



## **Ultrasonic anti-fouling system**

Technical manual SF05 - SF12

## Lamers System Care B.V.

This document contains relevant information regarding the technical specifications of the Ultrasonic Antifouling System SF12.

In case of any question or doubt, please do not hesitate to contact Lamers System Care B.V. for further support:

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## Safety Instructions

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We recommend that the electrical installation of this system is carried out by a qualified marine electrician.

When mounting the control unit, please find a suitable dry position, above the waterline where possible. Connect all AC connections in accordance with IEC wiring regulations, ensuring the correct plug and socket are used.

Colour codes for mains cable are as follows;

- Brown – Live
- Blue – Neutral
- Green and Yellow – Earth

**IF IN DOUBT CONTACT A PROFESSIONAL MARINE ELECTRICIAN**



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## SF12 Standard Package Contents

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- 1x SF12 ultrasonic pulse generator control unit with 12 transducer outputs
  - 12x Ultrasonic transducer
  - 12x Ultrasonic transducer mounting object (rings or Pipe Adaptors (PA))
  - Marine grade epoxy glue
  - Coupling agent (Molykote BR2+)
  - Vibration dampers
  - Stainless steel mounting brackets
  - 4x stainless steel bolts and nuts
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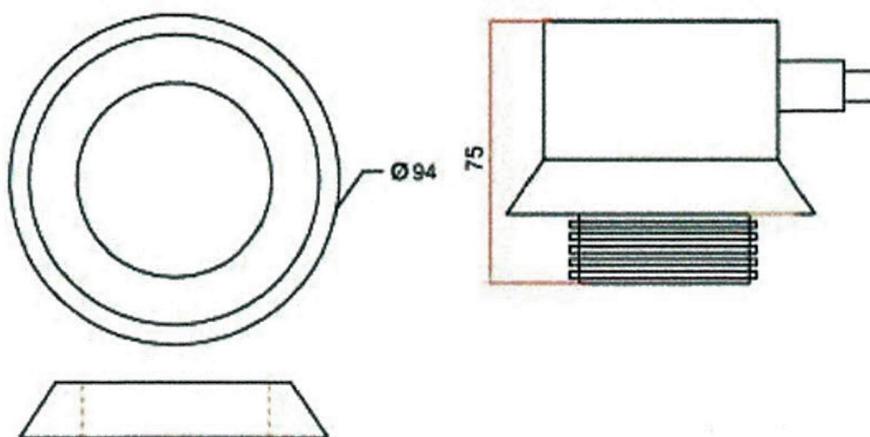
## Technical specifications

<b>Brand</b>	Lamers System Care B.V. / SmartFlow
<b>Product code</b>	SF05 / SF12
<b>PSU approval</b>	CE
<b>Voltage</b>	AC 110-240 50/60 Hz (DC range 22-30V)
<b>Transducer</b>	5 - 12 pcs.
<b>Average power consumption</b>	< 50 Watts
<b>Control unit rating</b>	IP66
<b>Transducer rating</b>	IP67
<b>Weight</b>	17 kg total weight - 4 kg (control unit) - 1.2 kg per transducer
<b>Dimensions</b>	406 x 401 x 120 mm
<b>Warranty</b>	2 years

