

LISA 2 – System for monitoring farrowing's

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Introduction

You are now holding a unique tool to be used when monitoring sows in the farrowing process. LISA 2 system is an interactive tool, that insures the staffs in the farrowing units are keeping focus on sows in process of giving birth. The LISA 2 system will also ensure that all actions done by the staffs and the sow during the farrowing process are logged electronic, which is unique and ensures that valuable data are available for analysing and optimizing results for sows performance and staffs work. The LISA 2 system is developed, produced and assembled in Denmark, which ensures a high quality product with focus on functionality and longevity in a rough environment.

Important

Please control that following items are included in this package:

Start up set:

- 1 x LISA 2 docking station for charging and data transfer
- 1 x data converter (VE99)
- 1 x USB cable
- 1 x USB flash key with LISA 2 system software and manual
- 1 x charger for LISA 2 docking station
- 10 x LISA 2 handset with ID numbers from 1 - 10

Basic set:

- 1 x LISA 2 docking station for charging and data transfer
- 1 x USB flash key with LISA 2 system software and manual
- 1 x charger for LISA 2 docking station
- 10 x LISA 2 handset with ID numbers from 11 - 20

Important: Thus all handsets in the Basic package are given ID numbers from 11 – 20, then if you have bought more than one basic package for one farm, then it is needed to change the ID numbers in each handset to 21 – 30 and 31 – 40 etc. so that none of the handsets are having identical ID numbers. Look at the instructions how to do under “problem solving”.

The LISA 2 system cant be used without using a LISA 2 data converter (VE 99 Data Converter) and the LISA 2 system software, which is included in the “LISA 2 start up set”. For communication between the LISA 2 handsets and the farm computer, then no matter how many docking stations and handsets are in use, then only one data converter “VE 99 Data Converter” is needed per herd

One single data converter can thereby cover the need when using more than one LISA 2 docking stations, if they are correctly parallel connected. (look at the instructions under the installation guide for “connecting LISA 2 to the computer”)

Before use

- Connect the charger to 220/110 voltage and connect the charger to the docking station.
- Insert all LISA 2 handsets in the docking station. It is important that all handsets are turned correctly. The display must point away from the end where the cables are connected to the docking station.
 - The charging of LISA 2 handsets is now going on, which is visualized with a regular green flash on each handset.
 - Leave the handsets in the docking station until they are fully charged, which can take up to 12 hours if the battery is flat. When the handsets are fully charged, then it is visualized with short green flash on each handset.



Connecting the charger to the docking station

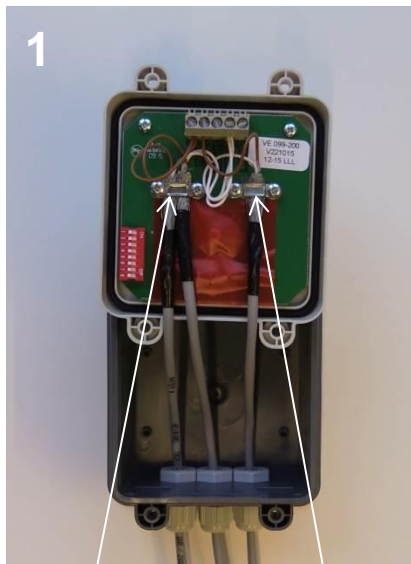


Complete connection of LISA 2 in the office



Connecting LISA 2 to the computer.

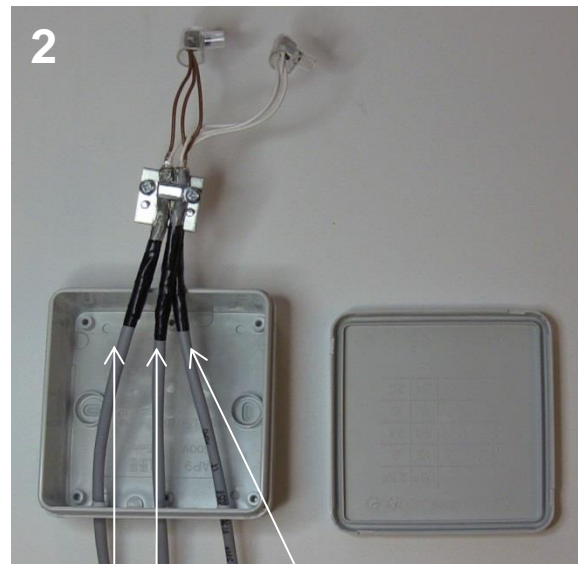
- Mount the data converter on the wall close to the central farm computer. Connect the USB cable to the data converter and to the central farm computer.
- If more than one docking station is needed, then they are connected parallel:
 - If you want to place the LISA 2 docking stations close to the computer, then connect the BUS cables from all docking stations in the data converter as shown and explained in figure 1
 - If you want to place the LISA 2 docking stations far away from the central farm computer (near your farrowing units) then a BUS cable must be installed from the data converter to the farm buildings where it is connected with the BUS cables coming from those docking stations in use. The BUS cables must be connected in a junction box as shown in figure 2.



