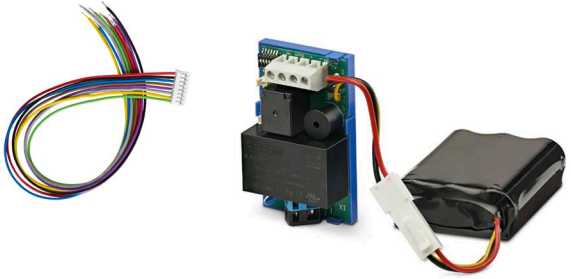
ExitSafe

28 388.0001



Operating instructions
Keep for future use.

The system is only fully ready for operation after it has been charged for eight hours from the mains.

18 123.4701_EN_0322

EN **Translation from the original German version.**
All other documents in different languages are translations of the original version.

Contents

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1 Introduction

This information for use describes the special features of the ExitSafe system that are required for installation.

Follow these instructions to ensure proper and safe use.
Retain for future use.

1.1 Manufacturer contact details

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Maybachstr. 30
73278 Schlierbach

Telephone: +49 (0)7021 9539-0
Email: info@elero.de
Website: www.elero.de

1.2 Symbols and warnings

This user manual uses the following illustrations to display important warnings:

DANGER

Danger with a high level of risk, resulting in death or serious injury.

WARNING

Danger with a medium level of risk, possibly resulting in death or serious injury.

CAUTION

Danger with a low level of risk, possibly resulting in minor injuries.

ATTENTION

Danger, possibly resulting in damage to property.

2 Safety instructions

2.1 Target group

This document is primarily intended for use by electricians, technicians and engineers with experience in the design, installation, commissioning and maintenance of building technology.

2.2 Intended use

ExitSafe has been developed for the operation of electrically powered roller shutters and venetian blinds. The ExitSafe system is designed for the operation of elero 12 V DC tubular drives and venetian blind drives on a 230 V AC network with temporary failure of the mains supply and occasional use (not for JA 10 Soft DC 35 093.0002).

ExitSafe allows the implementation of a second escape route with electrically powered roller shutters and venetian blinds.

WARNING

Injuries / material damage may occur as a result of improper use!

WARNING

ExitSafe ExitSafe may not be used in escape routes and primary rescue routes in accordance with the Model Building Regulation (MBO).

- Do not use in locations where failure or malfunction could result in the obstruction of an escape route or a primary rescue route.

When using ExitSafe, compliance with the national and international safety and accident prevention regulations specific to the application is required.

ExitSafe components are designed for installation in flush/surface mount housings. Any conversions or other modifications to ExitSafe are not permitted.

Use the ExitSafe system only with suitable drives for roller shutters and venetian blinds from elero. If drives from other manufacturers are connected, there will be no entitlement to warranty.

2.3 Installation and commissioning

WARNING

Risk of injury due to unexpected start-up of the connected drive.

- Disconnect the ExitSafe battery pack before performing work on the drive.
- Only perform work on the electrical connection if it has been disconnected from the power supply.

WARNING

Risk of injury, damage to the ExitSafe and damage to the area surrounding the ExitSafe as a result of improper electrical connections.

- The electrical connection may only be conducted by qualified personnel.
- Only perform work on the electrical connection if it has been disconnected from the power supply.
- Observe the charge status of the battery pack.
- Note the technical data for the device.
- Take care to ensure correct, securely affixed connections.

ATTENTION

Exchanging components of the ExitSafe with third party components may damage the components or other connected systems.

- Exchange components between different systems only after consultation with the manufacturer or your supplier.
- When replacing a component, check whether the type description of the new component matches the one being replaced.

3 System description

3.1 System design

ExitSafe consists of two main components:

- Control module (ExitSafe-S)
- Battery pack (ExitSafe-A)

Figure 1 is a diagram of the ExitSafe connection.

3.1.1 Control module (ExitSafe-S)

The drive, mains supply, battery pack and all the command initiators required are connected to the ExitSafe-S control module. The control module also contains the DIP switches used to set the ExitSafe system. The control module evaluates these DIP switches and the connected command initiators and controls the drive accordingly. It supplies the drive with power from the battery pack. The control module generates voltage via the mains connection, which is used to recharge the battery pack.

