



# SOM + SREL3.ADV

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Manual

24.07.2019

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## 1 Important information



### CAUTION

Access through a door may be blocked due to incorrectly installed or incorrectly programmed SimonsVoss components. SimonsVoss Technologies GmbH is not liable for consequences of incorrect installation, such as blocked access to injured persons, physical damage or any other losses.



### CAUTION

The products/systems described in this manual may only be operated by persons who are qualified to perform the related tasks. Qualified staff are capable of identifying any risks associated with handling these products/systems and avoiding potential hazards thanks to their knowledge and skills.

### ATTENTION

SimonsVoss Technologies GmbH accepts no liability for any damage caused by incorrect installation.

### ATTENTION

You must observe the manufacturer's warranty and installation conditions if you use other manufacturers' products with a SmartOutput module.

### ATTENTION

You may damage the module if you exceed the maximum permitted currents (see *Technical specifications* [[▶ 18](#)]) at the outputs or maximum voltages at the SmartOutput module inputs.

## 2 Product description

The SmartOutput module features eight potential-free relay outputs, which can be actuated using SmartRelay Advanced. Depending on the transponder ID, one or several outputs can be activated for a programmable time interval. This assignment (profile) is freely programmable in LSM.

This means that the SmartOutput module is suitable for functions such as:

- Authorisation-dependent lift control
- Activation to open mail box systems

Up to fifteen modules can be connected to a SmartRelay if more than eight outputs are needed.

## 3 Before placing an order

### 3.1 SmartRelay

At least one SmartRelay is required to operate a SmartOutput module. To order a SmartRelay, read the manual concerned on the required SmartRelay or contact us (see Help and contact).

### 3.2 Determining the number of required modules

Up to fifteen external modules can be connected to a SmartRelay 3 Advanced. Each module can be configured separately from one another using the software.

### 3.3 Acquiring and configuring power supply units

SmartRelay and up to eight SmartOutput modules can be operated with a power supply unit. The power supply unit must be able to deliver a suitable output voltage (recommended: 12 V<sub>DC</sub>) and provide sufficient current (see *Technical specifications* [[▶ 18](#)] for power input).

### 3.4 Determining installation technology and location

SmartOutput modules are fastened to DIN rails. SmartRelay are not usually fitted to DIN rails.

### 3.5 Cable types and routes

SmartOutput modules should be fitted in such a way that all cables can be installed without bending them too much.

### 3.6 installation outside

Modules are not designed for outdoor installation without additional protective measures.

### 3.7 Guidelines

Specialist trained to EN 18328 requirements should install the module. VDE guidelines must be observed.

## 4 Before installation

1. Unpack the SmartOutput module.
2. Check the SmartOutput module for external damage.
3. Connect the SmartOutput module and a reader to a SmartRelay.
4. Power the SmartOutput module.

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### ATTENTION

#### Reverse polarity damages electronics

If you connect the power supply with the wrong polarity, the electronics will be damaged.

- Observe the polarity.

- 
- ↳ SmartOutput module "rattles" when the power supply is connected.
  - ↳ SmartOutput module flashes red once every 16 seconds.
5. Power the SmartRelay.
    - ↳ SmartRelay detects SmartOutput module.
    - ↳ SmartOutput module flashes very quickly red/green for one second.
  - ↳ SmartOutput module has been detected and flashes green once every ten seconds.

## 5 Installation

- ✓ SmartOutput module tested (see *Before installation* [▶ 6]).
  - ✓ DIN rails available for installation.
1. Fit the SmartOutput module onto the DIN rail.
  2. Switch off the power supply.
  3. Connect all cables (see *Connections* [▶ 8]).
  4. Switch on the power supply.

