MOUNTING AND OPERATING INSTRUCTIONS

EB 5824-2 EN

Translation of original instructions

Electric Actuators

Type 5824 without fail-safe action
Type 5825 with fail-safe action

Version with positioner

Firmware version 1.04

Edition January 2015

Note on these mounting and operating instructions

These mounting and operating instructions assist you in mounting and operating the device safely. The instructions are binding for handling SAMSON devices. The images shown in these instructions are for illustration purposes only. The actual product may vary.

➔ For the safe and proper use of these instructions, read them carefully and keep them for later reference.

➔ If you have any questions about these instructions, contact SAMSON's After-sales Service (aftersalesservice@samsongroup.com).

The mounting and operating instructions for the devices are included in the scope of delivery. The latest documentation is available on our website at ***www.samsongroup.com > Service & Support > Downloads > Documentation***.

Definition of signal words

⚠ DANGER

Hazardous situations which, if not avoided, will result in death or serious injury

⚠ WARNING

Hazardous situations which, if not avoided, could result in death or serious injury

NOTICE

Property damage message or malfunction

Note

Additional information

Tip

Recommended action

Firmware revisions	
Old	**New**
1.03	**1.04**
	Changed default setting of *End position guiding (stem extends)* parameter (new: 97.0 %, old: 99.0 %)
	Changed default setting of *Dead band* parameter (new: 2.0 %, old: 1.0 %)

1 Safety instructions and measures

The Type 5824/5825 Electric Actuator is designed to operate a mounted globe valve used in heating, ventilation and air-conditioning systems as well as in process engineering and industrial energy transfer systems. The digital positioner ensures a predetermined assignment of the valve position to the input signal.

The actuator is designed to operate under exactly defined conditions (e.g. thrust, travel). Therefore, operators must ensure that the actuator is only used in operating conditions that meet the specifications used for sizing the actuator at the ordering stage. In case operators intend to use the actuator in other applications or conditions than specified, contact SAMSON.

SAMSON does not assume any liability for damage resulting from the failure to use the device for its intended purpose or for damage caused by external forces or any other external factors.

➔ Refer to the technical data for limits and fields of application as well as possible uses. See section 3.5.

Reasonably foreseeable misuse

The actuator is not suitable for the following applications:

– Use outside the limits defined during sizing and by the technical data

Furthermore, the following activities do not comply with the intended use:

– Use of non-original spare parts
– Performing service and repair work not described in these instructions

Qualifications of operating personnel

The actuator must be mounted, started up, serviced and repaired by fully trained and qualified personnel only; the accepted industry codes and practices must be observed. According to these mounting and operating instructions, trained personnel refers to individuals who are able to judge the work they are assigned to and recognize possible hazards due to their specialized training, their knowledge and experience as well as their knowledge of the applicable standards.

Personal protective equipment

No personal protective equipment is required for the direct handling of the electric actuator. Work on the control valve may be necessary when mounting or removing the device.

➔ Observe the requirements for personal protective equipment specified in the valve documentation.

➔ Check with the plant operator for details on further protective equipment.

Revisions and other modifications

Revisions, conversions or other modifications of the product are not authorized by SAMSON. They are performed at the user's own risk and may lead to safety hazards, for example. Furthermore, the product may no longer meet the requirements for its intended use.

Safety features

Upon supply voltage failure, the **Type 5825** Electric Actuator causes the valve to move to a certain fail-safe position. The fail-safe action of SAMSON actuators is specified on the actuator nameplate.

Warning against residual hazards

To avoid personal injury or property damage, plant operators and operating personnel must prevent hazards that could be caused in the control valve by the process medium, the operating pressure, the signal pressure or by moving parts by taking appropriate precautions. Plant operators and operating personnel must observe all hazard statements, warning and caution notes in these mounting and operating instructions, especially for installation, start-up and service work.

Responsibilities of the operator

The operator is responsible for proper operation and compliance with the safety regulations. Operators are obliged to provide these mounting and operating instructions to the operating personnel and to instruct them in proper operation. Furthermore, the operator must ensure that operating personnel or third parties are not exposed to any danger.

Responsibilities of operating personnel

Operating personnel must read and understand these mounting and operating instructions as well as the specified hazard statements, warning and caution notes. Furthermore, the operating personnel must be familiar with the applicable health, safety and accident prevention regulations and comply with them.

Referenced standards and regulations

The Type 5824/5825 Electric Actuators comply with the requirements of the Directives 2014/30/EU and 2014/35/EU. The declaration of conformity includes information about the applied conformity assessment procedure. This declaration of conformity is included in the Annex of these instructions.

The Type 5824/5825 Electric Actuators are designed for use in low voltage installations.

➔ For wiring, maintenance and repair, observe the relevant safety regulations.

Referenced documentation

The following documents apply in addition to these mounting and operating instructions:

– Mounting and operating instructions of the valve on which the electric actuator is mounted, e.g. for SAMSON valves:
  - EB 5861 for Type 3260 Three-way Valve
  - EB 5861 for Type 3260 Three-way Valve
  - EB 5863 for Type 3226 Three-way Valve
  - EB 5866 for Type 3222 Globe Valve
  - EB 5868 for Type 3213 and Type 3214 Globe Valves
  - EB 8111 for Type 3321 Globe Valve
  - EB 8113 for Type 3323 Three-way Valve
  - EB 8131 for Type 3531 Globe Valve for Heat Transfer Oil
  - EB 8135 for Type 3535 Three-way Valve for Heat Transfer Oil

1.1 Notes on possible severe personal injury

⚠ DANGER

Risk of fatal injury due to electric shock.

- ➔ Before connecting wiring, performing any work on the device or opening the device, disconnect the supply voltage and protect it against unintentional reconnection.
- ➔ Only use power interruption devices that are protected against unintentional reconnection of the power supply.
- ➔ Do not remove any covers to perform adjustment work on live parts.
- ➔ Do not open the back housing cover.

The electric actuator is protected against spray water (IP 54).

- ➔ Avoid jets of water.

Risk of bursting in pressure equipment.

Valves and pipelines are pressure equipment. Improper opening can lead to valve components bursting.

- ➔ Before starting any work on the control valve, depressurize all plant sections affected as well as the valve.
- ➔ Drain the process medium from all the plant sections affected and from the valve.
- ➔ Wear recommended personal protective equipment. See associated valve documentation.

1.2 Notes on possible personal injury

⚠ WARNING

Crush hazard arising from moving parts.

The form-fit version of the electric actuator contains moving parts (actuator and plug stems), which can injure hands or fingers if inserted into the actuator.

➔ Do not insert hands or finger into the yoke while the valve is in operation.

➔ Disconnect the supply voltage before performing any work on the control valve.

➔ Do not impede the movement of the actuator or plug stem by inserting objects into their path.

1.3 Notes on possible property damage

NOTICE

Risk of damage to the electric actuator due to the supply voltage exceeding the permissible tolerances.

The Types 5824 and 5825 Electric Actuators are designed for use according to regulations for low-voltage installations.

➔ Observe the permissible tolerances of the supply voltage.

Risk of actuator damage due to excessively high tightening torques.

Observe the specified torques on tightening the Types 5824 and 5825 Electric Actuators. Excessively tightened torques lead to parts wearing out quicker.

➔ Observe the specified tightening torques.

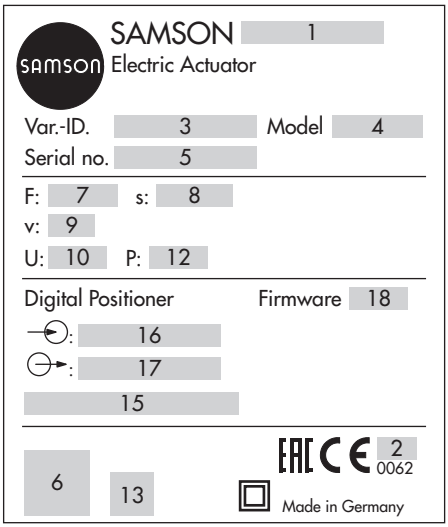
Risk of damage to the electric actuator by turning it too far.

The actuator stem of the electric actuator can be adjusted manually.

➔ Only retract the actuator stem as far as the final travel value.

2 Markings on the device

2.1 Nameplate



1 Type designation
2 Year of manufacture
3 Configuration ID
4 Model designation (Type 5825 only)
5 Serial number
6 DIN registration number (Type 5825 only)
7 Thrust
8 Rated travel
9 Stroking speed
10 Supply voltage
12 Power consumption
13 Fail-safe action (Type 5825 only)

 Extends  Retracts

15  Limit contact

16 Inputs
17 Outputs
18 Firmware version

3 Design and principle of operation

A stepper motor allows for supply by frequency-independent voltages. The force of the motor is transmitted to the actuator stem (3) via gear and crank disk. When the actuator stem extends, the actuator piston (3) pushes against the valve's plug stem. When the actuator stem retracts, the return spring in the valve causes the plug stem to follow the movement (force-locking connection). Actuator and valve are connected by the coupling nut (4).

The positioner ensures a predetermined assignment of the valve position to the input signal. For position feedback, a 0 to 10 V signal can be picked off at terminals 32 and 33.

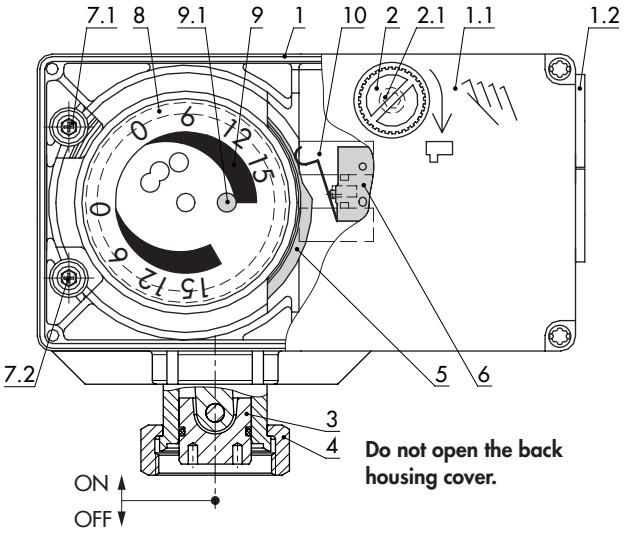
The characteristic and the input and output signal settings can be changed using the TROVIS-VIEW software (▶ EB 6661).

Type 5824 without fail-safe action

The actuator without fail-safe action has a handwheel (2) used to manually position the valve. Travel and direction of action can be read off the travel indication scale (9).

Type 5825 with fail-safe action

The actuators with fail-safe action largely corresponds to the Type 5824 described above. However, they also include a spring mechanism (8) and an electromagnet.



1 Housing
1.1 Front cover
1.2 Cable entry
2 Handwheel (Type 5824 only)
2.1 Actuating shaft
3 Actuator stem with actuator piston
4 Coupling nut
5 Cam disk
6 Limit contact
7.1 Adjuster for limit contact (bottom contact cam)
7.2 Adjuster for limit contact (top contact cam)
8 Spring assembly (Type 5825 only)
9 Travel indication scale
9.1 Follower pin
10 Torque-dependent limit switch

Fig. 1: *Type 5824/5825 Actuator (front cover open), with force-locking attachment to the valve*

3.1 Fail-safe action

The actuator moves to the fail-safe position when the electromagnet is de-energized. This causes the actuator stem to be completely retracted or extended by the spring mechanism.

The Type 5825 Actuator is available with the fail-safe action:

Actuator stem extends: upon supply voltage failure, the actuator stem extends.

Actuator stem retracts: upon supply voltage failure, the actuator stem retracts.

➔ **The fail-safe action must not be used to control the valve position.**

The Type 5825 Actuator does not have a handwheel (2) on the housing cover. Manual override is possible, after removing the front cover, using a 4 mm Allen key. The actuator returns to its original position as soon as the Allen key is released.

Testing according to DIN EN 14597

The Types 5825 Electric Actuator with fail-safe action "actuator stem extends" is tested by the German technical surveillance association (TÜV) according to DIN EN 14597 in combination with various SAMSON valves. Tested versions are indicated on the nameplate. They are listed in the Technical data table.
The registration number is available on request.

3.2 Cover screws

The actuator housing cover is fastened using TORX PLUS® screws, size 10IP.

➔ To loosen and tighten the screws, the following screwdrivers can be used:

– TORX® T10
– TORX PLUS® 10IP
– Flat-blade screwdriver with 0.8 mm blade thickness and 4.0 mm blade width

3.3 Additional functions

Devices in 24 V version can be fitted with **limit contacts** as additional function:

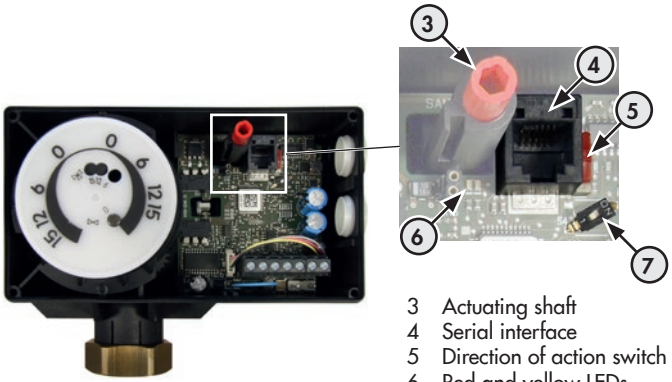
– Optionally, the actuators can be equipped with two limit contacts, which are actuated by continuously adjustable cam disks.
– The supply voltage as well as the inputs and outputs are not galvanically isolated.
– The two additional limit contacts are not suitable for retrofitting.

3.4 Device overview and operating controls

1 Travel indication scale
2 Handwheel (Type 5824 only)

Fig. 2: *Location of external operating elements*

3.4.1 Type 5824 (24 V version)



3 Actuating shaft
4 Serial interface
5 Direction of action switch
6 Red and yellow LEDs
7 Function switch

Fig. 3: *Location of operator controls under the front cover of Type 5824 (24 V version)*

3.4.2 Type 5824 (85 to 264 V version)

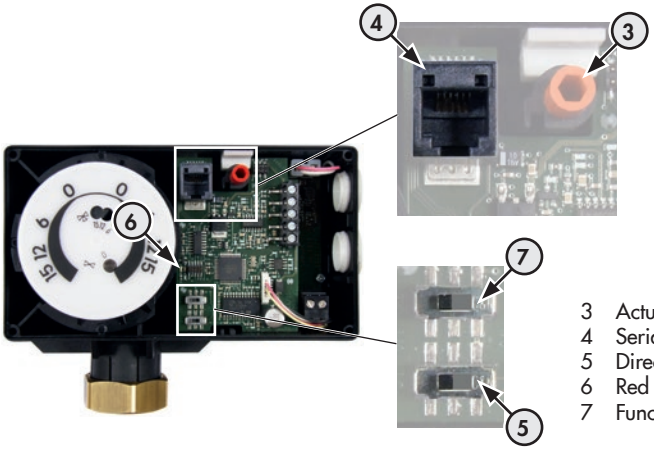


Fig. 4: *Location of operator controls under the front cover of Type 5824 (85 to 264 V version)*

3.5 Technical data

Table 1: *Technical data · Type 5824*

			Type	5824		
				-10	-20	-30
Fail-safe action				Without		
Rated travel			mm	6 [1]	12	15
Stroking speed [2, 3]		Slow	mm/s	0.13	0.13	0.13
		Standard	mm/s	**0.2**	**0.2**	**0.2**
		Fast	mm/s	0.36	0.36	0.36
Transit time for rated travel (depending on the stroking speed)		Slow	s	45	89	111
		Standard	s	**31**	**61**	**76**
		Fast	s	17	33	41
Thrust	Extends		N	700	700	700
	Retracts		N	–	–	700
Attachment	Force-locking			•	•	–
	Form-fit			–	–	•
Handwheel				Yes		
Supply voltage						
24 V DC (–10 %, + 20 %), 24 V, 50 and 60 Hz				•	•	•
85 to 264 V, 50 and 60 Hz				•	•	•
Input signal				0 to 10 V, R_i = 20 kΩ · 0 to 20 mA, R_i = 50 Ω		
Output signal				0 to 10 V, R_B = 1 kΩ		
Power consumption [6]						
24 V DC (–10 %, 20 %)			W	5		
24 V, 50 and 60 Hz			VA	5		
85 to 264 V, 50 and 60 Hz [4]			VA	8		
Permissible temperatures [7]						
Ambient				0 to 50 °C		
Storage				–20 to +70 °C		

Type	5824		
	-10	-20	-30
Safety			
Degree of protection	IP 54 [5]		
Class of protection	II according to EN 61140		
Overvoltage category	II according to EN 60664		
Degree of contamination	2 according to EN 60664		
Noise immunity	According to EN 61000-6-2		
Noise emission	According to EN 61000-6-3		
Vibration	According to EN 60068-2-6 and EN 60068-2-27		
Conformity	CE, EAC		
Additional electrical equipment (not suitable for retrofitting)			
Two limit contacts [4], max. 230 V, 1 A	•		
Materials			
Housing, housing cover	Plastic (PPO with glass fiber reinforcement)		
Coupling nut, M32x1.5	Brass		
Weight kg (approx.)	**0.75**		

1) Actuators with 6 mm travel can also be used for valves with 7.5 mm travel.
2) Adjustable (default settings in bold print)
3) When a fast stroking speed and 24 V DC supply voltage are used, make sure the voltage does not fall below the specified value.
4) Actuators for 85 to 264 V supply voltage cannot be fitted with limit contacts.
5) The degree of protection IP 54 can only be achieved up to device index **.03** when the actuator is installed in the upright position. See last two figures of the configuration ID written on the nameplate, e.g. Var.-ID xxxxxxx**.xx**, for the device index.
6) With standard speed level
7) The permissible medium temperature depends on the valve on which the electric actuator is mounted. The limits in the valve documentation apply.

Table 2: *Technical data · Type 5825*

			Type	5825					
				-10	-20	-30	-15	-25	-35
Fail-safe action				Extends			Retracts		
Rated travel			mm	6 [1]	12	15	6 [1]	12	15
Stroking speed [2, 3]		Slow	mm/s	0.13	0.13	0.13	0.13	0.13	0.13
		Standard	mm/s	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**
		Fast	mm/s	0.36	0.36	0.36	0.36	0.36	0.36
Transit time for rated travel (depending on the stroking speed)		Slow	s	45	89	111	45	89	111
		Standard	s	**31**	**61**	**76**	**31**	**61**	**76**
		Fast	s	17	33	41	17	33	41
Transit time for fail-safe action			s	4	6	7	4	6	7
Thrust	Extends		N	500	500	280	500	500	280
	Retracts		N	–	–	280	–	–	280
Nominal thrust of safety spring			N	500	500	280	– [4]	– [4]	280
Attachment	Force-locking			•	•	–	•	•	–
	Form-fit			–	–	•	–	–	•
Handwheel				Possible [5]					
Supply voltage									
24 V DC (–10 %, + 20 %), 24 V, 50 and 60 Hz				•	•	•	•	•	•
85 to 264 V, 50 and 60 Hz				•	•	•	•	•	•
Input signal				0 to 10 V, R_i = 20 kΩ · 0 to 20 mA, R_i = 50 Ω					
Output signal				0 to 10 V, R_B = 1 kΩ					
Power consumption [8]									
24 V DC (–10 %, 20 %)			W	8					
24 V, 50 and 60 Hz			VA	8					
85 to 264 V, 50 and 60 Hz [6]			VA	10					
Permissible temperatures [9]									
Ambient				0 to 50 °C					
Storage				–20 to +70 °C					

Type	5825					
	-10	-20	-30	-15	-25	-35
Safety						
Degree of protection	IP 54 [7]					
Class of protection	II according to EN 61140					
Overvoltage category	II according to EN 60664					
Degree of contamination	2 according to EN 60664					
Noise immunity	According to EN 61000-6-2					
Noise emission	According to EN 61000-6-3					
Vibration	According to EN 60068-2-6 and EN 60068-2-27					
Conformity	CE · EAC					
Testing according to DIN EN 14597	DIN CERTCO	–	–	–	–	
Additional electrical equipment (not suitable for retrofitting)						
Two limit contacts [6], max. 230 V, 1 A	•					
Materials						
Housing, housing cover	Plastic (PPO with glass fiber reinforcement)					
Coupling nut, M32x1.5	Brass					
Weight kg (approx.)	**1.00**					

1) Actuators with 6 mm travel can also be used for valves with 7.5 mm travel.
2) Adjustable (default settings in bold print)
3) When a fast stroking speed and 24 V DC supply voltage are used, make sure the voltage does not fall below the specified value.
4) Safety spring pulls actuator stem to retracted end position; valve operated by valve spring.
5) Manual override using 4 mm Allen key (after removing the cover); actuator always returns to fail-safe position after release.
6) Actuators for 85 to 264 V supply voltage cannot be fitted with limit contacts.
7) The degree of protection IP 54 can only be achieved up to device index **.03** when the actuator is installed in the upright position. See last two figures of the configuration ID written on the nameplate, e.g. Var.-ID xxxxxxx**.xx**, for the device index.
8) With standard speed level
9) The permissible medium temperature depends on the valve on which the electric actuator is mounted. The limits in the valve documentation apply.

3.6 Accessories

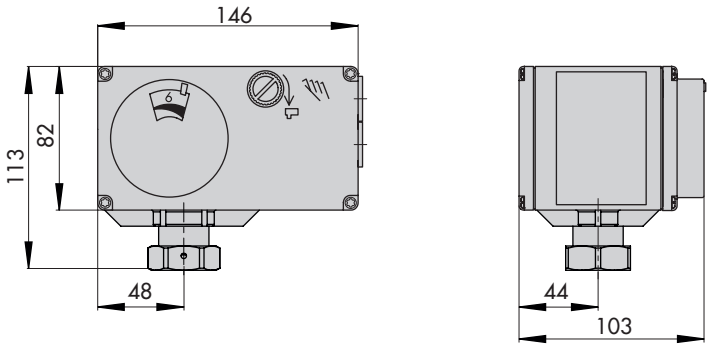
Table 3: *Accessories*

Accessories for version with digital positioner (see Fig. 17 on page 54)	**Order number**
Hardware package consisting of: – Memory pen-64 – Connecting cable – Modular adapter	1400-9998
Memory pen-64	1400-9753
Connecting cable	1400-7699
Modular adapter	1400-7698
USB to RS-232 adapter	8812-2001
Software	
TROVIS-VIEW (free of charge)	▶ www.samsongroup.com > Service & Support > Downloads > TROVIS-VIEW
For mounting on form-fit valves without return spring [1]	**Order number**
Yoke for V2001 Valves	1400-7414

[1] With Types 5824-30/-33 and Types 5825-30/-33/-35 Actuators

3.7 Dimensions in mm

Types 5824-10/-20 and Types 5825-10/-20/-15/-25



Type 5824-30 and Types 5825-30/-35

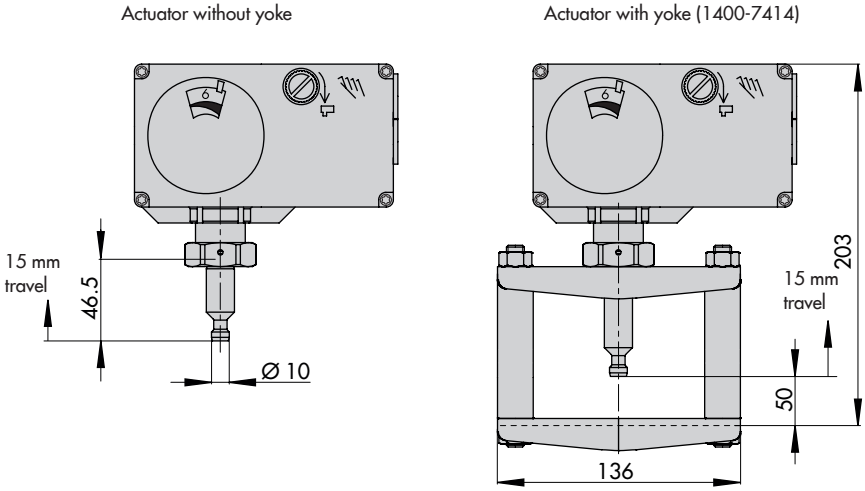


Fig. 5: *Dimensions*

4 Measures for preparation

After receiving the shipment, proceed as follows:

Check the scope of delivery. Compare the shipment received with the delivery note.

Check the shipment for transportation damage. Report any damage to SAMSON and the forwarding agent (refer to delivery note).

4.1 Unpacking

Note

Do not remove the packaging until immediately before mounting and start-up.

1. Remove the packaging from the electric actuator.
2. Dispose of the packaging in accordance with the valid regulations.

4.2 Transporting and lifting

4.2.1 Transporting

– Protect the electric actuator against external influences (e.g. impact).
– Protect the electric actuator against moisture and dirt.
– Observe the permissible transportation temperature of –20 to +70 °C.

4.2.2 Lifting

Due to the low service weight, lifting equipment is not required to lift the electric actuator.

4.3 Storage

NOTICE

Risk of electric actuator damage due to improper storage.

– Observe the storage instructions.
– Avoid long storage times.
– Contact SAMSON in case of different storage conditions or long storage periods.

Note

We recommend regularly checking the electric actuator and the prevailing storage conditions during long storage periods.

Storage instructions

– Protect the electric actuator against external influences (e.g. impact).
– Protect the electric actuator against moisture and dirt.
– Make sure that the ambient air is free of acids or other corrosive media.
– Observe the permissible storage temperature from –20 to +70 °C.
– Do not place any objects on the electric actuator.

4.4 Aligning the travel indication scale

The travel indication scale has two opposed scales. Which scale is to be used depends on the valve version (Fig. 6). In the delivered state, the scale alignment applies to globe valves and three-way diverting valves. The alignment needs to be changed when a three-way mixing valve is used (see below).

Globe and three-way diverting valves:
the driving pin is in position 0 (delivered state).

Three-way mixing valve:
change the alignment of the scale.

➔ Carefully open the housing cover.

Tip

We recommend screwing the bottom screws of the open housing cover into the top holes of the housing.

➔ Remove scale, turn it and replace it so that the pin is positioned over the appropriate hole (6, 12 or 15) corresponding to the rated travel (6, 1 or 15 mm travel).

➔ Refasten the housing cover.

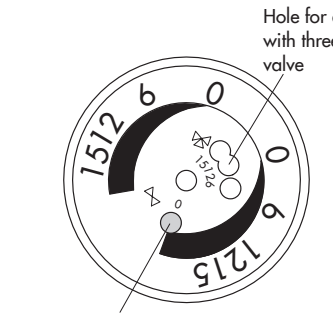


Fig. 6: *Travel indication scale*

5 Mounting and start-up

NOTICE

Risk of malfunction due to incorrectly performed start-up.

Perform start-up following the described sequence.

1. Mount the actuator onto the valve.
➔ See section 5.1.
2. Connect supply voltage.
➔ See section 5.3.
3. Initialize the actuator.
➔ See section 8.4.

5.1 Mounting the actuator onto the valve

The actuator is mounted either directly onto the valve or using a yoke depending on the valve version used (Fig. 7).

5.1.1 Type 5824: force-locking attachment

1. Turn the handwheel (2) counterclockwise to retract the actuator stem.
2. Place the actuator on the valve connection and tighten coupling nut (4) (tightening torque 20 Nm).

5.1.2 Type 5824: form-fit attachment

1. Place the actuator on the yoke and tighten coupling nut (4) (tightening torque 20 Nm).
2. Place actuator with yoke (15) on the valve and tighten the nut (17) (min. tightening torque 150 Nm).
3. Pull plug stem until it reaches the actuator stem or extend actuator stem using the handwheel (2).
4. Position the clamps of the stem connector (16) included in the accessories on the ends of the actuator stem and plug stem and screw tight.

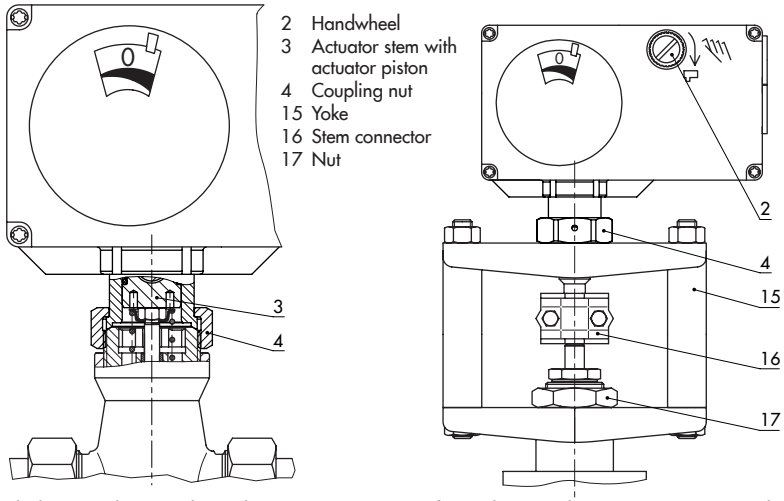
5.1.3 Type 5825: force-locking attachment

Fail-safe action "actuator stem extends"

The actuator stem must be retracted before the actuator can be mounted onto the valve. The stem can be retracted either mechanically or electrically. Both methods are described below.

Retracting the actuator stem mechanically

1. Unscrew front cover and place a 4 mm Allen key on the red actuating shaft.
2. Retract the actuator stem: turn Allen key counterclockwise only and **only as far as** the end position where the torque-dependent limit switch is activated (see Fig. 8).



Force-locking attachment with coupling nut, e.g. to Type 3222 Valve

Form-fit attachment with stem connector, e.g. with yoke on Series V2001 Valve

Fig. 7: *Attaching actuator and valve*

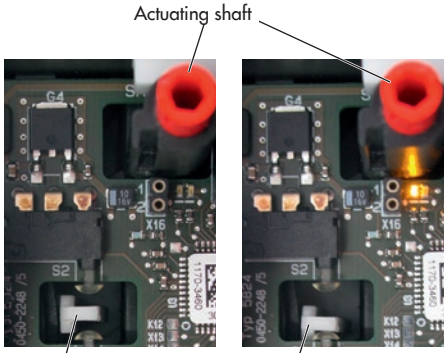


Fig. 8: *Tag*

NOTICE

Risk of damage to the actuator by turning it too far.

Only retract the actuator stem as far as the final travel value.

3. Hold Allen key in place and fasten valve and actuator together using the coupling nut (tightening torque 20 Nm). Remove Allen key and carefully refasten the front cover.

Retracting the actuator stem electrically

1. Unscrew front cover.
2. Perform electrical wiring according to Fig. 10 on page 28 and carefully refasten the housing cover.
3. Retract actuator stem:
   Switch on supply voltage and set signal source to 10 V or 20 mA. The actuator stem retracts until it reaches the end position (torque-dependent limit switch switches off the motor).

   Alternatively, set the direction of action switch inside the device (see section 8.2) to increasing/decreasing (<>). In this case, the input signal must be 0 V or 0 mA.
4. Fasten valve and actuator together using the coupling nut (tightening torque 20 Nm).

Fail-safe action "actuator stem retracts"

Place the actuator on the valve connection and tighten coupling nut (tightening torque 20 Nm).

5.1.4 Type 5825: form-fit attachment

➔ For fail-safe action "actuator stem retracts" and "actuator stem extends", mount actuator as described in section 5.1.2.

5.2 Installing the control valve into the pipeline

➔ Install the valve into the pipeline according the specifications in the mounting and operating instructions of the valve.

➔ The control valve can be installed in the pipeline in any desired position. However, a suspended mounting position of the actuator is not permissible (see Fig. 9).

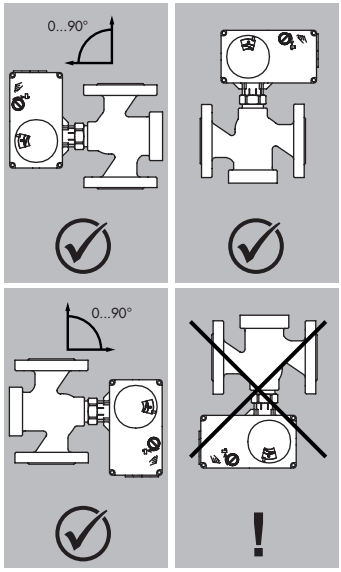


Fig. 9: *Mounting position*

i ***Note***

The degree of protection IP 54 can only be achieved up to device index .03 when the actuator is installed in the upright position. See the last two figures of the configuration ID written on the nameplate (see page 11) for the device index.

5.3 Electrical connection

⚠ DANGER

Risk of fatal injury due to electric shock.

– Upon installation of the electric cables, you are required to observe the regulations concerning low-voltage installations according to DIN VDE 0100 as well as the regulations of your local power supplier.

– Use a suitable supply voltage which guarantees that no dangerous voltages reach the device in normal operation or in the event of a fault in the system or any other system parts.

– Connect the actuator to the electrical network only after the supply voltage is first switched off. Make sure the power cannot be switched on unintentionally.

⚠ WARNING

Risk of injury due to the actuator stem extending or retracting.

Directly after connecting the power supply, the actuator stem starts to move.
Do not touch or block the actuator stem.

❗ *NOTICE*

Movement of the actuator stem will disturb the process.

After connecting the supply voltage, the actuator moves through part of its travel range. Do not perform the electrical connection while the process is running. First isolate the plant by closing the shut-off valves.

5.3.1 Connecting the supply voltage

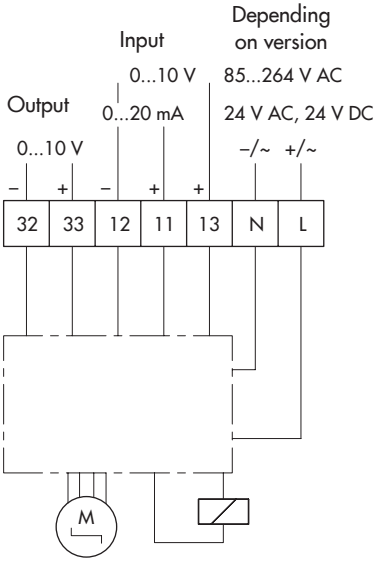
➔ Connect the wiring as shown in Fig. 10.

➔ The actuator automatically performs a zero calibration as soon as the supply voltage is applied. This is indicated by the red LED blinking (see section 8.1.3).

❗ *NOTICE*

Risk of malfunction due to incomplete start-up.

The actuator is not ready to use until it has been initialized.



Limit contacts as additional function (in 24 V version only)

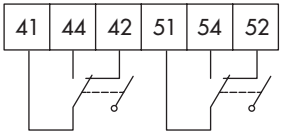


Fig. 10: *Electrical connection*

Note

The 24 V version can be used either with a supply voltage of 24 V AC or 24 V DC.

6 Additional functions

Devices in 24 V version can be fitted with **limit contacts** as additional function.

The limit contacts (6 in Fig. 1 on page 12) can be used either as make or break contacts.

6.1 Adjusting the limit contacts

⚠ DANGER

Risk of electric shock from exposed live parts.

Do not touch live parts on adjusting the limit contacts.

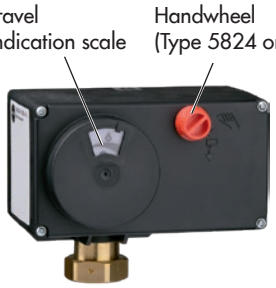
Terminal assignment (Fig. 10**):**

– Terminals 41, 44, 42:
➔ Bottom cam disk, adjuster 7.1
– Terminals 51, 54, 52:
➔ Top cam disk, adjuster 7.2

1. Unscrew front cover.
2. Move the actuator to the travel position at which switching point is to be activated.
3. Use a 4 mm Allen key to turn the adjusters (7.1 or 7.2 in Fig. 1 on page 12) up to the point where the contact is triggered. The angle of rotation of the cam disks is limited. Therefore, use preferably the top adjuster (7.1) for the upper travel range and the bottom adjuster (7.2) for the lower travel range.

7 Handwheel

The handwheel is used to move the actuator stem manually (approx. 4 turns for 1 mm) when the supply voltage is disconnected. Direction of action and actuator travel can be read off the travel indicator scale (Fig. 11).



Direction	Actuator stem
↻	Extends
↺	Retracts

Fig. 11: *Handwheel*

Note

The positioning of the valve is affected when the handwheel is operated while the process is running. As a result, zero point and the position feedback do not match the calibrated values. Zero calibration, initialization or a transit time measurement must be performed again.

7.1 Manual override of Type 5825 Actuator

DANGER

Risk of electric shock from exposed live parts.

Do not touch live parts on operating the manual override.

1. Unscrew front cover and place a 4 mm Allen key on the red actuating shaft.

NOTICE

Risk of damage to the actuator by turning it too far.

Only retract the actuator stem as far as the final travel value.

2. Turn the Allen key:

➔ Turn it counterclockwise only for a version with fail-safe action "actuator stem extends".

➔ Turn it clockwise only for a version with fail-safe action "actuator stem retracts".

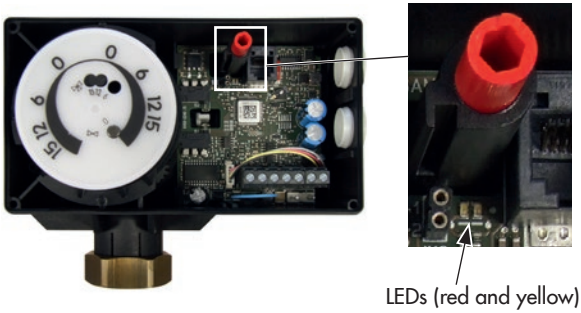
3. Turn the Allen key only as far as the final travel value, which is at the point where the torque-dependent limit switch is activated (switching off the motor).
   Once the magnet has been released, the spring mechanism pushes the actuator stem back to the fail-safe position.
4. Remove Allen key and carefully refasten the front cover.

8 Operation

8.1 Indication with LEDs

The actuator has a red and a yellow LED which indicate the operating state of the actuator through a blinking pattern. The LEDs are located underneath the cover on top of the actuator.

LEDs under the front cover of Type 5824 (24 V version)



LEDs under the front cover of Type 5824 (85 to 264 V version)

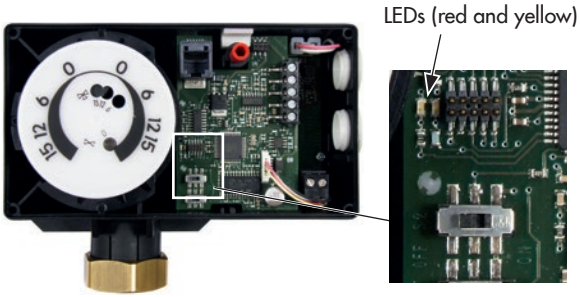
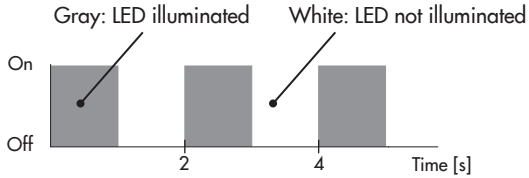


Fig. 12: *Location of LEDs*

8.1.1 Explanations to the blinking pattern of the LEDs

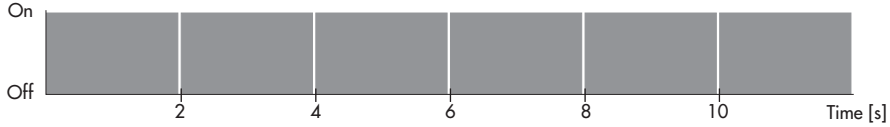


The state of the corresponding LED (on/off) is shown over time.

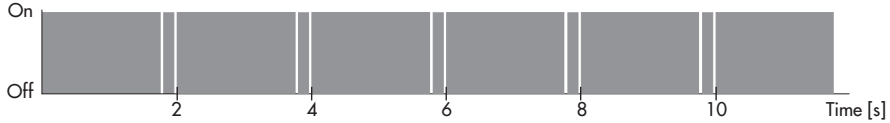
8.1.2 Blinking pattern of the yellow LED

Device ON, communication ready:

Stem position is relative:



Blocking protection active (see section 9.3.1):



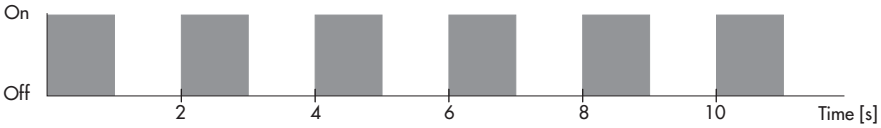
i ***Note***

When the memory pen is inserted, the yellow LED also indicates the action to be performed by the memory pen (see section 9.7).

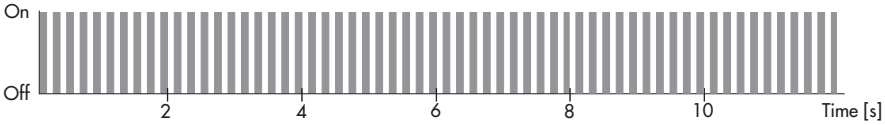
8.1.3 Blinking pattern of the red LED

Restarting device after reset or torque-dependent limit switch error:

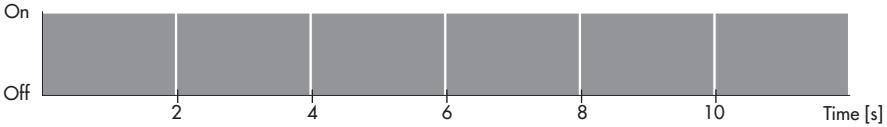
Input signal failure recognized (see section 9.2.1):



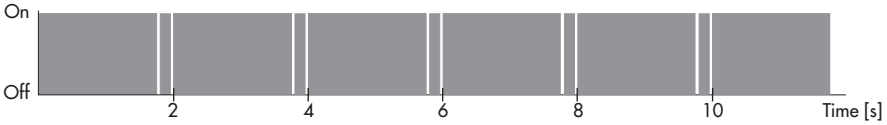
EEPROM error:



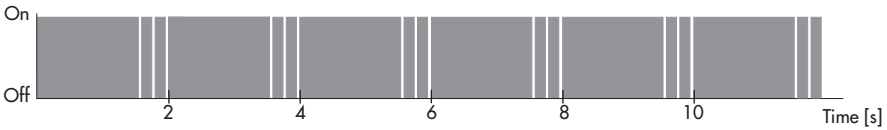
Zero calibration in progress (see section 9.6.3):



Transit time measurement in progress:



Initialization in progress (see section 8.4):

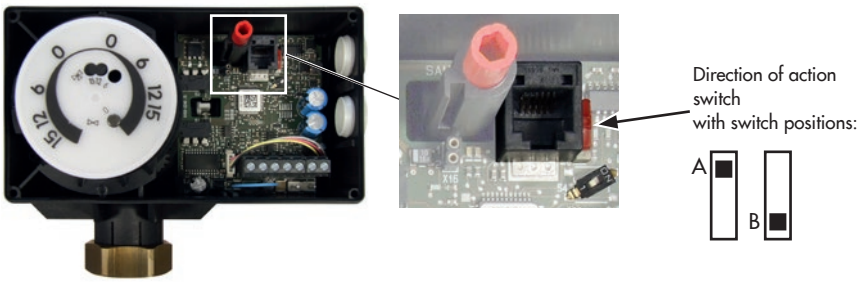


8.2 Direction of action switch

The position of the direction of action switch determines the actuator's direction of action.

– **Switch position A (default):** direction of action increasing/increasing (>>)
➔ The actuator stem retracts as the input signal increases.
– **Switch position B:** direction of action increasing/decreasing (<>)
➔ The actuator stem extends as the input signal increases.

Direction of action switch in Type 5824 (24 V version)



Direction of action switch in Type 5824 (85 to 264 V version)

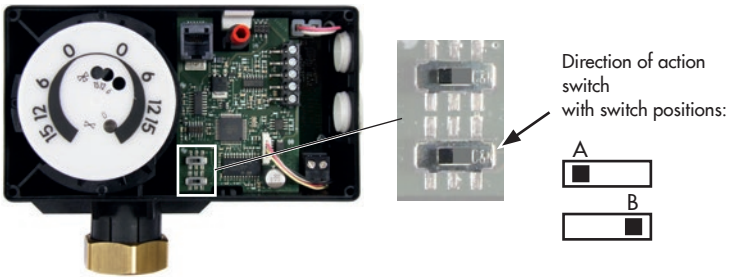


Fig. 13: *Direction of action switch*

Actuator stem extended

– For globe valves:	Valve closed
– For three-way mixing valves:	Port A → AB open, B → AB closed
– For three-way diverting valves:	Port AB → A closed, AB → B open

Actuator stem retracted

– For globe valves:	Valve open
– For three-way mixing valves:	Port A → AB closed, B → AB open
– For three-way diverting valves:	Port AB → A open, AB → B closed

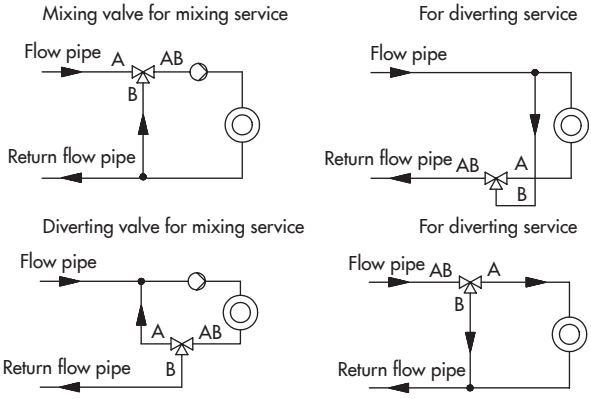


Fig. 14: *Operating principle of three-way mixing and diverting valves*

8.3 Function switch

The function switch has the following functions:

1. Determining the input signal range
2. Start initialization (see section 8.4)

– **Switch position A (default):**

➔ Input signal 0 to 10 V or 0 to 20 mA

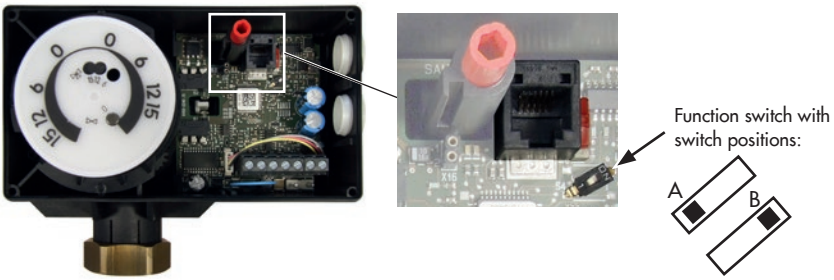
➔ Input signal settings in TROVIS-VIEW **are taken into account**.

– **Switch position B:**

➔ Input signal 2 to 10 V or 4 to 20 mA

➔ Input signal settings in TROVIS-VIEW **are ignored.**

Function switch in Type 5824 (24 V version)



Function switch in Type 5824 (85 to 264 V version)

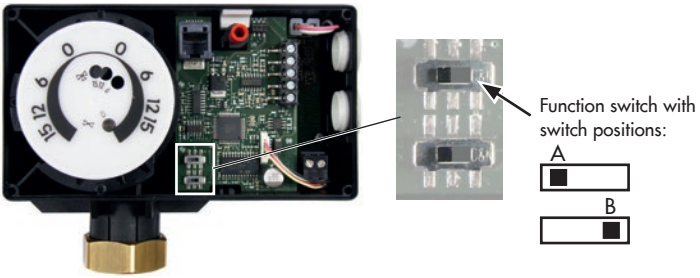


Fig. 15: *Function switch*

8.4 Initializing the actuator

To achieve correct position feedback, the actuator must be initialized. This is also necessary after changing any settings at the actuator.

⚠ WARNING

Risk of injury due to the actuator stem extending or retracting.

Do not touch or block the actuator stem.

! *NOTICE*

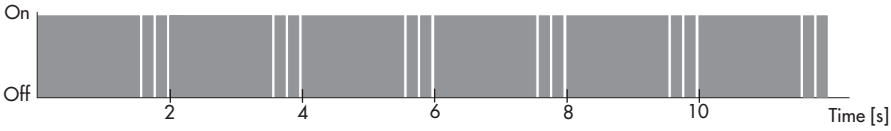
Movement of the actuator stem will disturb the process.

Do not perform the initialization while the process is running. First isolate the plant by closing the shut-off valves.

Start initialization

1. Place the function switch into the required position.
2. Switch the function switch briefly from its position to the other position and back again.

The **red LED** indicates that initialization is in progress:



9 Configuration

The actuator is configured with the TROVIS-VIEW software. In this case, the serial interface on the actuator is used to connect the actuator to the computer.

➔ Refer to ▶ EB 6661 for more details on configuration and operation using TROVIS-VIEW.

9.1 Inputs and outputs

9.1.1 Input signal

The input signal determines the actuator stem position. A voltage or current signal can be used as the input signal.

The default values for the lower range and upper range of the input signal are between 0 and 10 V or 0 to 20 mA. The input signal range can be adapted as required, e.g. to achieve a plant operation characteristic by connecting two or more actuators in parallel (split-range operation).

Example: Two valves regulate the process medium in one common pipeline to achieve a large rangeability. One valve opens with a 0 to 5 V input signal, while the second valve also opens when the input signal increases further (5 to 10 V) and the first valve remains open. The two valves close in the reverse order.

---

i ***Note***

At least 2.5 V or 5 mA (depending on the input signal used) must separate the upper and lower range values.

➔ Click *Settings* folder *(Inputs and outputs).*
The settings for the input and output signal are shown:

Set input signal: *Settings\Inputs and outputs\Input signal*

Input signal	WE	Adjustment range
Lower range value	0.0 V or 0.0 mA	0.0 to 7.5 V or 0.0 to 15.0 mA
Upper range value	10.0 V or 20.0 mA	2.5 to 10.0 V or 5.0 to 20.0 mA

9.1.2 Position feedback signal

The position feedback indicates the position of the actuator stem.

The span of the position feedback signal is adjusted over the *lower and upper range value* parameters.

Set position feedback signal: *Settings\Inputs and outputs\Position feedback signal*

Position feedback signal	WE	Adjustment range
Lower range value	0.0 V	0.0 V to 10.0 V
Upper range value	10.0 V	0.0 V to 10.0 V

9.2 Actuator

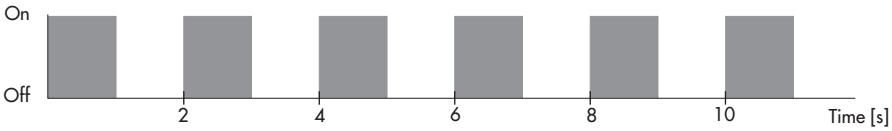
9.2.1 Functions/actuator

Detect input signal failure

The positioner detects a failure of the input signal as soon as the value falls below the lower range value by 0.3 V or 0.6 mA. An input signal failure is indicated in the *Service* folder (*Error)* as well as by the **red LED**:

i ***Note***

The input signal failure can only be detected when at least 0.5 V or 1 mA is set as the lower range value.



If the **input signal failure** function is active, the reaction of the actuator upon failure of the input signal is determined by the **Positioning value upon input signal failure** parameter.

– *Positioning value upon input signal failure* = Internal
  The actuator stem moves to the position specified in the *Internal positioning value* parameter upon failure of the input signal.

– *Positioning value upon input signal failure* = Last position
  The actuator stem remains in the last position that the valve moved to before failure of the input signal.

The error message is cleared and the actuator returns to closed-loop operation if the input signal moves within 0.2 V or 0.4 mA of the lower range value.

Input signal failure settings: *Settings\Actuator\Functions*

Functions	WE	Adjustment range
Detect input signal failure	No	Yes/No
Positioning value upon input signal failure	Internal	Internal, last position
Internal positioning value	0.0 %	0.0 to 100.0 %

End position guiding

The actuator stem moves to the end position earlier if the end position guiding function is active.

– End position guiding when the value falls below the limit
  The actuator stem moves to the 0 % position when the input signal reaches *Value below limit (end position guiding)*.
– End position guiding when the value exceeds the limit
  The actuator stem moves to the 100 % position when the input signal reaches *Value above limit (end position guiding)*.

Note

When 'Value below limit (end position guiding)' = 0 % and 'Value above limit (end position guiding)' = 100 %, the end position guiding function is deactivated.

End position guiding settings: *Settings\Actuator\Functions*

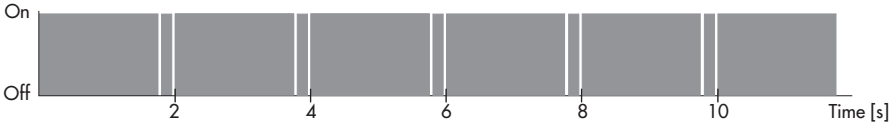
Functions	WE	Adjustment range
Value below limit (end position guiding) (actuator stem extended)	1.0 %	0.0 to 49.9 %
Value above limit (end position guiding) (actuator stem retracted)	97.0 %	50.0 to 100.0 %

9.3 Blockage

9.3.1 Blocking protection

The blocking protection prevents the valve from seizing up. If the actuator stem is in the closed position (0 %), it is extended slightly and then moved back to the closed position 24 hours after it last moved.

Movement of the actuator stem caused by the activated blocking protection is indicated by the **yellow LED**:



Blocking protection settings: *Settings\Actuator\Blockage*

Function	WE	Adjustment range
Blocking protection	No	Yes/No

9.4 Travel

9.4.1 Limited travel range

The *Limited travel range* parameter determines in % how far the actuator stem can move at the maximum. The travel determined during initialization acts as the reference.

Settings\Actuator\Travel

Function	WE	Adjustment range
Limited travel range	100.0 %	30.0 to 100.0 %

9.4.2 Travel adjustment

Travel adjustment can be made to be absolute or relative. The way the travel adjustment is made affects the control behavior.

– **Absolute travel adjustment:**
  The absolute travel adjustment causes the actuator stem to move to the travel position determined by the input signal. To achieve this, an automatic zero calibration is performed after every start-up to obtain a reference value for the zero point. The position feedback indicates the position of the actuator stem.
– **Relative travel adjustment**
  The relative travel adjustment causes the change in input signal to be reproduced by the position of the actuator stem. The actuator stem extends or retracts from the current travel position corresponding to the change in signal. After starting up the actuator, a zero calibration is not performed. The stem position is unknown when starting operation. The input signal is assigned in this case as the start value. The position feedback indicates the actuator stem position in relation to the start value.

Setting the travel adjustment

In closed-loop operation, the actuator's positioner must be operated with absolute travel adjustment (default setting).

Change the travel adjustment in the *Settings* folder (*Actuator\Travel*).

9.4.3 Idle time during end position guiding

The idle time for relative travel adjustment paces the gradual movement of the actuator stem towards the end position.
With the relative stem position, the input signal can preset a value of 0 % or 100 %. However, the actuator stem can only be moved to its upper range value. The input signal cannot move the actuator stem beyond this position. The actuator stem is moved towards the end position in steps with the hysteresis. The idle time defines the time between the steps. The paced stem movement is deactivated when the value is set to 0.

Settings\Actuator\Functions

Function	WE	Adjustment range
Idle time during end position guiding	0 s	0 to 99 s

i ***Note***

The further description refers to the operation with absolute travel adjustment, unless specified otherwise.

Stroking speed

The actuator stem moves to the position determined by the input signal at the selected stroking speed. There are three speed levels:

– Slow = 0.135 mm/s
– Standard = 0.197 mm/s
– Fast = 0.365 mm/s

Speed settings: *Settings\Actuator\Travel*

Function	WE	Adjustment range
Velocity	Standard	Slow, Standard, Fast

i ***Note***

The transit time is calculated from the travel and the stroking speed. The transit time is the time that the actuator stem needs to move through the adjusted travel.

The following applies: $\textit{Transit time in s} = \frac{\text{Travel in mm}}{\text{Stroking speed in mm/s}}$

Dead band (switching range)

The dead band determines how sensitive the actuator reacts. A change in the input signal by the hysteresis first causes a minimally small change in the valve position.

Dead band settings: *Settings\Actuator\Travel*

Function	WE	Adjustment range
Dead band (switching range)	2.0 %	0.5 to 5.0 %

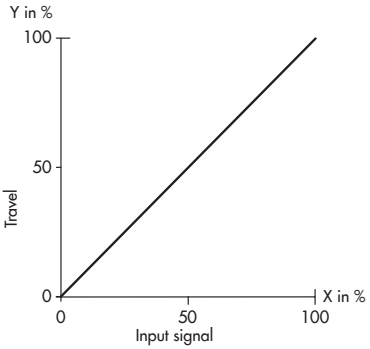
9.4.4 Characteristic

The characteristic expresses the relation between the input signal and the actuator stem position.

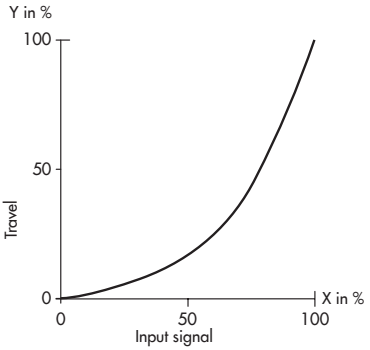
Perform the characteristic settings in the *Settings* folder (*Actuator\Characteristic)*:

Characteristic types

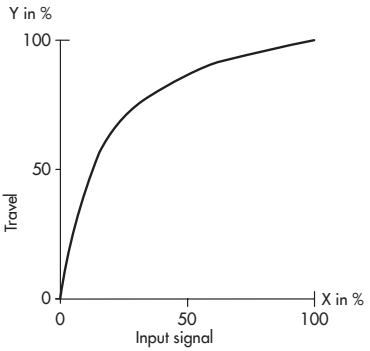
– **Linear**
The travel is proportional to the input signal.



– **Equal percentage**
The travel is exponential to the input signal.



– **Reverse equal percentage**
The travel is reverse exponential to the input signal.



– **User-defined**
A new characteristic based on the characteristic set can be defined over eleven points.

9.5 Operating values

i ***Note***

The values in the Operating values folder cannot be changed.

In **online mode**, the current operating values are listed in the Operating values folder. Depending on the basic setting, operating values are plotted in a graph underneath.

9.6 Service

The *Service* folder is subdivided into the areas Start-up, Operating states, Functions, Status messages and Statistics.

9.6.1 Start-up

Initialization can be started in the *Service* folder (*Start-up)*.

9.6.2 Operating states

Error messages can be read in the *Service* folder (*Operating states)*.

i ***Note***

Operating states and errors are also indicated by the LEDs (see section 8.1).

9.6.3 Functions/Service

The following functions can be performed in the Service folder (Functions):

Manual level

The actuator can be switched to the manual mode using the TROVIS-VIEW software if the manual level is enabled in online mode. The actuator leaves the manual mode as soon as you exit the manual level or the online mode in TROVIS-VIEW.

The following actions can be activated in the manual level:

- Retract actuator stem
- Extend actuator stem
- Move stem to standardized positioning value
  First enter the required positioning value in relation to the input signal range (standardized positioning value).
- Issue a standardized position feedback
  First enter the required position feedback in relation to the span of the position feedback signal (standardized position feedback).
- Issue error message
- Activate the yellow LED
- Activate the red LED

Perform reset

The actuator is restarted.

Load default settings in actuator

The configuration is reset to the default setting.

Start zero calibration

The actuator moves to the end position (stem extended). After the zero calibration is completed, the transit time is adopted and the actuator is ready for operation. The actuator stem is moved to the position determined by the input signal.

Start transit time measurement

Measures the time required to move from one end position to the other.

9.6.4 Status messages

In the *Service* folder (*Status messages)*, device and operation parameters are shown.

Device	Firmware version	
	Serial number	
	Device information	
	Manufacturing parameters	
Operation	Operating hours	in h
	Operating hours at excess temperature	in h
	Temperature inside device	in °C
	Highest temperature inside device	in °C
	Lowest temperature inside device	in °C
Actuator strokes	Motor transit time	in h
	Attempts	
	Changes in direction	
Valve strokes	Travel cycles	
LEDs	Yellow	
	Red	

9.6.5 Statistics

In the *Service* folder (*Statistics)*, various readings of counters are shown.

Device failures counters	Supply voltage activated
	Program interruptions
	Limit contact error
	EPROM error
Alarms counters	Input signal failures
Counter: switch	Direction of action switch
	Function switch
	Initialization
Counter: manual overrides	Manual overrides
Memory pen counters	Command retract stem
	Command extend stem
	Data read
	Data written
	Data logged
Functions counter	Basic settings changed
	Settings changed
	Manual level activated
	Zero calibration started
	Initialization started
	Reset triggered
	Default settings loaded
	Transit time measurement started

9.7 Memory pen

▶ EB 6661

The memory pen can be loaded with data configured in TROVIS-VIEW and the configuration data transferred to one or several devices of the same type and version.

Additionally, the data from the device can be written to the memory pen. This allows the configuration data to be simply copied from one device and loaded onto other devices of the same type and version.

The data logging function also allows operating data to be recorded.

i ***Note***

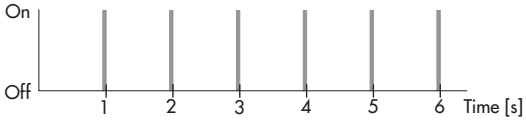
On inserting a memory pen that is empty or that contains data from another type of device or another version of the same device into the serial interface port of the actuator, the data from the actuator are uploaded to the memory pen regardless of the status of the memory pen and any other data on the memory pen will be overwritten.

9.7.1 Blinking pattern

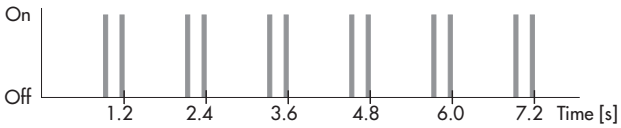
Memory pen actions and errors are indicated at the **yellow LED** on the actuator.

Memory pen action completed:

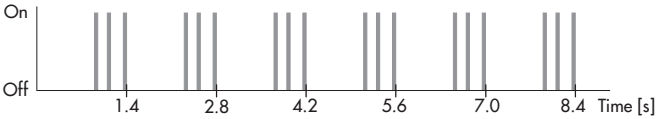
Preparing to read data from memory pen:



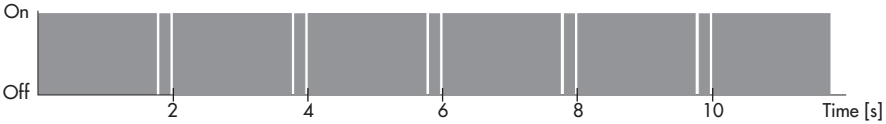
Preparing to write data to memory pen:



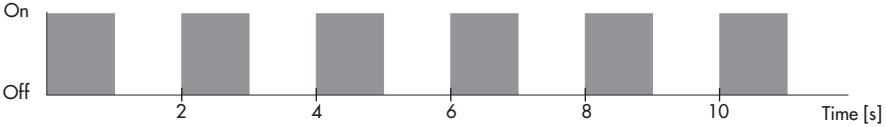
Preparing data logging:



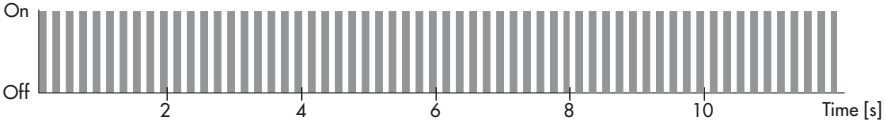
Data logging in progress:



Plausibility error in memory pen:

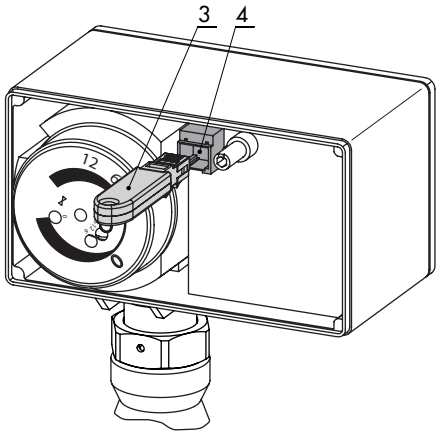


EEPROM error in memory pen:



9.7.2 Data transmission between the actuator and memory pen

The memory pen is connected to the actuator as shown in Fig. 16. Refer to the TROVIS-VIEW Operating Instructions ▶ EB 6661 on how to transfer data.



3 Memory pen
4 Serial interface (RJ12 jack)

Fig. 16: *Connecting actuator and memory pen*

The **yellow LED** on the actuator indicates that the data logging is being prepared. Data transmission is completed when the **yellow LED** is illuminated continuously (see section 8.1.2).

9.7.3 Copying function

The memory pen can be used to copy setting data to other Types 5824 and 5825 Actuators after the data from the actuator have been transferred to the memory pen.

i ***Note***

"Automatically write to memory pen" is automatically reset to the read status after data are transferred from the actuator for the first time.

9.7.4 Data logging

The memory pen-64 allows the following data to be saved:

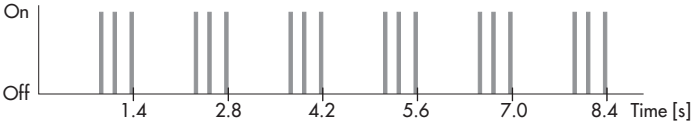
– Input in %
– Actuator travel in %
– Position feedback in %
– Temperature inside device in °C
– Torque switch: Actuator stem retracted
– Torque switch: Actuator stem extended
– Position feedback is relative
– Error during operation
– Input signal failure
– Direction of action switch
– Function switch initialization

The data are logged until the memory capacity of the memory pen is full.

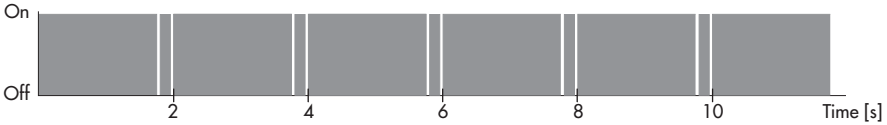
Data in the memory pen can be saved to a data logging file using the TROVIS-VIEW software.

Data logging

1. Plug the memory pen into the serial interface of the actuator (Fig. 16).
   The **yellow LED** on the actuator indicates that the data logging is being prepared.



A change in the blinking pattern of the **yellow LED** indicates that data are being saved to the memory pen.



2. Data logging is completed when you remove the memory pen from the serial interface of the actuator.

---

i ***Note***

You can load a data logging file into the Trend-Viewer by selecting Load diagram ... from the context-sensitive menu.

Transferring data onto a computer

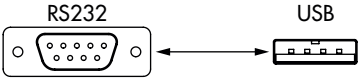
1. Insert the memory pen together with modular adapter into the serial interface (COM port) of the computer (see Fig. 17 on page 54).
2. Select *Read Logged Data* from the *Memory Pen* menu.
3. Select the desired target directory. If the target directory is not changed, data will be saved in the *SAMSON* folder > *Type 5824*.
4. Enter the file name.
5. Click *Save* to start data transmission.

9.7.5 Command mode

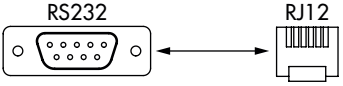
In closed-loop operation, the actuator stem can be moved to the top or bottom end position using the command pen regardless of the input signal.

Possible settings:

– No command
– Retract actuator stem
– Extend actuator stem



Adapter: order no. 8812-2001



Connecting cable: order no. 1400-7699

Modular adapter: order no. 1400-7698

Memory pen-64: order no. 1400-9753

Hardware package: order no. 1400-9998, consisting of:
- Memory pen-64
- Connecting cable
- Modular adapter

Fig. 17: *Accessories for data transmission*

10 Servicing

i ***Note***

The electric actuator was checked by SAMSON before it left the factory.
- *The product warranty becomes void if service or repair work not described in these instructions is performed without prior agreement by SAMSON's after-sales service.*
- *Only use original spare parts by SAMSON, which comply with the original specifications.*

10.1 Preparation for return shipment

Defective actuators can be returned to SAMSON for repair.

Proceed as follows to return devices to SAMSON:

1. Put the control valve out of operation and remove it from the pipeline. See associated valve documentation.
2. Remove the electric actuator from the valve (see the 'Decommissioning and removal' section).
3. Continue as described on our website at ▶ www.samsongroup.com > Service & Support > After-sales Service > Returning goods.

11 Malfunctions

➔ Troubleshooting (see Table 4).

i ***Note***

Contact SAMSON's After-sales Service for malfunctions not listed in the table.

Table 4: *Troubleshooting*

Error	Possible reasons	Recommended action
Actuator stem does not move.	Actuator is blocked.	➔ Check attachment. ➔ Remove the blockage.
	No or incorrect supply voltage connected.	➔ Check the supply voltage and connections.
Actuator stem does not move through the whole range.	No or incorrect supply voltage connected.	➔ Check the supply voltage and connections.
The actuator does not control the valve position.	The actuator was not initialized during start-up.	➔ Check the switch position of the function and direction of action switches ➔ Initialize the actuator.
	The mounting has been changed.	

11.1 Emergency action

The valve, on which the electric actuator with fail-safe action is mounted, is moved to its fail-safe position upon supply voltage failure (see section 3.1).

The plant operator is responsible for emergency action to be taken in the plant.

Tip

Emergency action in the event of valve failure is described in the associated valve documentation.

12 Decommissioning and removal

⚠ DANGER

Risk of fatal injury due to electric shock.

– Before performing any work on the device and before opening the device, disconnect the supply voltage and protect it against unintentional reconnection.

– Only use power interruption devices that are protected against unintentional reconnection of the power supply.

⚠ DANGER

Risk of bursting in control valve components due to incorrect opening.

– Before starting any work on the control valve, depressurize all plant sections affected as well as the valve.

– Drain the process medium from all the plant sections affected and from the valve.

– Wear recommended personal protective equipment. See associated valve documentation.

12.1 Decommissioning

To decommission the electric actuator for maintenance work or disassembly, proceed as follows:

1. Close the shut-off valves upstream and downstream of the control valve to stop the process medium from flowing through the valve.
2. Completely drain the pipelines and valve.
3. Disconnect the supply voltage and protect it against unintentional reconnection.
4. If necessary, allow the pipeline and valve components to cool down.
5. Remove the valve from the pipeline. See associated valve documentation.

12.2 Removing the actuator from the valve

12.2.1 Force-locking attachment

1. Unscrew the coupling nut (4 in Fig. 7 on page 25) and remove the actuator from the valve connection.

12.2.2 Form-fit attachment

1. Pull plug stem until it reaches the actuator stem or extend actuator stem using the handwheel.
2. Unfasten the stem connector clamps (16 in Fig. 7 on page 25) between the actuator stem and the plug stem.
3. Undo the nut (17) and remove the rod-type yoke (15) together with the actuator from the valve (see Fig. 7 on page 25).
4. Unscrew the coupling nut (4) and remove the actuator from the rod-type yoke (15). See Fig. 7 on page 25.

12.3 Disposal

We are registered with the German national register for waste electric equipment (stiftung ear) as a producer of electrical and electronic equipment,
WEEE reg. no.: DE 62194439

➔ Observe local, national and international refuse regulations.

➔ Do not dispose of components, lubricants and hazardous substances together with your other household waste.

Tip

On request, we can appoint a service provider to dismantle and recycle the product.

13 Annex

13.1 After-sales service

Contact SAMSON's After-sales Service for support concerning service or repair work or when malfunctions or defects arise.

E-mail address

You can reach our after-sales service at aftersalesservice@samsongroup.com.

Addresses of SAMSON AG and its subsidiaries

The addresses of SAMSON, its subsidiaries, representatives and service facilities worldwide can be found on our website (▶ www.samsongroup.com) or in all SAMSON product catalogs.

Required specifications

Please submit the following details:

– Order number and position number in the order
– Type, serial number, device version

13.2 Configuration list and customer-specific data

Configuration	Default setting	Adjustment range	Performed setting
Input signal			
Lower range value	0.0 V 0.0 mA	0.0 to 7.5 V 0.0 to 15.0 mA	
Upper range value	10.0 V 20.0 mA	2.5 to 10.0 V 5.0 to 20.0 mA	
Unit	V	V/mA	
Position feedback signal			
Lower range value	0.0 V	0.0 to 10.0 V	
Upper range value	10.0 V	0.0 to 10.0 V	
Functions			
Detect input signal failure	No	Yes/No	
Positioning value upon input signal failure	Internal	Internal/last position	
Internal positioning value	0.0 %	0.0 to 100.0 %	
Value below limit (end position guiding) (actuator stem extended)	1.0 %	0.0 to 49.9 %	
Value above limit (end position guiding) (actuator stem retracted)	97.0 %	50.0 to 100.0 %	
Blocking protection	No	Yes/No	
Limited travel range	100.0 %	30.0 to 130.0 %	
Travel adjustment	Absolute	Absolute/Relative	
Speed level	Standard	Slow/Standard/Fast	
Dead band (switching range)	2.0 %	0.5 to 5.0 %	
Characteristic type	Linear	Linear/Equal percentage/Reverse equal percentage/User-defined	

13.3 EU declarations of conformity

SMART IN FLOW CONTROL

SAMSON

EU Konformitätserklärung / EU Declaration of Conformity / Déclaration UE de conformité

Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller/
This declaration of conformity is issued under the sole responsibility of the manufacturer/
La présente déclaration de conformité est établie sous la seule responsabilité du fabricant.
Für das folgende Produkt / For the following product / Nous certifions que le produit

Elektrischer Stellantrieb / Electric Actuator / Servomoteur électrique
Typ / Type / Type 5824

wird die Konformität mit den einschlägigen Harmonisierungsrechtsvorschriften der Union bestätigt /
the conformity with the relevant Union harmonisation legislation is declared with/
est conforme à la législation d'harmonisation de l'Union applicable selon les normes:

EMC 2014/30/EU	EN 61000-6-2:2005, EN 61000-6-3:2010 +A1:2011
LVD 2014/35/EU	EN 60730-1:2016, EN 61010-1:2010
RoHS 2011/65/EU	EN 50581:2012

Hersteller / Manufacturer / Fabricant:

SAMSON AKTIENGESELLSCHAFT
Weismüllerstraße 3
D-60314 Frankfurt am Main
Deutschland/Germany/Allemagne

Frankfurt / Francfort, 2017-07-29
Im Namen des Herstellers/ On behalf of the Manufacturer/ Au nom du fabricant.

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i.V. Gert Nahler

Gert Nahler
Zentralabteilungsleiter/Head of Department/Chef du département
Entwicklung Automation und Integrationstechnologien/
Development Automation and Integration Technologies

i.V. H. Zager

Hanno Zager
Leiter Qualitätssicherung/Head of Quality Managment/
Responsable de l'assurance de la qualité

SAMSON AKTIENGESELLSCHAFT
Weismüllerstraße 3 60314 Frankfurt am Main
Telefon: 069 4009-0 · Telefax: 069 4009-1507
E-Mail: samson@samson.de
Revison 07

SMART IN FLOW CONTROL

SAMSON

EU Konformitätserklärung / EU Declaration of Conformity / Déclaration UE de conformité

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This declaration of conformity is issued under the sole responsibility of the manufacturer/
La présente déclaration de conformité est établie sous la seule responsabilité du fabricant.

Für das folgende Produkt / For the following product / Nous certifions que le produit

Elektrischer Stellantrieb / Electric Actuator / Servomoteur électrique
Typ/Type/Type 5825/ 2770

wird die Konformität mit den einschlägigen Harmonisierungsrechtsvorschriften der Union bestätigt /
the conformity with the relevant Union harmonisation legislation is declared with/
est conforme à la législation d'harmonisation de l'Union applicable selon les normes:

EMC 2014/30/EU	EN 61000-6-2:2005, EN 61000-6-3:2010 +A1:2011
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Weismüllerstraße 3
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i.V. Gert Nahler

Gert Nahler
Zentralabteilungsleiter/Head of Department/Chef du département
Entwicklung Automation und Integrationstechnologien/
Development Automation and Integration Technologies

i.V. H. Zager

Hanno Zager
Leiter Qualitätssicherung/Head of Quality Managment/
Responsable de l'assurance de la qualité

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SAMSON AKTIENGESELLSCHAFT
Weismüllerstraße 3 60314 Frankfurt am Main
Telefon: 069 4009-0 · Telefax: 069 4009-1507
E-Mail: samson@samson.de
Revison 07

EB 5824-2 EN

SAMSON AKTIENGESELLSCHAFT
Weismüllerstraße 3 · 60314 Frankfurt am Main, Germany
Phone: +49 69 4009-0 · Fax: +49 69 4009-1507
samson@samsongroup.com · www.samsongroup.com

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