## Transducer at a glance



## Transducer dimensions

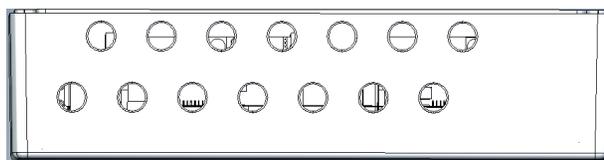


## Ultrasonic antifouling system up close



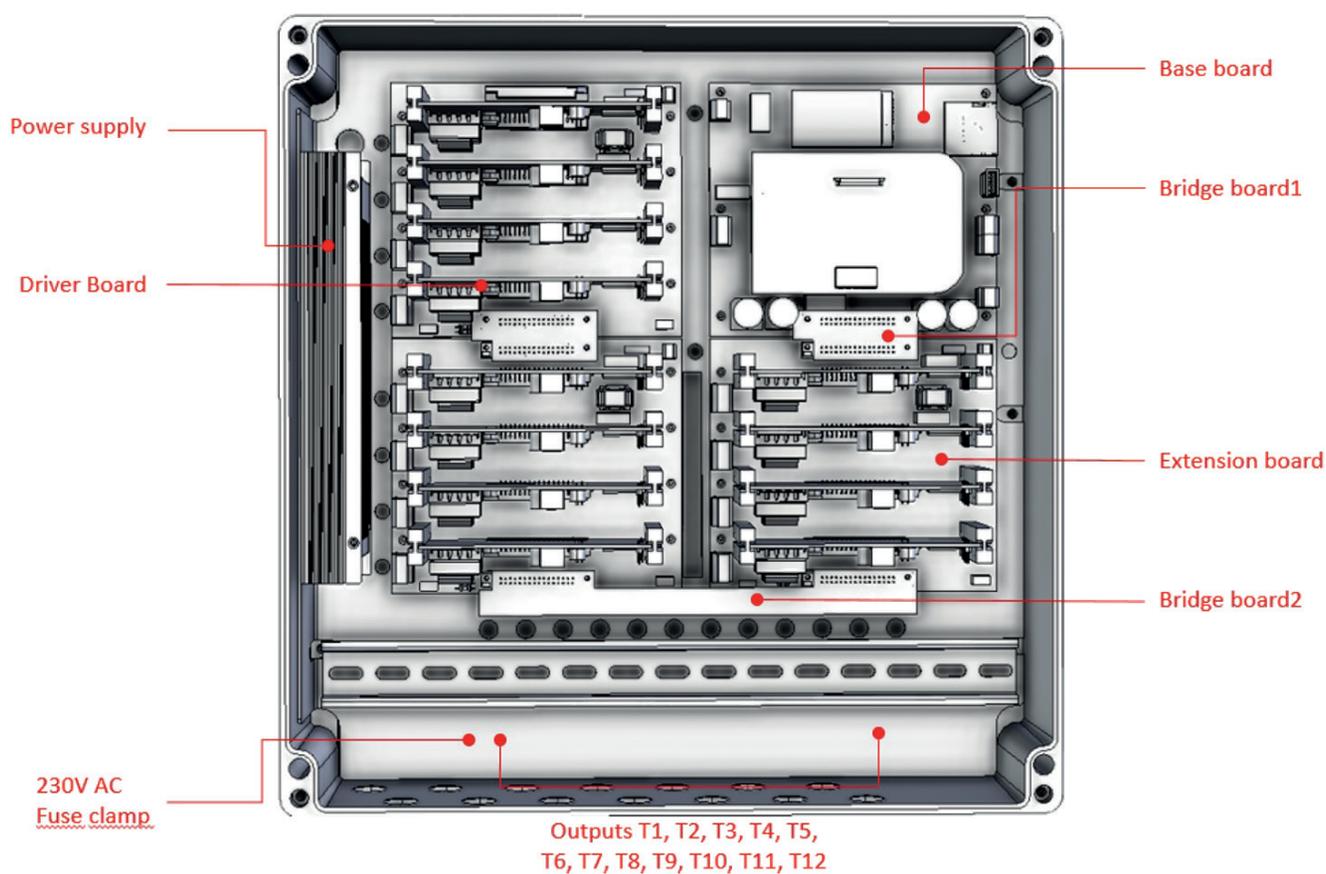
Front view of  
the exterior of  
the control unit