1
BUS cables connected to two LISA 2 basic sets BUS cable connected to LISA 2 start up set

The cable shield is removed and the cable is mounted in the holder

The white cables are mounted in the hole marked with: Do on the print plate
The Brown cables are mounted in the holes marked with: +24V



2
BUS cables connected to two LISA 2 basic sets BUS cable connected to the data converter

The cable shield is removed and the cable is mounted in the holder

The white cables are connected with an ordinary terminal block
The brown cables are connected with an ordinary terminal block

One cable is connected to the data converter as in figure 1

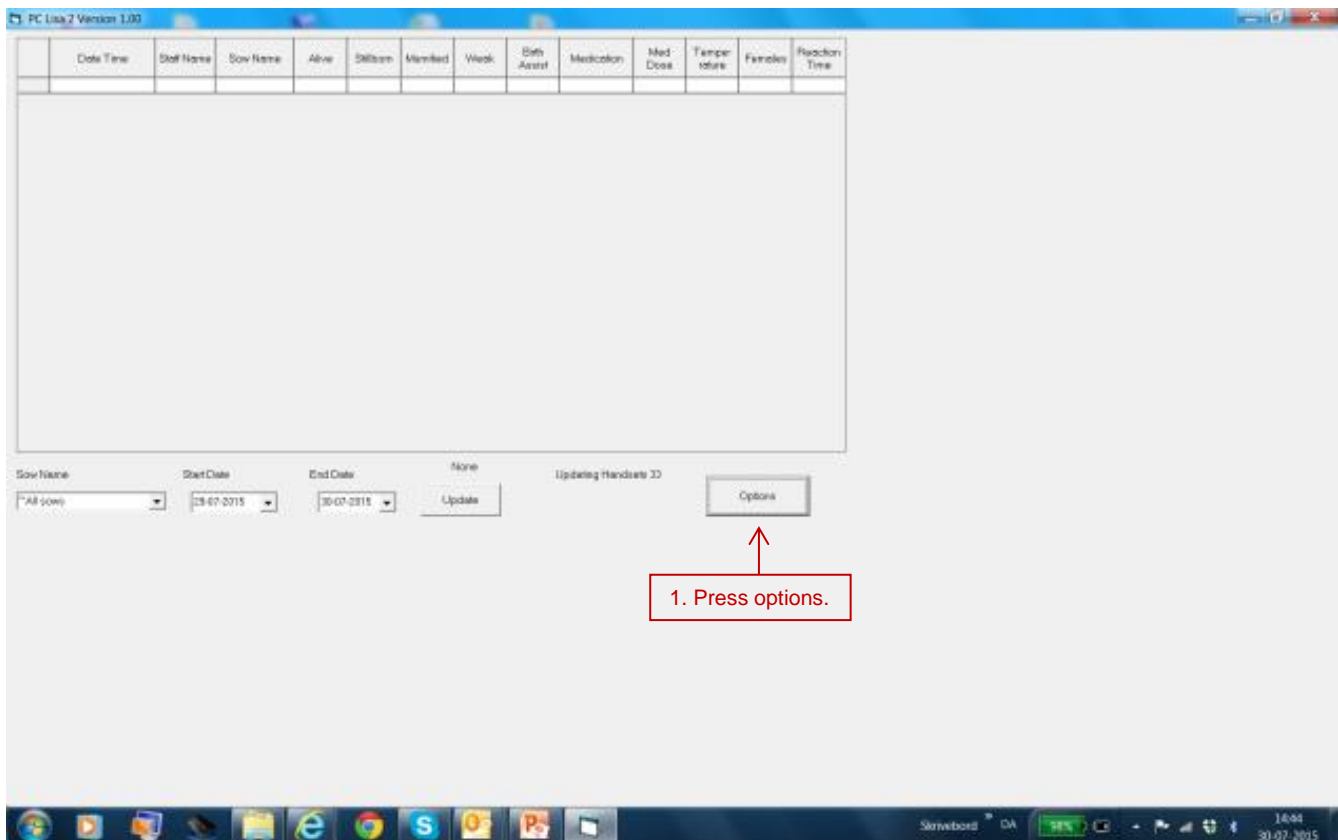
If you want to place your docking station/s far away from your central farm computer for example on the corridor by your farrowing units, then you just need a BUS cable between the data converter and the first docking station.
Attention: The data converter must always be placed close to the central farm computer and not more than the USB cable allows. Extra BUS cable, junction box and BUS connector must be ordered and delivered separately.

