

STAKA

Manual

Electric Operation



25.1.2021

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Introduction

This manual provides instructions in how to correctly hook up and operate the Staka electrical operating system.

The electrical operating system may only be installed and made operational in conformity with the instructions in this manual. Hooking up the operating system in any other way or making any changes to the system will void the warranty.

The manufacturer is not liable for any damage which might be the result of an incorrectly performed installation or failing to follow the instructions in this manual.

Chapter 1. System information

The electrical operating system consists of:

- Control box in plastic casing with internal power supply, emergency battery and control switch
- Two motors with connection cables which can be hooked up directly to the control box. The motors and cables are already installed in the roof access hatch.
- Two remote controls for wireless operation of the control box. This remote control can be found in the control box.

Control box



Motors



Remote control



Following is a detailed description of the electrical control set and the parts in the control box.

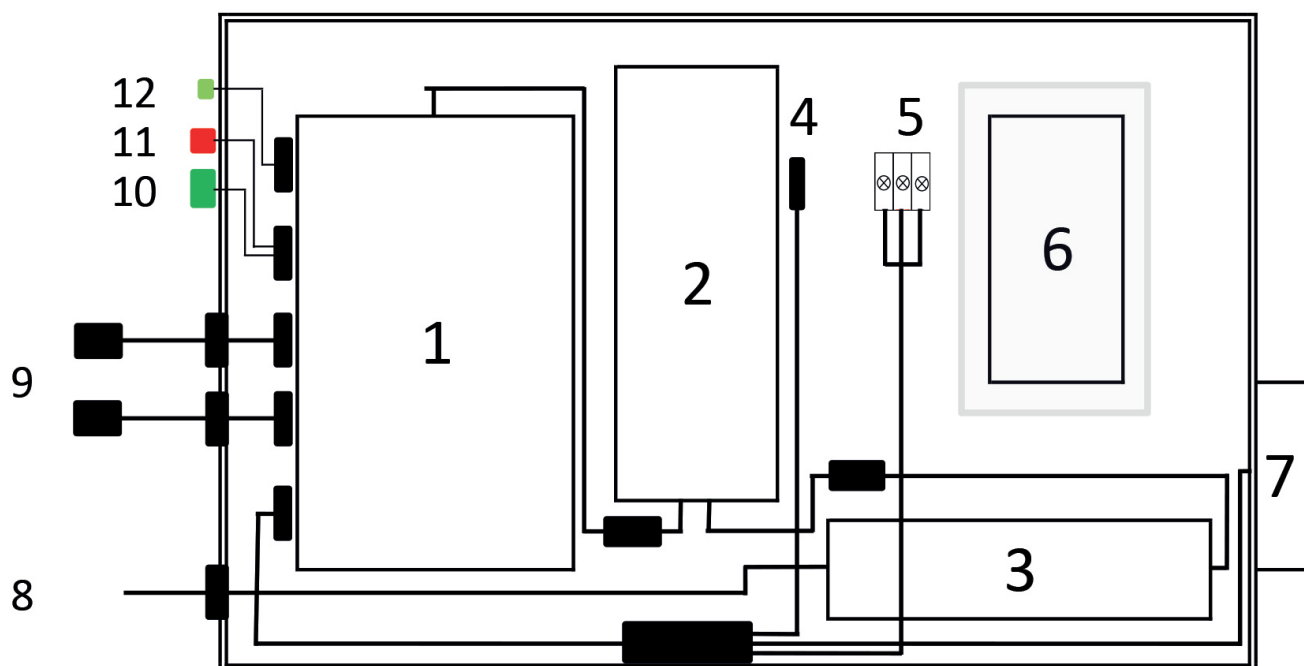
1.1 Control box

The control box has a plastic casing, housing an internal power supply, emergency battery and control switch. A maximum of two motors can be connected to the control box.

The control box can be operated by means of an **UP/DOWN** switch on the outside of the control box and by means of the remote control included with the control box.

The following parts can be found in the control box:

- | | |
|----------------------------------|---|
| 1. Control unit | 7. Up-down switch |
| 2. Battery | 8. Connection to the mains electricity supply |
| 3. Adapter | 9. Connection to roof access hatch motors |
| 4. Plug (Redundant) | 10. Switch setting one or two motors |
| 5. Connection to external system | 11. Connect remote button |
| 6. Remote (two included) | 12. Control LED |



1.2 Control switch

The control box can be operated by using the **UP/DOWN** switch on the outside of the control box. To operate the motors, press continuously on the switch. As soon as the switch is released, the motors will stop.

The roof access hatch's maximum open position can be checked by pressing the **UP** switch until the motor stops automatically. The roof access hatch can be closed by pressing the **DOWN** switch. The motor will stop automatically when the roof access hatch is closed completely.

1.3 Remote control

The system also has two wireless remote controls. The remote control has three buttons. The top button is the **UP** button for opening the roof access hatch and the bottom button is the **DOWN** button for closing the roof access hatch. The middle button has no function.

Staka recommends changing the remote control's battery - type A23, 12 Volt - every two years as preventive maintenance. In this way you can be sure that the remote control functions properly.

1.4 Emergency battery

The control box has an internal power supply with an emergency battery. The emergency battery must first be charged for 24 hours before it is possible to make use of the battery's full capacity and functionality. More about this can be found in Chapter 2: Commissioning.