Bottom view of  
the exterior of  
the control unit



## Ultrasonic antifouling system up close

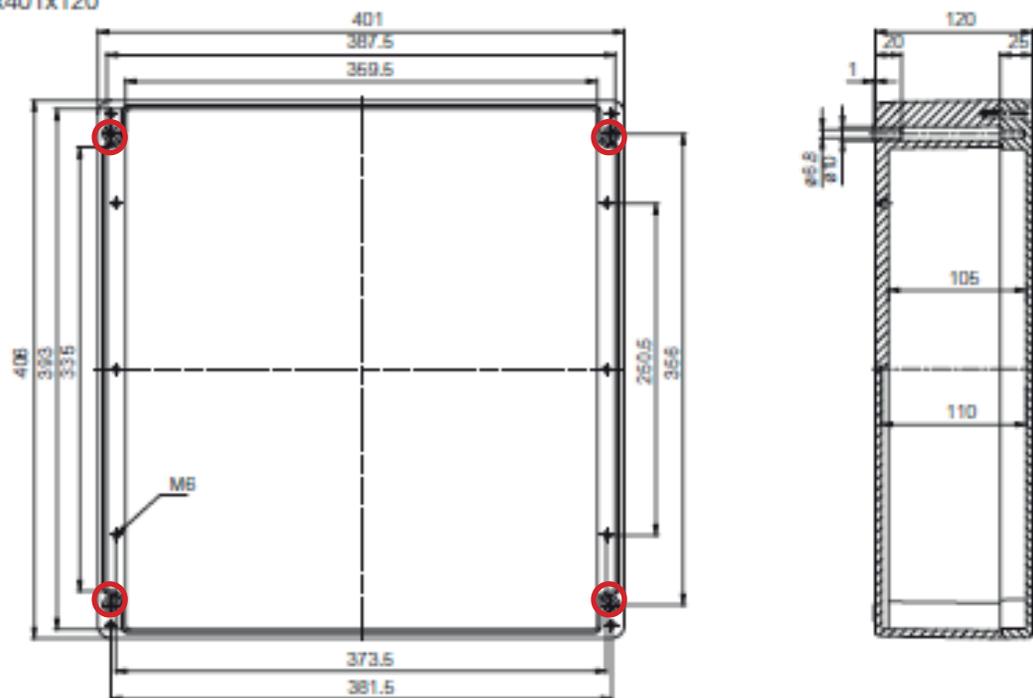
Front view of the inside  
of the control unit



## Mounting frame

Mounting holes - 

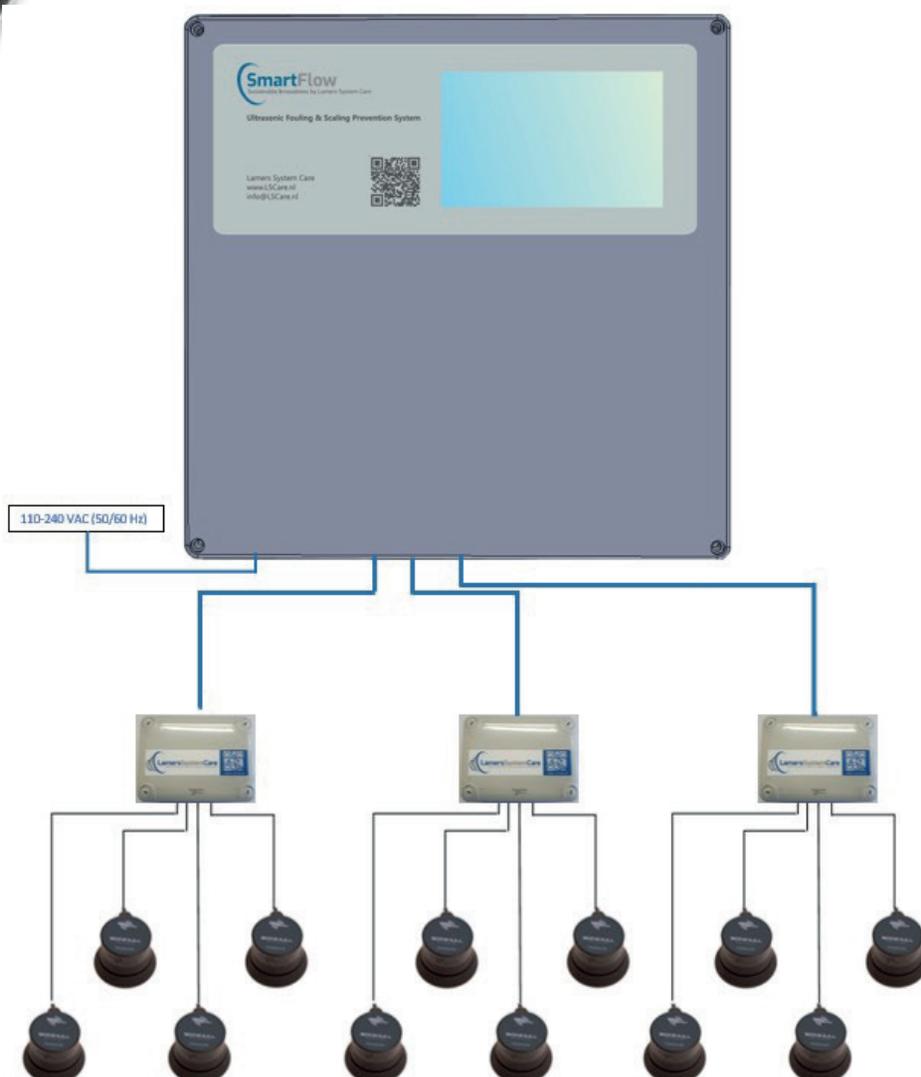
EURONORD P 406x401x120



## Installation customized



Option available to use extension cables and/or multicore with junction boxes to bridge gap to transducer locations. Each transducer can be extended up to 80m. See example below of a configuration using multicore:

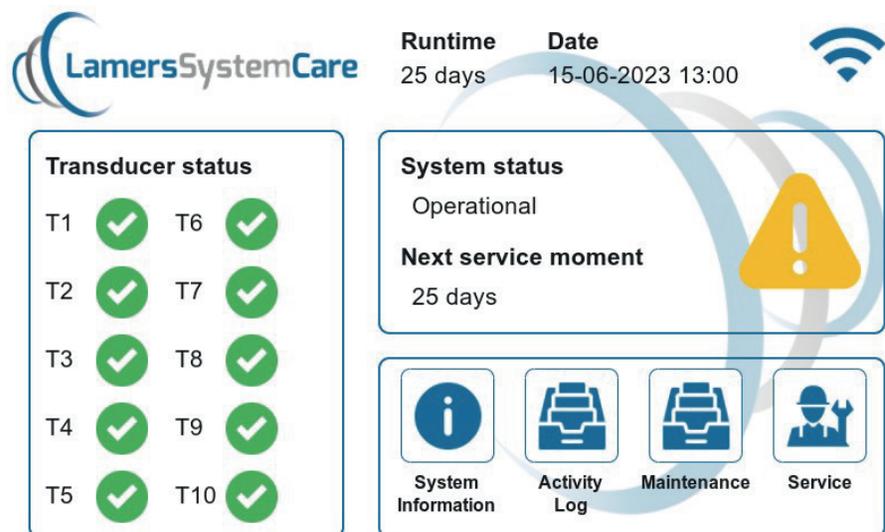


## Navigating the control unit

To fully commission a control unit, the following settings must be applied:

- Set date and time
- Reset run timer
- Clear history log
- Switch on all transducers
- Set V-Ping