Installation of the PC LISA 2 program

- The program is installed by using the USB flash key included in the package or by downloading from <http://www.farminnovation.dk/downloads-lisa>
- Open the file "readme.txt" for help and tips to the installation.
- When inserting the USB flash key with the software, then typically a new window is coming up where you can choose to open up the file. If that happens, then choose "open and see files" Hereafter choose "install LISA2" Right after the LISA2 software will start the installation and the user will be guided all the way through the installation.
- If the USB doesn't open up automatically, then choose USB and thereafter the file by using "pathfinder" Choose hereafter "open and see files" Hereafter choose "install LISA2" Right after the LISA2 software will start the installation and the user will be guided all the way through the installation

Setting up LISA 2 system

- The LISA 2 program is opened by clicking on "PC_LiSa2" icon on the desk top. Hereafter follow the guide down below:



Setting up LISA 2 system

PC LISA 2 ver. 1.00-Options

Staff names

Name
1 Harsk
2 Harsk
3 Thorsen
4 Byena
5 Chronle
6 Ben
7
8
9
10
11
12
13
14
15
16
17
18
19
20

Medicine names

Medicine
1 Paracet
2 Anoxicol
3 Oxylin
4
5
6
7
8
9
10

Alert time 1, HHMM: 00:32

Duration 1, HHMM: 01:33

Alert time 2, HHMM: 00:33

No of Hand Terminals: 10

PC language: UK

Temperature Units: Celsius

COM Port: COM1

Waring

Save, Close

1. Enter staff names, numbers or ID. Click on the box for typing the name

2. Enter medical products. Click on the box for typing the name

3. Enter "Alert time 1" which is defining how often the sows must be checked during the first part of the farrowing process

4. Enter "Duration 1" which is defining the length of period 1 (The first part of the farrowing process where "Alert time 1" is used)

5. Enter "Alert time 2" which is defining how often the sows must be checked during the last part of the farrowing process

6. Enter "Duration 2" which is defining the length of period 2 (The last part of the farrowing process where "Alert time 2" is used)

7. Enter the number of LISA 2 handsets to be used in the herd

8. Choose Celsius or Fahrenheit for recording the sows body temperature

9. Save the settings and close the menu

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Setting up the communication between the LISA 2 data converter and the computer.

1. Insert the USB cable from the data converter to the computer

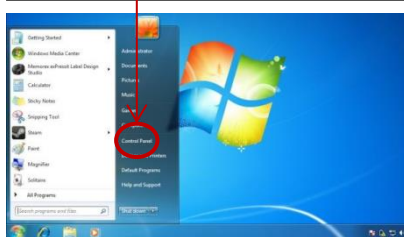
2. Wait until the driver is installed. An information window will be shown down in the right corner on the screen Important: If the driver isn't installed automatically, then follow the instructions under "problem solving"



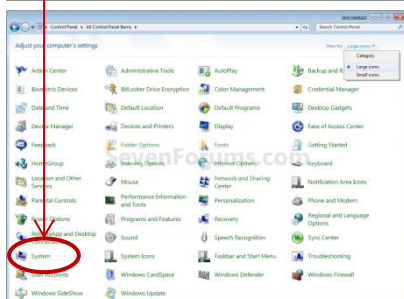
3. Click on the PC start button (Down below in the left corner of the desk top)



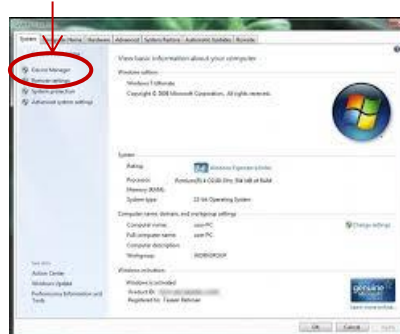
4. Chose "Control panel"



