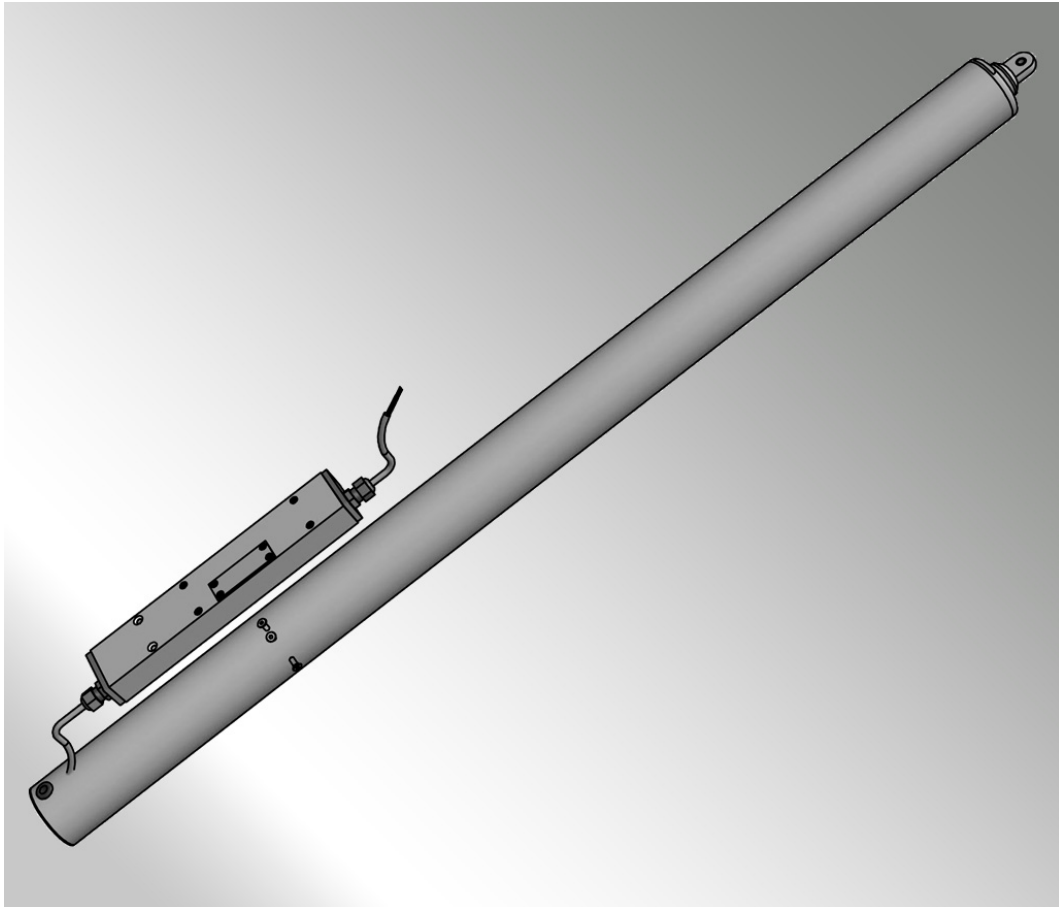

EA-L-100-180/xxx-T EN 1.0

Valid for the following article numbers:

- M2-1756 T (500 mm stroke)
- M2-1757 T (600 mm stroke)
- M2-1758 T (750 mm stroke)
- M2-1759 T (1,000 mm stroke)



sample picture!

Copyright by SIMON RWA Systeme GmbH
Subject to technical changes and errors.

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In General

1. In General

1.1 Foreword to this manual

This manual has been created for the purposes of proper operation, installation and maintenance by trained, experienced specialist personnel (e. g. mechatronics engineer or electrician) and / or specialist personnel with knowledge involving the installation of electrical devices.

Read the operating manual carefully and follow the prescribed sequence. Retain the operating manual for later use / maintenance. Please precisely observe the pin assignment, the minimum and maximum performance data (see "Technical data") and the installation instructions. Incorrect usage or improper operation / assembly can cause the loss of system functions and result in damage to property and / or persons.

You will find the following symbols in this manual:



INFO

This information provides you with additional tips!



ATTENTION

This warning draws your attention to potential dangers for the product!



DANGER

This warning draws your attention to possible risks to your life or health!



ENVIRONMENTAL NOTE

This warning draws your attention to potential dangers for the environment!

➤ This is how operating procedures are identified.

⚡ Consequences are represented this way.

- *Buttons* or *switches* to be activated are indicated in italics.
- "Displays" are placed in quotation marks.

1.2 Use for the intended purpose

Openers (actuators) serve for the opening of building coverings, which can be installed in walls or in roofs and used for the ventilation of rooms or for the exhaust of smoke.

The opening actuator may have to be extended by protective measures in accordance with the risk assessment which is to be carried out.

1.3 Product description

The opening actuator EA-L-100-180/xxx-T is suitable for mounting on building coverings (e. g. windows). They are usable with SHEV and / or ventilation controllers from SIMON RWA-Systeme GmbH. The opening actuator is suitable for installation and use in smoke exhaust systems.