Staka recommends replacing the emergency battery every two years as preventive maintenance, in order to be sure that it functions properly.

1.5 Connections

The control box comes with the mains electricity supply cable and connection cables for the motors as standard. The mains electricity supply cable has a moulded Europlug for connecting to the mains electricity supply.

The connection cables between the control box and the motors have connections with pull relief at the end. The roof access hatch is delivered with a mounted extension cable as standard. This extension cable is to be used between the motor and the control box.

1.6 Motors

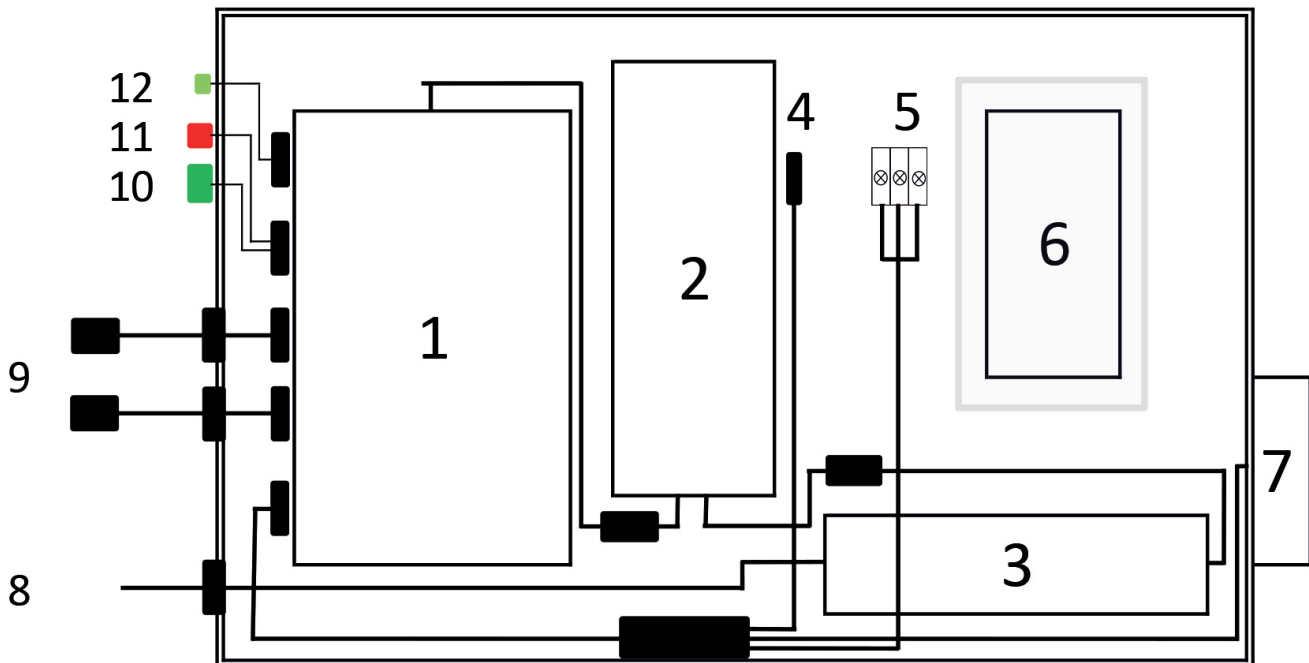
The motors have a thermal safeguard which switches them off automatically in case of overload. In addition, the motors are maintenance free and guarantee a long lifespan free of defects.

Chapter 2. Commissioning

Step 1: Open the control box casing by unscrewing the eight screws and removing the lid.

The following parts can be found in the control box:

- | | |
|----------------------------------|---|
| 1. Control unit | 7. Up-down switch |
| 2. Battery | 8. Connection to the mains electricity supply |
| 3. Adapter | 9. Connection to roof access hatch motors |
| 4. Plug (Redundant) | 10. Switch setting one or two motors |
| 5. Connection to external system | 11. Connect remote button |
| 6. Remote (two included) | 12. Control LED |



Step 2: Remove the remote control (6) from the control box.

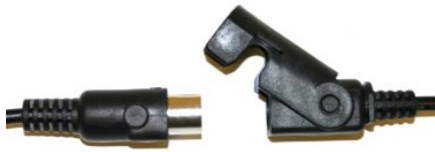
Step 3: The control box is equipped with an emergency battery (2). Check that both plugs are connected to the emergency battery.

The battery will be fully charged after 24 hours though the system must be under voltage at all times so the battery is always charged.

Step 4: Replace the lid on the control box and screw in the eight screws so that the control box is securely closed.

Step 5: Attach the connectors of the motor to the connectors of the control box (9) and push the pull relief over the two prongs of the motor connector. This will ensure a solid connection between the control box and the motors.

