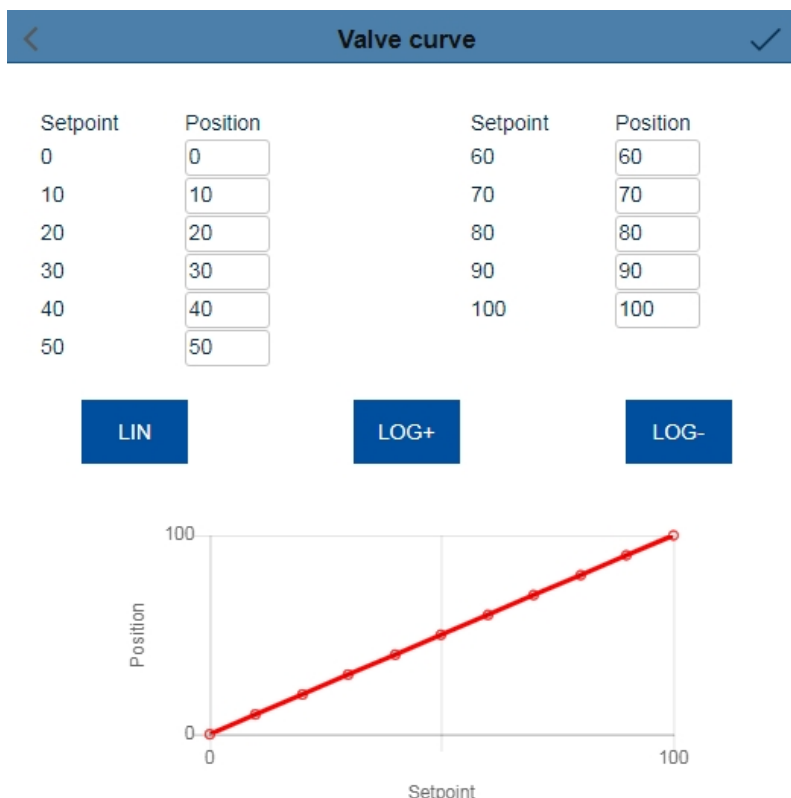
Evaluation of the motor current for torque measurement.

Sensor

Evaluation of a sensor for torque measurement.

4.1.1.2.2 Valve curve

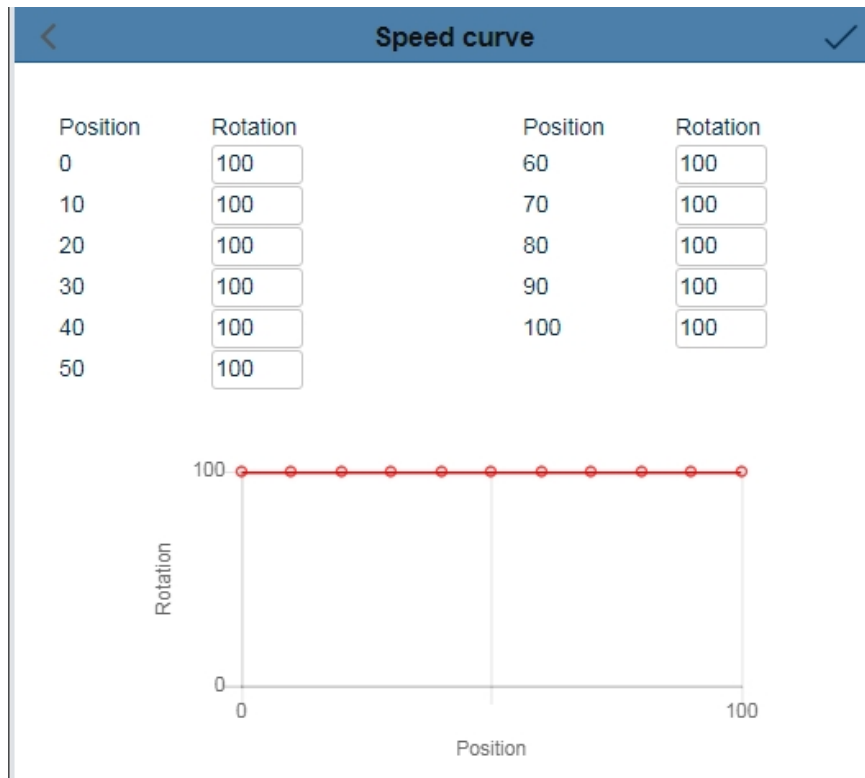
The relationship between the command variable and the valve position/characteristic can be adapted by means of characteristic curve. There are 11 grid points available for this. A linear relationship is set as standard when shipped.