The opening actuator is delivered with an external overload cut-off. The overload cut-off has the following main functions:

- Operation of the electric actuator for the OPEN and CLOSE driving directions.
- Tandem function enables the coupling of further actuators.
- Current-controlled cut-off.
- Multiple triggering lock function in the end positions and in case of overload.
- Soft start of the electric actuator.
- Undervoltage protection of the actuator.
- Cycle counter for actuations and cut-offs.
- Speed detection.
- Possibility to connect end switches (optional).
- Stroke programming function.
- Maximum rated current can be set in 'OPEN/CLOSE' driving directions by rotary switch.
- Possibility to connect parameterising interface.

In General

1.4 Functional description

1.4.1 Tandem function

If further actuator units are connected, all actuator units operate in parallel operation (max. 4 actuator units in parallel operation).

The cut-off of the actuator unit is triggered either by an external signal at the input 'T' or by the actuator unit's own overload/end cut-off.

If the actuator unit is cut off by a cut-off signal from the tandem connection, then the multiple triggering lock becomes active in this case also.

Since only one connection is used for the tandem function, this connection is bi-directional, i.e. signals are received and also forwarded at the connection 'T'.

1.4.2 Soft start of the electric actuator and current limitation

Essential characteristic of the actuator unit is the current-controlled starting of the electric actuator and the maximum current limitation. The current is controlled by an H-bridge controller. The direction of rotation of the actuator can be controlled and the actuator current can be controlled by a PWM controller at the same time.

When an electric actuator starts up, the low speed causes a large starting current that can be up to three times as large as the rated current.

In addition, an increased torque pulse is induced into the gear or drive system by the abrupt starting.

In order to prevent this, the electric actuator is softly started by the overload cut-off. The speed of the actuator is adjusted upwards.

The size of the cut-off current can be changed by the appropriate setting of the OPEN and CLOSE rotary switches on the overload cut-off. This is separately possible for each driving direction and can be adjusted to different cut-off currents.

1.4.3 F-contact

After the cut-off of the actuator unit off due to an overload, parallel or end cut-off, the potential of terminal 'S' is always output at the F-contact.



ATTENTION

Care must be taken to ensure that 'S' has a + or - potential, depending on operation in the OPEN or CLOSE direction respectively.

The signal can be used by an external building control system or a sequence controller. The drawing-off of the energy must be considered when calculating a possibly existing emergency current supply.

1.4.4 Multiple triggering lock function in the end positions or overload cut off

A lock function is implemented in the actuator unit that prevents the actuator unit from being operated in the same direction again after cutting off due to an overload, parallel or end cut-off.

1.4.5 Undervoltage protection of the actuator unit

If the operating voltage of the power supply falls below a certain value, the overload cut-off stops the actuator and saves the current stroke position.

1.4.6 Cycle counter for actuations and overload cut-offs

For the purpose of traceability during repairs and failure analysis in case of problems, a counter mechanism is integrated in the overload cut-off that logs the triggerings of the actuator unit.

Therefore, if an actuator unit is operated in the OPEN or CLOSE direction, this operation is stored over the lifetime of the product. How many times a cut-off procedure has taken place is likewise logged. A distinction is also made between the direction in which this took place.

This information is permanently stored in the EEPROM of the microcontroller and can be read out in the factory via the programming interface.

1.4.7 Speed detection

The actuator unit is equipped with an integrated speed sensor. Using this speed signal the actuator unit can be controlled according to position, e. g. stroke limiter.

In General

1.4.8 Possibility to connect end switches or position switches (only possible by configuration in the factory)

End switches or position switches can be connected to the overload cut-off in order to limit or cut-off the stroke of the actuator unit.

A special feature of the end switch in the CLOSE driving direction is that it sets the position counter to zero and thus the CLOSED position of the actuator unit is defined by the end switch.

This is intended for applications that require particular reliability.

For the evaluation, the overload cut-off provides an output voltage that is fed back to the overload cut-off via the end switch or position switch. The output is limited to a maximum current and is short-circuit-proof.

The end switches for the OPEN and CLOSE driving directions are active only in the respective driving direction, i.e. the end switch in the CLOSE direction does not stop the actuator unit in the OPEN direction of travel and vice versa.

1.4.9 STROKE programming function

The STROKE programming function enables the user a subsequent setting of a maximum stroke or opening width. A jumper is provided on the circuit board for the overload cut-off, via which the programming procedure can be started and ended. The programming procedure is started by plugging the STROKE jumper into the circuit board of the overload cut-off and operating the actuator in the OPEN or CLOSE direction (see 5.1 "Stroke programming" on page 13).

1.4.10 Setting the maximum cut-off current in the 'OPEN/CLOSE' driving direction

The cut-off currents of the overload cut-off can be set separately for the OPEN and CLOSE driving directions using two rotary switches, 'OPEN' and 'CLOSE', on the circuit board. The cut-off currents can be set in defined intervals, in up to 10 steps.

The possibility of setting the cut-off current brings about a substantial improvement in the cut-off behaviour.

The cut-off current can be set ideally to the building covering and enables the maximum service life of the bracket and the actuator. Possible snow loads must be considered when setting the cut-off currents.

