Contents

1 General information

1.1 System requirements

1.1.1 Hardware and software requirements

The following hardware and software requirements apply for operating the configuration interface:

- Office PC
- Network connection to the network of the actuator (LAN)
- Browser: Internet Explorer, Firefox, Chrome, Opera
- Java JR5 or current one for using the oscilloscope (see “Oscilloscope application“, page 38)

1.2 Symbols used

Symbol	Meaning
	Warning symbol
	Information symbol
	Favourite set
	Favourite not set
	Parameter can be processed
	Parameter protected
	Parameter successfully applied
	Parameter not applied
	Delete entry
	Processing active
	Reset parameter
	Close area in navigation bar
	Open area in navigation bar

2 Glossary

Control difference
The control difference is the difference between the reference variable and the controlled variable. It is labelled with xd. The controlled variable is calculated as follows: xd = w - x.

Controlled variable
The controlled variable is the actual value and is labelled with x. The controlled variable represents the currently measured volumetric flow.

Derivative action time Tv
It is used to set the intensity of the D component.

Differential component (D component)
For an inverse controller (heating) the D component has the following effects: If the controlled variable is reduced due to a disturbance in the controlled system, the D component counteracts the change by creating a positive regulation ratio. If the controlled variable increases due to a disturbance in the controlled system, the D component counteracts this change by creating a negative regulation ratio. The higher the derivative action time Tv is set, the stronger the dampening reaction.

Proportional action factor Kp
Instead of the designation proportional band, the expression proportional-action factor Kp is used frequently. Conversion of Xp to Kp is: Xp = 100[%]/Kp or Kp = 100[%]/Xp The Kp value indicates how much the controlled variable x changes if the correcting variable y is adjusted. Kp = Δx/Δy = x2 – x1/y2 – y In order to obtain a unit-independent relationship in the equation above, x and y must be divided by their respective maximum values (100%). In this case, a high Kp value results in smaller deviation. However, if the Kp value is set too high, it leads to an increased tendency for the control circuit to oscillate.

Reference variable
The reference variable is the set value and labelled with w. The reference variable is the input variable of the control circuit. The reference variable must follow the controlled variable in the specified dependence.

Reset time Tn
The reset time Tn determines the duration how long a system deviation is adjusted. If a high value is preset for the reset time Tn this means a small influence of the I component and vice-versa. During the reset time Tn the controlled variable change caused by the P component is added again. Thus there is a fixed relationship between the P component and the I component. If the P component is thus changed, the time response changes too if the Tn value remains constant. Ki = 1/Tn

3 General information regarding control engineering

3.1 Control circuit

3.2 Control engineering terminology

Reference variable (see Glossary)

Controlled variable (see Glossary)

Control difference (see Glossary)

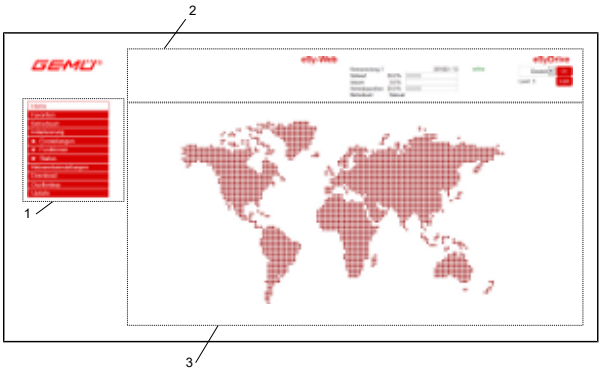
3.3 Control parameters

4 Product description

eSy-Web is a browser-based configuration interface for setting all parameters of the motorized actuator eSyDrive.

5 Operator interface

5.1 Structure of the operator interface



The operator interface consists of three areas:

No.	Description	Function
1	Menu area	Selects the menu
2	Status area with login and language selection	Displays the current parameters of the actuator Displays and changes over the language Displays and changes over the login level
3	Information area	Displays the parameters depending on the menu

5.2 Operating the input fields

There are different input fields in the configuration screen which allow different input methods.

5.2.1 Using the text boxes

Text boxes are input fields which are specified for one-line values. The value is entered without a unit. The limits of the values are defined in the respective parameter tables.

Using the text boxes

1. Activate the text box.
   ⇨ The  symbol appears at the beginning of the text box. The content of the text box can be deleted using this symbol.
2. Enter the value in accordance with the specification.
   ⇨ The  symbol appears at the end of the text box. The entry can be reset to the previous value using this symbol.
3. Press the Apply key.

⇨ Value is applied.

4. If the value is not to be applied, press the  symbol.

⇨ The value is reset to the original value.

5.2.2 Using the selection lists

Selection lists are lists for which only one selection is approved.

Using selection lists

1. Actuate the arrow of the selection list.
   ⇨ The selection list expands.
2. Select the value to be set.
3. Press the Apply key.

⇨ Value is applied.

6 Parameter overview

6.1 Status area

The following parameters are displayed in the status area:

Parameter	Description
Identification 1	Representation of the parameter identification 1 (see “Identification 1 parameter“, page 30)
Set value	Current set value in the set value range and with the set unit (see “Display menu“, page 26)
Actual value	Current actual value in the set value range and with the set unit (see “Display menu“, page 26)
Actuator position	Current actuator position in %
Operating mode	Current operating mode (see “Operating mode menu“, page 7)
Online status	Displays whether actuator is online or offline.

In addition, the language (see “Changing the language“, page 36) and the login level (see “Login level“, page 36) can be changed in the status area.

6.2 Home menu

The menu is the homepage. No settings are made here.

6.3 Login menu

The Login menu is called up via the status area.

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
Active level	Displays the current login level	3	--	-	X
Enter password	Enters the password for a certain login level		Password in accordance with setting		
Password 1	Specifies password for login level 1	0	Free text entry		
Password 2	Specifies password for login level 2	0	Free text entry		
Password 3	Specifies password for login level 3	0	Free text entry		
Serial number	Displays the serial number		--		
Software version	Displays the software version		--		
Reset code	Displays the reset code for GEMÜ		--		
Reset password	Enters the reset code from GEMÜ		Free text entry		

6.3.1 Enter password parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter makes it possible to change the login level (see “Changing the user level“, page 36) by entering the password for the respective login level.

6.3.2 Password 1 parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter contains the password for login level 1.

6.3.3 Password 2 parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter contains the password for login level 2.

6.3.4 Password 3 parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter contains the password for login level 3.

6.3.5 Reset password parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter makes it possible to reset all passwords for the login level (see “Resetting all passwords“, page 36).

6.4 Favourites menu

The Favourites menu lists all parameters which have been marked as favourites (see “Setting Favourites“, page 37). The displayed parameters can be changed in the Favourites menu.

6.5 Operating mode menu

The menu defines the function of the actuator.

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
On-site control	Controls the operating options using the function keys on the device.	on	on, off	-	X
Select operating mode	Selects the operating mode of the actuator	Manual	Off, Manual, Auto, Test	X (only as display)	-
Device functions	Selects the function type of the actuator	positioner	positioner, process-control, open-close	-	X
Emergency power package active	Switches the emergency power package on or off	off	on, off	-	X
Set value, manual	Specifies the manual set value	0.0	Numerical values between 0.0 and 100.0	-	X
Set value	Displays the current set value		none	X (only as display)	X
Actuator position	Displays the current actuator position		none	X (only as display)	X
Current position	Displays the current actuator position		none	X (only as display)	X

6.5.1 On-site control parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

The parameter controls the operating options using the function keys on the device (see the operating instructions of the actuator/valve).

Setting	Description
On	The parameter is switched on. Operation on the device is possible. The entries via the configuration menu are blocked.
Off	The parameter is switched off. Operation on the device is not possible. Entries via the configuration menu are permitted.

6.5.2 Select operating mode parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

The parameter controls the operating mode of the actuator.

Setting	Description
Off	The actuator is switched off.
Manual	The actuator is in manual operation. It can be moved via the Set value manual (see “Set value manual parameter“, page 8) parameter.
Auto	The actuator is in normal mode.
Test	The actuator is in test mode. In test mode, the actuator can be Test via the Test (see “Test menu“, page 8) menu.

6.5.3 Device functions parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

This parameter controls the function of the actuator:

Setting	Description
Positioner	The actuator operates as a positioner. The settings can be Positioner settings in the Positioner settings (see “Positioner settings menu“, page 12) menu.
Process-control	The actuator operates as a positioner and process controller.

Setting	Description
	The settings can be made in the Process controller settings menu or in the Positioner settings menu (see “Process controller settings menu“, page 9).
Open-close	The actuator operates as an open/close actuator.

6.5.4 Emergency power package active parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

The parameter switches use of the emergency power package on and off:

Setting	Description
On	Emergency power package is used
Off	Emergency power package is not used

6.5.5 Set value manual parameter

NOTICE

Visibility of the parameter

► The Set value, manual parameter is only visible if the Operating mode parameter is set to Select operating mode in the Manual menu.

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter can be used to specify a set value to which the actuator is to be moved.

6.6 NoInit menu

NOTICE

► The NoInit menu is only visible if initialisation (see “Initialisation menu“, page 8) has not yet been completed.

The function of the actuator can be tested (see “Checking the function of the actuator“, page 39) in the NoInit menu if it has not yet been initialised.

Four keys can be actuated in this menu:

Parameter	Key	Function
Move actuator in CLOSED direction	Fast	Actuator moves quickly in CLOSED direction
	Slow	Actuator moves slowly in CLOSED direction
Move actuator in OPEN direction	Fast	Actuator moves quickly in OPEN direction
	Slow	Actuator moves slowly in OPEN direction

6.7 Test menu

NOTICE

► The Test menu is only visible if initialisation (see “Initialisation“, page 35) has been successfully completed or if the Device functions (see “Device functions parameter“, page 7) parameter has been set to Test.

The function of the actuator can be tested (see “Checking the function of the actuator“, page 39) in this menu if the Device functions (see “Device functions parameter“, page 7) parameter has been set to Test.

Four keys can be actuated in this menu:

Parameter	Key	Function
Move actuator in CLOSED direction	Fast	Actuator moves quickly in CLOSED direction
	Slow	Actuator moves slowly in CLOSED direction
Move actuator in OPEN direction	Fast	Actuator moves quickly in OPEN direction
	Slow	Actuator moves slowly in OPEN direction

6.8 Initialisation menu

The initialisation of the actuator is started (see “Initialisation“, page 35) in the Initialisation menu. Settings cannot be changed in the Initialisation menu.