### Homescreen



**Transducer status**

-> Check if transducers are properly connected

**Runtime**

-> Time system has been active since first startup

**Date**

-> Current date and time

**System status**

-> Current system status

**Next service moment**

-> Amount of days left till next service moment

**System information**

-> Link to system information tab

**Activity log**

-> Link to activity log tab

**Maintenance**

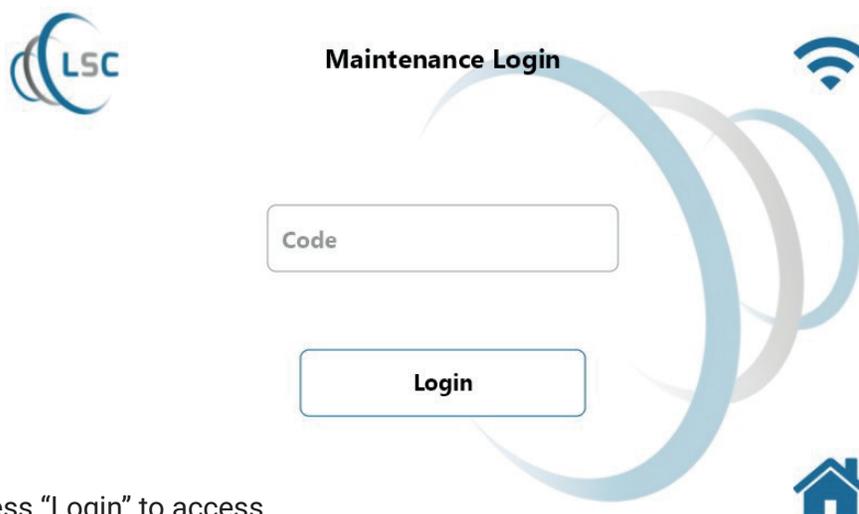
-> Link to maintenance tab

**Service**

-> Link to service tab

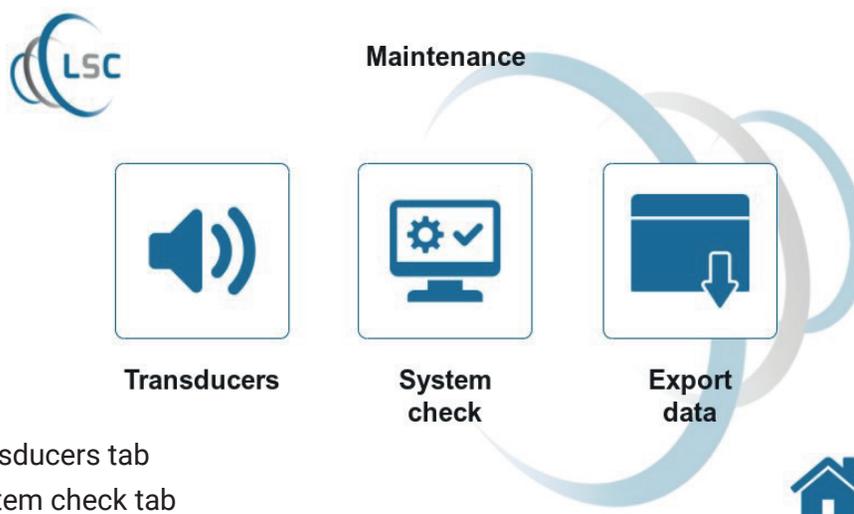
## Navigating the control unit

### Maintenance login



Enter code -> 0909 -> press "Login" to access

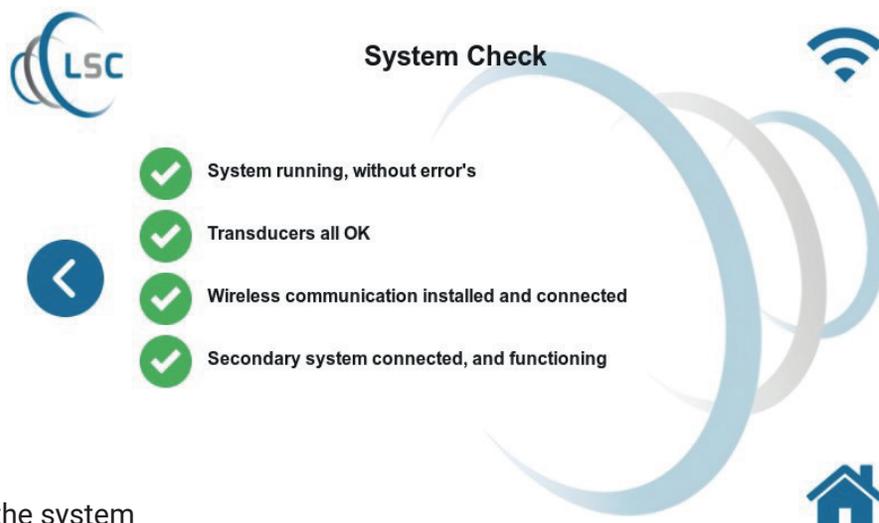
### Maintenance



**Transducers** -> Link to transducers tab  
**System Check** -> Link to System check tab  
**Export data** -> Link to Export data tab