Table 1: Adjustable range of the current cut-off for the OPEN and CLOSE driving directions

Switch position	min.	max.	type
Switch position 0	0.35 A	0.45 A	0.4 A
Switch position 1	0.75 A	0.85 A	0.8 A
Switch position 2	1.15 A	1.25 A	1.2 A
Switch position 3	1.55 A	1.65 A	1.6 A
Switch position 4	1.95 A	2.05 A	2.0 A
Switch position 5	2.35 A	2.45 A	2.4 A
Switch position 6	2.75 A	2.85 A	2.8 A
Switch position 7	3.15 A	3.25 A	3.2 A
Switch position 8	3.55 A	3.65 A	3.6 A
Switch position 9	3.95 A	4.05 A	4.0 A
Cut-off delay time		300 ms	

The setting is made using the rotary switches S1 (Open) and S2 (Close).

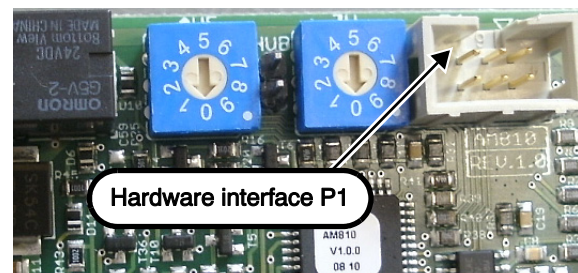
INFO

The force is directly proportional to the cut-off current.
Force at 2.0 A about 900 N,
Force at 4.0 A about 1,800 N,

1.4.11 Possibility to connect an external interface

The overload cut-off has a hardware interface – P1 (see Figure 1). Data can be read out and read in via this interface using special software or end devices (optional). You can obtain further information from the manufacturer.

Figure 1



In General

1.5 Technical data

Table 2: Electrical characteristics

Actuator type/version	EA-L-100-180/xxx-T
Rated voltage:	24 V DC
Permissible rated voltage range:	24 V DC; + 25%; - 10%
Ripple of rated voltage Vpp:	< 500 mV
Undervoltage detection:	Yes
Rated current ¹	4.0 A
Maximum starting current	4.8 A
Maximum cut-off current in 'OPEN' direction ² :	4.0 A
Maximum cut-off current in 'CLOSE' direction ³	4.0 A
Current consumption after cut-off (closed current)	Closed current 25 mA after activation of the F-contact 60 mA
Cut-off via:	external electronic overload cut-off
Maximum permissible number of actuator units connected in parallel ⁴	4
Run-on time ⁵ :	10 ms
Pulse time ⁶ :	300 ms
Protection class:	II

1. Current consumption under maximum load.
2. The current cut-off limit is adjustable for the OPEN driving direction. It can be changed in 10 steps (0 to 9) and is increased by 0.4 A per step starting from 0.4 A.
3. The current cut-off limit is adjustable for the CLOSE driving direction. It can be changed in 10 steps (0 to 9) and is increased by 0.4 A per step starting from 0.4 A.
4. with common cut-off function (tandem function). Max. cable length between two actuators in tandem = 10 m
5. The run-on time indicates how long the actuators connected in parallel remain powered after the trigger actuator is shut down.
6. The pulse time indicates how long the internal or external overload cut-off provides the cut-off signal at the output.

Table 3: F-contact ('S' forwarding)

Actuator type/version	EA-L-100-180/xxx-T
Rated voltage:	21.6 V to 30 V DC
Relay contact load:	2 A
Delay of the F-signal after cut-off	10 ms

The potential of terminal 'S' is always output at the F-contact after a cut-off procedure due to overload or in the end positions; i.e. if 'S' is minus, then minus is output. If 'S' is plus, plus is output.



ATTENTION

The maximum load of the F-contact may not be exceeded, see **Table 3: "F-contact ('S' forwarding)"**. In case of loading the F-contact, care must be taken that the power supply or emergency power supply is adequately dimensioned.

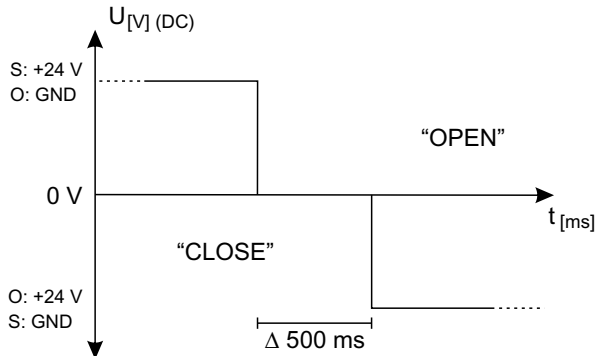
Table 4: Connection and operation

Actuator type/version	EA-L-100-180/xxx-T
Silicone connection cable	5 x 0.75 mm ²
Connecting cable length ¹ :	2.5 m
Pause when changing direction ² :	min. 500 ms
Switch-on duration:	30%
Stability of opening and closing cycles:	10,000 ventilation cycles 1,000 SHEV
Sound level ³ :	≤ 70 dB(A)
Multiple triggering as per prEN 12101-9:	allowed
Multiple triggering after stop:	allowed
Maintenance:	See chapter 6. "Care and Maintenance" on page 14.