3.1.2 Battery pack (ExitSafe-A)

The battery pack ExitSafe-A stores the power required to operate the ExitSafe. The battery pack contains various protective devices that prevent damage to the battery cells due to overvoltage or undervoltage, short circuits or overloading.

3.2 Usable drives

To be used only with wired elero DC drives (12 V direct current).

- VariEco M10 DC (34 621.0101), original 3.0 m connection cable, do not extend
- VariEco M12 DC (34 611.0101), original 3.0 m connection cable, do not extend
- JA 04 Soft DC (35 113.0001), with original 0.5 m connection cable, can be extended with a maximum of one extension, art. no. 26 619.0401 (length of 2.20 m)

The end positions for the blind are set directly on the respective drive (not with elero 230 V assembly cable).

The drives draw their power exclusively from the battery pack.

The 230 V power supply is used exclusively to charge the battery pack.

The installation is carried out in the vicinity of the drive in a double-height and double-depth installation box (not included in the scope of delivery).

The blind is operated individually with an interlocked push button or switch in a separate installation box or in combination with the elero VarioTec-868 DC with a separate elero radio transmitter.

It is also possible to connect a potential-free normally closed or normally open contact to the central input, e.g. via a smoke detector.

3.3 Delivery condition

The battery pack is in power-saving mode with a low charge and must first be brought into an operational state by charging it. The charging process can take up to eight hours.

It is only fully ready for operation after it has been charged for eight hours from the mains.

The end positions of the blind can be set only after the ExitSafe system has been installed and the battery pack has been fully charged on the drive itself.

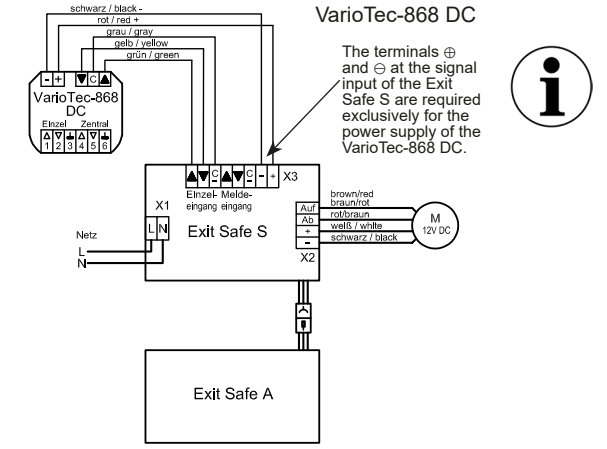
3.4 Electrical connection

WARNING

Risk of injury, damage to the ExitSafe and damage to the area surrounding the ExitSafe due to improper electrical connections.

- The electrical connection may only be conducted by qualified personnel.
- Only perform work on the electrical connection if it has been disconnected from the power supply.
- When connecting the motor terminal, ensure correct assignment to the sense of rotation of the drive. When the battery charge level is low and automatic retraction of the blind is activated (UP direction of travel, DIP switch 3, see section 5.4), a switching command is issued to retract the blind.
- Observe the charge status of the battery pack.
- Note the technical data for the device.
- Do not extend the original connection cable of the roller shutter drive.
- Take care to ensure the connections are correct and secure.