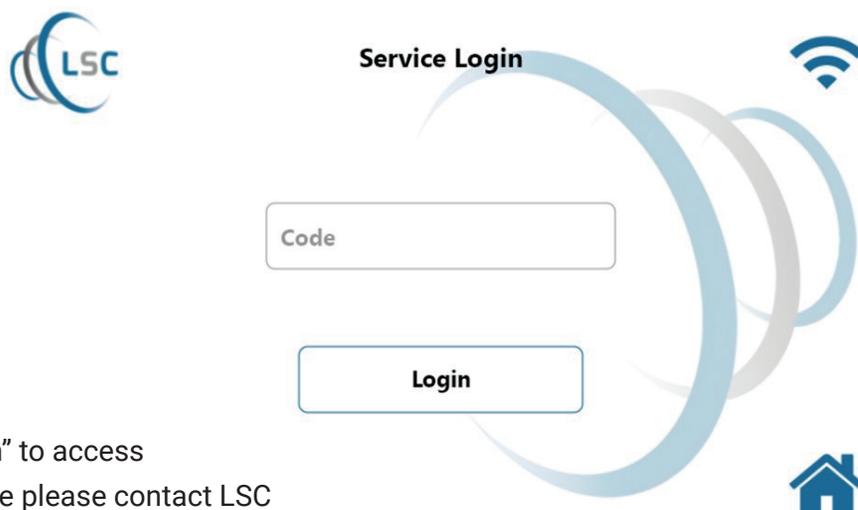
## Navigating the control unit

### System check



Overview of current status of the system

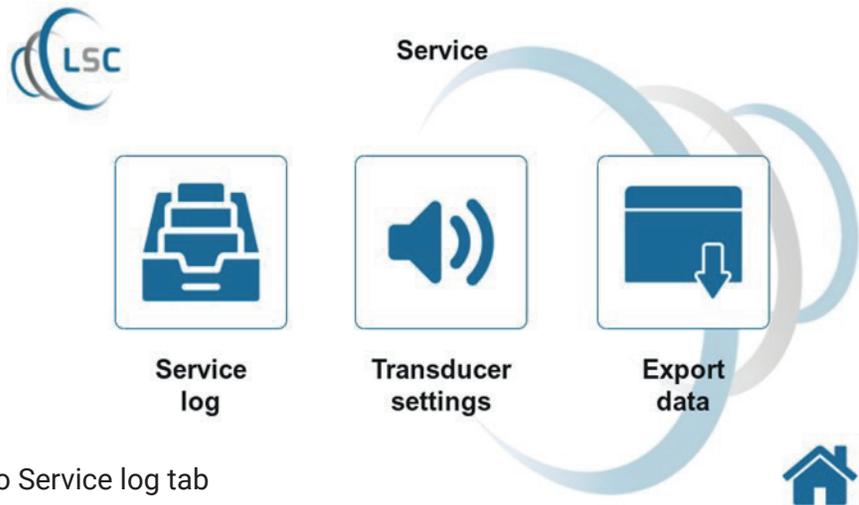
### Service login



**Enter code -> .... -> press "Login" to access**  
For service Login and assistance please contact LSC

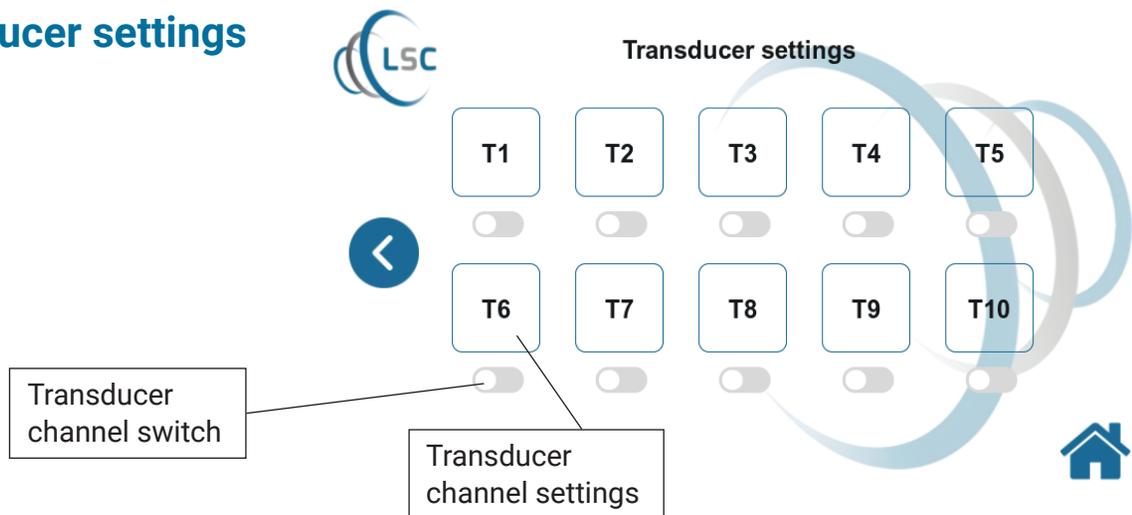
## Navigating the control unit

### Service



- Service log** -> Link to Service log tab
- Transducer settings** -> Link to Transducer Settings tab
- Export data** -> Export data to USB-stick. Insert USB-stick first.