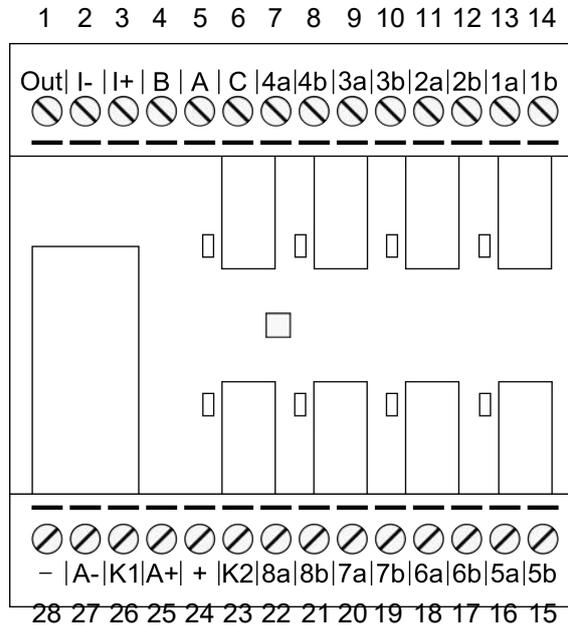
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### ATTENTION

Check polarity is correct.

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5. Use the LSM software to programme the controller (see *Programming and configuration* [▶ 14]).
  6. Use authorised transponders to check the controller functions correctly.

## 6 Connections



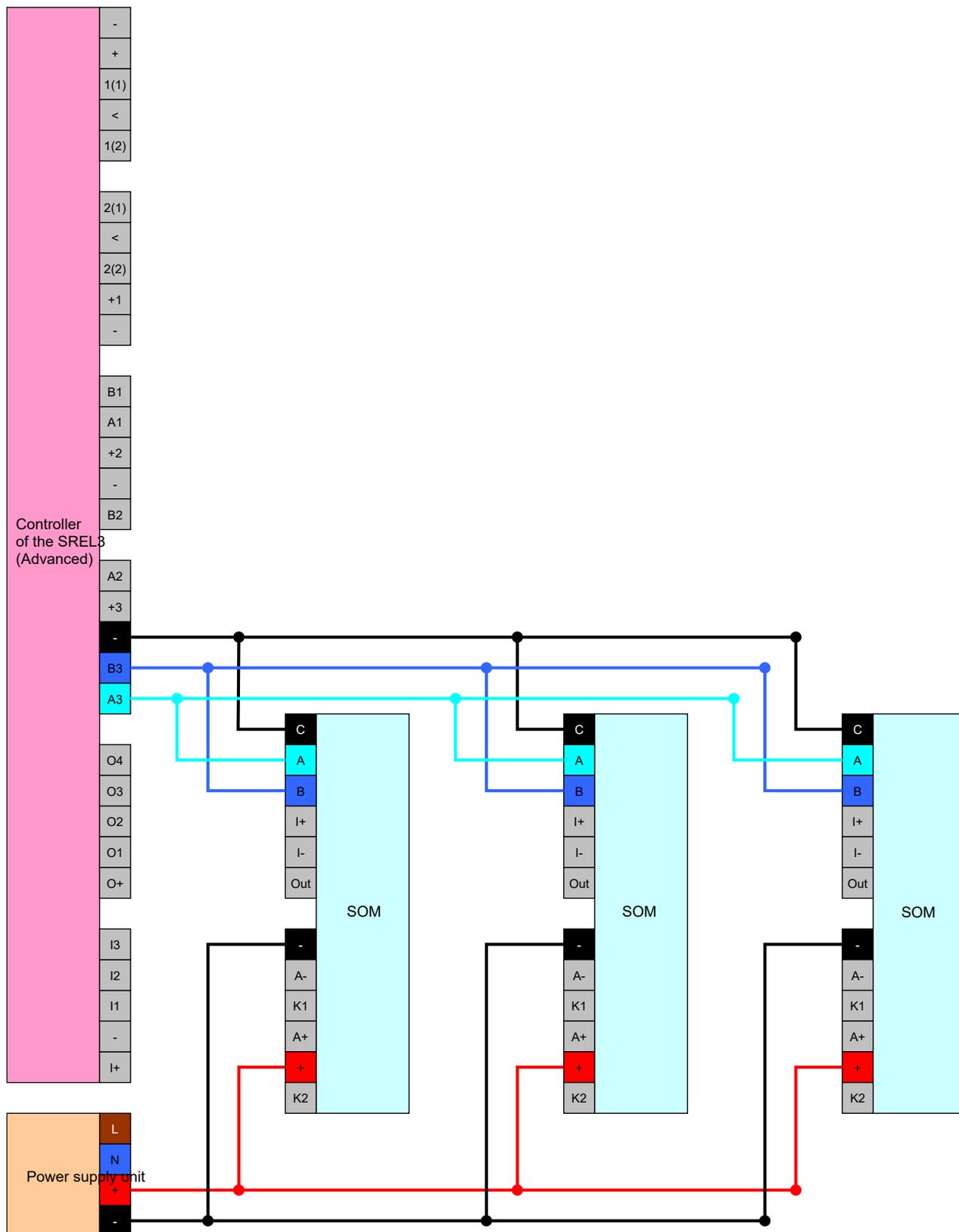
No.	Circuit board	Explanation
1	Out	<p>Brownout detection: Open collector, connected to GND if supply voltage is sufficient.</p> <p>This output activates if the supply voltage at <math>V_{IN}</math> falls below <math>10.0 V_{DC} (\pm 0.5 V_{DC})</math>. The earth connection is usually connected to the AUX relay's coil. If the supply voltage falls at <math>V_{IN}</math>, the AUX relay activates before the other relay contacts activate unchecked due to the decreasing voltage. When the supply voltage is applied, the output does not activate until the module has fully initialised and relay contacts can no longer switch unchecked.</p>
2	I-	Isolated digital input. Currently not in use.
3	I+	Isolated digital input. Currently not in use.
4	B	Controller connection: Data Line B; connected to contact for Reader 3.
5	A	Controller connection: Data Line A; connected to contact for Reader 3.
6	C	Controller connection: Earth; connected to contact for Reader 3.
7	4a	Relay 4: Potential-free contact (NC treated as NO in software); activated depending on authorisations.