Terminal connection diagram



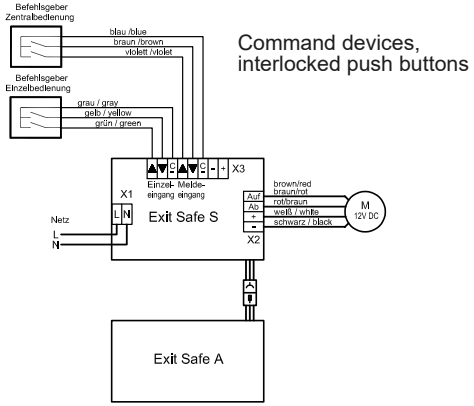


Figure 1: Connection diagram

Wire breakage recognition

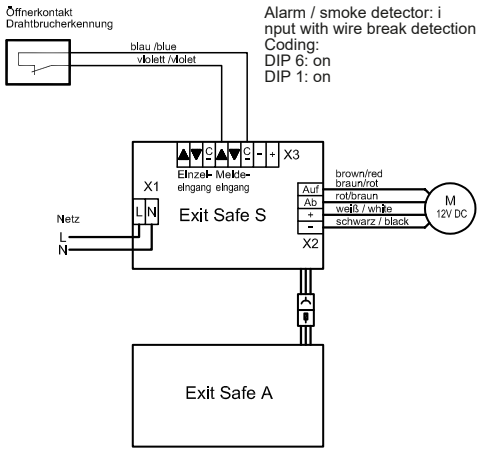


Figure 2: Wire breakage detection

4 Technical data

4.1 Electrical data

Electrical data	
Power supply input	230 V AC, 50 Hz
Max. power consumption for input	5.5 W
Output voltage motor terminals	8.4 to 12 V DC
Rated current motor terminals	4 A
Max. current motor terminals	22 A, 10 ms
Rated current command initiator	1.2 mA

Electrical data	
Output voltage supply of control elements	8.4 to 12 V DC
Rated current supply control elements	50 mA
Battery type	Li-Ion, 18650, 3S1P
Rated voltage battery pack	10.8 V
Nominal capacity of the battery pack	3,400 mAh
Recommended charging voltage	12 V DC
Recommended charge current	700 mA
Max. control factor	20 min / 8 h
Maintained mode period	180 s
Software class	A

4.2 Ambient conditions

Ambient conditions	
Protection class	IP 20
Operating temperature	0° to +60 °C
Storage temperature	-20° to +60 °C
Relative air humidity	0 to 95%
Max. usage altitude	2.000 m over NHN

4.3 Mechanical data

Mechanical data	
Control module (ExitSafe-S) dimensions	67 x 40 x 22 mm

Mechanical data	
Control module (ExitSafe-S) weight	60 g
Battery pack (ExitSafe-A) dimensions	70 x 55 x 20 mm
Battery pack (ExitSafe-A) weight	168 g

4.4 Electrical connections

The ExitSafe is supplied with power of 230 V AC via the spring clamps (X1) on the control module.

Designation	Assignment
L	External conductor
N	Neutral conductor

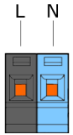


Table 1: Assignment power input

The drive to be connected is controlled and powered via the screw contacts (X2) on the ExitSafe control module.

No.	Designation / wire colour	Assignment
1	⊖ **-** black	0 V motor supply
2	⊕ **+** white	+ 8.4 to 12 V DC motor supply
3	▼ red/brown	**DOWN** signal for motor
4	▲ brown/red	**UP** signal for motor

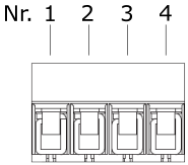
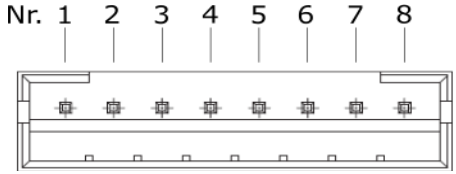


Table 2: Assignment motor terminals

The ExitSafe is controlled by potential-free contact command initiators. They are connected to the connector strip (X3) on the control module. Control elements that need to be supplied even in the event of a failure in the mains supply can also be connected to this connector strip.

Control elements



No.	Wire colour	Designation	Assignment
1	green	Individual ▲	**UP** signal from individual control
2	yellow	Individual ▼	**DOWN** signal from individual control
3	grey	Individual C	Common dimensions for individual inputs
4	violet	Signal ▲	Signal UP from master control or sensor
5	brown	Signal ▼	DOWN signal from master control
6	blue	Signal C	Common dimensions for signal inputs
7	black	⊖ -	0 V supply control elements
8	red	⊕ +	+ 8.4 to 12 V DC supply of control elements

Table 3: Assignment control elements

Insulate the wires not required against contact.

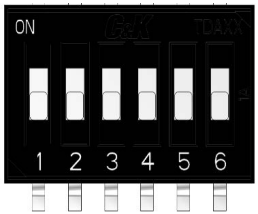
Do not plug the control lines into the printed circuit board until they have been wired.

4.5 Settings

The ExitSafe-S control module has six DIP switches to set the functions listed in Table 4. These settings should be configured before installing the ExitSafe.

For automatic retraction of the blind at a low charge level, set DIP switch 3 to “On”.

DIP switches 1 to 6



(Default setting:
All 6 DIP switches in the OFF position.