1. Optional lengths possible.
2. It is important that we have a zero-voltage part of minimum 500 ms (see Figure 2: "Zero-Voltage part by direction change" on page 7).
3. Measured at a distance of one metre under normal conditions.

Safety regulations

Figure 2: Zero-Voltage part by direction change



ATTENTION

Voltage stability / quality: Allowed are only clear power downs (voltage drop from 24 V (DC) to 0 V in less than 10 ms).

Especially for transition from primary power supply (main operation) to secondary power supply (backup power supply).

Table 5: Installation and environmental conditions

Actuator type/version	EA-L-100-180/xxx-T
Rated operating temperature:	20 °C
Permissible ambient temperature range:	-5 °C to 75 °C
Temperature stability (SHEV):	30 min / 300 °C
Ingress protection:	IP 54
Usage range:	Central European environmental conditions ≤ 2,000 above sea level

Table 6: Approvals and certificates

Actuator type/version	EA-L-100-180/xxx-T
CE-compliant:	in accordance with EMC directive 2004/108/EC and the low-voltage directive 2006/95/EC

Table 7: Mechanical characteristics

Actuator type/version	EA-L-100-180/xxx-T
Maximum compressive force:	1,800 N
Maximum tractive force:	1,800 N
Condition of loading:	Opening against nominal load Closing with nominal load support
Nominal locking force:	2,200 N
Nominal stroke ¹ :	500 mm/ 600 mm/ 750 mm/ 1,000 mm
Stroke speed with nominal load:	12.5 mm/s with 1,800 N
Stroke speed with a part load:	13.7 mm/s with 1,400 N
Material/surface:	Powder-coated RAL
Dimensions (ø x L):	ø 52 mm x 917 mm/ ø 52 mm x 1,017 mm/ ø 52 mm x 1,167 mm/ ø 52 mm x 1,417 mm
Weight:	5.7 kg/ 6.3 kg/ 7.2 kg/ 8.8 kg

1. The mechanically possible nominal stroke can deviate by ± 5 % due to mechanical damping. The stroke is electronically adjustable by means of programming, see chapter 5.1 "Stroke programming" on page 13.

2. Safety regulations

FOR THE SAFETY OF PERSONS IT IS IMPORTANT TO FOLLOW THESE INSTRUCTIONS. THESE INSTRUCTIONS ARE TO BE KEPT AND HANDED TO THE CUSTOMER FOLLOWING INSTALLATION AND COMMISSIONING.



DANGER

Do not allow unauthorised persons (e. g. children) to operate permanently installed control panels. Keep remote controls out of reach of unauthorised persons.



DANGER

Free access must be ensured to the energy supplies and electrical control panels of SHEV systems.

Figures

 **DANGER**

Please consider VDE 0833 for hazard alert systems, VDE 0100 for electrical systems, DIN 18232 for SHEV systems, the local fire department regulations, the energy supply company regulations for the mains connection as well as BGV A3 and the BG regulation BGR 232. All relevant national safety regulations and rules apply to the bringing onto the market, installation and commissioning of the equipment outside the country of manufacture (Germany).

 **DANGER**

Force operated windows which are lower than 2.5 m above the top edge of the finished floor (even if this only applies to parts of the window) require a risk assessment with regard to the danger of persons being crushed or trapped. Several national and international regulations regulate the protective measures necessary depending upon the type of use of the window. A risk analysis must be carried out.

The building planner / architect or the entity issuing the invitation to bid must clearly specify the requirements for force operated windows. This includes agreement with the responsible authorities (e. g. building authority) and, if necessary in the case of commercial and public use, with the involvement of the responsible insurance company. The client who installs the force operated window is responsible for adherence to the tendering specifications, taking into account technical rules and the state of the art. The client / customer / user must ensure that force operated windows are operated and maintained in accordance with the user information/operating instructions.

The regulations (BGR 232) of the association of commercial and industrial workers' compensation insurance carriers have to be considered! Other persons must be kept away if a switch with an 'off' presetting is operated or if a window closes that had been opened by a fire alarm system.

 **DANGER**

The actuating element of switches with an 'off' presetting must be installed in a place with a direct line of sight to the driven part, but away from moving parts. If it is not a key switch, it must be installed at a height of at least 1.5 m and must be inaccessible to the public.

 **DANGER**

The sign for the manual release must be attached permanently in the vicinity of its actuating element.