During initialisation, the following parameters are set:

Parameter	Description
Absolute position CLOSED	Indicates the absolute minimum position of the actuator
Absolute position OPEN	Indicates the absolute maximum position of the actuator
Valve stroke	Indicates the stroke of the valve in mm
Operating time OPEN	Indicates the operating time in s for moving to OPEN position
Operating time CLOSED	Indicates the operating time in s for moving to CLOSED position
Current absolute position	Indicates the current absolute position

6.9 Settings menu

NOTICE

Visibility of the menu

► This menu is not visible in login level 0 (see “Login level“, page 36).

NOTICE

Visibility of the menu

► The Process controller settings menu is only visible if the Device functions parameter is set to the process-control value.

NOTICE

Visibility of the menu

► The Positioner settings menu is only visible if the Device functions parameter is set to the positioner value or process-control value.

NOTICE

Visibility of the menu

► The OPEN/CLOSE settings menu is only visible if the Device functions parameter is set to the Device functions value.

The following submenu points can be called up in the Settings menu:

Submenu	Description
Process controller settings	Settings for the function as process controller (see “Process controller settings menu“, page 9)
Positioner settings	Settings for the function as positioner (see “Positioner settings menu“, page 12)
OPEN/CLOSE settings	Settings for the function as open/close actuator (see “OPEN/CLOSE settings menu“, page 16)

6.9.1 Process controller settings menu

NOTICE

Visibility of the menu

► The Process controller settings menu is only visible if the Device functions parameter is set to the process-control value.

In the Process controller settings menu, the parameters can be set in the function as positioners and process controllers.

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
Split range start	Start of the area with a split range	0%	Numerical values between 0.0 and 100.0	-	X
Split range end	End of the area with a split range	100%	Numerical values between 0.0 and 100.0	-	X
Invert set value	Inverts the set value	off	off, on	-	X
Invert actual value	Inverts the actual value	off	off, on	-	X
Ix filter	Type of actual value filter	off	off, average, RC	-	X
Ix filter time	Filter time for the actual value input	0.10 s	Numerical values between 0.10 and 20.00	-	X
Process actual value curve	Type of process actual value curve	lin	lin, free	-	X
Characteristic curve point 0%	Characteristic curve points when the Process actual value curve is set to the value free	0%	Numerical values between 0.0 and 100.0	-	X
Characteristic curve point 10%		10%	Numerical values between 0.0 and 100.0	-	X
Characteristic curve point 20%		20%	Numerical values between 0.0 and 100.0	-	X
Characteristic curve point 30%		30%	Numerical values	-	X

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
			between 0.0 and 100.0		
Characteristic curve point 40%		40%	Numerical values between 0.0 and 100.0	-	X
Characteristic curve point 50%		50%	Numerical values between 0.0 and 100.0	-	X
Characteristic curve point 60%		60%	Numerical values between 0.0 and 100.0	-	X
Characteristic curve point 70%		70%	Numerical values between 0.0 and 100.0	-	X
Characteristic curve point 80%		80%	Numerical values between 0.0 and 100.0	-	X
Characteristic curve point 90%		90%	Numerical values between 0.0 and 100.0	-	X
Characteristic curve point 100%		100%	Numerical values between 0.0 and 100.0	-	X
KP process controller	Amplification of the process controller	0.5	Numerical values	-	X
			between 0.0 and 100.0		
KD process controller	Component of the process controller	0,0	Numerical values between 0.0 and 100.0	-	X
Ti process controller	Reset time of the process controller	2.0 s	Numerical values between 0.0 and 999.9	-	X
TD process controller	Time of the process controller	1000 ms	Numerical values between 1 and 10,000	-	X
Permissible system deviation	Permissible deviation between the set and actual value	1.0%	Numerical values between 0.0 and 20.0	-	X
Invert process controller	Inverts the process controller	off	off, on	-	X

6.9.1.1 Split range start parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

NOTICE

Difference between Split range start and Split range end

► The difference between the parameters must be more than 10%.

This parameter defines the start of the effective set value range for this actuator. The set value area can be limited with this together with the Split range end parameter.

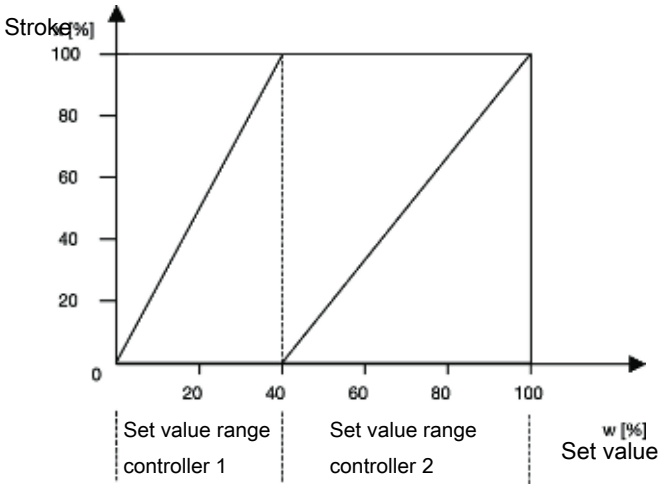


Illustration 1: Split range

6.9.1.2 Split range end parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

NOTICE

Difference between Split range start and Split range end

► The difference between the parameters must be more than 10%.

The parameter defines the start of the effective set value range for this actuator. The set value area can be limited with this together with the Split range start parameter.

6.9.1.3 Inverting the Set value parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

This parameter makes it possible to invert the set value.

Setting	Description
Off	Set value is not inverted
On	Set value is inverted

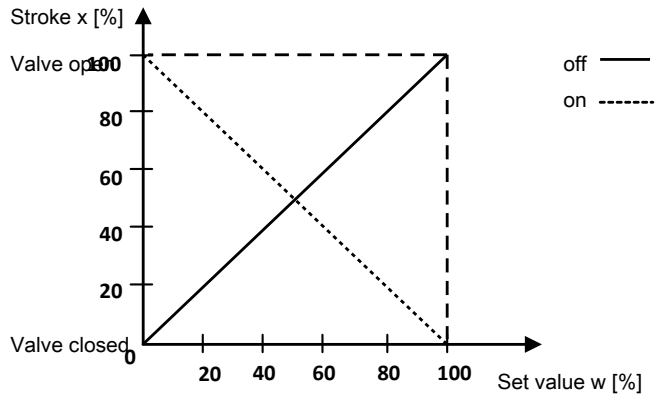


Illustration 2: Invert set value

6.9.1.4 Inverting the actual value parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

This parameter makes it possible to invert the actual value.

Setting	Description
Off	Actual value is not inverted
On	Actual value is inverted

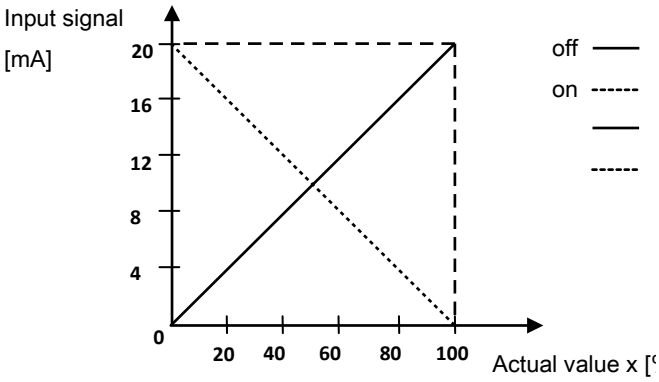
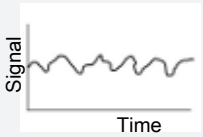
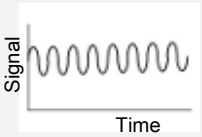
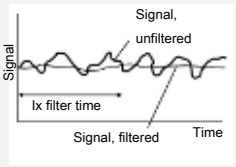


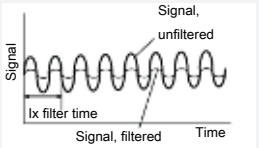
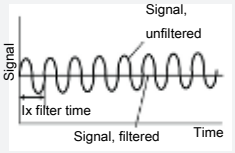
Illustration 3: Invert actual value

6.9.1.5 Ix filter parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

.This parameter controls filtering of the input signal.

Setting	Description	
Off	Actual value input filter is deactivated. The input signal is passed on unfiltered	
	Signal source with asymmetric signal: 	Signal source with symmetric signal: 
Average	The actual value input signal is filtered for a low pass filter.	
	Signal source with asymmetric signal: 	Signal source with symmetric signal: Use of the filter is not recommended.
RC	The actual value input signal is calculated by averaging.	

Setting	Description	
	Signal source with asymmetric signal: Use of the filter is not recommended.	Signal source with symmetric signal (filter time of 1.5 shaft lengths): 
		Signal source with symmetric signal (filter time of 1 shaft length): 

6.9.1.6 Ix filter time parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter defines the filter time for the actual value input.

6.9.1.7 Process actual value curve parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

This parameter defines the process actual value curve of the process controller.

Setting	Description
Lin	The process actual value curve is shown as a linear function.
Free	The process actual value curve is freely definable. The function points can be defined via the Characteristic curve point parameter (see “Characteristic curve point parameter“, page 12).

6.9.1.8 Characteristic curve point parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

The parameters of the characteristic curve points 0 to 100% define the respective points of the characteristic curve in 10% steps. The parameters are only applied if the Process actual value curve is set to "free".

6.9.1.9 KP process controller parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter indicates the proportional action factor Kp (see Glossary) of the process controller.

6.9.1.10 KD process controller parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter indicates the differential component (D-component) (see Glossary) of the process controller.

6.9.1.11 Ti process controller parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter indicates the reset time Tn (see Glossary) of the process controller.

6.9.1.12 TD process controller parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter indicates the derivative action time Tv (see Glossary) for the process controller.

6.9.1.13 Permissible system deviation parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter indicates the permissible system deviation of the process value controller.

6.9.1.14 Invert process controller parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

This parameter defines the direction of the process controller output in front of the input of the positioner. Inverted process control can be implemented with this.

Setting	Description
OFF	Function of the process controller is not inverted
On	Function of the process controller is inverted

6.9.2 Positioner settings menu

NOTICE

Visibility of the menu

► The Positioner settings menu is only visible if the Device functions parameter is set to the positioner value or process-control value.

In the Positioner settings menu, the parameters can be set in the function as positioners or as positioners and process controllers.