No.	Circuit board	Explanation
8	4b	Relay 4: Potential-free contact (NC treated as NO in software); activated depending on authorisations.
9	3a	Relay 3: Potential-free contact (NC treated as NO in software); activated depending on authorisations.
10	3b	Relay 3: Potential-free contact (NC treated as NO in software); activated depending on authorisations.
11	2a	Relay 2: Potential-free contact (NC treated as NO in software); activated depending on authorisations.
12	2b	Relay 2: Potential-free contact (NC treated as NO in software); activated depending on authorisations.
13	1a	Relay 1: Potential-free contact (NC treated as NO in software); activated depending on authorisations.
14	1b	Relay 1: Potential-free contact (NC treated as NO in software); activated depending on authorisations.
15	5b	Relay 5: Potential-free contact (NC treated as NO in software); activated depending on authorisations.
16	5a	Relay 5: Potential-free contact (NC treated as NO in software); activated depending on authorisations.
17	6b	Relay 6: Potential-free contact (NC treated as NO in software); activated depending on authorisations.
18	6a	Relay 6: Potential-free contact (NC treated as NO in software); activated depending on authorisations.
19	7b	Relay 7: Potential-free contact (NC treated as NO in software); activated depending on authorisations.
20	7a	Relay 7: Potential-free contact (NC treated as NO in software); activated depending on authorisations.
21	8b	Relay 8: Potential-free contact (NC treated as NO in software); activated depending on authorisations.
22	8a	Relay 8: Potential-free contact (NC treated as NO in software); activated depending on authorisations.
23	K2	AUX relay: Potential-free contact (NO). Contact is connected with K1 (number 26) if coil is connected to power. Equipped with a detachable bridge to + (number 24) ex works.
24	+	$V_{IN}$ . Connection for power supply. Equipped with a detachable bridge to K2 (number 23) ex works.