3. Figures

Figure 3: EA-L-100-180/xxx-T with overload cut-off

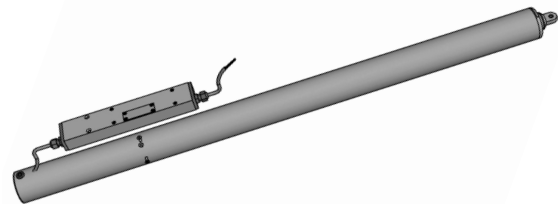


Figure 4: Bracket K2 1501 B

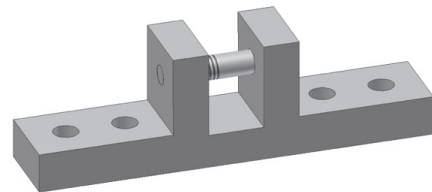


Figure 5: Bracket-Set K2 1585

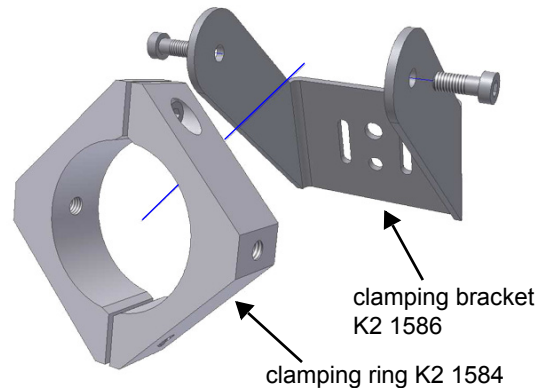
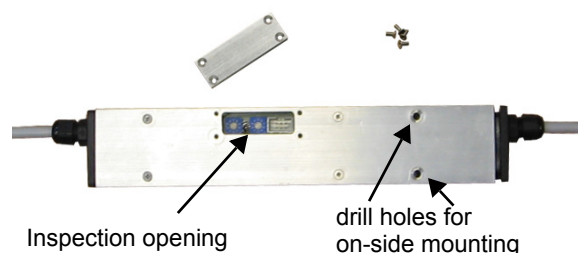


Figure 6: External cut-off AM 810



Mounting

4. Mounting



INFO

Information can be found in the ZVEI data sheet 'Force operated windows' (www.simon-rwa.de).



DANGER

Mounting may be carried out only by professional personnel (qualified electrician)! All relevant national safety regulations and rules apply to mounting, installation and commissioning.

If the installation is not carried out correctly there is a danger of electrocution. It is essential that you adhere to the applicable safety regulations! Pay attention to the valid installation regulations. Incorrect installation can lead to serious injuries.



DANGER

A restrictor stay with sufficient stroke must be installed at bottom hung wings.

It must be ensured that the actuator fastening to the window or wing frame is permanent and suitable for the actuator force mentioned on the type plate.



DANGER

If the opening actuators are used with SHEV systems, ensure that controllers that can be locked can only be active when no other person is in the room.

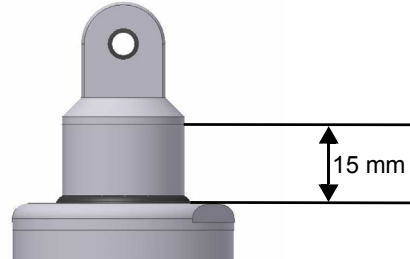
4.1 Fitting the opening actuator



INFO

To ensure a good sealing connection after fitting the opening actuator is delivered with 15 mm extended lift rod – if needed, turn out the lift-rod counterclockwise until the 15 mm are achieved (see Figure 7).

Figure 7



ATTENTION

Make sure you adhere to the correct tightening torque when mounting.



ATTENTION

Consider the static properties of the frame for the installation of the drive.

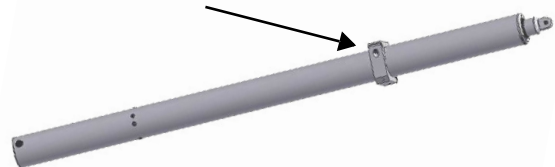
Use appropriate fastenings depending on the material of the building coverings onto which the actuator is mounted.

Fastenings are not included.

- Tighten the M6 hexagonal socket-head screw of the clamping ring to a torque of **8 Nm**.

Figure 8: Clamping ring

Hexagonal socket-head screw (8 Nm)



- Tighten the M8 cylinder head screws of the clamping bracket to a torque of **14 Nm**.

Figure 9: Clamping bracket

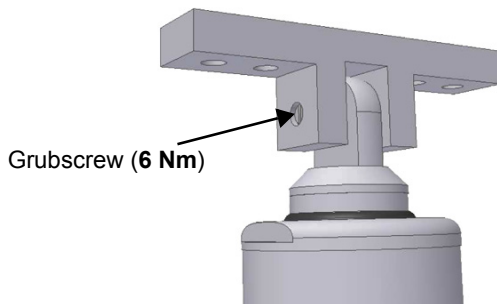


Cylinder head screw (14 Nm)

Mounting

- Tighten the self-locking M6 grub screw at the connection of the linear actuator to the wing guide block with a torque of **6 Nm**.

Figure 10: Wing guide block



- Check whether all bolted connections and nuts have been tightened to the specified torques.

4.2 Electrical connection



ATTENTION

Make sure that the loops in the supply cable near moving parts are sufficiently large to prevent the connecting cable from becoming trapped or being torn away.



INFO

We recommend that a test run be carried out using a mobile power supply. This allows simple and fast reaction to malfunctions.



DANGER

Please check the complete system before connecting to the 24 V DC supply.



ATTENTION

In SHEV systems (control units) never connect the “F” contact to the “G” terminal on the controller.