DIP	Function position OFF	Function position ON	Off	On
1	Individual control has priority over master control	Master control has priority over individual control		
2	A warning signal will sound after two years of operation or 500 charging cycles of the battery pack.	No warning signal will sound after two years of operation or 500 charging cycles of the battery pack.		
3	The drive will not be automatically controlled UP at a low battery pack level.	The drive will be automatically controlled UP at a low battery pack level.		
4	Push-button mode	Maintained mode		
5	Maintained mode is activated immediately	Maintained mode is activated after a delay		
6	Normally open contact at the signal input ▲	Normally closed contact at the signal input ▲ (wire breakage detection).		

Table 4: Settings overview

4.6 Connection and installation

WARNING

Risk of injury, damage to the ExitSafe and damage to the area surrounding the ExitSafe due to improper electrical connections.

WARNING

- The electrical connection may only be conducted by qualified personnel.
- Only perform work on the electrical connection if it has been disconnected from the power supply.
- Observe the charge status of the battery pack.
- Note the technical data for the device.
- Do not extend the original connection cable of the roller shutter drive.
- Take care to ensure the connections are correct and secure.

ExitSafe must be installed in a dust-free and dry environment.

Recommended procedure for the installation and connection of the ExitSafe in an installation double box [e.g. electronic flush-mounted box ECON 1068-21 or cavity wall 9062-94 from Kaiser GmbH (www.kaiser-elektro.de)]:

1. First check whether the ExitSafe components can be inserted into the installation space without connecting the cables. Depending on the design of the installation box, a different sequence may be appropriate. Please note that the battery pack should be replaced after 2 years.
2. Connect the required command initiators and control elements to the eight-pin connection cable that has not yet been plugged in. Any open ends of lines that are not being used are to be insulated.

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3. Connect the drive cable to the four-pole screw terminal of the control module using the original connection. The sense of rotation of the drive can be adjusted by exchanging the cables at the UP and DOWN terminals.
4. Connect the mains supply to the two spring clamps on the control module.
5. Insert the eight-pin connection cable to the control module.
6. Insert the battery pack and the control module into the installation box. Pay attention to the cable routing and avoid putting pressure on the components.
7. Connect the battery pack to the control module using the plug connection.

4.7 Commissioning

The battery pack is delivered in power-saving mode with a low charge level to prevent it from giving off any energy initially. ExitSafe is not ready for operation in this state. In order to be fully operational, the battery pack must first be charged.

Procedure for commissioning the ExitSafe:

1. First carry out the installation steps described in Chapter 4.6 Connection and assembly.
2. Switch on the ExitSafe power supply. After a few minutes, the battery pack starts to charge via the control module.
3. **Wait eight hours.**
4. Check the sense of rotation of the drive.
5. Check all connected command initiators and control elements.

6. Check all required functions when the mains supply is switched off.

4.8 Installation in installation box

- Use the installation box as a double box in flush-mounted, surface-mounted or cavity wall version

5 Operation

- Single input with interlocked push button / switch or control unit with potential-free contact.
- Priority can be set for commands from the individual or central input.

5.1 Individual and master control

ExitSafe is controlled via the individual ▲, individual ▼, signal ▲ and signal ▼ inputs. These inputs must be controlled using command initiators with potential-free contacts. The drive connected to the ExitSafe system is controlled on the basis of on these inputs.

The function of the inputs can be adjusted via the DIP switches as described below.

5.2 Priority individual or master control

DIP switch 1 OFF
In this position, the *individual* ▲ and *individual* ▼ inputs have priority over the signal ▲ and signal ▼ inputs.

DIP switch 1 ON
In this position, the *signal* ▲ and *signal* ▼ inputs have priority over the individual ▲ and individual ▼ inputs if operated simultaneously.

5.3 Signalling

The ExitSafe control module emits the following audible warnings:

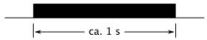
Warning signal	Meaning and measures
1 x long  The signal sounds with every actuation	The battery pack must be replaced. Two years of operation or 500 charging cycles of the battery pack have been reached. • Change the battery pack.
2 x short  The signal sounds once and with every actuation.	Low charge level. The charge status of the battery pack required for reliable functionality has not been reached. • Avoid further actuation of the drive. • If necessary, restore the mains supply.

Table 5: Warning signals

DIP switch 2 can be used to set the warning signal for the replacement of the battery pack. The warning signal for a low charge level cannot be disabled.