No.	Circuit board	Explanation
25	A+	AUX relay: Coil's plus connection. AUX relay activates if coil is connected to power. Equipped with a detachable bridge to K1 (number 26) ex works.
26	K1	AUX relay: Potential-free contact (normally open contact). Contact is connected with K2 (number 23) if coil is connected to power. Equipped with a detachable bridge to A+ (number 25) ex works.
27	A-	AUX relay: Coil's minus connection. AUX relay activates if coil is connected to power.
28	-	GND. Connection for power supply.

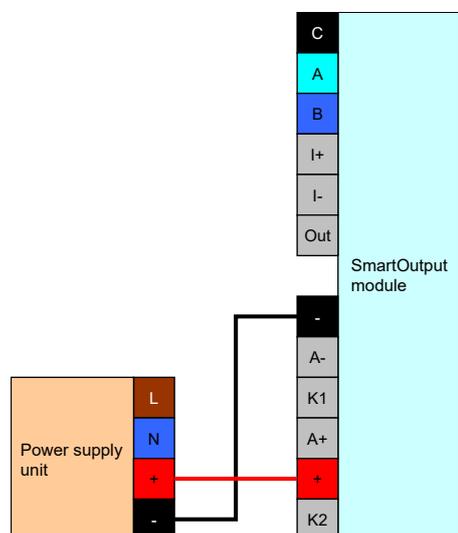
## 7 Connection to the SmartRelay

This is how you connect the SmartOutput module to a third-generation SmartRelay controller (SREL3.ADV or SREL3.ADV.ZK).



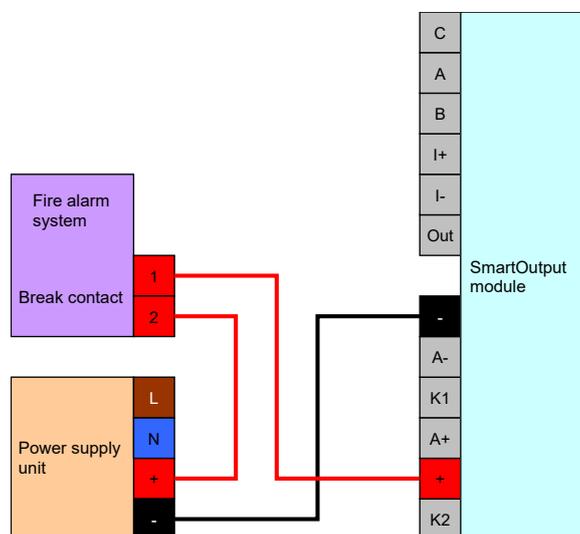
### 7.1 Standard power supply unit connection

This is how you connect a power supply unit to the SmartOutput module.