There are additionally three pre-allocated characteristic curves available LIN / LOG+ /LOG-.

4.1.1.2.3 Speed curve

The rotational speed of the actuator can be parameterized with 11 grid points between the minimum rotational speed and the global rotational speed limit, enabling individual settings to be implemented for gentle valve actuation. A straight-line relationship depending on the global rotational speed limit is set as standard, refer to the chapter 4.1.1.2.1 "Valve adaptation". The rotation can be adjusted between 25% and 100%.



4.1.1.2.4 Intermediate positions

The set intermediate positions can be selected with the safety functions or binary inputs and the actuator drives to these positions.

Setting the Positions 1-5 in the range 0-100%:

The screenshot shows the 'Position' configuration interface. It lists five intermediate positions with input fields for their values in percent.

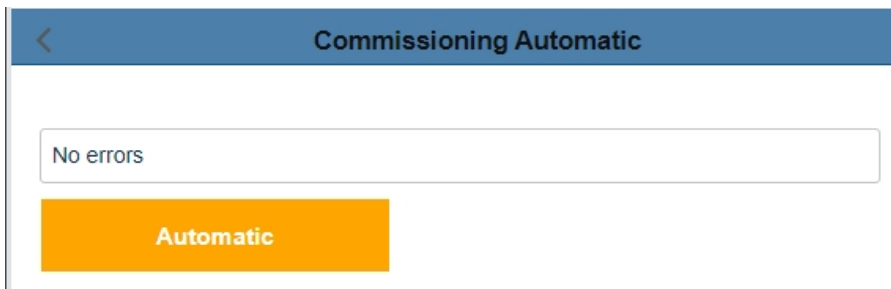
Position	Value (%)
Position 1:	1
Position 2:	25
Position 3:	50
Position 4:	75
Position 5:	100

4.1.1.3 Commissioning

The actuator can automatically determine the valve end positions depending on the shut-off set or they can be set manually.

4.1.1.3.1 Automatic

If at least one valve end position is set to torque, the valve compensation can be automatically carried out. The compensation is started with "Automatic".



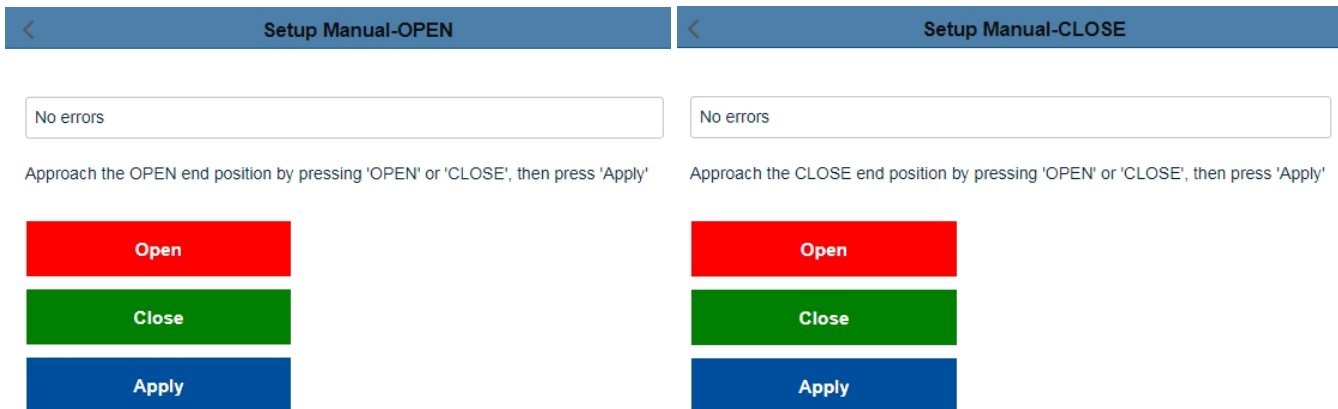
The actuator runs through the stroke range of the valve with reduced speed in the parameterized direction valve OPEN and/or valve CLOSE. If a torque is detected, the actuator saves this position.