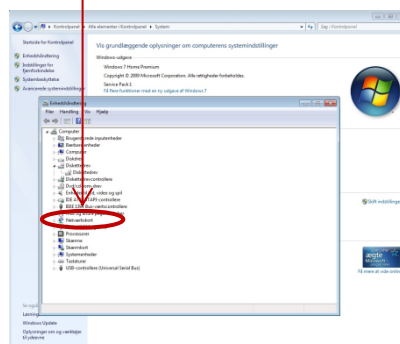
5. Chose "System"



6. Chose "Device management"



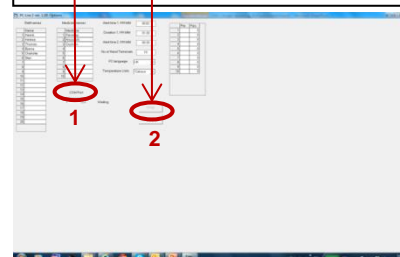
7. Chose "Ports (COM and LPT)"



8. On the list you will find "USB serial port"

9. Identify the COM port which LISA 2 is connected to. Note/remember the number

10. Open the PC LISA program and chose the Com port which was identified in point 9. click hereafter on "safe/close"



Using LISA 2 system.

The system is working as following: When a sow start giving birth, then a LISA 2 handset is taken into use. One single handset is used for one single sow when giving birth – from start to end. The handset is working as a recording unit, recording all actions/data during the farrowing process and work as a warning unit for the staff in order to ensure full focus and on time actions when needed as defined in the settings "alert time" og duration" 1 og 2. When a sow start giving birth, then following is done:

1. One handset is taken to the sow just started up giving birth
2. Activate the handset by pressing **↵** (Enter **↵** is used for saving all records)
3. Chose operator by using the arrow buttons **↑↓** tailored by pressing **↵**
4. Enter the sow ID by using the arrow buttons **↑↓ →**
 - When pressing **↑** then numbers from 0 – 9 can be chosen
 - When pressing **↓** then litters from A – Z can be chosen
 - When pressing **→** then the next number or letter can be chosen
 - When the sow ID is done, then press **↵** for confirmation. Hereafter the operator is asked to do a final confirmation, which is done by pressing **↵**
5. Enter the first action in the farrowing process, which indicate that the farrowing process is started. Actions are chosen in the menu, which appears on the display. Choose your action with the arrow buttons **↑↓** tailored with **↵**. Hereafter a box appears for entering data, where the arrow buttons are used **↑↓** tailored with **↵**. Hereafter other actions in the menu can be chosen and all relevant actions can be entered. When all actions are entered for this visit to the sow, then choose "Done" down below in the menu for final confirmation.
6. Hang the LISA 2 handset up above the sow/pen

Now the timing of the farrowing process is activated, thus the start time is recorded with date and time when entering the sow ID. On the display the sow number and the remaining time for the next visit is shown. On the display the remaining time for the next follow up visit will count down minute by minute and when the time runs out, then the LISA 2 handset will start flashing slowly red. If the sow is not visited before five minutes after the time has run out (Start slowly red flash) and the operator doesn't enter any data at the visit or the visit is just confirmed by pressing **↵**, then the frequency of the red flash light be intensified to fast red flash light and the overdue time will be shown on the display, which continues until data/actions are entered or a visit is confirmed by pressing **↵** in LISA 2. Confirming a visit without entering any actions/data is done by pressing **↵** Tailored by "Chose operator" **↵**. Hereafter will the unit after one minute again show the sow ID and the remaining time for the next visit on the display.

By entering data/actions or if a visit is only confirmed, then the timer for the next visit is reset, which is shown on the display.

By the second and subsequent visits at the sow are born piglets and actions recorded successive. Following actions can be recorded:

1. Alive piglets.
2. Still born piglets.
3. Mummified piglets.
4. Weak born piglets.
5. Birth assistance.
6. Medication.
7. Body temperature
8. End of birth

When the farrowing is completed and the placenta has been delivered, then the timing and recordings are closed by pressing **↵** and thereafter scroll down in the menu choosing the lowest text "end of birth" **↵** tailored with pressing **↵**. The line "End of birth" is not visible in the menu, thus it is placed under the text "Done" which is the last visible line on the display.