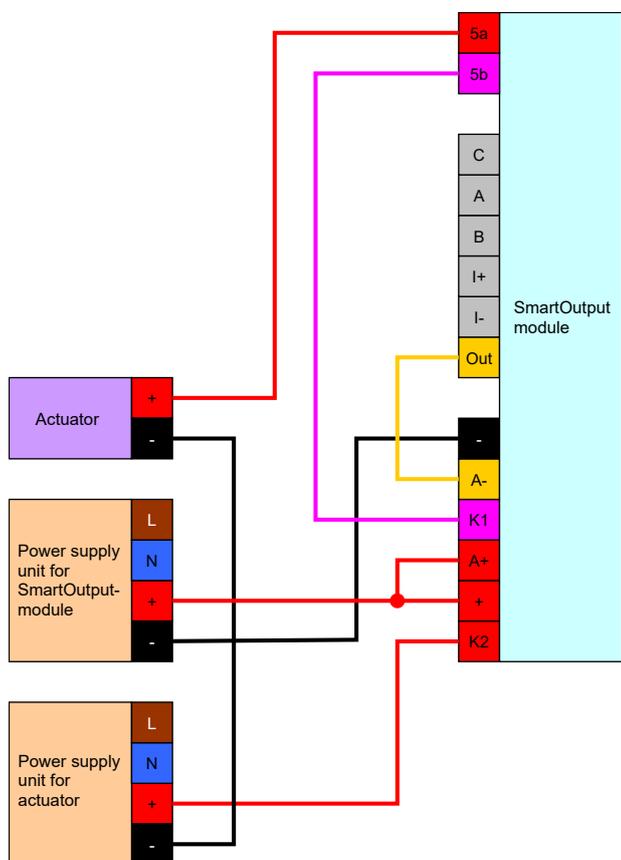
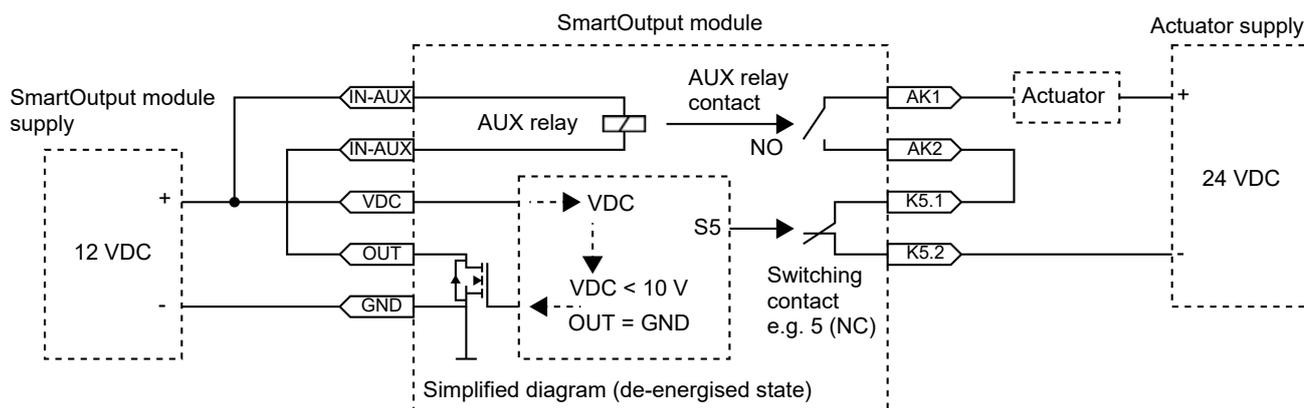
### 7.2 Connecting a fire alarm system emergency release

If the relay in the fire alarm system opens, this interrupts the SmartOutput module's power supply, closing Outputs 1 to 8.



### 7.3 Circuit to prevent opening if power supply should fail

The AUX relay can be used in conjunction with the low voltage switching output (OUT) to prevent actuators, such as a buzzer or an electric strike, from switching of their own accord if the power supply to the SmartOutput module is interrupted. This ensures that actuators will not be powered and will not switch either if the SmartOutput module's power supply fails. This circuit is suitable for handling power supply failures in the SmartOutput module.



## 8 Programming and configuration

### 8.1 General information

1. Connect the SmartOutput module with a SmartRelay.
2. Connect the components to the power supply.
3. Programme the controller.



#### IMPORTANT

The SmartOutput module can only be programmed on the controller.

### 8.2 Entering the number of modules

1. Double-click on the SmartRelay entry in the matrix to open the settings.
2. Change to the [Configuration/Data] tab.
3. Click on the **Extended configuration** button.
  - ↳ The "Extended configuration" window will open.
4. Enter the number of modules.
5. Click on the **OK** button.
  - ↳ Window closes.
6. Click on the **Apply** button.
7. Click on the **Exit** button.
8. Execute programming.
  - ↳ The number of modules is set.

### 8.3 Configuring the address for modules

Each connected module is actuated using its address. This address is set on the address switch. The following addresses are permitted:

Module	Address
Module 1	0 (initial setting in the factory)
Module 2	1
Module 3	2
Module 4	3
Module 5	4
Module 6	5
Module 7	6
Module 8	7
Module 9	8

Module	Address
Module 10	9
Module 11	A
Module 12	B
Module 13	C
Module 14	D
Module 15	E
Module 16	F

1. Press the sides of the transparent inlay together.
2. Remove the transparent inlay.
3. Use a screwdriver to configure the address as per the table.
4. Insert the transparent inlay again.