Connectors



Hooking up the connectors



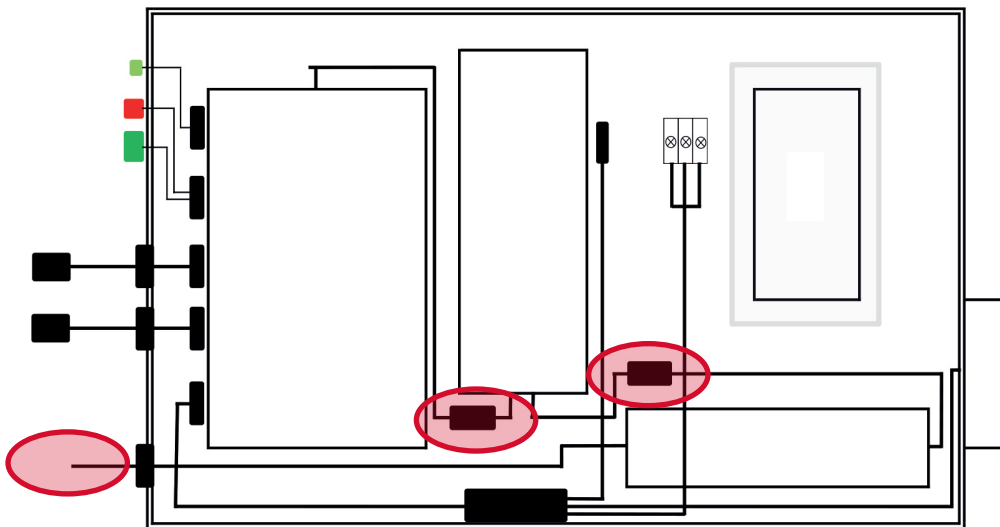
Connectors, hooked up



Step 6: Plug the control box plug (8) into the electrical outlet so that the control box is connected to the mains electricity supply. If the control box is correctly hooked up to the mains electricity supply, the green indicator light (12) on the outside of the control box will light up.

The green indicator light does not light up:

If the indicator light does not light up, the control box has not been connected correctly. Check whether the emergency battery has been correctly connected and whether the control box has been correctly connected to the mains electricity supply. (See red marked connections below).



Make sure that both connections have been made as described earlier in this manual.

Step 7: Install the control box in the ceiling or wall but make sure that it is not placed too close to metal or other electrically conductive materials, to avoid interference with the remote control signal.

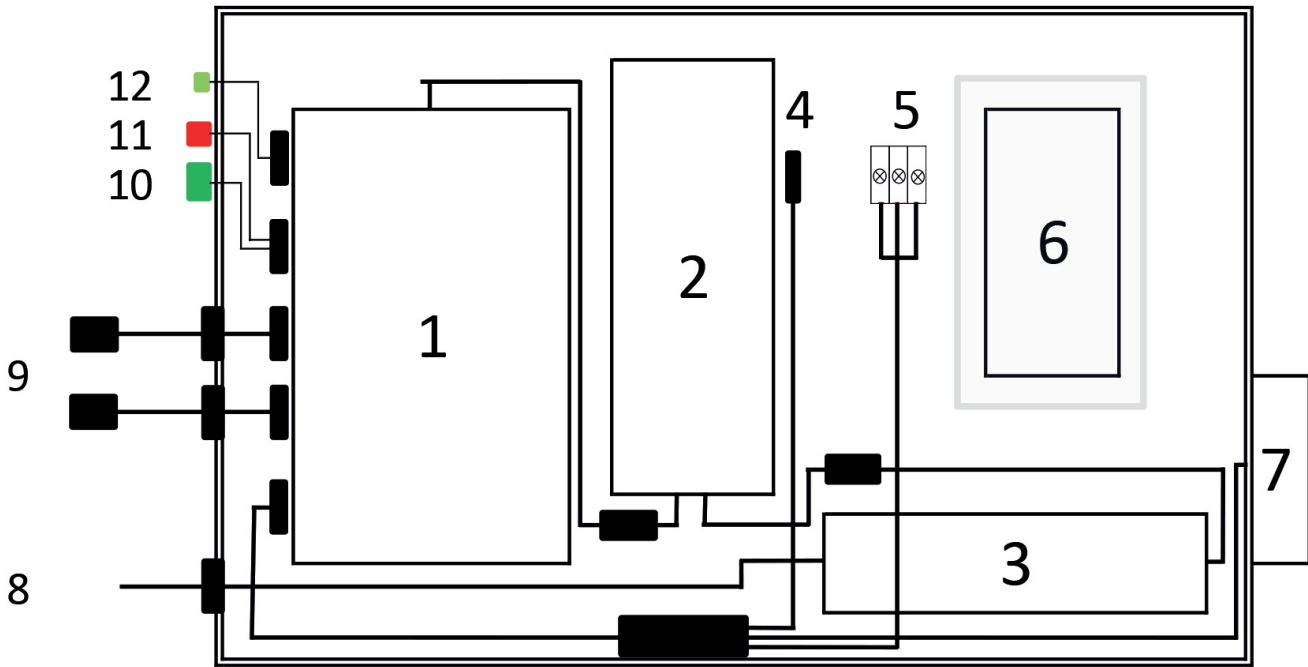
Note: Will the roof access hatch be installed in a place that is difficult to reach from below? Instead of installing the control box near the roof hatch, install it somewhere that is more accessible. This way, in the unlikely event that a control box part is defective, it will be easy to replace.

Step 8: The operation set is now ready for use.

Chapter 3. External connection wiring diagram

The Staka control box can be connected to **one** external system or switch. If you wish to open the roof access hatch with a wall switch, you can use the connection option as specified below.