Now are the farrowing time and all actions stored electronic in LISA 2 handset. Hereafter following is done:

1. Use the handset at the next sow giving birth. (Data from 100 sows, finish farrowing can be stored in one handset)
2. Insert the handset in the docking station for transferring data to the computer (PC LISA program) and charge the battery in the handset. When a handset with data is inserted in the docking station, then the data transmission will automatically starts, which is visualised with a violet flash in the handset. Important: If two or more handsets are continuing flashing violet at the same time, then it is because that two or more handsets are having identical ID numbers. See how to solve this under "problem solving"
3. Switch off the handset by pressing ESC for three seconds

Using LISA 2 system.

Attention:

1. If the battery is low, then a warning will be shown on the display.
2. When the handsets are placed in the docking station, then data are transmitted automatically and the battery will be charged. The data transmission can only take place when the PC LISA program on the computer is open.
3. If the PC LISA program is not open when the handsets are placed in the docking station, then data will be transferred from those handsets which are placed in the docking station when the PC LISA2 program will be opened.

LISA 2 Light signals when placed in the docking station

LISA 2 handsets are giving you valuable light signals about their status.

1. Blue light = No active data communication between the PC and the handset
 - Blue flash light Data are stored in the handset and not transferred. Charging is going on
 - Blue constant light Data are stored in the handset and not transferred. The battery is fully charged
2. Violet light = Active data communication between the PC and the handset
 - Violet flash light Data is being transmitted. Charging is going on
 - Violet constant light Data is being transmitted. The battery is fully charged
3. Green light = The handset is empty (no more data)
 - Green flash (regular frequency) The handset is emptied for data. Charging is going on
 - Green flash (slowly frequency) The handset is emptied for data.. The battery is fully charged

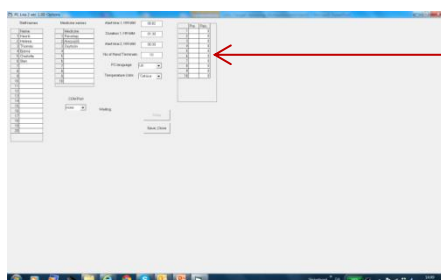
Problem solving

Manuel installation of driver for the USB data converter.

1. Insert the USB flash key with the med PC LISA 2 software
2. Open the file "install USB driver"
3. Follow the instructions during the installation
4. Take out the USB cable from the computer and insert it again
5. Hereafter the driver for the USB data converter will automatically be installed.

Change ID numbers in handsets.

1. Turn on the LISA 2 handset
2. Press ↑ for three seconds
3. The ID number can be changed by using the arrow buttons ↑↓
4. Chose an ID number which are not in use. ID numbers already in use can be identified if all handsets are placed in the docking station at the same time. The ID numbers will be shown on the screen picture "options" in the PC LISA2 program.



ID numbers are shown here

Data handling in LISA 2 PC software

The collected data can when transferred to the PC LISA 2 software be used in several ways:

- If you are using a management program which has interface with LISA 2 system, then data can be transferred directly to the management program. Hereafter can the data be handled and analysed in the management program.
- You can do simple analyses in the PC LISA 2 software. You can chose a specific period and see all actions in the period, sows that gave birth in the chosen period can be selected and all actions for that individual sows will be shown. All actions will be shown divided and with a time log for each action entered in LISA 2.

The screenshot displays the 'PC Lisa 2 Version 1.00' software window. The main area contains a table with the following columns: Date Time, Soff Name, Sow Name, Alive, Stillborn, Murnifed, Week, Birth Assist, Medication, Med Dose, Temperature, Females, and React Time. The table lists various data points for different sows and dates.

Below the table, there are control elements:

- Sow Name:** A dropdown menu currently set to 'All sows'.
- Start Date:** A date selector set to '13-08-2015'.
- End Date:** A date selector set to '14-08-2015'.
- Update:** A button to refresh the data.
- Options:** A button for additional settings.

Three red boxes with arrows provide instructions:

- 'Choose between all sows and individuals' points to the Sow Name dropdown.
- 'Choose your period' points to the Start and End Date selectors.
- 'Update is used for receiving the last new data from the handsets.' points to the Update button.

The Windows taskbar at the bottom shows the system tray with the date '14-08-2015' and time '11:23'.