If both end positions have been parameterized to torque, the actuator automatically determines the intermediate angle.

If only one end position has been parameterized to torque, the actuator adds the pre-adjusted angle from the recognized torque position. In doing so, the actuator does not check whether the parameterized angle is too large for the remaining range.

4.1.1.3.2 Manual

If both valve end positions are set to the position, the valve set-up must be carried out manually.



Note: The end position calculated on the basis of the angle during the automatic valve compensation can be adjusted with this setting. After that the angle will be recalculated.

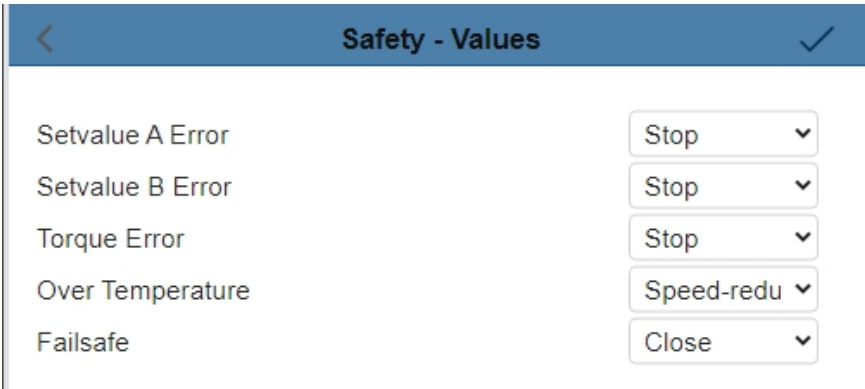
Setup Manual-OPEN

Driving to the Position with Open / Close. In order to save press "Apply".

Setup Manual-CLOSE

Driving to the Position with Open / Close. In order to save press "Apply".

4.1.1.4 Safety



Safety - Values	
Setvalue A Error	Stop
Setvalue B Error	Stop
Torque Error	Stop
Over Temperature	Speed-redu
Failsafe	Close

4.1.1.4.1 Error of the Setpoint A

If the analogue setpoint lies 50% below the value of the minimum setpoint, one of the following safety functions can be carried out:

- OPEN
- CLOSE
- Stop
- Position 1
- Position 2
- Position 3
- Position 4
- Position 5

Note: The function is deactivated, if a setpoint range of 0-20 mA or 0-10 V has been selected.

4.1.1.4.2 Torque error

If the maximum torque is reached in the direction of an end position outside the shut-off for a certain time, the following safety functions can be selected:

- Stop
- Retry

With the "Retry" setting, the actuator tries twice to overrun a detected blockage with maximum torque. If this does not work, the actuator stops and reports a torque error.

4.1.1.4.3 Overtemperature

If the temperature monitoring system reaches the 70°C warning threshold, the following safety functions can be selected:

- Rotational-speed reduction
- OPEN
- CLOSE
- Stop
- Position 1
- Position 2
- Position 3
- Position 4
- Position 5

Note: If "Rotational speed reduction" is selected, the actuator continues to run with the lowest rotational speed possible. If the temperature reaches the 75°C the shut-off threshold during continued operation, the actuator stops.

4.1.1.4.4 Mains power failure

In case of a failure of the supply voltage, one of the following safety functions can be selected:

- OPEN
- CLOSE
- Stop
- Position 1
- Position 2
- Position 3
- Position 4
- Position 5

Attention: The function requires that the PSCP option is installed in the actuator!

4.1.1.5 Signal relays

5 potential-free signal relays with NC and NO contacts are available for reporting the events. The events can be assigned with the checkboxes.

Relay - Values	
Relay 1	Setvalue Error-A
Relay 2	Torque Error OPEN
Relay 3	Torque Error CLOSE
Relay 4	Failsafe
Relay 5	Actuator Remote

The actual switching state of the signal relay is indicated with Red 0 /Green 1.