### Transducer settings



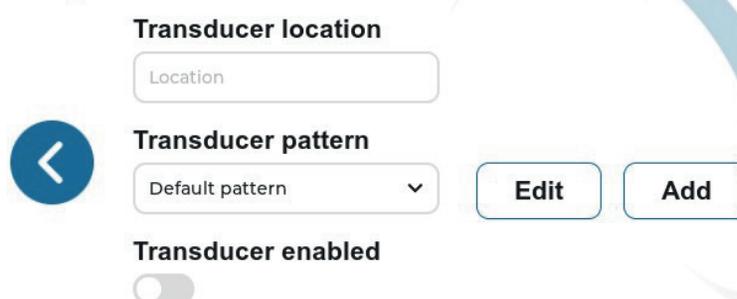
- Transducer-channel switch** -> Switch transducer on/off
- Transducer-channel settings** -> Link to transducer-channel settings

## Navigating the control unit

### Transducer channel settings



### Transducer 1 settings



The screenshot shows the 'Transducer 1 settings' interface. It includes a back arrow button on the left. The settings are as follows:

- Transducer location:** A text input field containing the word 'Location'.
- Transducer pattern:** A dropdown menu with 'Default pattern' selected and a downward arrow.
- Transducer enabled:** A toggle switch that is currently turned off.
- Buttons:** 'Edit' and 'Add' buttons are located to the right of the dropdown menu.

**Transducer location** -> Name transducer location

**Transducer pattern** -> Dropdown-menu to select preferred pattern for transducer

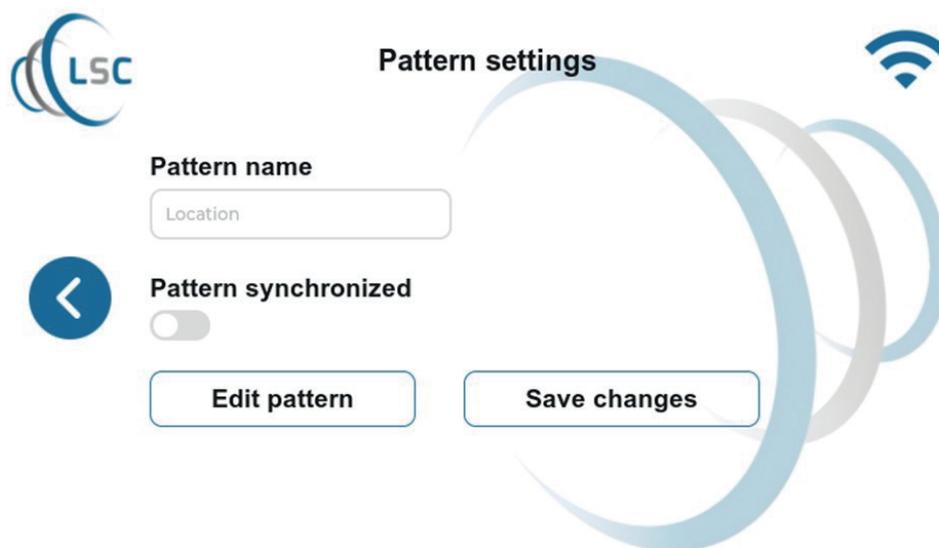
**Transducer enabled** -> Switch transducer on/off