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
Control characteristic	Type of control characteristic	lin	lin, 1:25, 1:50, free	-	X
Characteristic curve point 0%	Characteristic curve point for control characteristic free setting	0%	Numerical values between 0.0 and 100.0	-	X
Characteristic curve point 10%		10%	Numerical values between 0.0 and 100.0	-	X
Characteristic curve point 20%		20%	Numerical values between 0.0 and 100.0	-	X
Characteristic curve point 30%		30%	Numerical values between 0.0 and 100.0	-	X
Characteristic curve point 40%		40%	Numerical values between 0.0 and 100.0	-	X
Characteristic curve point 50%		50%	Numerical values between 0.0 and 100.0	-	X
Characteristic curve point 60%		60%	Numerical values between 0.0 and 100.0	-	X
Characteristic curve point 70%		70%	Numerical values between 0.0 and 100.0	-	X
Characteristic curve point 80%		80%	Numerical values between 0.0 and 100.0	-	X
Characteristic curve point 90%		90%	Numerical values between 0.0 and 100.0	-	X
Characteristic curve point 100%		100%	Numerical values between 0.0 and 100.0	-	X
Close tight function CLOSED	Lower section of the close tight function	Diaphragm valves 0.0%, globe valves 2.0%	Numerical values between 0.0 and 100.0	-	X
Close tight function OPEN	Upper section of the close tight function	100%	Numerical values between 0.0 and 100.0	-	X
Set value limit CLOSED	Lower section of the set value limit	0.0%	Numerical values between 0.0 and 100.0	-	X
Set value limit OPEN	Upper section of the set value limit	100%	Numerical values between 0.0 and 100.0	-	X

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
Proportional amplification	Proportional amplification of the positioner	15.0	Numerical values between 0.0 and 100.0	-	X
Permissible system deviation	Permissible deviation between the set and actual value	1.0%	Numerical values between 0.0 and 20.0	-	X
Max speed OPEN	Maximum speed of the actuator during opening	100%	Numerical values between 15.0 and 100.0	-	X
Max speed CLOSED	Maximum speed of the actuator during closing	100%	Numerical values between 15.0 and 100.0	-	X
Max force	Maximum force of the actuator during opening and closing	100%	Numerical values between 10.0 and 100.0	-	X
Actuator position feedback CLOSED	Indicates position of the actuator from which it sends the feedback "CLOSED"	10.0%	Numerical values between 0.0 and 100.0	-	X
Actuator position feedback OPEN	Indicates position of the actuator from which it sends the feedback "OPEN"	90.0%	Numerical values between 0.0 and 100.0	-	X
Hysteresis for feedback		1.0%	Numerical values between 0.0 and 100.0	-	X

6.9.2.1 Control characteristic parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

This parameter defines the control characteristic of the positioner.

Setting	Description
Lin	The control characteristic is shown as a linear function.
1:25	The control characteristic is shown as function 1:25.
1:50	The control characteristic is shown as function 1:50
Free	The control characteristic is freely definable. The function points can be defined via the Characteristic curve point parameter (see “Characteristic curve point parameter“, page 12).

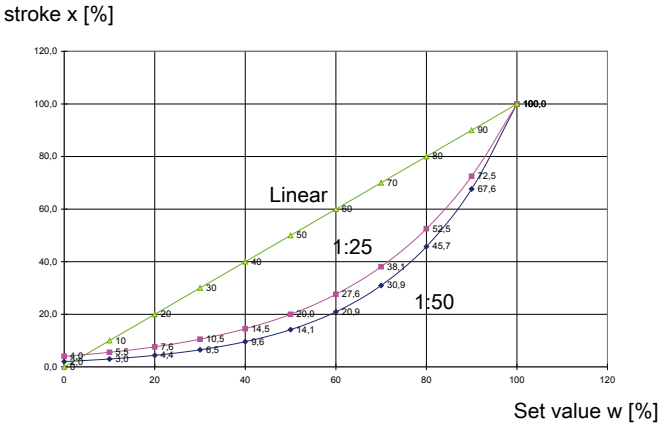


Illustration 4: Control characteristic

6.9.2.2 Characteristic curve point parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

The parameters of the characteristic curve points 0 to 100% define the respective points of the characteristic curve in 10% steps. The parameters are only applied if the Control characteristic parameter is set to "free".

6.9.2.3 Close tight function CLOSED parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

The parameter defines the area in which the valve is closed using maximum force.

Example - Close tight function CLOSED = 0.5 parameter

When closing the valve, the valve is fully closed for a set value of 0.5%. The hysteresis for opening corresponds with the Permissible system deviation parameter.

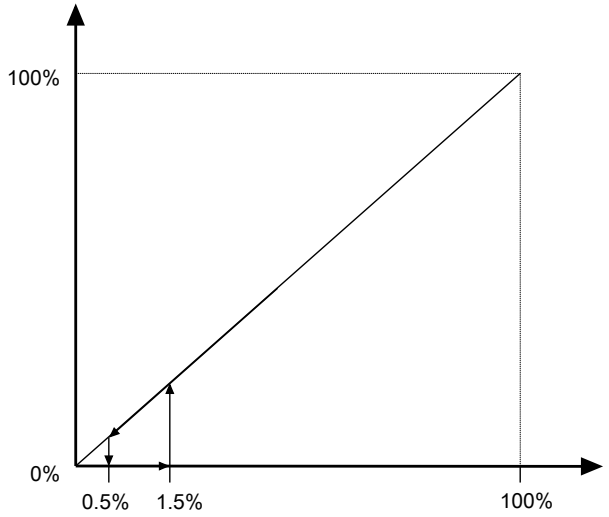


Illustration 5: Close tight function CLOSED

6.9.2.4 Close tight function OPEN parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

Defines the area in which the valve is opened using maximum force.

Example - Close tight function CLOSED = 99.5 parameter

When opening the valve, the valve is fully opened for a set value of 99.5%. The hysteresis for closing corresponds with the Permissible system deviation parameter.

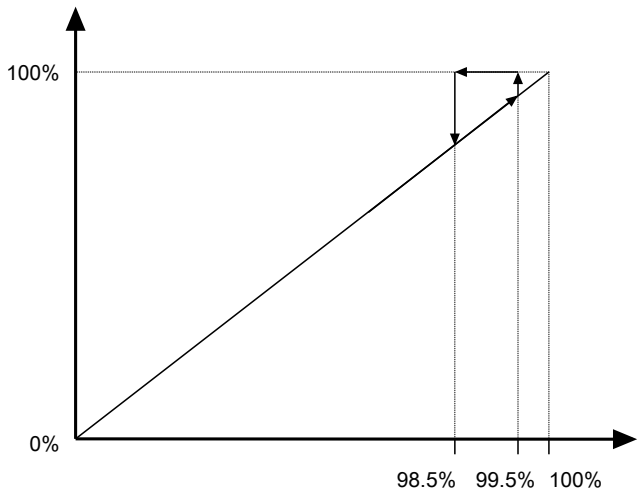


Illustration 6: Close tight function OPEN

6.9.2.5 Set value limit CLOSED parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter indicates the set value limit when closing the actuator.

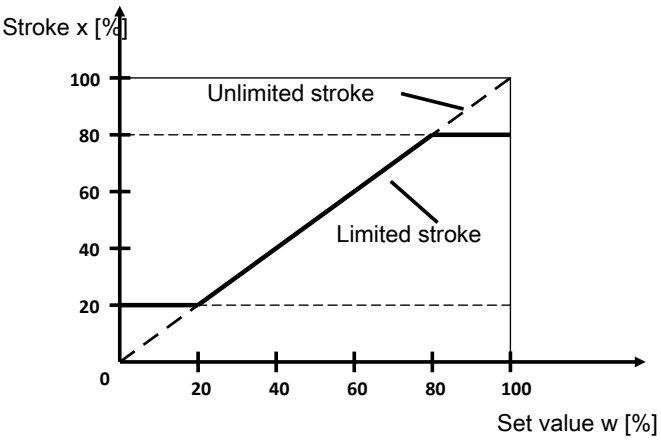


Illustration 7: Set value limit

Example

- Set value limit CLOSED = 10%
- Set value = 5%

Actuator stops at 10% during closing and does not continue to close.

6.9.2.6 Set value limit OPEN parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter indicates the set value limit when opening the actuator.

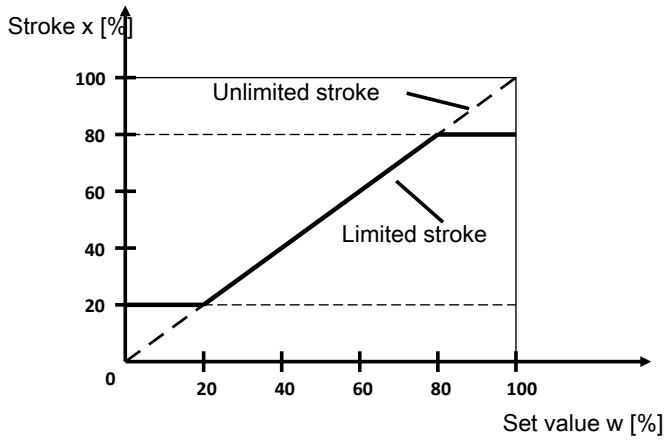


Illustration 8: Set value limit

Example

– Set value limit OPEN = 90%

– Set value = 95%

Actuator stops at 90% during closing and does not continue to open.

6.9.2.7 Proportional amplification parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter indicates the proportional action factor Kp (see Glossary) of the positioner.

6.9.2.8 Permissible system deviation parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter indicates the permissible system deviation of the positioner.

6.9.2.9 Speed max OPEN parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter determines the maximum speed when opening the actuator.

6.9.2.10 Speed max CLOSED parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter determines the maximum speed when closing the actuator.

6.9.2.11 Max force parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter determines the maximum force for opening and closing the actuator.

6.9.2.12 Actuator position feedback CLOSED parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter determines below which actuator position the actuator must indicate the feedback CLOSED.

In the position feedback CLOSED, the high visibility LEDs are lit if the High visibility position indicator parameter to set to on. The colour of the high visibility LEDs depends on the setting of the Inversion of LED colours parameter.

The feedback CLOSED signal can also be output via a digital output (see “Outputs menu“, page 20).

6.9.2.13 Actuator position feedback OPEN parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter determines above which actuator position the actuator must indicate the feedback OPEN.

In the position feedback OPEN, the high visibility LEDs are lit if the High visibility position indicator parameter to set to on. The colour of the high visibility LEDs depends on the setting of the Inversion of LED colours parameter.

The feedback CLOSED signal can also be output via a digital output (see “Outputs menu“, page 20).