DIP switch 2 OFF
The signal for replacing the battery pack sounds.

DIP switch 2 ON
The warning signal for replacing the battery pack has been disabled. An acoustic signal is only emitted in the event of a low charge level of the battery pack.

5.4 Automatic retraction of the blind

When automatic retraction of the blind is activated, ExitSafe will control the UP drive if the charge level of the battery pack has dropped to such an extent that only one complete movement of the drive can be ensured.

Automatic retraction of the blind can be set with DIP switch 3.

DIP switch 3 OFF
No automatic retraction of the blind. An acoustic signal is emitted only in the case of a low battery pack charge level.

DIP switch 3 ON
Automatic retraction of the blind activated. When the battery pack is at a low charge level, a warning signal will sound and the drive will be controlled UP.

5.5 Push-button mode or maintained mode

ExitSafe can be operated either in push-button mode or with maintained mode. The duration of the maintained mode is approx. 180 s and can be terminated earlier via a short input pulse.

DIP switch 4 OFF
Push-button mode. The drive is controlled only as long as an input is operated. This is helpful if a connected command initiator takes over maintained mode.

DIP switch 4 ON & DIP switch 5 OFF
Immediate maintained mode. The drive control remains active after the input signal has dropped.

DIP switch 4 ON & DIP switch 5 ON
Delayed maintained mode. If operated briefly, the drive is activated only briefly. Only if it is operated for a longer period does control of the drive remain active after the input signal drops. This is helpful for adjusting venetian blind slats during short operations.

5.6 Wire breakage recognition

This function is available only for the signal input ▲. All other inputs are designed for normally open contacts.

DIP switch 6 OFF
No wire breakage recognition. The command initiator at the signal input ▲ is a normally open contact.

DIP switch 6 ON
Wire breakage recognition The command initiator at the input Signal ▲ is a normally closed contact.

5.7 Shutdown and restart

Note the following points when switching off the power supply over a longer period of time:

- If automatic retraction of the blind is activated, the drive will be controlled automatically after some time without the mains supply. To avoid this, disconnect the battery pack.
- The battery pack will enter power saving mode after several days without being recharged.
  ExitSafe is not ready for operation in this state.
  In order to be fully operational after the mains supply has been switched on again, the battery pack must first be charged for several hours.

5.8 Additional information

- Charging cycles and operating times are recorded by the battery pack itself. For this reason, after replacing the battery pack, no further steps are necessary to set up the control module for the new battery pack.
- The drive is always supplied with power from the battery pack. It is therefore not possible to operate the drive on the control module without a battery pack.

6 Servicing

6.1 Maintenance

The performance of the ExitSafe battery pack after prolonged use or frequent unloading.
For this reason, it should be replaced after two years.

If DIP switch 2 on the control module is set to OFF, a warning signal will sound after two years of operation or 500 charging cycles of the battery pack. The battery pack should then be replaced promptly.

The battery pack to be replaced should be depleted before being replaced by repeatedly actuating the drive.

Charging cycles and operating times are recorded by the battery pack itself. For this reason, after replacing the battery pack, no further steps are necessary to set up the control module for the new battery pack.

6.2 Replacing the battery pack

- Only replace the battery pack (elero 28 388.1201) only when it is disconnected from the mains voltage.
- The type designation of the new accumulator must match the accumulator to be replaced.
- Disconnect and connect it with the necessary care for all components.
- The end positions of the blind do not have to be retaught.
- Tape off the open contact points of the used battery pack and dispose of it in accordance with the statutory regulations.
- To use the full functionality, charging for several hours in the installed state is necessary.

6.3 Repairs

Damaged ExitSafe components may only be repaired by the manufacturer. If necessary, contact your supplier.

7 Certification and imprint

7.1 EU Declaration of Conformity

elero GmbH hereby declares that ExitSafe complies with Directive 2014/53/EU. The full text of the EU Declaration of Conformity is available at the following Internet address: *www.elero.de/downloads-service*

7.2 Legal Disclosure

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WEEE-Reg.-No. DE 26410414

8 Information for use for the operation of the device

Download the operating instructions for the elero ExitSafe using the QR code or on the specified website.

https://www.elero.de/de/downloads-service/downloads

9 Notes on commissioning and handover to the operator