#### 8.4 Setting the pulse length

The pulse length for SREL3.ADV modules is identical to the pulse length configured in the controller (exception: pulse lengths < 3 s). It cannot be set for modules which an SREL3.ADV activates.

#### 8.5 Naming in the software

The LSM software automatically issues names for modules when they are added based on the following convention: SmartRelay name + module address (0 to F) + output number (1 to 8).

Example: Lift\_Mod#0\_Out#4

You can also change the name as you wish.

1. Double-click on the entry in the matrix to open the properties of the output of which you wish to change the name.
  2. Change to the [Door] tab.
  3. Enter the new name.
  4. Click on the **Apply** button.
  5. Click on the **Exit** button.
- ↳ The output has now been renamed.

#### 8.6 Inverting outputs

You can invert the switching behaviour of outputs.

**ATTENTION****Only invert when the power supply is connected**

If the power supply fails, the relay contacts on the SmartOutput module will also remain closed (NC) when switching behaviour has been inverted.

- Allow for a possible power supply failure if you invert the switching behaviour in outputs.

1. Double-click on the module entry in the matrix to open the properties.
  2. Change to the [Configuration/Data] tab.
  3. Enable the  Invert outputs checkbox.
- ↳ Outputs are inverted.

## 9 Signal

### 9.1 LEDs for each output

Each of the eight outputs has an assigned LED. This LED indicates the output's status.

Green	Output closed
Off	Output open

### 9.2 Status LED

There is also a three-colour RGB LED which indicates the SmartOutput module's status.

Lights up green every five seconds	Communication with SmartRelay OK
Lights up red every five seconds	Communication with SmartRelay disrupted (e.g. bus line busy due to communication by other modules)
Flashes green/red	Communication is taking place with SmartRelay
Flashes red	Supply voltage too low

## 10 Technical specifications

Housing	
Material	<ul style="list-style-type: none"> <li>■ Housing: Polycarbonate plastic, fibre-reinforced</li> <li>■ Cover: Polycarbonate plastic</li> </ul>
Colour	<ul style="list-style-type: none"> <li>■ Housing: green similar to RAL 6021 (pale green)</li> <li>■ Cover: transparent</li> </ul>
Standard protection rating	IP20
Weight	~ 170 g (without packaging)
Installation	DIN rail (37 mm × 15 mm)
Power supply	
Screw terminals	<ul style="list-style-type: none"> <li>■ <math>V_{IN}</math>: 12 V<sub>DC</sub> (11 V<sub>DC</sub>–15 V<sub>DC</sub>)</li> <li>■ Standby current: &lt; 120 mA</li> <li>■ Max. current: &lt; 150 mA</li> <li>■ Reverse voltage protection: yes</li> </ul>
Ambient conditions	
Temperature range	<ul style="list-style-type: none"> <li>■ 0 °C to +60 °C (operation)</li> <li>■ 0 °C to +70 °C (in storage &gt; 1 week)</li> </ul>
Humidity	Max. 90%, non-condensing
Interfaces	
RS485	<p>Acts as an interface to the system controller.</p> <ul style="list-style-type: none"> <li>■ Number of ports: 1</li> <li>■ Length: ≤ 150 m, max. distance 300 m (depending on firmware and cabling)</li> </ul>
Signal	
LED	<p>1 RGB</p> <p>8 green</p>
Relay	
Quantity	8x, programmable separately from one another
Switching modes	Monoflop
Switching interval	Programmable between 0 s to 25 s (as controller).
Contact type	1x NC
Contact material	AgNi+Au
Service life (electronics)	12 V <sub>DC</sub> / 10 mA: typ. $5 \times 10^7$ switching cycles

Service life (mechanical)	Typically $100 \times 10^6$ switching cycles
Bounce time	Typically 1 ms, max. 3 ms
Vibrations	15 G for 11 ms, 6 shocks as per IEC 68-2-27; not tested for permanent operation under vibration
AUX relay switching voltage	Max. 24 V
AUX relay switching current	<ul style="list-style-type: none"> <li>■ Max. 1 A permanent current</li> <li>■ Max. 2 A switching current</li> </ul>
AUX relay contact type	1x NO
Switching voltage in outputs	Max. 24 V
Switching current in outputs	Max. 200 mA
OUT switching current	Max. 1 A
OUTPUT switching voltage	Max. 24 V
OUTPUT switching power	Max. 1 VA
OUT switching behaviour for low voltage	$U_V < 10.5 \pm 0.5V$ corresponds to off

### Cable types

Lines with data transmission	Cat 5 or installation cable for telecommunications systems (e.g. F-YAY 2x2x0.6)
Lines with data transmission and power supply	Cat 5 or installation cable for telecommunications systems (e.g. F-YAY 2x2x0.6)
Lines for power supply only	Any line (e.g. F-YAY 2x2x0.6)

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**ATTENTION****Take voltage drop into account**

The resistance in copper produces a voltage drop, the size of which depends on the cable gauge, current flow and cable length. The power supply lines must be adequately dimensioned.

1. Ensure that the cable gauge in lines is adequate for power supply. Use another suitable cable where necessary.
  2. If required, merge wire pairs to increase the cable gauge.
  3. Use a power source located closer to the SmartOutput module if needed.
  4. If possible, increase the supply voltage (observe technical specifications).
-

## 11 Declaration of conformity

The company SimonsVoss Technologies GmbH hereby declares that article MOD.SOM8 complies with the following guidelines:

- 2014/35/EU "Low voltage"
- 2014/30/EU "EMC"
- 2011/65/EU "RoHS"
- 2012/19/EU "WEEE"
- and regulation (EG) 1907/2006 "REACH"

The full text of the EU Declaration of conformity is available at the following internet address: <https://www.simons-voss.com/en/certificates.html>.



## 12 Help and other information

### Information material/documents

You will find detailed information on operation and configuration and other documents under Informative material/Documents in the Download section on the SimonsVoss website (<https://www.simons-voss.com/en/downloads/documents.html>).

### Declarations of conformity

You will find declarations of conformity for this product in the Certificate section on the SimonsVoss website (<https://www.simons-voss.com/en/certificates.html>).

### Information on disposal

- Do not dispose the device (MOD.SOM8) in the household waste. Dispose of it at a collection point for electronic waste as per European Directive 2012/19/EU.
- Recycle defective or used batteries in line with European Directive 2006/66/EC.
- Observe local regulations on separate disposal of batteries.
- Take the packaging to an environmentally responsible recycling point.



### Hotline

If you have any questions, the SimonsVoss Service Hotline will be happy to help you on +49 (0)89 99 228 333 (German fixed network; call charges vary depending on the operator).

### Email

You may prefer to send us an email.

[support@simons-voss.com](mailto:support@simons-voss.com)

### FAQs

You will find information and help for SimonsVoss products in the FAQ section on the SimonsVoss website (<https://faq.simons-voss.com/otrs/public.pl>).

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## This is SimonsVoss

SimonsVoss is a technology leader in digital locking systems.

The pioneer in wirelessly controlled, cable-free locking technology delivers system solutions with an extensive product range for SOHOs, SMEs, major companies and public institutions.

SimonsVoss locking systems unite intelligent functions, optimum quality and award-winning German-made design. As an innovative system provider, SimonsVoss attaches great importan-

ce to scalable systems, effective security, reliable components, high-performance software and simple operation.

Our commercial success lies in the courage to innovate, sustainable thinking and action, and heartfelt appreciation of employees and partners. With its headquarters in Unterföhring, near Munich, and its production site in Osterfeld, eastern Germany, the company employs around 300 staff in eight countries.

SimonsVoss is a company in the ALLEGION Group, a globally active network in the security sector. Allegion is represented in around 130 countries worldwide ([www.allegion.com](http://www.allegion.com)).

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