6.9.3 OPEN/CLOSE settings menu

NOTICE

Visibility of the menu

► The OPEN/CLOSE settings menu is only visible if the Device functions parameter is set to the Device functions value.

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
Actuator position feedback CLOSED	Setting determining from which actuator position the message "Feedback CLOSED" is to be output	10%	Numerical values between 0.0 and 100.0		
Actuator position feedback OPEN	Setting determining from which actuator position the	90%	Numerical values between 0.0 and 100.0		

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
	message "Feedback CLOSED" is to be output				
Hysteresis feedback	Hysteresis for feedback	1.0%	Numerical values between 0.0 and 100.0		
Preferred direction	Controls the behaviour of the actuator in the case of two identical signals	hold	hold, save, last, open, close	-	X
Pulse duration	Specifying the type of input signal	state	state, impulse	-	X

6.9.3.1 Actuator position feedback CLOSED parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter defines the position of the actuator from which the actuator must indicate the message feedback CLOSED.

6.9.3.2 Actuator position feedback OPEN parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter defines the position of the actuator from which the actuator must indicate the message feedback OPEN.

6.9.3.3 Hysteresis for feedback parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter defines the hysteresis for the actuator position feedback CLOSED and OPEN.

6.9.3.4 Preferred direction parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

This parameter defines the direction when different digital input signals (see “Inputs menu“, page 24) are present at the same time.

Setting	Description
Hold	Actuator maintains current position
Save	Actuator moves to safety position (see “Error position parameter“, page 19)
Last	Actuator moves to the last requested position.
Open	Actuator moves to position OPEN
Close	Actuator moves to position CLOSED

6.9.3.5 Pulse duration parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

The parameter determines how the actuator is to be moved.

Setting	Description
State	As long as there is a signal, the actuator moves in the defined direction.
Pulse	Single momentary signal is sufficient and the actuator moves in the defined direction.

6.10 Functions menu

NOTICE

Visibility of the menu

► This menu is not visible in login level 0 (see “Login level“, page 36).

The following submenu points can be called up in the Functions menu:

Submenu	Description
Parameter set	Specifies the current parameter set and copies parameter sets
Error	Specifies error behaviour and error limits
Outputs	Specifies the function of the outputs
Inputs	Specifies the function of the inputs
Display	Specifies the display of the LED and on the website
Default setting	Reset to default settings

6.10.1 Parameter set menu

For using parameter sets, see chapter Operation (see “Parameter sets“, page 38).

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
Active parameter set	Defines the active parameter set	P1	P1, P2, P3, P4	-	X
Setting B0	Indicates the digital input which is used for ParaSet-Bit0	off	No setting options	-	X
Setting B1	Indicates the digital input which is used for ParaSet-Bit1	off	No setting options	-	X
Copy parameter set	Copies the parameter set	off	off, P1<=W, P1 =>P2, P1<=P2, P1=>P3, P1<=P3, P1=>P4, P1<=P4	-	X

6.10.1.1 Active parameter set parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

This parameter defines the current parameter set (see “Copying parameter set“, page 37).

Setting	Description
P1	Activate parameter set 1
P2	Activate parameter set 2
P3	Activate parameter set 3
P4	Activate parameter set 4

6.10.1.2 Setting B0/B1 parameter

This parameter cannot be changed.

Depending on the value of the Setting B0 or Setting B1 parameters which are set at the respective digital inputs, the parameters are copied from the memory P1, P2, P3 or P4 into the working memory. The parameter indicates which digital input is being used. The settings of the parameters can be defined via the inputs of the actuator (see “Inputs menu“, page 24).

Current value Setting B0	Current value Setting B1	Parameters are read from the following memory into the working memory
0	0	P1
0	1	P2
1	0	P3
1	1	P4

6.10.1.3 Copy parameter set

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

Setting	Description
OFF	Do not copy parameter
P1<=W	Parameters are copied from the default settings into memory P1
P1=>P2	Parameters are copied from memory P1 into memory P2
P1<=P2	Parameters are copied from memory P2 into memory P1
P1=>P3	Parameters are copied from memory P1 into memory P3
P1<=P3	Parameters are copied from memory P3 into memory P1
P1=>P4	Parameters are copied from memory P1 into memory P4
P1<=P4	Parameters are copied from memory P4 into memory P1

6.10.2 Error menu

The visibility of the parameters in the Error menu depends on the operating mode and on the settings of the set value or actual value input.

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
Error position	Actuator behaviour in the event of an error	Close	hold, close, open	-	X
Error time	Delay time between error re-	0.2 s	Numerical values between 0.0 and 100.0	-	X

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
	cognition and error message				
Set value U min	Upper limit of the set value for a set value signal in V	10.5 V	Numerical values between 4.0 and 12.0	-	X
Set value I min	Lower limit of the set value for a set value signal in mA	3.5 mA	Numerical values between 0.0 and 4.0	-	X
Set value I max	Upper limit of the set value for a set value in mA	20.5 mA	Numerical values between 20.0 and 24.0	-	X
Actual value U max	Upper limit of the actual value for actual value in V	10,5 V	Numerical values between 4.0 and 12.0	-	X
Actual value I min	Lower limit of the actual value for actual value in mA	3.5 mA	Numerical values between 0.0 and 4.0	-	X
Actual value I min	Upper limit of the actual value for actual value in mA	20.5 mA	Numerical values between 20.0 and 24.0	-	X
Temperature error function	Behaviour when temperature error is triggered	stop	save, stop, ignore	-	X

6.10.2.1 Error position parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

The safety position can be set with this parameter. This defines the position in the event of an error.

Setting	Description
Hold	Actuator remains in its current position in the event of an error
Close	Actuator moves to position CLOSED
Open	Actuator moves to position OPEN

6.10.2.2 Error time parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter defines the time period before an error is triggered. If the error is inactive within the time period, there is no message.

6.10.2.3 Set value U max parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter defines the upper limit of the set value for a set value signal in V.

6.10.2.4 Set value I min parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter defines the lower limit of the set value for a set value signal in mA.

6.10.2.5 Set value I max parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter defines the upper limit of the set value for a set value in mA.

6.10.2.6 Actual value U max parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter defines the upper limit of the actual value for an actual value signal in V.

6.10.2.7 Actual value I min parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter defines the lower limit of the actual value for an actual value signal in mA.

6.10.2.8 Actual value I max parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter defines the upper limit of the actual value for an actual value signal in mA.

6.10.2.9 Temperature error function parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

This parameter controls the behaviour when a temperature error occurs.

Setting	Description
Save	In the event of an error, the actuator moves to the position set in the Error position parameter in the Error menu (see “Error position parameter“, page 19)
Stop	Actuator stops in the event of an error
Ignore	Temperature error is ignored

6.10.3 Outputs menu

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
Function output 1	Function of the digital output	open	off, open, closed, error, warning, info, test, active, Pmin, Pmax, Pmin-Max, Wmin, Wmax, Wmin-Max, save, SSEmin, SSEmax, SSEmin-Max	-	X
Logic output 1	Logic of the digital output when actuated	NO	NO, NC	-	X
Output 1 min	Lower digital output limit, output is actuated if exceeded	0.0%	Numerical values between 0.0 and 100.0	-	X
Output 1 max	Upper digital output limit, output is actuated if exceeded	100.0%	Numerical values between 0.0 and 100.0	-	X
Output 1 hysteresis	Hysteresis of the digital output	1.0%	Numerical values between 0.0 and 20.0	-	X
Output 1 time	Delay time of the digital output between occurrence of the error and actuation of the output	0.0 s	Numerical values between 0.0 and 1000.0	-	X
Function output 2	Function of the output	closed	off, open, closed, error, warning, info, test, active, Pmin, Pmax, Pmin-Max, Wmin, Wmax, Wmin-Max,	-	X

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
			save, SSEmin, SSEmax, SSEmin-Max		
Logic output 2	Logic of the digital output when actuated	NO	NO, NC	-	X
Output 2 min	Lower digital output limit, output is actuated if exceeded	0.0%	Numerical values between 0.0 and 100.0	-	X
Output 2 max	Upper digital output limit, output is actuated if exceeded	100.0%	Numerical values between 0.0 and 100.0	-	X
Output 2 hysteresis	Hysteresis of the digital output	1.0%	Numerical values between 0.0 and 20.0	-	X
Output 2 time	Delay time of the digital output between occurrence of the error and actuation of the output	0.0 s	Numerical values between 0.0 and 1000.0	-	X
Analogue output type	Type of analogue output	4-20 mA	0-20 mA, 4-20 mA, 0-10 V, 0-5 V, off	-	X
Analogue output function	Function of analogue output	Temperature	Position, InW, Temperature, Speed, Force	-	X
Analogue output min	Lower limit of the analogue output	0.0%	Numerical values between 0.0 and 100.0	-	X
Analogue output max	Upper limit of the analogue output	100.0%	Numerical values between 0.0 and 100.0	-	X

6.10.3.1 Function output 1 parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

Setting	Description
Off	Output has no function
Open	Output is activated when position OPEN is reached
Closed	Output is activated when position CLOSED is reached
Error	Output is activated when an error occurs
Warning	Output is activated when a warning occurs
Info	Output is activated when information is given
Test	Output is activated when the actuator is in the Operating mode test (see “Select operating mode parameter“, page 7)
Active	Output is activated when the actuator is in the Operating mode OFF (see “Select operating mode parameter“, page 7)
Pmin	Output is active if the lower limit of the respective output is not reached. The lower limit defines the valve position in %.
Pmax	Output is active if the upper limit of the respective output is exceeded. The upper limit defines the valve position in %.
Pminmax	Output is active if either the lower limit of the respective output is not reached or the upper limit of the respective output is exceeded. The limits define the valve position in %.
Wmin	Output is active if the lower limit of the respective output is not reached.

Setting	Description
	The lower limit defines the set value in %.
Wmax	Output is active if the upper limit of the respective output is exceeded. The upper limit defines the set value in %.
Wminmax	Output is active if either the lower limit of the respective output is not reached or the upper limit of the respective output is exceeded. The limits define the set value in %.
Xmin	Output is active if the lower limit of the respective output is not reached. The lower limit defines the actual value in %.
Xmax	Output is active if the upper limit of the respective output is exceeded. The upper limit defines the actual value in %.
Xminmax	Output is active if either the lower limit of the respective output is not reached or the upper limit of the respective output is exceeded. The limits define the actual value in %.
SSEmin	Output is active if the lower limit of the respective output is not reached. The lower limit defines the control error in %.
SSEmax	Output is active if the upper limit of the respective output is exceeded. The upper limit defines the control error in %.
SSEmin-Max	Output is active if either the lower limit of the respective output is not reached or the upper limit of the respective output is exceeded. The limits define the control error in %.

6.10.3.2 Logic output 1 parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

Setting	Description
NO	Normally Open
NC	Normally Closed

6.10.3.3 Output 1 min parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

Depending on the function of the output (see “Function output 1 parameter“, page 21), the parameter has another meaning:

Function of the output	Meaning of the parameter
Pmin, Pminmax	Lower limit of the valve position in %
Wmin, Wminmax	Lower limit of the set value in %
Xmin, Xminmax	Lower limit of the actual value in %
SSEmin, SSEminmax	Lower limit of the control error in %

6.10.3.4 Output 1 max parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

Depending on the function of the output (see “Function output 1 parameter“, page 21), the parameter has another meaning:

Function of the output	Meaning of the parameter
Pmax, Pminmax	Upper limit of the valve position in %
Wmax, Wminmax	Upper limit of the set value in %
Xmax, Xminmax	Upper limit of the actual value in %
SSEmax, SSEminmax	Upper limit of the control error in %

6.10.3.5 Output 1 hysteresis parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter defines the hysteresis of the output.

6.10.3.6 Output 1 time parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter defines the time which must pass before the output is activated.

6.10.3.7 Function output 2 parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

Setting	Description
Off	Output has no function
Open	Output is activated when position OPEN is reached
Closed	Output is activated when position CLOSED is reached
Error	Output is activated when an error occurs
Warning	Output is activated when a warning occurs
Info	Output is activated when information is given
Test	Output is activated when the actuator is in the Operating mode test (see “Select operating mode parameter“, page 7)

Setting	Description
Active	Output is activated when the actuator is in the Operating mode OFF (see “Select operating mode parameter“, page 7)
Pmin	Output is active if the lower limit of the respective output is not reached. The lower limit defines the valve position in %.
Pmax	Output is active if the upper limit of the respective output is exceeded. The upper limit defines the valve position in %.
Pminmax	Output is active if either the lower limit of the respective output is not reached or the upper limit of the respective output is exceeded. The limits define the valve position in %.
Wmin	Output is active if the lower limit of the respective output is not reached. The lower limit defines the set value in %.
Wmax	Output is active if the upper limit of the respective output is exceeded. The upper limit defines the set value in %.
Wminmax	Output is active if either the lower limit of the respective output is not reached or the upper limit of the respective output is exceeded. The limits define the set value in %.
Xmin	Output is active if the lower limit of the respective output is not reached. The lower limit defines the actual value in %.
Xmax	Output is active if the upper limit of the respective output is exceeded. The upper limit defines the actual value in %.
Xminmax	Output is active if either the lower limit of the respective output is not reached or the upper limit of the respective output is exceeded. The limits define the actual value in %.
SSEmin	Output is active if the lower limit of the respective output is not reached. The lower limit defines the control error in %.
SSEmax	Output is active if the upper limit of the respective output is exceeded. The upper limit defines the control error in %.
SSEmin-Max	Output is active if either the lower limit of the respective output is not reached or the upper limit of the respective output is exceeded. The limits define the control error in %.

6.10.3.8 Logic output 2 parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

Setting	Description
NO	Normally Open
NC	Normally Closed

6.10.3.9 Output 2 min parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

Depending on the function of the output (see “Function output 2 parameter“, page 22), the parameter has another meaning:

Function of the output	Meaning of the parameter
Pmin, Pminmax	Lower limit of the valve position in %
Wmin, Wminmax	Lower limit of the set value in %
Xmin, Xminmax	Lower limit of the actual value in %
SSEmin, SSEminmax	Lower limit of the control error in %

6.10.3.10 Output 2 max parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

Depending on the function of the output (see “Function output 2 parameter“, page 22), the parameter has another meaning:

Function of the output	Meaning of the parameter
Pmax, Pminmax	Upper limit of the valve position in %
Wmax, Wminmax	Upper limit of the set value in %
Xmax, Xminmax	Upper limit of the actual value in %
SSEmax, SSEminmax	Upper limit of the control error in %

6.10.3.11 Output 2 hysteresis parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter defines the hysteresis of the output.

6.10.3.12 Output 2 time parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter defines the time which must pass before the output is activated.

6.10.3.13 Analogue output type parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

Setting	Description
0-20 mA	Signal is 0 – 20 mA
4-20 mA	Signal is 4 – 20 mA
0-10 V	Signal is 0 – 10 V
0-5 V	Signal is 0 – 5 V
Off	Signal is switched off

6.10.3.14 Function analogue output parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

The analogue output can provide different output signals.

Setting	Description
Position	Current position
InW	Current actual value
Temperature	Current temperature
Speed	Current speed
Force	Current force

6.10.3.15 Analogue output min parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter defines the lower value in % (see “Function analogue output parameter“, page 24) of the set voltage or set current (see “Analogue output type parameter“, page 23).

6.10.3.16 Analogue output max parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter defines the upper value in % (see “Function analogue output parameter“, page 24) of the set voltage or set current (see “Analogue output type parameter“, page 23).

6.10.4 Inputs menu

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
Function input 1		Open	off, open, close, save, stop, ParaSet-Bit0, ParaSet-Bit1, Off/On	-	X
Logic input 1		NO	NO, NC	-	X
Function input 2		Close	off, open, close, save, stop, ParaSet-Bit0, ParaSet-Bit1, Off/On	-	X
Logic input 2		NO	NO, NC	-	X
Function input 3		init	off, open, close, init, save, stop, ParaSet-Bit0, ParaSet-Bit1, Off/On	-	X
Logic input 3		NO	NO, NC	-	X
Actual value type		4 - 20 mA	0 - 20 mA, 4 - 20 mA, 0 - 10 V, 0 - 5 V, off	-	X
Set value type		4 - 20 mA	0 - 20 mA, 4 - 20 mA, 0 - 10 V, 0 - 5 V, off	-	X

6.10.4.1 Function input 1 parameter

NOTICE

Same parameter settings with different inputs

► It is not possible to set the same parameters with different inputs. It is therefore possible that certain parameters cannot be selected depending on the input.

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

This parameter defines the function of the input.

Setting	Description
OFF	Input is deactivated
Open	Moves actuator to position OPEN

Setting	Description
Close	Moves actuator to position CLOSED
Save	Moves actuator into a safety position (see “Error position parameter“, page 19)
Stop	Stops actuator
ParaSetBit0	Setting B0 Setting B0 (see “Setting B0/B1 parameter“, page 18) parameter
ParaSetBit1	Setting B1 Setting B1 (see “Setting B0/B1 parameter“, page 18) parameter
Off/On	Sets the actuator to the pause mode OFF: Actuator is in pause mode ON: Actuator is active

6.10.4.2 Logic input 1 parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

This parameter defines the logic of the input.

Setting	Description
NO	Normally Open
NC	Normally Closed

6.10.4.3 Function input 2 parameter

NOTICE

Same parameter settings with different inputs

► It is not possible to set the same parameters with different inputs. It is therefore possible that certain parameters cannot be selected depending on the input.

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

This parameter defines the function of the input.

Setting	Description
OFF	Input is deactivated
Open	Moves actuator to position OPEN
Close	Moves actuator to position CLOSED
Save	Moves actuator into a safety position (see “Error position parameter“, page 19)
Stop	Stops actuator
ParaSetBit0	Setting B0 Setting B0 (see “Setting B0/B1 parameter“, page 18) parameter
ParaSetBit1	Setting B1 Setting B1 (see “Setting B0/B1 parameter“, page 18) parameter
Off/On	Sets the actuator to the pause mode OFF: Actuator is in pause mode ON: Actuator is active

6.10.4.4 Logic input 2 parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

This parameter defines the logic of the input.

Setting	Description
NO	Normally Open
NC	Normally Closed

6.10.4.5 Function input 3 parameter

NOTICE

Same parameter settings with different inputs

► It is not possible to set the same parameters with different inputs. It is therefore possible that certain parameters cannot be selected depending on the input.

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

This parameter defines the function of the input.

Setting	Description
OFF	Input is deactivated
Open	Moves actuator to position OPEN
Close	Moves actuator to position CLOSED
Init	Initialises actuator
Save	Moves actuator into a safety position (see “Error position parameter“, page 19)
Stop	Stops actuator
ParaSetBit0	Setting B0 Setting B0 (see “Setting B0/B1 parameter“, page 18) parameter
ParaSetBit1	Setting B1 Setting B1 (see “Setting B0/B1 parameter“, page 18) parameter

Setting	Description
Off/On	Sets the actuator to the pause mode OFF: Actuator is in pause mode ON: Actuator is active

6.10.4.6 Logic input 3 parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

This parameter defines the logic of the input.

Setting	Description
NO	Normally Open
NC	Normally Closed

6.10.4.7 Actual value type parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

This parameter defines the actual value input. The visibility of the parameter depends on the selected operating mode (see “Operating mode menu“, page 7).

Setting	Description
0-20 mA	Signal is 0 – 20 mA
4-20 mA	Signal is 4 – 20 mA
0-10 V	Signal is 0 – 10 V
0-5 V	Signal is 0 – 5 V
Off	Signal is switched off

6.10.4.8 Set value type parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

This parameter defines the set value input.

Setting	Description
0-20 mA	Signal is 0 – 20 mA
4-20 mA	Signal is 4 – 20 mA
0-10 V	Signal is 0 – 10 V
0-5 V	Signal is 0 – 5 V
Off	Signal is switched off

6.10.5 Display menu

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
High visibility position indicator	Switches the high visibility position indicator on or off	on	off, on	-	X
Inversion of LED colours	Inverts the high visibility position indicator	standard	standard, inversed	-	X
Scaling	Switches the scaling of the actual value and set value display on or off	off	off, on	-	X
Unit	Unit of scaling	%		-	X
4 mA scaling	Scaled value for 4 mA	0		-	X
20 mA scaling	Scaled value for 20 mA	1000		-	X
Decimal places	Determines the position of the decimal point	0.0%		-	X
Example 0%	Indicates the example for 0% signal	0.0%		-	X
Example 50%	Indicates the example for 50% signal	50.0%		-	X

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
Example 100%	Indicates the example for 100% signal	100.0%		-	X

6.10.5.1 High visibility position indicator parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

The parameter makes it possible to switch the high visibility position indicator on and off.

Setting	Description
On	High visibility position indicator is switched on For the meaning of the displays, see the operating instructions of the actuator/of the valve
OFF	High visibility position indicator is switched off

6.10.5.2 Inversion of LED colours parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

This parameter makes it possible to invert the colours of the high visibility LEDs.

Setting	Description
Standard	The LED colours of the high visibility position indicator are not inversed.
Inversed	The LED colours of the high visibility position indicator are inversed.

6.10.5.3 Scaling parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

The parameter makes it possible to convert the 4 – 20 mA output signal into another physical unit (mm, bar, etc.). The actuator automatically converts the intermediate steps using the lower and upper limits and also displays them in the status area (see “Structure of the operator interface“, page 4).

Setting	Description
Off	Scaling is switched off
On	Scaling is switched on The scaling settings must be defined via the Unit, 4 mA scaling, 20 mA scaling and Decimal places parameters.

6.10.5.4 Unit parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter defines the unit of the scaling.

Example - pressure specification in bar from 0.0 – 6.0 bar

Parameter unit = bar

6.10.5.5 Scaling 4 mA parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter defines the lower value of the scaling for 4 mA.

Example - pressure specification in bar from 0.0 – 6.0 bar

Scaling 4 mA = 0 parameter

6.10.5.6 Scaling 20 mA parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter defines the upper value of the scaling for 20 mA.

Example - pressure specification in bar from 0.0 – 6.0 bar

Scaling 20 mA = 6 parameter

6.10.5.7 Decimal places parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter indicates the position of the decimal point for the entered scaling values:

Parameter = 0 means the values have no decimal point.

Parameter = 0 means the values have a decimal point. The position of the decimal point corresponds with the entered value.

Example with a scaling value of 30:

Parameter	Position of the decimal point	Interpretation of the scaling value
0	No decimal point	30
1	1 position to the right	3.0
2	2 positions to the right	0.30
3	3 positions to the right	0.03

Example - pressure specification in bar from 0.0 – 6.0 bar

Decimal places = 1 parameter

6.10.5.8 Example 0%

This parameter cannot be changed.

This parameter indicates the converted scaling value using the entered data (Scaling, Unit, 4 mA scaling, 20 mA scaling, Decimal places).

Example - pressure specification in bar from 0.0 – 6.0 bar

Display 0%: 0.0 bar

6.10.5.9 Example 50%

This parameter cannot be changed.

This parameter indicates the converted scaling value using the entered data (Scaling, Unit, 4 mA scaling, 20 mA scaling, Decimal places).

Example - pressure specification in bar from 0.0 – 6.0 bar

Display 50%: 3.0 bar

6.10.5.10 Example 100%

This parameter cannot be changed.

This parameter indicates the converted scaling value using the entered data (Scaling, Unit, 4 mA scaling, 20 mA scaling, Decimal places).

Example - pressure specification in bar from 0.0 – 6.0 bar

Display 100%: 6.0 bar

6.10.6 Default settings menu

No parameters can be set in the default settings menu. The default settings of the actuator can be reset (see “Restoring the default settings“, page 39) in this menu.

6.11 Status menu

The following submenu points can be called up in the Status menu:

Submenu	Description
Status	Displays the parameters of the operating condition
Input/outputs	Displays and sets the inputs and outputs
Error list	Displays the error list
Delete error list	Deletes the error list

6.11.1 Status menu

NOTICE

Visibility of the menu

► This menu is not visible in login level 0 (see “Login level“, page 36).

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
Identification 1	11-digit TAG number for identification of the controller.	empty	free text entry, max. 32 digits	-	X
Identification 2	11-digit TAG number for identification of the controller	empty	free text entry, max. 32 digits	-	X
Location function	Activates the flashing function of the actuator for location in the system	off	off, on	-	X
Warning threshold operating hours	Warning threshold for operating hours	0 h	Numerical values	-	X
Cycle counter	Displays the current cycle counter	0	Numerical values	-	X
Warning threshold switch point counter	Displays the warning threshold of the cycle counter	0	Numerical values	-	X
Total operating hours	Displays all operating hours	--	--	-	X
Operating hours since last start	Displays operating hours since the last start	--	--	-	X
Software version	Displays the current software release.	depending on the current software version	--	-	X

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
Serial number	Displays the serial number of the controller	--	--	-	X
Actuator size	Indicates the actuator size of the actuator	depending on the actuator size	--		
Valve type	Indicates the actuator type	9HSA	--		
Operating time OPEN	Displays the operating time OPEN	--		-	X
Operating time CLOSED	Displays the operating time CLOSED	--		-	X
Cycle counter, total	Displays total cycle counter	0		-	X
Direction change counter	Displays the number of direction changes	0		-	X
Movement counter	Displays the number of movements	0		-	X
Current absolute position	Displays the current absolute actuator position	--, depending on the current valve position	--	-	X
Current temperature	Displays the current temperature	--		-	X

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
Operating voltage	Displays the current operating voltage	0 V 0 V		-	X
Set value	Displays the set value of the device functions open-close	none		-	X
Current position	Displays the current actuator position	--		-	X
Set value	Displays the set value of the positioner or process-control device functions	--		-	X
Actual value	--	--		-	X
Process set value	Displays the current set value of the process controller	--		-	X
Process actual value	Displays the current actual value of the process controller	--		-	X
Process controller output	Displays the output of the process controller	--		-	X

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
Set value position	Displays the set value of the positioner	--		-	X
Actuator position	Displays the current actuator position	--		-	X
Current position	--	--		-	X
Positioner output	Displays the output of the positioner	--		-	X
Controller output	Displays the analogue output of the positioner	--		-	X
Current speed	Displays the current speed in %	--	--	-	X
Current force	Displays the current force in %	--		-	X
Safety position active	Displays the safety position	--		-	X

6.11.1.1 Total operating hours parameter

This parameter cannot be changed.

This parameter indicates the total operating hours.

6.11.1.2 Warning threshold operating hours parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter makes it possible to determine a warning threshold for the Total operating hours parameter. After the warning threshold has been exceeded, a message is triggered (see “Error messages“, page 38).

If the warning threshold is set to 0, there is no message.

6.11.1.3 Operating hours since last start parameter

This parameter cannot be changed.

This parameter indicates the operating hours from the last actuator start.

6.11.1.4 Software version parameter

This parameter cannot be changed.

This parameter indicates the software version of the actuator.

6.11.1.5 Identification 1 parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter is for identification of the actuator. The Identifier 1 parameter is displayed in the status area.

6.11.1.6 Identification 2 parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

The parameter is for identification of the actuator. This identification is not shown in the status area.

6.11.1.7 Serial number parameter

This parameter cannot be changed.

This parameter indicates the serial number of the actuator.

6.11.1.8 Actuator size parameter

This parameter cannot be changed.

This parameter indicates the actuator size of the actuator. This information corresponds with the order data of the valve or of the actuator (see enclosed operating instructions).

6.11.1.9 Location function active parameter

This parameter is a parameter with a selection list (see “Using the selection lists“, page 5).

This parameter switches the function for finding the actuator in the system on or off. After switching on, the high visibility LEDs flash.

Setting	Description
Off	Location function is not active High visibility LEDs do not flash
On	Location function is active High visibility LEDs flashing

6.11.1.10 Current absolute position parameter

This parameter cannot be changed.

This parameter indicates the current absolute position.

6.11.1.11 Current speed parameter

This parameter cannot be changed.

This parameter indicates the current speed.

6.11.1.12 Current force parameter

This parameter cannot be changed.

This parameter indicates the current force.

6.11.1.13 Current temperature parameter

This parameter cannot be changed.

This parameter indicates the current temperature.

6.11.1.14 Operating voltage parameter

This parameter cannot be changed.

This parameter indicates the current operating voltage.

6.11.1.15 Set value parameter

This parameter cannot be changed.

This parameter indicates the set value for the Device functions open-close. This parameter is always displayed, regardless of the set Device functions parameter

6.11.1.16 Current position parameter

This parameter cannot be changed.

This parameter indicates the current position of the actuator.

6.11.1.17 Operating time OPEN parameter

This parameter cannot be changed.

This parameter indicates the current operating time OPEN. This is determined during initialisation (see “Initialisation“, page 35).

6.11.1.18 Operating time CLOSED parameter

This parameter cannot be changed.

This parameter indicates the current operating time CLOSED. This is automatically determined during initialisation (see “Initialisation“, page 35).

6.11.1.19 Total cycle counter parameter

This parameter cannot be changed.

This parameter indicates the total number of cycles of the actuator.

A cycle is the movement of the actuator from 10% open to at least 90% open and back to 10% open again.

This parameter cannot be reset. For resettable cycle counts, the Cycle counter parameter must be used (see “Cycle counter parameter“, page 31).

6.11.1.20 Cycle counter parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

The parameter indicates the current number of cycles of the actuator since the last reset.

A cycle is the movement of the actuator from 10% open to at least 90% open and back to 10% open again.

6.11.1.21 Threshold switch point counter parameter

This parameter is a parameter with text entry (see “Using the text boxes“, page 5).

This parameter makes it possible to determine a warning threshold for the Cycle counter parameter. After the warning threshold has been exceeded, a message is triggered (see “Error messages“, page 38).

If the warning threshold is set to 0, there is no message.

6.11.1.22 Direction change counter parameter

This parameter cannot be changed.

This parameter indicates all direction changes.

A direction change is the inversion of the drive direction. The duration in this case is not significant.

Example

The actuator moves as follows:

- 2 s movement in direction OPEN
- 1 s pause
- 0.1 s movement in direction CLOSED
- 1 s pause
- 1 s movement in direction OPEN
- 1 s pause
- 3 s movement in direction OPEN

The Direction change counter indicates 3. The two last movements were without a change in direction.

6.11.1.23 Movement counter parameter

This parameter cannot be changed.

This parameter indicates all movements of the actuator.

Moving from the actuator resting position is a movement.

Example

The actuator moves as follows:

- 2 s movement in direction OPEN
- 1 s pause
- 0.1 s movement in direction CLOSED
- 1 s pause
- 1 s movement in direction OPEN
- 1 s pause
- 3 s movement in direction OPEN

The Movement counter parameter indicates 4.

6.11.1.24 Set value parameter

This parameter cannot be changed.

This parameter indicates the set value for the function as positioners and process controllers. This parameter is always displayed, regardless of the set Device functions parameter.

6.11.1.25 Actual value parameter

This parameter cannot be changed.

This parameter indicates the current actual value.

6.11.1.26 Process set value parameter

This parameter cannot be changed.

This parameter indicates the set value of the process controller.

6.11.1.27 Process actual value parameter

This parameter cannot be changed.

This parameter indicates the actual value of the process controller.

6.11.1.28 Process controller output parameter

This parameter cannot be changed.

This parameter indicates the analogue output of the process controller.

6.11.1.29 Set value position parameter

This parameter cannot be changed.

This parameter indicates the position of the set value.

6.11.1.30 Positioner output parameter

This parameter cannot be changed.

This parameter indicates the analogue output of the positioner.

6.11.1.31 Control output parameter

This parameter cannot be changed.

6.11.2 Inputs/outputs menu

The visibility of the parameters in the Inputs/outputs menu depends on the set value or actual value input settings.

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
U set value input	Displays the voltage at the set value input	--	--	X	X
I set value input	Displays the current at the set value input	--	--	X	X
U actual value input	Displays the voltage at the actual value input	--	--	X	X
I actual value input	Displays the current at the actual value input	--	--	X	X
Input 1	Displays the digital input 1	--	--	X	X
Input 2	Displays the digital input 2	--	--		
Input 3	Displays the digital input 3	--	--		
I actual value output	Displays the current at the actual value output	--	--	X	X
U actual value output	Displays the voltage at the actual value output	--	--	X	X
Output 1	Displays the digital output 1	--	--	X	X
Output 2	Displays the digital output 2	--	--		
Output 3	Displays the digital output 3	--	--		

6.11.2.1 U set value input parameter

This parameter cannot be changed.

This parameter indicates the voltage in V of the set value input. This parameter is only visible if the Inputs parameter is set to the value 0 - 5 V or 0 - 10 V in the Set value type menu.

6.11.2.2 I set value input parameter

This parameter cannot be changed.

This parameter indicates the current in mA of the set value input. This parameter is only visible if the Inputs parameter is set to the value 0 -20 mA or 4 - 20 mA in the Set value type menu.

6.11.2.3 U actual value input parameter

This parameter cannot be changed.

This parameter indicates the voltage in V of the actual value input. This parameter is only visible if the Inputs parameter is set to the value 0 - 5 V or 0 - 10 V in the Actual value type menu.

6.11.2.4 I actual value input parameter

This parameter cannot be changed.

This parameter indicates the current in mA of the actual value input. This parameter is only visible if the Inputs parameter is set to the value 0 - 20 mA or 4 - 20 mA in the Actual value type menu.

6.11.2.5 Input 1 parameter

This parameter cannot be changed.

This parameter indicates the status of the digital input. If the input is active, the field is ticked. The field is not ticked if the input is not active.

6.11.2.6 Input 2 parameter

This parameter cannot be changed.

This parameter indicates the status of the digital input. If the input is active, the field is ticked. The field is not ticked if the input is not active.

6.11.2.7 Input 3 parameter

This parameter cannot be changed.

This parameter indicates the status of the digital input. If the input is active, the field is ticked. The field is not ticked if the input is not active.

6.11.2.8 I actual value input parameter

This parameter cannot be changed.

This parameter indicates the current in mA of the actual value output. This parameter is only visible if the Outputs parameter is set to the value 0 - 20 mA or 4 -20 mA in the Analogue output type menu.

6.11.2.9 U actual value input parameter

This parameter cannot be changed.

This parameter indicates the voltage in V of the actual value output. This parameter is only visible if the Outputs parameter is set to the value 0 - 5 V or 0 - 10 V in the Analogue output type menu.

6.11.2.10 Output 1 parameter

This parameter cannot be changed.

This parameter indicates the status of the digital output. If the output is active, the field is ticked. The field is not ticked if the input is not active.

6.11.2.11 Output 2 parameter

This parameter cannot be changed.

This parameter indicates the status of the digital output. If the output is active, the field is ticked. The field is not ticked if the input is not active.

6.11.2.12 Output 3 parameter

This parameter cannot be changed.

This parameter indicates the status of the digital output. If the output is active, the field is ticked. The field is not ticked if the input is not active.

6.11.3 Error list menu

No parameters can be set in this menu. The last 100 entries of the error list are displayed (see “Error messages“, page 38).

6.11.4 Delete error list menu

NOTICE

Visibility of the menu

► This menu is not visible in login level 0 (see “Login level“, page 36).

No parameters can be set in this menu. The error list can be deleted (see “Delete error list“, page 38) in this menu.

6.12 Network settings menu

NOTICE

Visibility of the menu

► This menu is not visible in login level 0 (see “Login level“, page 36).

The current network settings of the actuator can be changed (see “Changing the network settings“, page 36) in the Network settings menu. To do so, the respective parameters can be entered manually or applied from the history.

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
Host name	Name of the actuator in the network	Serial number with hyphens without blanks	Text	-	X
DHCP active	Activate automatic assignment of the IP address	OFF	off, on	-	X
IP address	IP address in the network	192.168.2.1	Valid IP address in the network	-	X
Subnet	Subnet screen in the network	255.255.252.0	Valid subnet screen in the network	-	X
IP address gateway	IP address of the gateway in the network	0.0.0.0	Valid IP address to the gateway in the network	-	X
IP address Netbios server 1	IP address of the 1st Netbios server	0.0.0.0	Valid IP address in the network	-	X
IP address Netbios server 2	IP address of the 2nd Netbios server	0.0.0.0	Valid IP address in the network	-	X
MAC address		MAC address of the actuator	none	-	X

6.13 Download menu

No parameters can be set in the Download menu. The following information can be downloaded as a file (see “Downloading data“, page 39) in this menu:

Type of information	File contents	File format
Text file	Current date	.txt
	Information from the text field during downloading Serial number of the actuator Parameter settings as text file	
Parameter file	Parameter settings as parameter file	.par
Error list	Information from the text field during downloading Error message as text file	.err

A parameter file can be uploaded (see “Uploading a parameter file“, page 39) in this menu.

6.14 Oscilloscope menu

NOTICE

Visibility of the menu

► This menu is not visible in login level 0 (see “Login level“, page 36).

The actuator has the option of reading out the data in real time with the help of a JAVA application (see “Oscilloscope application“, page 38). Five data items, which are set using channels 1 to 5, can be read out simultaneously.

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
Channel 1	Output value 1 of the oscilloscope	Set Value	Set Value, Position, Open Close, Ctrl Out, Direction, Speed, Force, Temperature, Actual value	-	X
Channel 2	Output value 2 of the oscilloscope	Item		-	X
Channel 3	Output value 3 of the oscilloscope	Ctrl Out		-	X
Channel 4	Output value 4 of the oscilloscope	Speed		-	X

Parameter	Function	Default settings	Setting options	Visibility at login level	
				0	1-3
Channel 5	Output value 5 of the oscilloscope	Force		-	X

6.14.1 Set value parameter

This parameter outputs the set value.

6.14.2 Position parameter

This parameter outputs the position of the actuator.

6.14.3 Open Close Parameter

This parameter outputs the condition of the valve (open or closed).

6.14.4 Ctrl Out parameter

This parameter states the output of the positioner.

6.14.5 Direction parameter

This parameter outputs the direction of the actuator.

Behaviour	Description
Value increases	Actuator moves to position OPEN
Value decreases	Actuator moves to position CLOSED
Value stays in the middle	Actuator does not move

6.14.6 Speed parameter

This parameter indicates the current speed of the actuator.

6.14.7 Force parameter

This parameter indicates the current force of the actuator.

6.14.8 Temperature parameter

This parameter outputs the current temperature.

6.14.9 Actual value parameter

This parameter outputs the actual value.

6.15 Update menu

NOTICE

Visibility of the menu

► This menu is not visible in login level 0 (see “Login level“, page 36).

No parameters are displayed in the Update menu. The menu enables the software in the actuator (see “Updating the software“, page 39) to be updated.

7 Commissioning

✓ Electrical connection is made in accordance with the enclosed operating instructions.

✓ The network is set up in accordance with the enclosed operating instructions.

1. Call up the Initialisation menu.
2. Press the Start key.

⇨ Initialisation is carried out.

3. In case of error messages, check for errors and correct them, (see “Error messages“, page 38) and then restart initialisation.

7.1 Electrical connection

1. Make the electrical connection in accordance with the enclosed operating instructions of the complete valve.

7.2 Setting up the network

✓ Electrical connection has been made in accordance with the enclosed operating instructions.

✓ Network connection is established.

✓ Website is called up (see “Calling up the website“, page 36).

1. Select the Network settings menu item.

   ⇨ Network settings area is displayed.

2. Change network settings.
3. Press the Apply key.

⇨ Data is applied.

7.3 Initialisation

✓ Electrical connection has been made in accordance with the enclosed operating instructions.

✓ Network is set up (see “Setting up the network“, page 35).

1. Call up the Initialisation menu.
2. Press the Start key.

⇨ Initialisation is carried out.

3. In case of error messages, check for errors and correct them, (see “Error messages“, page 38) and then restart initialisation.

See also

Checking the function of the actuator [▷ 39]

8 Operation

8.1 Calling up the website

NOTICE

Standard configuration of the esy-Web configuration page

- ► The configuration page is called up using the browser. The product has the following network configuration on delivery:
- ► IP address: 192.168.2.1
- ► Subnet screen: 255.255.252.0

1. Check the network settings and change as required.
2. Call up the IP address by entering in the browser.

⇨ Website is opened.

8.2 Login level

There are 4 user levels available for access to the settings:

Level	Description
0	Read-only access to selected parameters
1	Read-only access to all parameters
2	Read-only access to all parameters and change options for parameters which are approved from level 3 with the lock symbol
3	Change options for all parameters

To define access for a specific user level, a password must be assigned for levels 1 to 3 . (see “Setting up the password for user level“, page 36)

8.2.1 Setting up the password for user level

✓ Website is called up (see “Calling up the website“, page 36).

1. Press the Login key.
   ⇨ The "Login" window is opened.
2. Enter the password for the current or the lower levels.
3. Press the Apply key.
   ⇨ The "Login" window is closed.

⇨ Passwords have been set up.

8.2.2 Changing the user level

✓ Website is called up (see “Calling up the website“, page 36).

1. Press the Login key.
   ⇨ The "Login" window is opened.
2. Enter the password for the desired user level in the password field.
3. Press the Login key.
   ⇨ Change the user level.
   ⇨ The current user level is displayed in the "Active Level" field.
4. Press the Close key.
   ⇨ The "Login" window is closed.

⇨ User level is changed.

8.2.3 Resetting all passwords

✓ Website is called up (see “Calling up the website“, page 36).