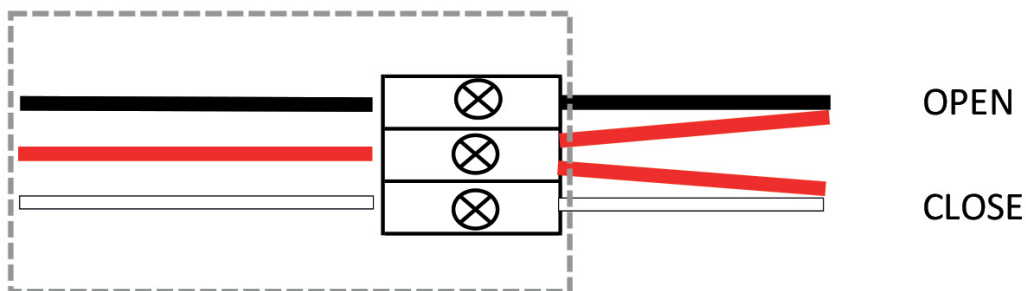
The external connection is indicated by the number 5 in the drawing below.



The wiring diagram for connecting an external system or switch to the roof access hatch control box are shown below.

- Wiring diagram

The Staka control box has a connector for an external system or external switch. The connector is depicted in the grey outline. The Staka control box connection cables make it possible to connect an external system or switch.



To open the roof access hatch: Insert a switching contact between the black and red wires.
 To close the roof access hatch: Insert a switching contact between the red and white wires.

Chapter 4. Technical specifications

Dimensions	317mm x 246mm x 110mm (LxWxH)	
Input Voltage	100VAC – 240VAC	
Frequency	47Hz – 63Hz	
Maximum input current	1.5A at 100 VAC (load 2A)	
	1.0A at 240 VAC (load 2A)	
Input	AC100V +/- 10%	Input power: Max. 0.5 Watt
	AC240V +/- 10%	Input power: Max. 0.5 Watt
Inrush current	50A at 240 VAC	
Static load	Cut off current	7.0A
Output power supply	Voltage +29V / 0A	Range: 28V-31V
	Voltage +29V / 2A	Range: 28V-31V
Maximum ripple & noise	Voltage +29V	200mVp-p (ripple)
	Voltage +29V	400mVp-p (noise)
Over-voltage protection	Triggerpoint 38V	
Operating	Ambient Temperature:	0°C - 40°C
	Relative Humidity:	20% - 95%
Insulation resistance	Input to output:	100M ohm at 500 VDC
Dielectric Strength (Hi-Pot)	Primary to Secondary:	C3.00K Vrms (10mA, 1 minute for type test)
Battery	Input voltage:	DC24V – DV32V
	Input current:	0.6A – 3.0A
	Output voltage:	DC21V- DC29V
	Output current:	3.0A
	Standard nominal voltage:	25.2 V
	Standard nominal current:	1800 mAh
Protection	Charge, discharge, current and short circuit	
Wireless	3 channel, 433 MHz	
Switch	Local manual (up/down)	
	Wireless (up/down/on-off)	
Alarm input	2, NO/NC	
Actuator output	2	
Extra output	1	

Chapter 5. Troubleshooting

If the roof access hatch electrical controls are not working, the flow chart below will assist in troubleshooting efforts. Follow the instructions to find the appropriate solution for the issue.

1. My roof access hatch will not open or close

Is the green light on the outside of the control box on?

- ✘ **No:** Check whether the control box is connected to the mains electricity supply.
- ✓ **Yes:** Proceed to the next question.

When you open the control box; is the battery indicator light on?

- ✘ **No:** Proceed to section 5.4 Battery
- ✓ **Yes:** Proceed to the next question.

Is the adaptor indicator light on when you open the control box?

- ✘ **No:** Verify that the adaptor plugs are secured correctly, and whether the mains electricity supply is connected.
- ✓ **Yes:** Follow sections 5.1, 5.2, and 5.3 in that order.

2. My remote control is not working

Does the LED light up when you press a button on the remote?

- ✓ **Yes:** Proceed to section 5.5. Replace remote control battery
- ✘ **No:** Proceed to section 5.6. Connecting the remote control

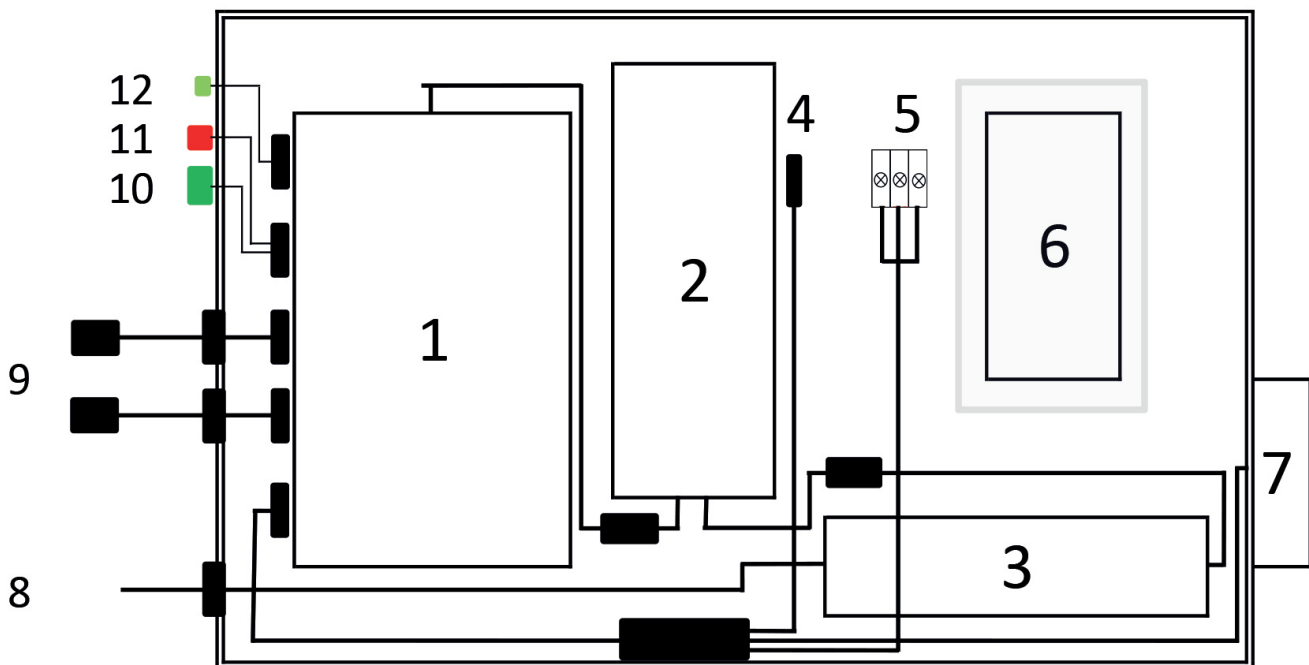
5.1 External connection

To confirm that external systems or switches are not interfering with your operation system, these instructions must be followed before restoring your operation system to factory settings.

Step 1: Open the control box.

Step 2: Check whether the wiring of the 'External connection' is connected to an external system or switch.

The external connection is indicated by the **number 5** in the drawing below.



Is an external system or switch connected?

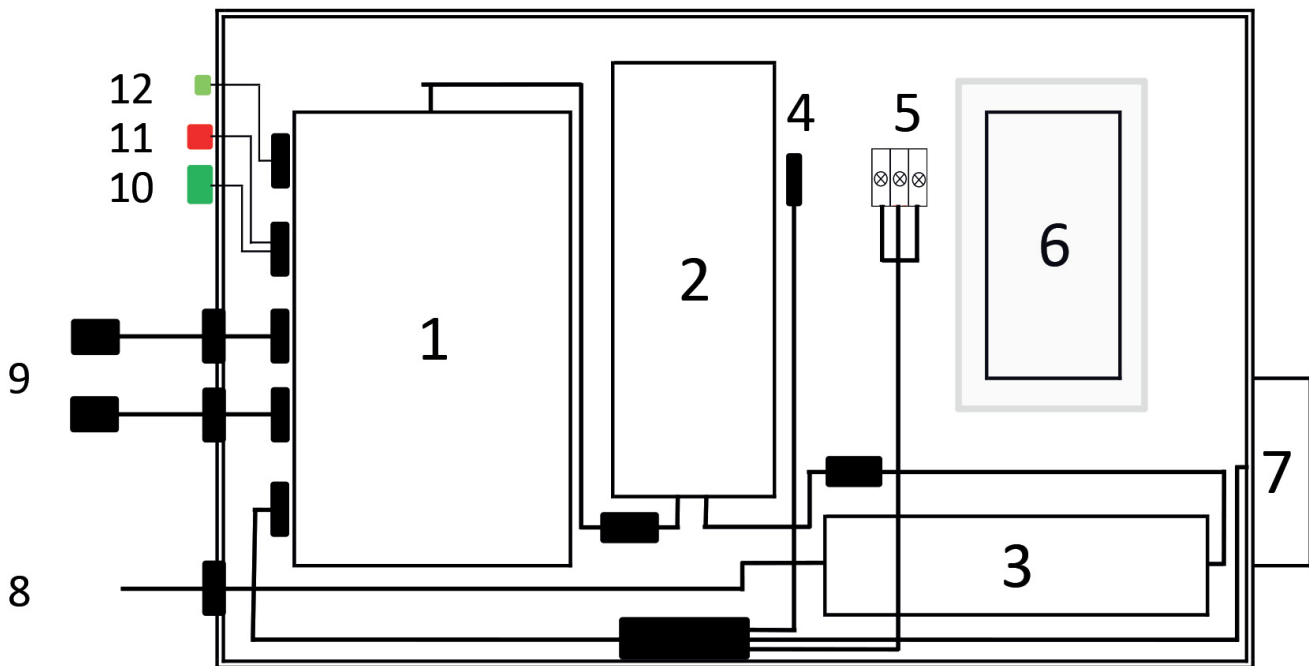
- ✓ **Yes:** Disconnect the system or switch from the roof access hatch control box. Ensure that the wire strands of the roof access hatch controls are temporarily attached to a screw terminal.
(After completing the 'Restore to factory settings' instructions, the external system or switch can be reconnected.)
- ✗ **No:** Ensure that the wires are attached to a screw terminal.

Step 3: Proceed to section 5.2 Zero point of the motors.

5.2 Zero point of the motor

Follow these instructions to return the engines to their zero point before restoring the system to factory settings.

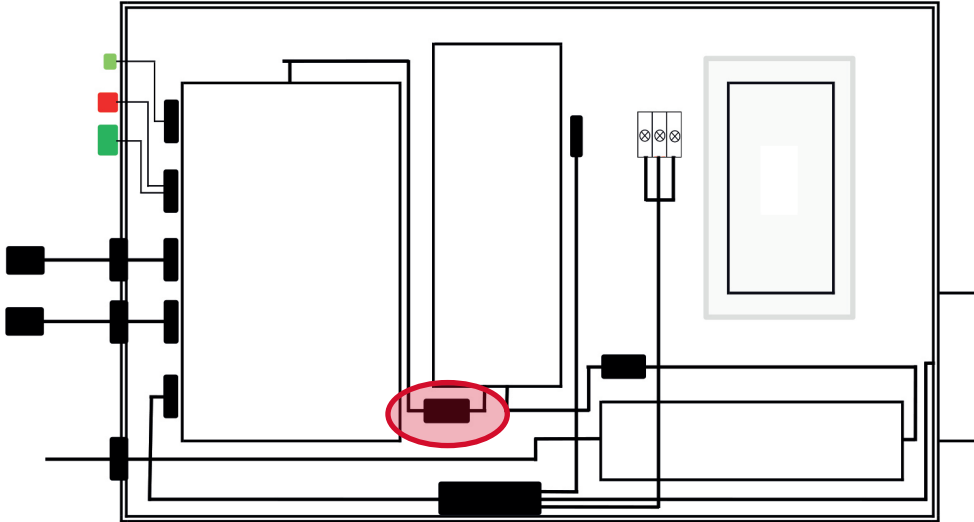
- Step 1:** Connect the control box to the mains electricity supply.
- Step 2:** Connect the cables/extension cables of the actuators to the control box. Verify that all adaptor plugs are secured correctly, and that the pull reliefs are properly secured.
- Step 3:** On the exterior of the control box you will find a LED lamp, a red button, and a green button. You will be using the green button for this step, indicated by the number 10 in the drawing below.



Push the button. This button is only used for returning the engines to their neutral point. Do not use in any other circumstances.



Step 4: Unplug the connection between **the battery and the control box** as depicted below. The plug is indicated by a **red circle** below.



Step 5: Restore the connection between **the battery and control box**.

Step 6: **Attention:** In the previous steps, the safety control for the synchronicity of the has been disabled.

Make sure you have a clear view of the roof access hatch for the duration of the following steps:

- A. Operate the remote control or switch on the control box for a maximum of two seconds.
- B. Are both motors working?

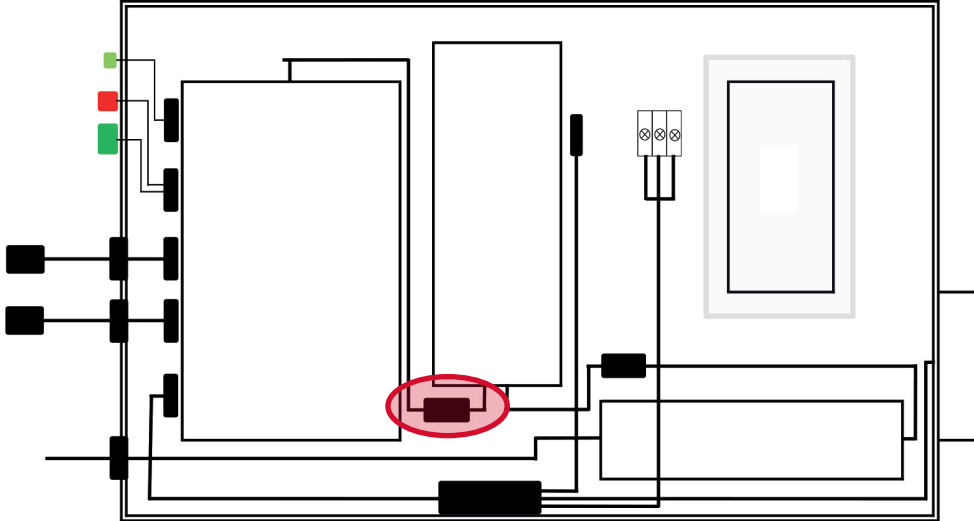
✓ **Yes:** **Yes, both motors are working in tandem to open or close the roof access hatch:**

You may now close the roof access hatch
Proceed to section 5.3 to restore factory settings.

✗ **No:** **No, only one motor is working:**

Immediately stop operating the motors and contact Staka to discuss further steps. Staka's contact details can be found on the last page of this manual.

- Step 5:** Unplug the connection between **the battery and the control box** as depicted below. The plug is indicated by a red circle below.



- Step 6:** Simultaneously press the UP and DOWN switches on the control box, and hold them down.



- Step 7:** Keep holding the switches down.

While still holding the switches down, re-establish the electrical connection between the battery and the control box. The electrical connection will be re-established when you reattach the plugs indicated by red circles.

After ten seconds, the control box will produce a 'clicking' noise, after which the motors will either start or stop.

- Step 8:** Test both remote controls and bring the motors to the closed position.

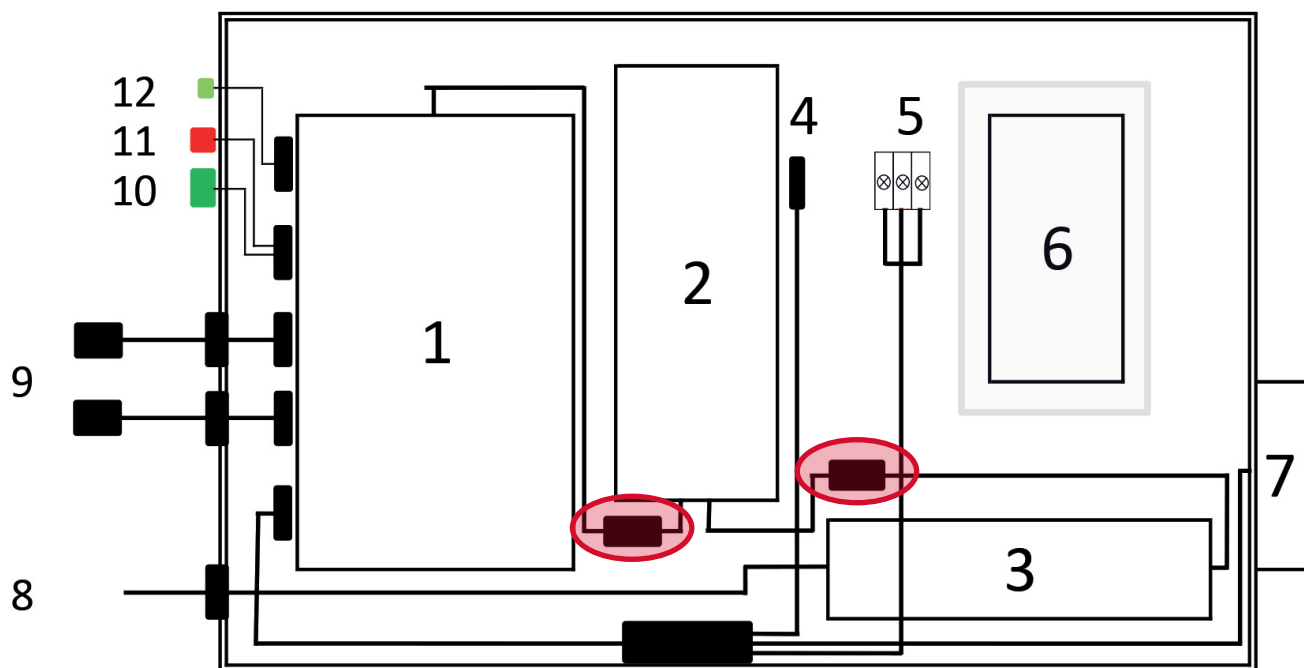
If the remote control is not working, proceed to section 5.6 Connecting the remote control

- Step 9:** The operation system is now ready for use.

5.4 Battery

Use the following instructions to test the functionality of the emergency battery.

Step 1: Ensure that the battery plugs (2) are both connected to the control unit (1) and to the adapter (3). See the points indicated by a red circle below.



Step 2: Connect the plugs if they are not yet connected.

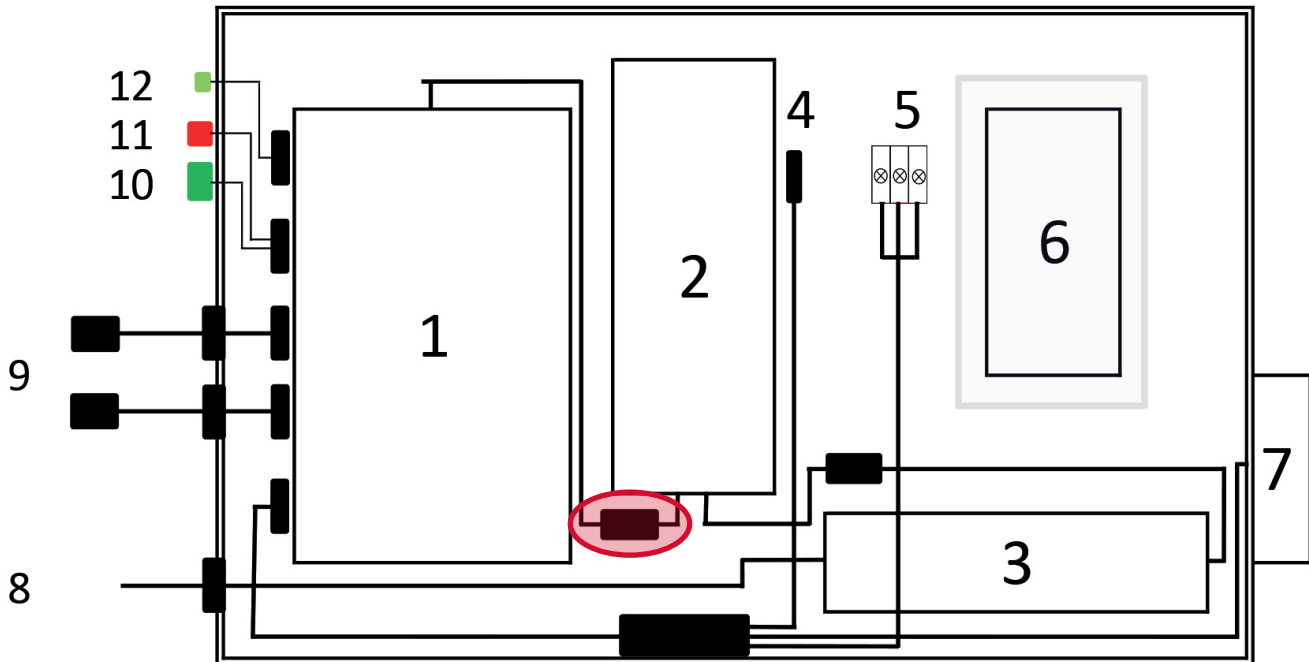
Is the roof access hatch functioning now?