4.1.1.6 Diagnosis

The recording rate for time logging (refer to OI_AMS1x_PSC_3_PSQ-S_GER, [chapter 3.6.12](#)) can be set between 10 and 3600 seconds.

Diagnostics	
Logg. Time	10-3600 sec

4.1.1.7 Settings

4.1.1.7.1 Language

Changeover of the menu language for the PSC.3 parameter menus and message texts.

Language	
Language:	English

4.1.1.7.2 eLabel

The eLabel provides specific actuator data.

The valve number between 0 and 999999 can be entered by the customer in the numeric form.

< eLabel ✓

Type	PSQ-S
Serial No.	50
Valve No.	0
FW Version	1-1-34

4.1.1.7.3 Clock

Setting menu for the time/date. The clock is used to make accurate timestamps when recording messages during logging.

The clock has a battery backup and continues to run in the event of a mains power failure.

Click "Update" to apply the actual time and date.

< Clock ✓

Date	2020.10.16	JJ.MM.TT
Time	12:11	SS:MM
<input type="button" value="Update"/>		

4.1.1.7.4 Display LCD

Parameterization of the Local control PSC.3.

< Display LCD ✓

Display	Value	▼
Source	Setvalue	▼

Display

Display of the actuator position in % (percent) or in ° (angle).

Source

Source of the display is the actuator position / actual value or the actual process value.

4.1.1.7.5 WIFI

Mode

ON: Wi-Fi is switched on permanently.

OFF: Wi-Fi is switched off.

Auto: Wi-Fi switches OFF automatically if no one is logged on at the actuator or if there is no activity for a defined period of time. This prevents the actuator having a permanent Wi-Fi connection.

IP address: IP address of the actuator

SSID: SSID of the actuator wireless network

< WIFI

Mode	On
------	----

Settings

SSID AP	PSQS-000005
---------	-------------

IP Adress AP	192.168.1.1
--------------	-------------

4.1.1.8 Fieldbus

Parameter menu for fieldbus-specific addresses and settings.

4.1.2 Parameter Export

Export of a complete parameter data set from the actuator to a storage medium.

Parameter export >

File: AMS2.x_[serial number]_[date_time]_PA.csv

4.1.3 Parameter Import

Import of a complete parameter data set from a storage medium into the actuator.

Parameter import >

File: AMS2.x_[serial number]_[date_time]_PA.csv

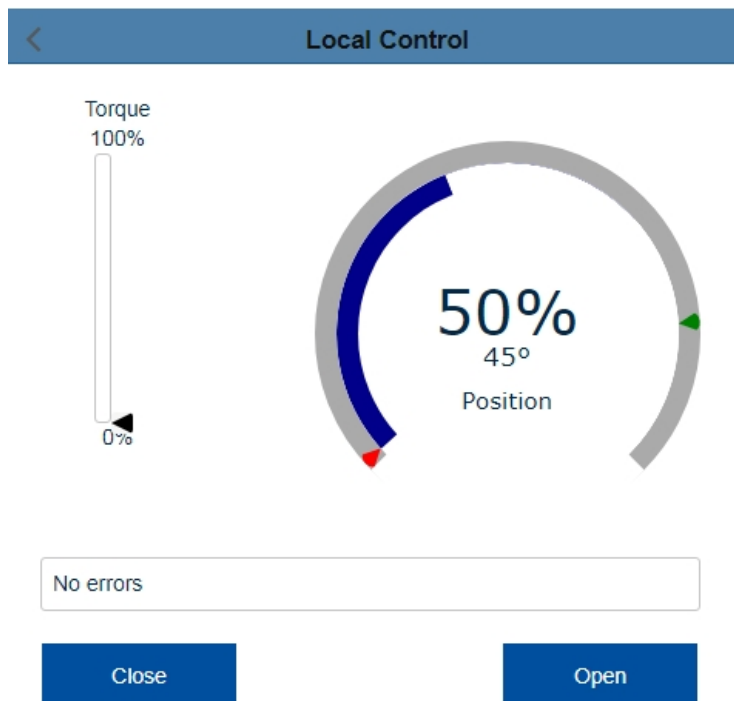
4.1.4 Sending via Mail

An e-mail to service@ps-automation.com is generated. Please attach the parameter export files exported before to this e-mail!

Send via mail >

4.2 Local control

Local control of the actuator. The actuator can be driven between the saved valve positions by closing / opening. This function is only available after user login, see chapter 4.5 User.

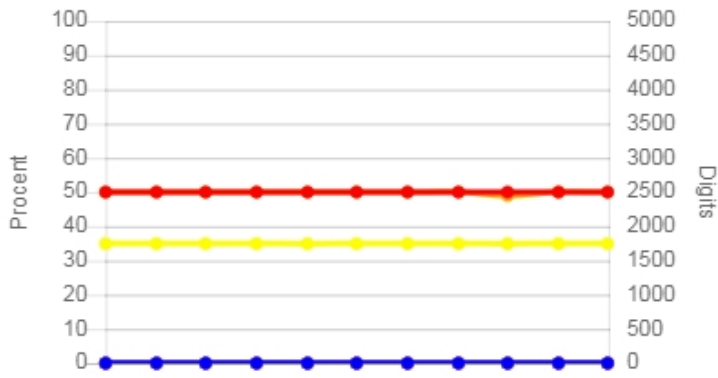


4.3 Diagnosis

4.3.1 Live View

Chart onGraii input / output signals.

< **Live view**



Serial number: 50
 Operating mode: Automatic

■ Setpoint A	50 %	■ BA	0
■ Setpoint B	0 %	■ BB	0
■ Current value	50 %	■ BC	0
■ Position	1746	■ Torque	0 %

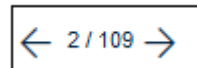
4.3.2 Event Logging

< **Event Log**

← 1 / 109 →

Date	Time	Info	Value
16.02.2021	11:03:12	relay	11100
16.02.2021	11:03:10	relay	11000
16.02.2021	11:03:08	parameter-change	parameter-number: 125 parameter-value: 110
16.02.2021	11:03:06	relay	10000
16.02.2021	11:03:06	parameter-change	parameter-number: 125 parameter-value: 110
16.02.2021	11:03:03	error	Low Voltage
16.02.2021	11:03:00	parameter-change	parameter-number: 119 parameter-value: 100
16.02.2021	11:02:58	error	Low Voltage
16.02.2021	11:02:55	relay	11111
16.02.2021	11:02:55	parameter-change	parameter-number: 125 parameter-value: 4

The arrows can be used to scroll back or forward 10 rows at a time. The number behind the slash indicates the total number of pages.



4.3.3 Count Log

Indication of the diagnosis counter:

< **Count Log**

Serial number: 50

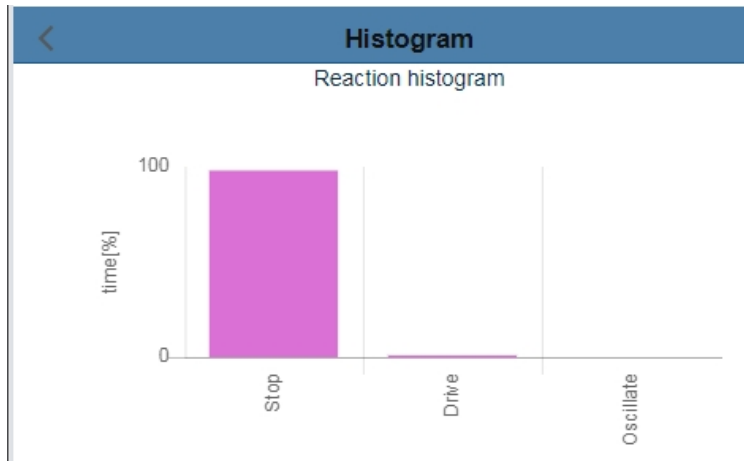
Uptime:	39 [h]
Start-up's:	453
Power-On:	32
Angle:	14289 [°]

- Uptime: total operation time in hours.
- Start-up's: total number of start-ups.
- Power-On: counts, how often the actuator was switched on.
- Angle: total number of all driven angular degrees.

4.3.4 Histogram

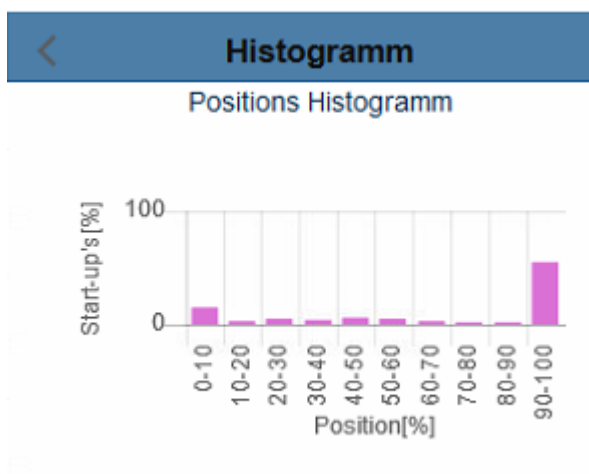
4.3.4.1 Reaction histogram

The histogram shows how long the actuator stands idle, drives or oscillates in relation to the total operation time.



4.3.4.2 Position histogram

The histogram shows how often the actuator stops in a certain position in relation to the total number of start-up's.



4.3.5 Diagnosis Export

The function Diagnosis Export enables reading and storing the saved diagnosis data.

4.3.5.1 Count Log Export

Export of a diagnosis data set from the actuator to a storage medium.

File: AMS2.x_[serial number]_[date_time]_DZ.csv

4.3.5.2 Histogram Export

Export of a diagnosis data set from the actuator to a storage medium.

File: AMS2.x_[serial number]_[date_time]_DH.csv

4.4 Settings

4.4.1 Update WLAN firmware

Update of the WLAN firmware

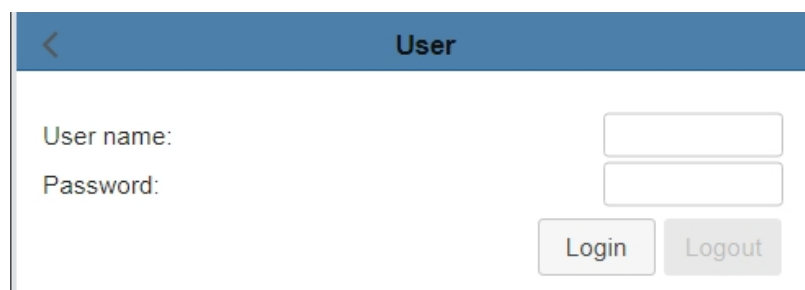
Please contact your sales team

4.4.2 Language

Setting the language of the HTML menu

4.5 User

User management. Not all functions are available without logging in! If you are not logged in, you can only view parameters but you cannot modify them. This is indicated in the respective menu with a padlock.

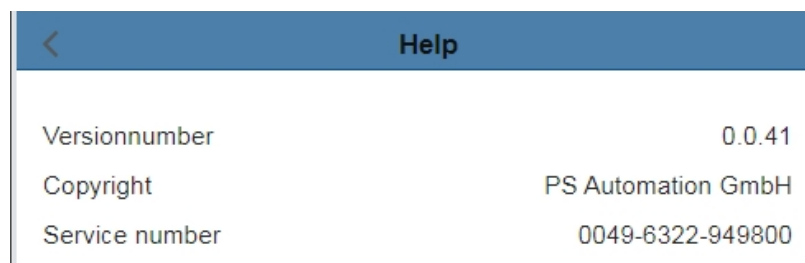


The screenshot shows a mobile application interface for user management. At the top, there is a blue header bar with a back arrow on the left and the word "User" in the center. Below the header, there are two input fields: "User name:" and "Password:". To the right of the "User name:" field is an empty text input box. To the right of the "Password:" field is an empty password input box. Below the "Password:" field, there are two buttons: "Login" and "Logout". The "Login" button is active and has a white background, while the "Logout" button is disabled and has a grey background.

In order to get a user name and a password please contact your sales team.

4.6 Help

Release notes



The screenshot shows a mobile application interface for help. At the top, there is a blue header bar with a back arrow on the left and the word "Help" in the center. Below the header, there is a table with three rows of information:

Versionnumber	0.0.41
Copyright	PS Automation GmbH
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