ATTENTION

Do not earth the electrical connection.
The actuator may only be run with 24 V DC protective low voltage!
Do not earth “F” nor loop it.
Insulate any unused wires.
Do not connect red and yellow wires of actuators.

The dimension of power supply has to be suitable for this actuator. Both voltage and current must agree with the specifications on the type label. Check the power cables before starting for the first time, particularly noting the wire cross-section. Comply with the relevant directives with respect to minimum values for lead dimensioning. Typical calculation (these are only approximate values and this is not an accurate calculation):

$$\begin{aligned} \text{wire cross-section [mm}^2\text{]} &:= \\ &0.019 \times \text{number of motors} \\ &\times \text{current consumption per motor [A]} \\ &\times \text{length of wire [m]} \end{aligned}$$

4.2.1 Feedback signal

Required e. g. for control purposes, running displays etc. After switching off the actuator the integrated control electronics switch the respectively positive or negative operating voltage from “S” to the feedback contact “F” (black wire). Sequence signal (e. g. feedback) via “F”- contact. Depending on the application insulate the feedback contact “F”!

4.2.2 Tandem port



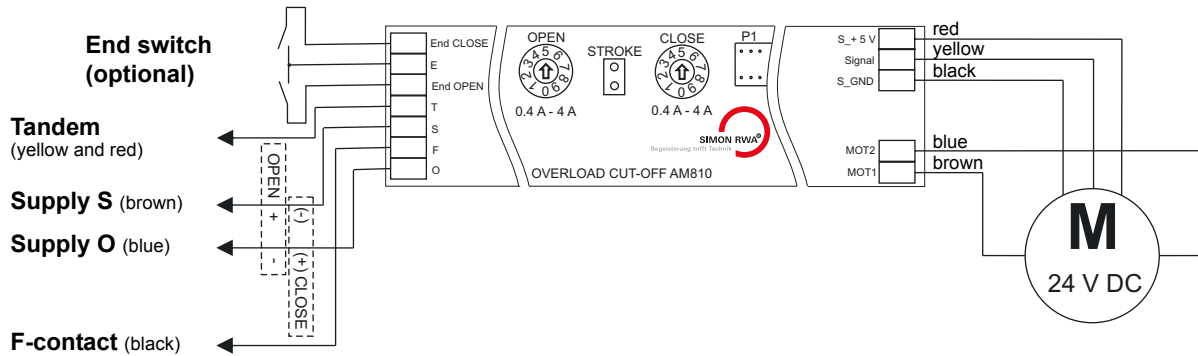
ATTENTION

Exclusively a stop command and a cut-off signal (e. g. overload cut-off) are relayed to the actuators connected in parallel. The cables or functions of the actuators connected in parallel are not monitored and therefore do not lead to the shutting down of the actuators connected in parallel.

Mounting

- Connect cables in accordance with the connection diagram (see Figure 11: 'Connection diagram AM 810').

Figure 11: Connection diagram AM 810



ATTENTION

After switching off the actuator the integrated control electronics switch the respectively positive or negative operating voltage from "S" to the feedback contact "F" (black wire). Sequence signal (e. g. feedback) via "F" contact. Insulate any unused wires!

The red and yellow wires are connected correspondingly red to red and yellow to yellow in the case of parallel connected actuators (maximum four). Do not connect red and yellow wires of actuators.

4.2.3 Shorten motor cable

- Remove the push-in cap on the motor side of the cut-off and pull the terminals out of the housing.
- Open the strain relief on the push-in cap and push the cap in the direction of actuator over the length the cable must be shortened.
- Disconnect the motor cable to the terminal and shorten the motor cable to the desired length.
- Dismantle about 5 cm of the motor cable and strip the 5 single conductors about 5 mm. Connect them according to the color coding with the cut-off in the terminals.
- After connecting the cables, push the terminals inserted into each in the rectangular tube!

Figure 13

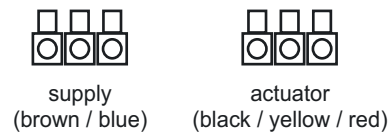
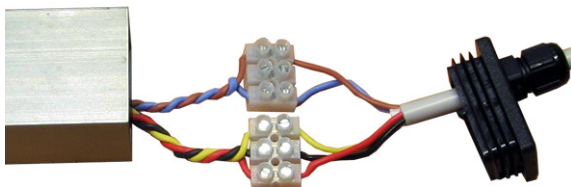


Figure 12



- Push the push-in cap all the way into the rectangular tube, push for some cable through the strain relief into the housing and clamp the cable with the strain relief nut.

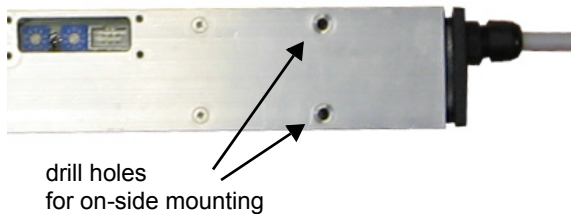
Commissioning

4.2.4 Mounting of the overload cut-off

There are two drill holes with counterbore for the mounting of the overload cut-off.

