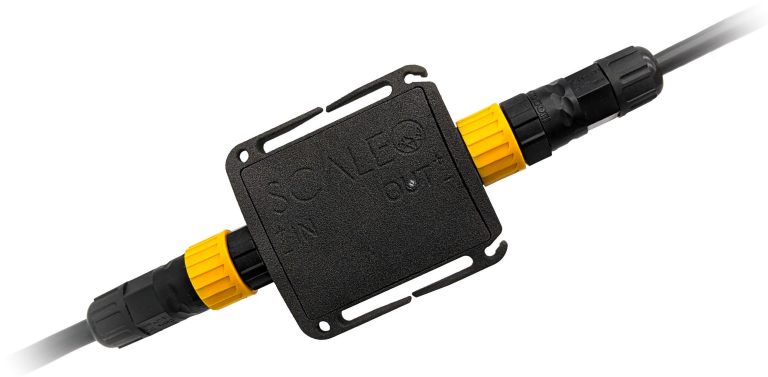
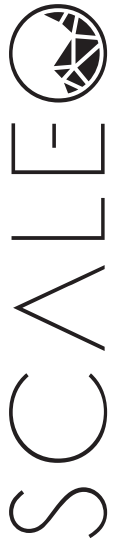


# Operating manual

## SCALEO*heat NFC*



Please read these manual carefully before use. Please do not dispose.



## CAUTION: IMPORTANT SAFETY INSTRUCTIONS - Read all information before operation!

This operating manual covers operating, maintenance and safety instructions. Please read the entire manual carefully before using the heating control and keep it in a safe place for future references at all times.

**⚠ ATTENTION!** The product uses NFC technology. It may affect the function of pacemakers.

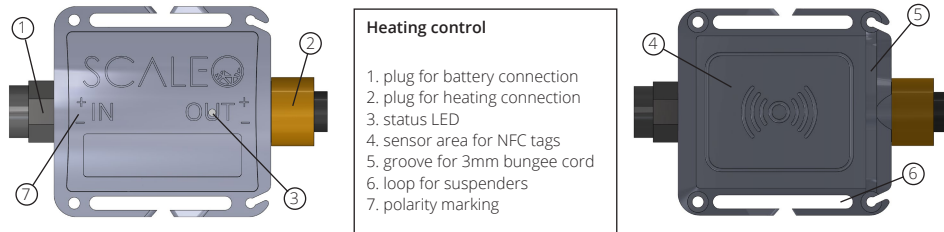
**⚠ ATTENTION!** The product must not be used in combination with other electronics to control the heating power.

**⚠ ATTENTION!** Can lead to heating failure or 100% continuous operation in the event of a defect

- The instructions in the following operating instructions must be followed. Otherwise it can lead to damage, personal injury or death!
- Disassembling or making changes to the heating control affects the product safety. Making changes to the heating control that are not described in these operating instructions may only be done by qualified and authorized specialists.
- Keep the heating control out of the reach of children and animals.
- Disconnect the heating control from the battery immediately if there is smoke or steam.
- Disconnect the heating control for storage or transportation from the battery
- Keep the heating control away from high heat or open flames. Overheating, fire, destruction, electric shock, and injury may result.
- In the event of damage, stop operation as soon as possible. The heating control may only be used again after the damage has been repaired by qualified specialists.
- Test the proper operation of the heating control before each use.

## USAGE AND PRODUCT DETAILS

The heating control is designed for operation under water, especially for diving with drysuits. Operation on land is not intended. Flooding of the drysuit can destroy the heating control.



## COMMISSIONING & USE

**⚠ ATTENTION:** Make sure that the polarity of the battery-side connector (1) is as indicated on the housing (7). Incorrect polarity will cause the heating control to fail!



1. The heating control is connected to the power supply (e.g. battery tank) with the plug (1) marked as „IN“ and to the heating with the plug (2) marked as „OUT“.
2. If the polarity at the input („IN“) is reversed, this is signaled by a continuous beep. The heating control remains off and does not respond to NFC tags.
3. Each time the heating control is connected to the power supply, the heating control increases the power by one step. Thus, the operation without NFC tags is also possible.
4. Each time the heating control is disconnected from the power supply, it loses all stored NFC tags.
5. Operation with NFC tags:
  - The first time an unsaved NFC tag makes contact with the sensor surface (4) of the heating control, it is saved. This is signaled by a short-long feedback.
  - The „increase power“ function is assigned to the first stored NFC tag.
    - On repeated contact with this NFC tag, the heating control increases the power by one step. After reaching 100%, the next contact switches to 0%.
  - The „reduce power“ function is assigned to the second stored NFC tag.
    - When contact is made with this NFC tag again, the heating control reduces the output by one step. After 0% is reached, the next contact switches to 100%.
  - The „change feedback“ function is assigned to the third stored NFC tag.
    - This switches through the feedback options „beep“ - „vibrate“ - „beep and vibrate“.
  - The „change number of switching steps“ function is assigned to the fourth stored NFC tag.
    - This NFC tag can be used to change the number of switching steps. The number of switching steps (without 0%) corresponds to the number of feedback signals.
      - 1 switching step: (0%) - 100%
      - 2 switching steps: (0%) - 50% - 100%
      - 3 switching steps: (0%) - 33% - 67% - 100%
      - 4 switching steps: (0%) - 25% - 50% - 75% - 100% (factory setting)
      - 5 switching steps: (0%) - 20% - 40% - 60% - 80% - 100%
6. The current step is signaled via feedback (beep and/or vibration) with each step change. The 0% step is signaled by a long feedback. All further steps by the corresponding number of short feedbacks.
7. The heater control measures the input voltage and limits the power at voltages above 12.3V (full 3s battery) to a power that would be delivered at 12.3V. Thus, operation of 3s heating vests on 4s batteries with constant power is possible.

**⚠ Since the heating vest could be damaged by the briefly higher power, the use of this function is at your own risk.**
8. The status LED (3) always lights up when the output to the heater is turned on.
9. Disconnect the heating control from the battery after use or for transport.

## INSTALLATION RECOMMENDATIONS

If you have any questions about installing the heater control, please contact your dealer or the address below.

1. The heating control must be fastened inside your dry suit.
2. The loops (6), grooves (5) and holes on the control can be used for attachment.
3. You should be able to reach this position easily with your hands or the NFC tags at any time. E.g. centered on the chest.
4. The smooth side of the heating control with the NFC logo (4) must face outwards.
5. The distance between the heating control and the NFC tag can be between 10 and 30mm depending on the NFC tag used. Therefore, if possible, there should only be thin layers of fabric between the heating control and the water.

## TECHNICAL DATA

**Dimensions:** 57 mm x 59 mm (without connector) x 17mm

**Cable extension:** 78 mm

**Permissible water temperature:** -4 ° C to 30 ° C

**Permissible water depth:** no limit

**Maximum power:** 120W and 10A

**Input voltage:** 7 - 17 V

**Connector:** compatible with Santi (others on request)

Made by:

**RP-Engineering GmbH**  
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Dieses Gerät entspricht der Europäischen Richtlinie 2012/19/EU über Elektro- und Elektronik-Altgeräte (WEEE).

This device complies with European Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE)



Dieses Gerät entspricht der Europäischen Richtlinie über Elektromagnetische Verträglichkeit (EMV) 2014/30/EU.

This device complies with the European Electromagnetic Compatibility (EMC) Directive 2014/30/EU.