1. Press the Login key in the Status area (see “Structure of the operator interface“, page 4).
   ⇨ The "Login" window is opened.
2. Read out the serial number, software version and reset code and email to GEMÜ at cca@gemue.de.
   ⇨ GEMÜ will then send a reset password.
3. Enter the password from GEMÜ in the Reset password parameter.
4. Press the Reset key.

⇨ All passwords are deleted.

8.3 Changing the language

✓ Website has been called up.

1. Select the language from the selection in the status area (see “Structure of the operator interface“, page 4).
2. Press the OK key.

⇨ Selected language is set.

8.4 Changing the network settings

8.4.1 Changing the network settings

1. Call up the Network settings menu item.

⇨ Network settings area is displayed.

2. Change network settings.
3. Press the Apply key.

⇨ Data is applied.

8.4.2 Applying historical network settings

1. Call up the Network settings menu item.
2. Select one of the four network configurations from the history area.
3. Press the Apply key.

⇨ Network configuration is applied.

⇨ Network connection is disconnected.

4. Reconnect to the website (see “Calling up the website“, page 36).

⇨ Website is called up

⇨ Network configuration has been correctly applied and is active.

5. Website is not called up: Check and if necessary correct the network settings of the PC and the actuator.

8.5 Parameter

The parameters of the actuator store the values of the text boxes or menu lists.

Each parameter can be approved for different Login levels (see “Approving or blocking parameters for login level“, page 37) and displayed in the Favourites list (see “Setting Favourites“, page 37).

All parameters are saved in a parameter set. There are 4 parameter sets (see “Parameter set menu“, page 17) available. These parameter sets can be selected or copied directly.

8.5.1 Selecting the parameter set

1. Call up the Functions menu.
2. Call up the Parameter set menu.
3. Active parameter set the Active parameter set (see “Active parameter set parameter“, page 18)parameter.

⇨ Parameter set is selected.

8.5.2 Copying parameter set

1. Call up the Functions menu.
2. Call up the Parameter set menu.
3. Copy parameter set the Copy parameter set (see “Copy parameter set“, page 18)parameter.

⇨ Parameter set is copied.

8.5.3 Approving or blocking parameters for login level

Individual parameters can be disabled to prevent them being changed by other people. The parameters that can be disabled are labelled with a lock symbol.

Symbol	Description
	Parameter is disabled for editing at Login level 2. This setting is the default setting for all parameters.
	Parameter is released for editing at Login level 2.

Releasing parameters for editing at Login level 2

✓ Call up menu with desired parameters.

✓ Parameter is disabled for Login level 2.

1. Press the lock symbol  in front of the parameter.

⇨ Lock symbol changes to  .

⇨ Parameter is released for editing at Login level 2.

Disabling parameters for editing at Login level 2

✓ Call up menu with desired parameters.

✓ Parameter is released for Login level 2.

2. Press the lock symbol  in front of the parameter.

⇨ Lock symbol changes to  .

⇨ Parameter is disabled for editing at Login level 2.

8.5.4 Setting Favourites

Parameters that are regularly required can be saved in a central Favourites list (see “Favourites menu“, page 7). Each parameter that is labelled with the ☆ symbol can be saved in the central Favourites list.

8.5.4.1 Calling up the Favourites list

✓ Website is called up (see “Calling up the website“, page 36).

✓ Login with the required rights was successful (see login).

1. Click on the Favourites menu.

⇨ Current Favourites list is displayed.

2. To delete existing Favourites, see Removing parameters from the Favourites list (see “Removing parameters from the Favourites list“, page 37).
3. To add new Favourites, see Adding parameters to the Favourites list (see “Adding parameters to the Favourites list“, page 37).

8.5.4.2 Adding parameters to the Favourites list

1. Call up the parameter that you want to add to the Favourites list.
2. Click on the ☆ symbol.

   ⇨ Symbol changes to ★.

⇨ Parameter has been added to the Favourites list.

8.5.4.3 Removing parameters from the Favourites list

1. Calling up the Favourites list (see “Calling up the Favourites list“, page 37).
2. Click on the ★ symbol in front of the parameters that you want to remove from the Favourites list.

   ⇨ Symbol changes to ☆.

⇨ Parameter has been removed from the Favourites list.

8.6 Switching on on-site control

Operation of the actuator on-site can be set in two different ways.

Setting on-site control using the web interface

1. Call up the Operating mode menu.
2. Set the On-site control parameter to the On-site control setting.

⇨ Actuator can be operated on-site.

Setting on-site control using the DIP switch on the actuator

3. Remove the cover from the actuator.
4. Set the on-site DIP switch to On.

⇨ Actuator can be operated on-site.

8.7 Parameter sets

Four different parameter sets can be set up. The parameter set that is currently in use can be set using the Active parameter set (see “Parameter set menu“, page 17) parameter.

Procedure for setting up different parameter sets

1. Select the parameter set that you want to use as a basis.
2. Change desired parameters.
   ⇨ The changes are saved in the adjusted parameter set.
3. Once all changes have been made, copy (see “Copy parameter set“, page 18) the parameter set to memory.

8.8 Oscilloscope application

The esyWeb website can be used to display the data as a graphic output using a JAVA application (oscilloscope). Five data channels (see “Oscilloscope menu“, page 34) are transmitted simultaneously.

Downloading and starting an application

✓ JAVA is installed on the PC on which you want to run the JAVA application.

1. Call up the Oscilloscope menu.
2. Set the parameter for each data channel.
3. Press the Apply key.
   ⇨ The settings of the parameters are saved for each data channel.
4. Press the Download key.
   ⇨ The JAVA application is called up.

Making the connection to the actuator

5. In the JAVA application, call up the "Target" menu.
6. Select the entry "Connect".
   ⇨ The "Connect" window is opened.
7. Set the connection setting to "Ethernet".
8. Set the IP address of the actuator (see “Changing the network settings“, page 36) .
9. Press the "Connect" key.
   ⇨ JAVA application connects to the actuator.
   ⇨ The "Connect" key is deactivated.
   ⇨ JAVA application is connected.
10. Press the "Close" key.

⇨ Connection has been made.

Using the application

11. Press the "Start" key.
    ⇨ Data evaluation is started.
12. Press the "Stop" key.
    ⇨ Data evaluation is stopped.
13. Press the "Reset" key.
    ⇨ Data display is reset.
14. Press the "Print" key.
    ⇨ The print version is created and can be printed.
15. Call up the "File" menu.
16. Call up the "Save" menu item.
    ⇨ Data can be saved as CSV or GOD file.

9 Error messages

9.1 Error types

There are three different types of error:

1. Note: This error does not impair operation.
2. Warning: This error may impair operation.
3. Error: This error impairs operation.

9.2 Display error list

Calling up the error list using the Error list menu

✓ Website is called up (see “Calling up the website“, page 36).

1. Call up the Status menu.
2. Call up the Error list submenu.

⇨ Current error list is displayed.

Calling up the error list using the status field

✓ Website is called up (see “Calling up the website“, page 36).

3. Select an error message (Note, Error or Warning) in the status field.

⇨ Current error list is displayed.

9.3 Delete error list

✓ Website is called up (see “Calling up the website“, page 36).

1. Press the Delete error list key.

⇨ Error list is deleted.

9.4 Downloading the error list

✓ Website is called up (see “Calling up the website“, page 36).

1. Call up the Download menu.
2. Press the Download key behind "Error list".
3. Enter comments for the error list in the text box.
4. Press the Download key.

⇨ The file to be downloaded is indicated.

5. Select where you want to save it and confirm.

⇨ File is downloaded.

10 Administrative work

10.1 Updating the software

1. Call up the Updating menu.
2. Press the Browse key.
   ⇨ Window for file selection is opened.
3. Select the file for updating the software (file format gud).
4. Press the Apply key.
   ⇨ File is loaded.
5. Press the Start key.

⇨ Software is updated.

⇨ Progress is displayed.

6. To cancel the update, press the esc key.

10.2 Restoring the default settings

This menu enables all default settings to be restored.

1. Press the Default setting key.

⇨ Default settings are restored.

10.3 Downloading data

To copy settings or to exchange with Support, data can be downloaded from the actuator. The following files can be downloaded (see “Download menu“, page 34):

Type of information	File contents	File format
Text file	Current date Information from the text field during downloading Serial number of the actuator Parameter settings as text file	.txt
Parameter file	Parameter settings as parameter file	.par
Error list	Information from the text field during downloading Error message as text file	.err

1. Call up the Download menu.
2. Press the Download key next to the required file.

⇨ A Save window is opened.

3. Enter additional information in the text box.
4. Press the Download key.

⇨ File is saved.

10.4 Uploading a parameter file

Parameter settings can be copied and distributed between different actuators.

✓ Parameter file is available for uploading.

1. Call up the Download menu.
2. Press the Browse key.
   ⇨ Window for file selection is opened.
3. Select the parameter file (file format par).
4. Press the Open key.
   ⇨ File is loaded.
5. Press the Upload key.

⇨ Parameter file is uploaded.

10.5 Checking the function of the actuator

Prior to commissioning or in test mode (see “Select operating mode parameter“, page 7) the actuator can be checked to ensure that it is working correctly:

✓ Network is set up (see “Setting up the network“, page 35).

✓ Website is called up (see “Calling up the website“, page 36).

1. Call up the NoInit menu or the Test menu.

Four keys can be actuated in this menu:

Parameter	Key	Function
Move actuator in CLOSED direction	Fast	Actuator moves quickly in CLOSED direction
	Slow	Actuator moves slowly in CLOSED direction
Move actuator in OPEN direction	Fast	Actuator moves quickly in OPEN direction

Parameter	Key	Function
	Slow	Actuator moves slowly in OPEN direction

10.6 Cycle counter

The actuator is equipped for maintenance intervals with different cycle counters:

Counter	Description	Alterable
Cycle counter, total	Counts the number of movements from Closed to Open to Closed from the first use	No
Cycle counter	Counts the number of movements from Closed to Open to Closed from the last time the cycle counter was reset	Yes, it can be reset to 0
Direction change counter	Counts the number of direction changes (from Open to Close or from Close to Open) from the first use	No
Movement counter	Counts the number of movements from the first use	No

10.7 Fail safe function

The actuator has a fail safe function which ensures that the actuator moves to a defined status in the event of an error.

This fail safe function is not a substitute for specific plant safety requirements. The actuator is not a safety control system.

1. Call up the Functions menu.
2. Call up the Error menu.
3. Set the Error position (see “Error position parameter“, page 19) parameter.

⇨ Fail safe function has been set.

Keyword index

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