✓ **Yes:** The issue has been resolved.

✗ **No:** Proceed to the next step

Step 3: Unplug the battery unit plugs connected to the control unit (1) and to the adapter (3). The plugs are indicated by red circles in the drawing at step 1.

- Step 4:** Connect the adapter plug (3) directly to the control unit plug, without connecting the battery. See the point indicated by a red circle below.



Is the roof access hatch functioning now?

- ✓ **Yes:** The issue has been resolved. The battery is defective, contact Staka to order replacement battery.
- ✗ **No:** Follow the instructions in sections 5.1, 5.2, and 5.3 in that order.

5.5 Replace remote control battery

Follow these instructions to replace the batteries of your remote control.

- Step 1:** The panel on the back of the remote control is held in place by a screw. Unscrew this, you can then open the remote control.
- Step 2:** The remote control contains an A23, 12 Volt battery. Remove the old battery and insert a new battery.
- Step 3:** Reattach the rear panel to the remote control and affix the screw from step 1 back to its original position.
- Step 4:** The remote control is now ready for use.

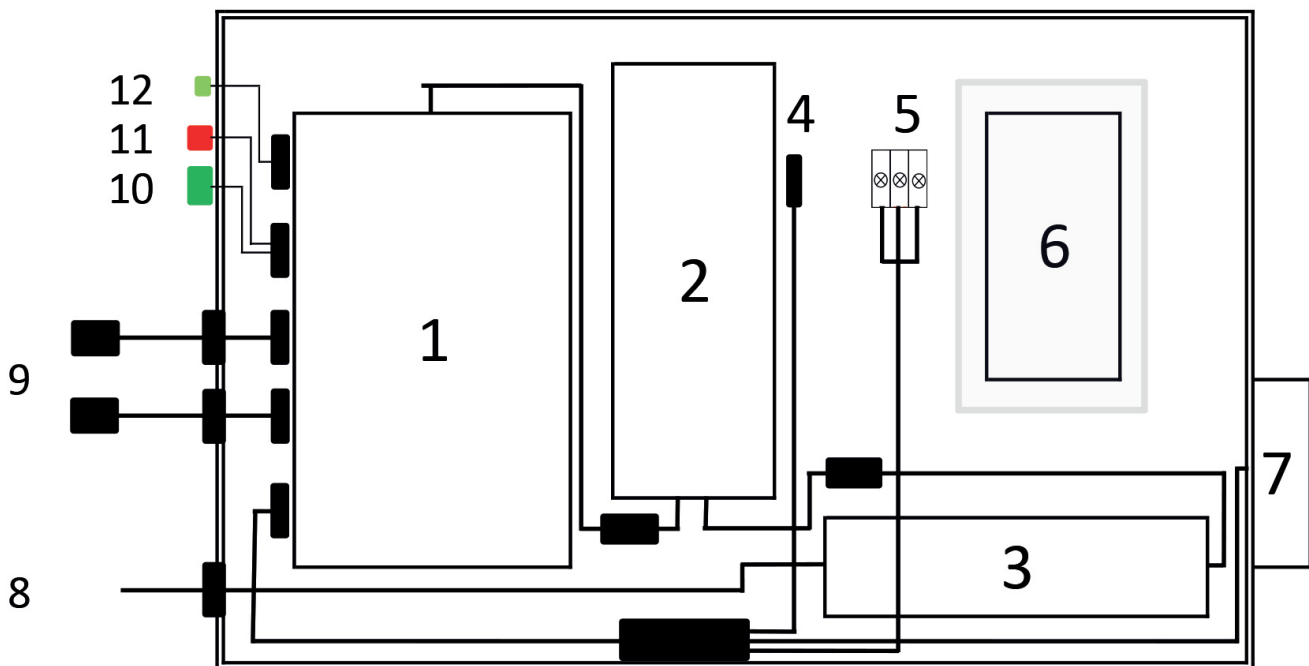
5.6 Connecting the remote control

The set of instructions explains how to connect one or both of the remote controls to the operation system.

Step 1: Simultaneously press the UP/DOWN switches of **both** remote controls until the red LED indicators on the remote begin flashing.



Step 2: Now press the red programming switch on the control box until the flashing red LED indicator on one of the two remote controls goes out.



The connection of remote control 1 is now complete.

Step 3: Within ten seconds press down again on the programming switch until the flashing red LED indicator of the other remote control goes out. The connection of remote control 2 is now complete.

Step 4: Verify that the UP and DOWN function of the wireless remote controls is working properly.

Issue not resolved?

If the issue has not been resolved by following the instructions as outlined in this manual, we advise you to contact a Staka employee to evaluate your problem and provide an appropriate solution. Our contact details are presented below:

Staka Bouwproducten B.V.

Tel: +44 (0)1789 330558

E-mail: uksales@staka.com

STAKA

Staka Bouwproducten B.V.

87 Warwick Street
Leamington Spa CV32 4RJ

www.roofaccesshatches.co.uk

T. +44 (0) 1789 330558

E. uksales@staka.com

www.staka.com