**“Edit”** -> Edit selected pattern

**“Add”** -> Add new pattern

## Navigating the control unit

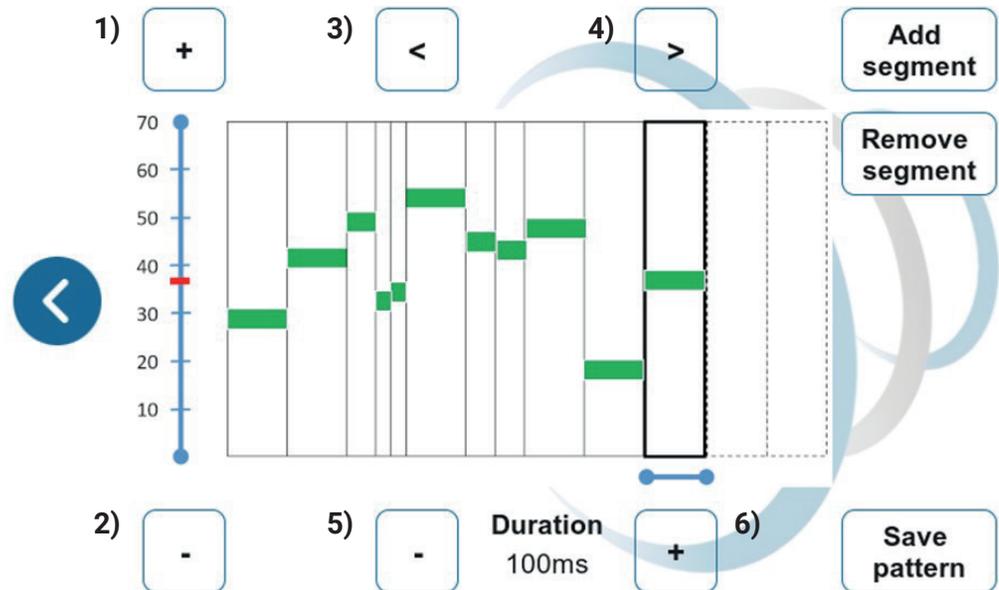
### Pattern settings



<b>Pattern name</b>	-> Name pattern
<b>Pattern synchronized switch</b>	-> Pattern synchronized on/off
<b>“Edit pattern”</b>	-> Link to edit pattern tab
<b>“Save changes”</b>	-> Save changes made to pattern

## Navigating the control unit

### Edit pattern



- 1) -> Up frequency of segment
- 2) -> Lower frequency of segment
- 3) -> Select segment to the left
- 4) -> Select segment to the right
- 5) -> Make duration of segment shorter
- 6) -> Make duration of segment longer

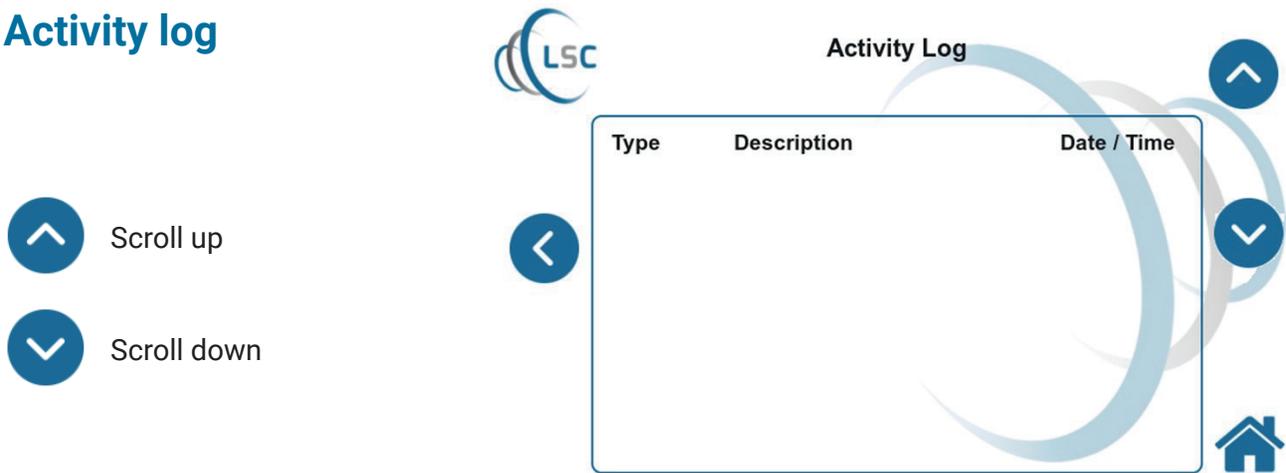
**"Add segment"** -> Adds another segment to the end of the pattern

**"Remove segment"** -> Removes currently selected segment

**"Save pattern"** -> Save changes made to pattern

## Navigating the control unit

### Activity log



Example:

#### LSC activity log file

Event type	Description	Date/Time	Extra information
Device Event	Transducer not connected	12-10-2024 15:44	4
Device Event	Transducer not connected	12-10-2024 15:44	6
Device Event	Transducer not connected	12-10-2024 15:44	7
Device Event	Transducer not connected	12-10-2024 15:44	8

#### Activity Log

<b>Event type</b>	-> Type of event
<b>Description</b>	-> Description of event
<b>Date/Time</b>	-> Date and Time when event occurred
<b>Extra information</b>	-> Transducer number