- Mount the overload cut-off with appropriate fastenings onto the mounting surface (fastenings are not included).

Figure 14



ATTENTION

The cables located in the housing can be damaged by the mounting screws. During mounting make sure that the through holes are free. Before inserting the screws if necessary remove the push-in cap and pull the terminals out of the housing.

5. Commissioning



DANGER

Following the installation it must be checked that the mechanism is correctly adjusted and that the safety system and the manual release, if installed, work correctly.



INFO

The power source must be appropriate for the actuator. Both voltage and current must agree with the specifications on the type label. The specified voltage and current must also actually be made available on the connection cable. Voltage drops must be prevented by appropriate dimensioning of the supply cable. Moreover, the regulations contained in the DIN VDE 0100 and DIN VDE 0298 standards apply.



ATTENTION

Before initial commissioning, the supply cabling must be checked. In particular, the cable cross section must be checked.

- Carry out the commissioning. before switching on the opening actuator, carry out the following visual and function checks (see Figure 15: "Commissioning – check list" on page 13).
- If stroke limiter is required, carry out the stroke programming (see chapter 5.1 "Stroke programming" on page 13).



DANGER

The testing of installations is to be carried out in accordance with the applicable national regulations (in Germany these include DIN VDE 0100 part 600). To this end, make all necessary preparations: e. g. establish a PE connection to the housing cover.



INFO

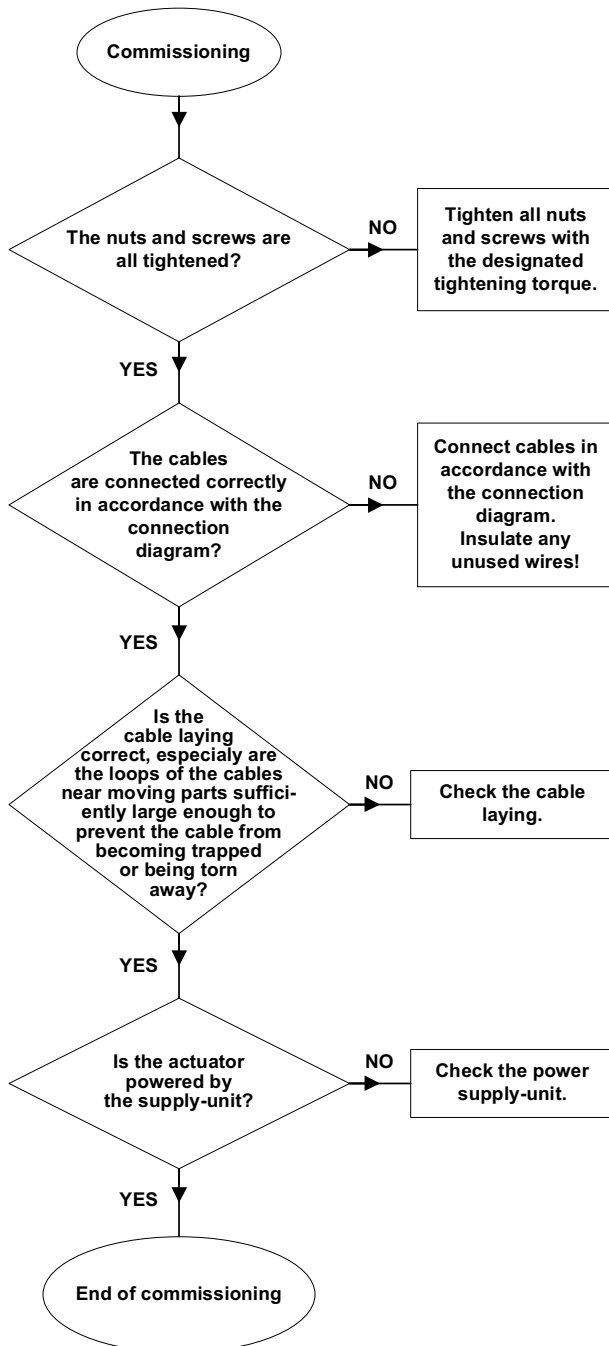
Note for fitters:

In accordance with Appendix III of the machine directive, the CE marking must be permanently affixed to the product and must be visible and legible.

(See 8.2 "EC Manufacturer's declaration (distributor)" on page 15.)

Commissioning

Figure 15: Commissioning – check list



5.1 Stroke programming

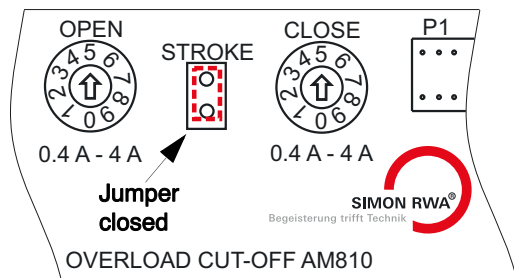
i Info

The programming procedure can be repeated any number of times.

Start of the STROKE programming!

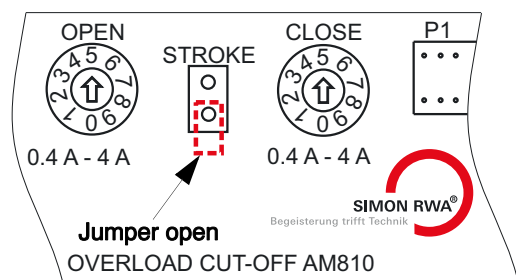
- Switch off the overload cut-off.
- Plug in (close) the 'STROKE' jumper, see Figure 16

Figure 16



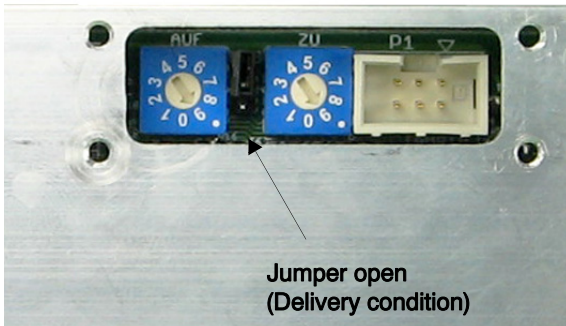
- Operate the actuator in the OPEN direction.
- The actuator drives first in the CLOSE direction until it reaches the CLOSE end position, then it switches off. In this position the overload cut-off sets the electronic zero point for the STROKE. After switching off, the actuator is automatically operated in the OPEN direction as long as the jumper on the overload cut-off is still closed.
- The jumper must be removed once the desired stroke or opening width has been reached.
- The actuator is stopped and the stroke is permanently stored.
- Place the jumper in the delivery condition (open), see Figure 17 and Figure 18.

Figure 17



Care and Maintenance

Figure 18



End of the STROKE programming!

6. Care and Maintenance



ATTENTION

The customer is obliged to check the function of the actuator periodically. In case of any defects please inform the installer at once. Please change defect parts immediately with original spare parts. The opening actuator may be opened exclusively by the manufacturer.



DANGER

Smoke and heat exhaust vent systems serve the protection of human lives and must therefore be maintained regularly – at least once a year – by a specialised company authorised by the manufacturer. The maintenance work carried out is to be documented.

The maintenance must be performed according to a checklist to be procured from the manufacturer.

6.1 Environmental note



ENVIRONMENTAL NOTE

The opening actuators are recyclable and must not be disposed of in the residual waste. According to the disposal law “ElektroG”, this device must be disposed properly at the end of its life time. Please contact your waste disposal company if you have any questions.

6.2 Repair and replacement



DANGER

The opening actuator must not be used if repair or adjustment work needs to be carried out. The system must be disconnected on all poles from the mains and emergency current supplies before performing cleaning or other maintenance work.

The opening actuator may be repaired only by the manufacturer. The opening actuator must be replaced in the case of a fault or defect.

6.3 Guarantee conditions

The product must be used as normally intended. The product is subject to natural wear and tear. In case of material defect claims, these shall be asserted in writing, stating the source of supply of the device. The following applies with respect to the guarantee: “General conditions for the supply of products and services of the electrical and electronics industry (“Green delivery terms” – GL)”. These can be found at our homepage www.simon-rwa.com. We would be pleased to send you a copy upon request.

7. Troubleshooting

7.1 Debugging



DANGER

There is a danger of an electric shock. Therefore, the checks may only be carried out by expert personnel (qualified electrician according to DIN VDE 1000-10 or BGV A3).

Appendix

Table 8: Overview of faults

Malfunction	Possible causes	Failure correction
The actuator does not work	- No supply voltage; - Connection cable defective - Wind/rain detector has tripped.	- Check the fuse and the supply cable; - Check the connection cable - Not a malfunction
The actuator runs in the wrong direction	- Connecting terminals "+/-" wrong way round; S = blue; O = brown	- Swap connecting terminals "S" and "O"
The actuator switches prematurely to the respective driving direction after start-up.	- Cut-off currents are set too low.	- Readjust the rotary switches.
The actuator stops before reaching the end position.	- Stroke wrongly adjusted.	- See chapter 5.1 'Stroke programming' on page 13.

8. Appendix

8.1 Manufacturer's declaration



We hereby declare the conformity of the product with the applicable guidelines. The declaration of conformity can be viewed in the company and will be delivered upon request. This declaration certifies conformity with the directives mentioned, but gives no guarantee of characteristics. This declaration becomes invalid following a change that has been made without our consent.

8.2 EC Manufacturer's declaration (distributor)

The installer is responsible for the proper mounting or commissioning and the preparation of the declaration of conformity in accordance with the EU directives.



INFO

The installer is responsible for affixing the CE marking. The CE-marking is to be affixed in a visible place!

8.3 Company addresses

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EA-L-100-180/xxx EN 1.2

General Conditions of Business and Terms of Delivery

The currently valid conditions for products and services of the electrical and electronics industry (green delivery terms) apply for deliveries and services, including the supplementary clause "Extended retention of title". These are published by ZVEI Frankfurt. If you are not familiar with these, we would be happy to send them to you. The agreements are also available for download at www.simon-rwa.de.

Passau is the established legal venue.

Your **Simon RWA** partner: