

Big Manual

User manual

Poultry scale FlexScale2

Code no. 99-94-0901__GB

Edition: 07/2024



Big Dutchman®

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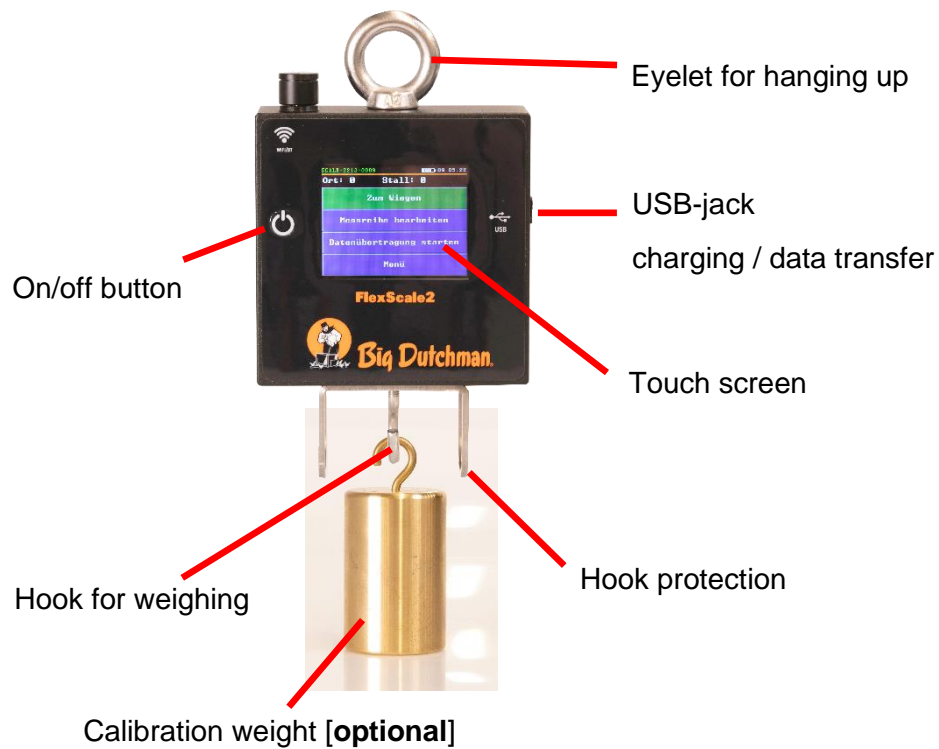
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1 Scope of delivery



2 Operation

2.1 Overview



2.2 Power on/ Power off

The scale is switched on by pressing the on/off button.

Press and hold the button (for more than 3 seconds) to turn off the scale.

2.3 Charging

The scale is charged by using the included power adapter or the included in-car charger [5 V, 1 A]. Charging with the supplied batterie charger takes approximately 3 hours. The scale should be turned off while charging for best charging speed.

2.4 Weighing

There is an eyelet on the top of the housing for hanging up the scale.

A hook is mounted on the bottom of the housing, which is protected by a hook guard. A wing clamp, for example, can be mounted on this hook to weigh chickens.

Maximum weights of 10 kg (40kg with the special turkey version) can be weighed. In the event of an overload, the scale displays "**OVERLOAD**" instead of the weight. In addition, the same message will be displayed if the weight falls below -1 kg.

Once a weight has been recognized as stable, the weight is visually highlighted, and the value will not change until the weight is removed again. Depending on the setting, a short signal tone is emitted when the weight is stable.

2.5 Interfaces

There is an USB interface that can be used to transfer stored measurement data directly to a PC software via a standard USB cord.

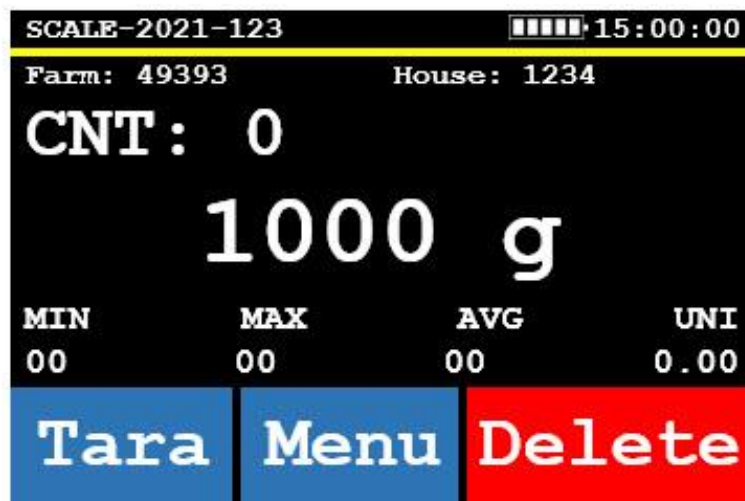
3 Measuring display and operating modes

3.1 Measuring display

In both operating modes, the name of the balance, the battery level and alternately the date and time are displayed in the header line at the top, separated by a yellow line.

The "Tara" button is used to tare the balance and the "Menu" button is used to retrieve the menu to change settings.

3.2 Save on Scale



In "Safe on scale" mode, measurement series can be created on the scale. The measured weights are stored on the scale and statistical data is shown on the display at the same time.

Alternatively, the data can also be transferred via USB cord to a PC with our **FlexScale2 Software** and then evaluated or forwarded.

The last measured value can be deleted by using the "Delete" button.

The statistical readings on the display have the following meaning:

CNT	Number of measurements
MIN	Minimum
MAX	Maximum
AVG	Average
UNI	Uniformity

4 Tara

To tare the balance, press the "Tara" button on the measuring display. The balance is then tared to the current load on the hook. Once the message "Tara..." has disappeared from the display, the balance is ready for use again.

5 Menu

5.1 Test series

This menu is **only** available in **"Save on scale" mode** and is also immediately displayed when the scale is switched on.

5.1.1 Start weighing

Continue an already created test series

5.1.2 Edit test series

Submenu for editing a measurement series

5.1.2.1 Create new test series

A new test series is created. For this, the current test series is closed, meaning it can no longer be continued.

To open a new measurement series, it will be required to enter a maximum 5-digit farm number and a maximum 4-digit house number.

5.1.2.2 Finish test series

Finishes the current test series

5.1.2.3 Change house number

Changes the previous indicated farm number and house number for the active test series.

5.2 Language

Changes the desired language of the user interface.

5.3 Calibrate Scale

The balance can be calibrated by the user. This requires a 1 kg weight.

To start the calibration, press the "Calibrate scale" button in the menu. Confirm the query with "Yes".

Clear the hook or hang the bracket for the 1 kg weight on the hook; then touch the display once to tare the scale.

Finally, attach the 1 kg weight to the hook and touch the screen again as soon as the weight is steady. The scale will now be calibrated.

When the calibration is concluded, two values are displayed which are only needed for diagnosis.

5.4 Stability

This setting is used to improve the stability detection of fluctuating weights.

A speed value within a range of 1 to 20 is specified. The default value is 5.

The lower the speed, the more accurate the detected weight. As a result, stability detection takes correspondingly longer. At a high speed, a stable weight is detected more quickly at the expense of accuracy.

5.5 Gender

To record the gender of the weighed animals, there is a Gender setting. When this is active, a small symbol for (♀) or male (♂) is displayed on the weighing screen.

By pressing the respective symbol in the weighing screen, the sex can be changed. Animals are assigned to the sex displayed at the time of weighing.

5.6 Multiple animals

This setting allows you to weigh several animals at once and display the statistic values for individual animals. Minimum, maximum and uniformity are averaged to the number of animals weighed at the same time. This can be used, for example, to weigh several chicks together in one basin.

The number can be randomly chosen from 1 (no "multi-animal") to 99 and can be changed in the course of a series of measurements.

5.7 Minimum weight

The measured weight must be above the minimum weight before the balance will recognize the weight as stable.

Range: 20 g to 8000 g
Default: 20 g

5.8 Settings

Submenu with settings that are needed less frequently.

5.8.1 Set clock / date

Time and date can be set separately.

5.8.1.1 Set time

The time is entered in hhmmss format. The time 15:00:00, for example, is entered as 150000.

You will then be asked for the time zone [-12 to +12], which is +1 (winter time) or +2 (summer time) for Germany.

5.8.1.2 Set date

The date is entered in a ddmmYY format. To enter the date 01.01.2021, for example, type as follows: 010121.

5.8.1.3 Set date format

One of the date formats "dd.mm.yy", "yy-mm-dd" or "mm-dd-yy" can be selected here.

5.8.2 Automatic shutdown

If no weighing or menu settings have been conducted for a long time, the scale switches off automatically to conserve the battery power. This time can be set between 1 and 99 minutes. Default value is 15 minutes.

5.8.3 Tare on start

5.8.3.1 No tare

The scale does not tare when turned on.

5.8.3.2 Tare query

When the scale is switched on, the user must specify whether taring shall be performed.

5.8.3.3 Automatic tare

The scale automatically tares when turned on.

5.8.4 Notification tone

If a stable weight is detected, it can be set whether this is signalled by an acoustic signal or no signal at all.

5.8.5 Weight unit

This setting allows you to change the weight unit used for measurements. The choices are grams [g] and pounds [lbs].

5.8.1 Calibrate touch screen

If the display responds poorly or inaccurately to inputs via the touchscreen, a new calibration can be performed. To do this, the crosses appearing on the display must be touched one after the other with a thin tipped object (e.g. Stylus, a blunt pencil).

5.8.2 Delete data

All existing measurement series and data will be deleted. The settings will be maintained.

5.8.3 Reset scale

Resets the scale to the factory default settings; in addition, any existing measurement series and data will be deleted.

6 FlexScale2

6.1 Setup and use of the FlexScale2

The **FlexScale2** is geared to you and your application area.

You can operate the scale:

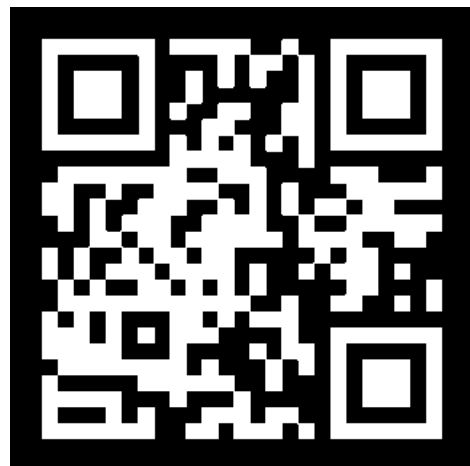
1. **Individually**
2. in connection with our **PC software**
3. in connection with the website - provided on the **FlexScale2** - and a **WiFi device** of your choice (IoT function)
4. in connection with your WiFi, the - on the **FlexScale2** provided - website and several end devices of your choice everywhere **in your network** (IoT function)
5. in connection with multiple **FlexScale2** scales **and your own secure server**.
For automatic synchronization of all **FlexScale2** scales and location-independent access to all data collected - from your various **FlexScale2** scales. (IoT function)

To integrate the **FlexScale2** IoT into your WiFi, please use the direct connection of the **FlexScale2** with your end device.

To do this, switch on the scale and check whether the scale is visible in the WiFi menu of your end device. If the scale is not in the list of available WLAN networks, please restart the scale and the WLAN connection of your end device.

As soon as the scale is visible in the WiFi menu of the end device, you can connect to it. The password corresponds to the name of the WiFi network of the scale.

After the connection is established, you can open the scale's web page by scanning the scale's QR code or manually entering the IP address 192.168.4.1 in the address field of your web browser.



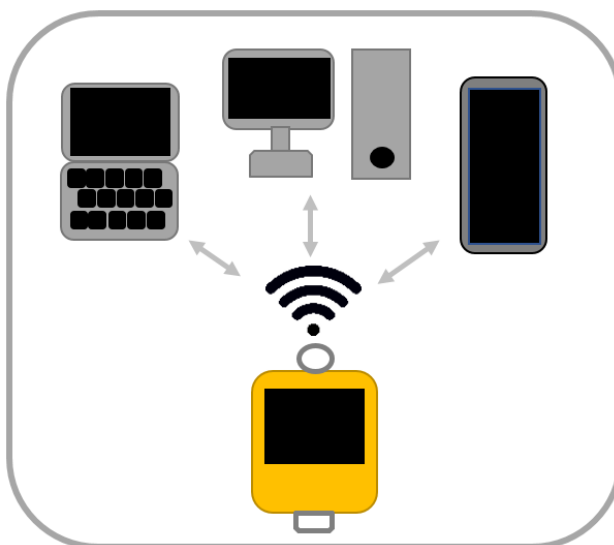
6.1.1 Direct connection between the BIT PS 4.0 IoT and your end mobile device

In case there is no WiFi available at the location where you're using your scale, the **FlexScale2** has its own WiFi (AP mode). In this way, many detailed statistics are available to you on the website provided by the scale.



6.1.2 A connection between the BIT PS 4.0 IoT, your WiFi and several end devices

As soon as you have established a direct connection between the BIT **FlexScale2** and your mobile device, you can set up the scale via the web page - provided on the **FlexScale2** - with the credentials of your WiFi. The **FlexScale2** is now accessible from all devices in your network. As soon as the **FlexScale2** detects your WiFi when starting, a connection is automatically established.



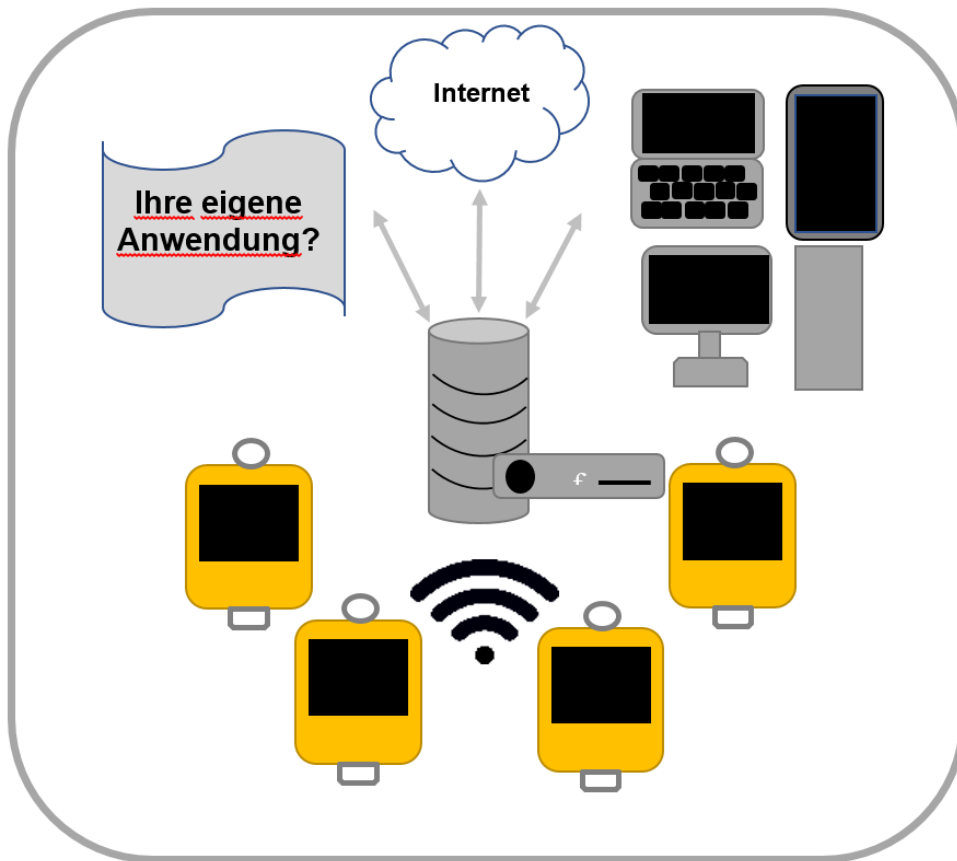
6.1.3 A connection between the FlexScale2, your WiFi, your server and multiple end devices

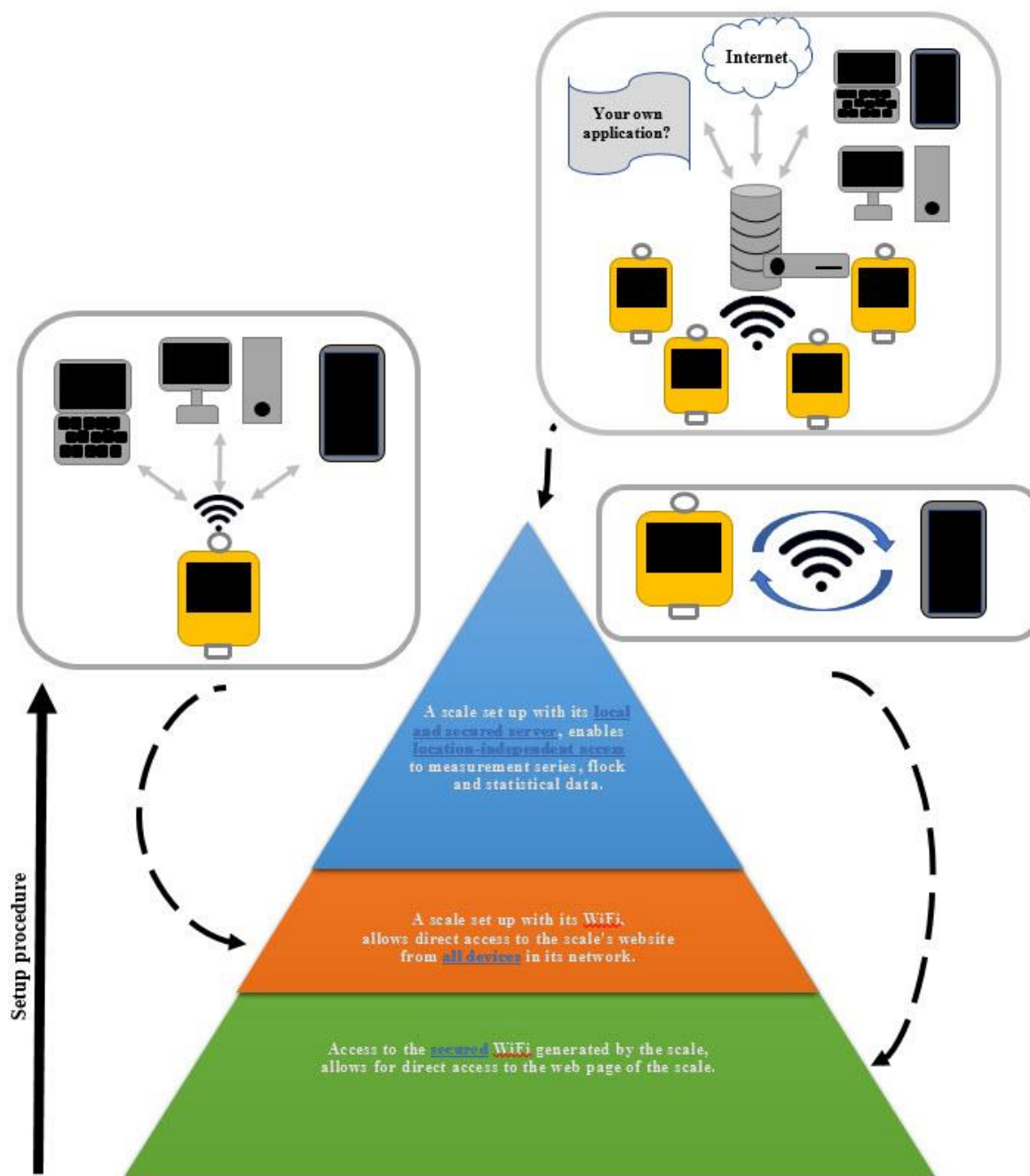
When setting up the scale in your WiFi, you have the option of specifying the URL of your secure server. For this purpose, we provide you with a software package that you can install on your own server.

With a configured server, the **FlexScale2** automatically synchronizes all measurement series as well as flock and statistical data. If you have set up your server for an external connection, you can now view the collected measurement data either only within your secured WiFi, or view your measurement data regardless of location.

In addition, several **FlexScale2** scales can synchronize with a server. On the website of your server, you can then use various filters to view the measurement data of all scales in an overview regardless of location.


Of course, all previous access options, such as the direct connection or the connection with multiple end devices in your WiFi, can still be used in this mode.





6.2 Using the FlexScale2 website

Scale connected.



Serial Number:

2113-0001

Wifi:

Connected

SSID:


BroeringIT


IP:


192.168.1.207


Database:


Not connected


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From

TT . MM . JJJJ

To

TT . MM . JJJJ

Farmnumber

All ▼

Housenumber

All ▼

Weghtunit

Gram ▼

When opening the web page provided on the **FlexScale2**, you will first find various menu items.

Here you have the possibility to open a print dialog for the selected measurement series, to export the selected measurement series as a CSV file, to re-fresh the page or to go to the settings menu of the **FlexScale2**.

Further below, various filters are available for the displayed measurement series.


FlexScale 2 WiFi ✕


SSID	Quality
BroeringIT	-61
BroeringIT_N	-81


Password


☐ Database Synchronisation

Apply









From

TT . MM . JJJJ

To

TT . MM . JJJJ

Farmnumber

All ▼

Housenumber

All ▼

Weghtunit

Gram ▼

In the settings menu you have the possibility to set up your local WiFi and to set up your secure server for automatic synchronization of all measurement series as well as flock and statistical data.

Housenumber

Weightunit

ID	Date	Farmnumber	Housenumber
13	2022-04-22	55	55
12	2022-04-06	5	5
11	2022-01-13	5	5
10	2022-01-13	5	5
9	2022-01-13	111	222
8	2022-01-04	8	8
7	2022-01-04	6	9
6	2022-01-04	7	7
5	2022-01-04	5	6
4	2022-01-04	3	3
3	2022-01-04	4	4

FlexScale 2 - Statistic

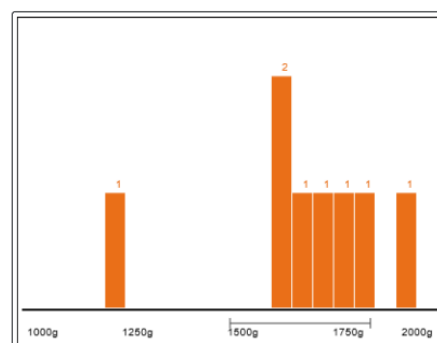
Minimum	1239 g
Maximum	1903 g
Average	1674 g
Count	8
Uniformity	75,00 %
Date	2022-01-04

No	Timestamp	Weight (g)	Multiple Animals
1	10:12:06	1726	1
2	10:12:10	1657	1
3	10:12:10	1757	1
4	10:12:12	1642	1

Next, you will notice a selection of your measurement series. Here you can achieve a better overview with the filters provided to you.

For this purpose, statistical data points are determined for each measurement series. After you have selected the desired measurement series, you can view various detailed statistics for your measurement series.

No	Timestamp	Weight (g)	Multiple Animals
1	10:12:06	1726	1
2	10:12:10	1657	1
3	10:12:10	1757	1
4	10:12:12	1642	1
5	10:12:14	1634	1
6	10:12:18	1903	1
7	10:12:20	1239	1
8	10:12:24	1835	1



In the lower section of the **FlexScale2** website you have the option to view the individual weights of your measurement series.

Here the measurement series is also available in the form of a histogram.

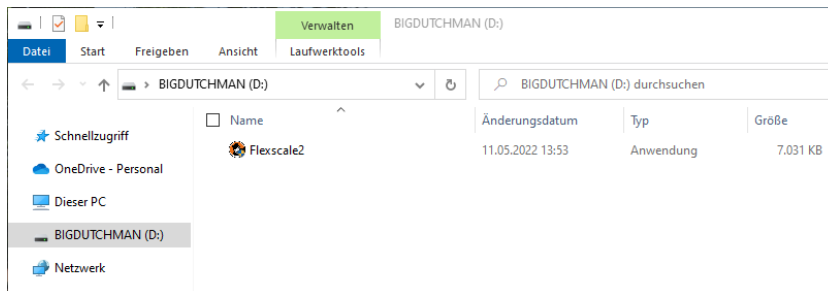
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7 PC-Software

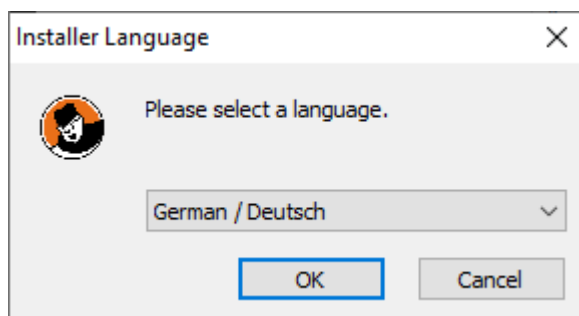
The following describes the installation and use of the " **FlexScale2**" software. The end device should be operable with at least Windows 7.

7.1 Installation

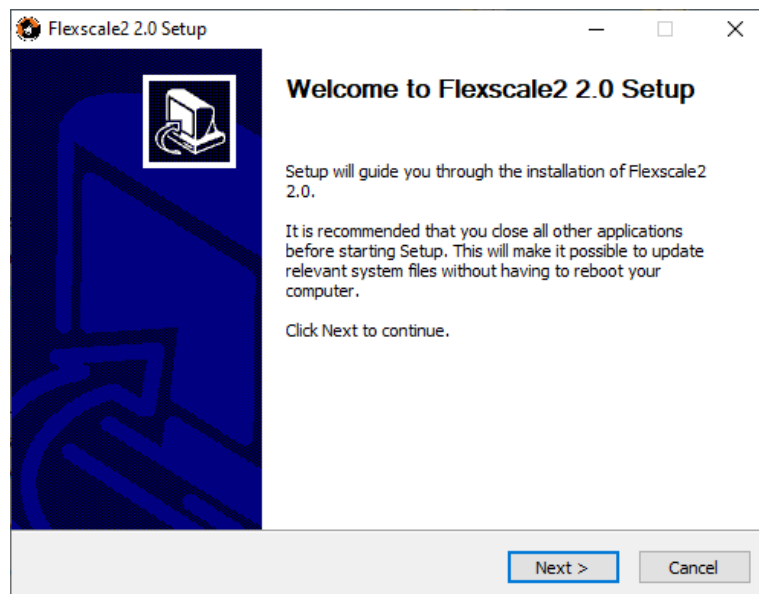
- Connect the supplied USB stick to your PC.



- Start the FlexScale2 application by double-clicking.



- You are asked for the language, which you select accordingly.

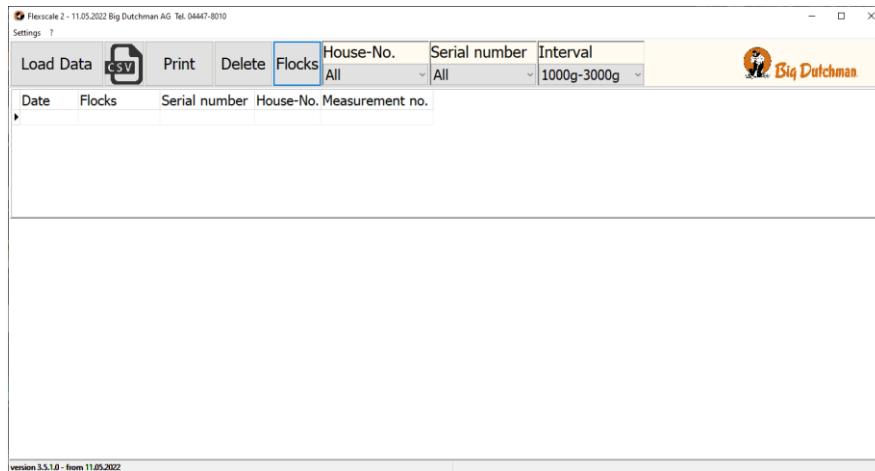


- The installation wizard opens. Click on "Next" and follow the instructions.

7.2 Program start

When you start the program for the first time, you will not see any data. To import the data from your scale into the PC software, connect the scale to the PC using the supplied USB cord and click on the "**Load data**" button.

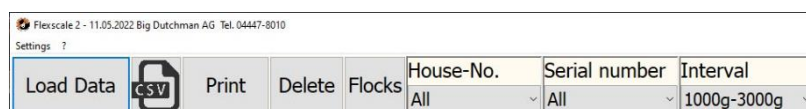
This is explained in more detail in chapter 7.3, Importing measurement data.




At the top of the window, you will find two menu bars.

In the upper menu bar, there are the following items:

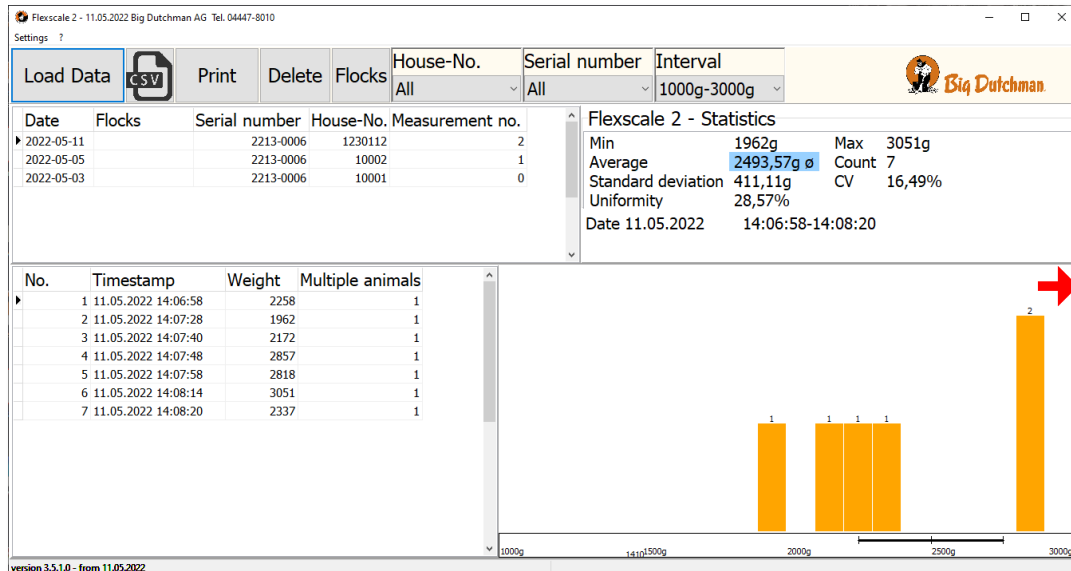
- Settings:** Menu for selecting language, print options, cloud upload, and chick weighing
- Language:** Change language to German, English, Spanish, Russian and Chinese
- Print options:** Enter your own address and logo for the print preview
- Upload:** Possibility to upload to the cloud database or own SQL database
- Unit:** Change displayed weight unit between grams (g) and pounds (lbs)
- Chick weighing:** Possibility of chick weighing by connecting a laboratory scale
- ?:** Link reference to the BITPS 3.0 manuals/instructions



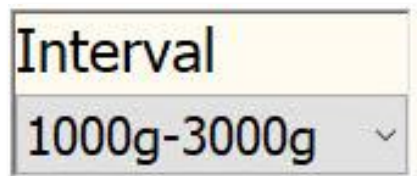
In the lower menu bar, you will find the following items:

- Load Data** Opens a window to import data
- CSV**  Saves a measurement series in .csv format and "MTool" compatible
- Print:** Print the selected measurement series
- Delete:** Delete measurements
- Flocks:** Flock registration and weight analysis
- Filter:** Sorting available according to serial number and houses no.
- Interval:** Selection of the interval limits of the weight distribution histogram

If you have already imported data, you will see a database table with the header data of the individual measurement series, and below that the individual measurements. In the upper right section, you see the statistical evaluation and in the lower right section a histogram of the individual weights.

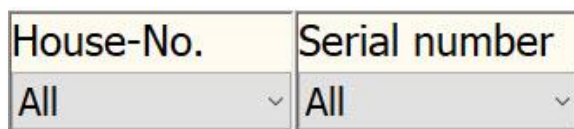


In the histogram you see weight intervals and the number of animals that fall into the respective interval. The $\pm 10\%$ range that calculates the uniformity, is marked by a horizontal bar below the diagram.



The resolution of the x-axis can be changed in the "interval" dropdown menu.

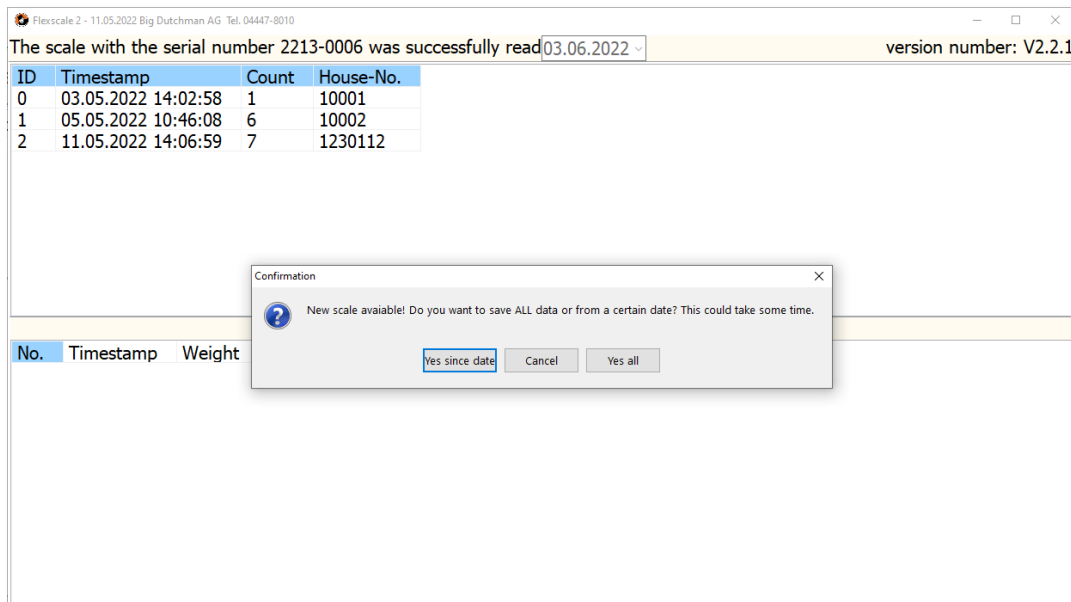
In the lower menu bar, there is a filter option which allows you to search or sort your measurement series according to "Serial No." and "House No.".



7.3 Importing measurement data

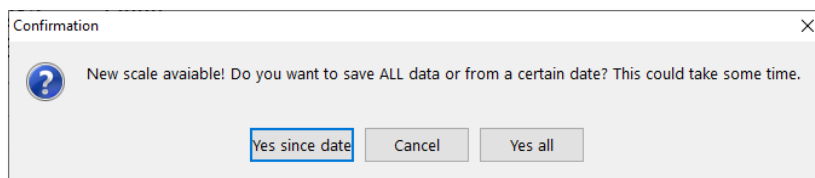
To import measurement data from the scale, press the **"Load data"** button. Before doing so, connect the scale to the PC by using the supplied USB cable.

A new window opens, and the data of the scale is displayed.

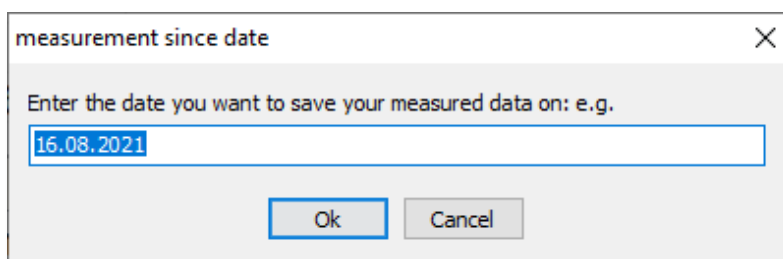


The program checks which data has already been transferred. If a scale is connected to the PC for the first time and a lot of data has been stored on the scale, it may take a while to import it.

To avoid this, data can also be imported starting from a specified date.

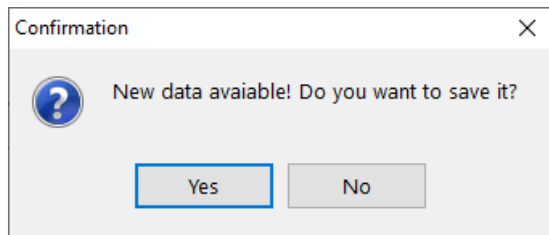


If you want to save data from a certain date, click on "Yes" and a new window opens. There, you can enter the desired date.

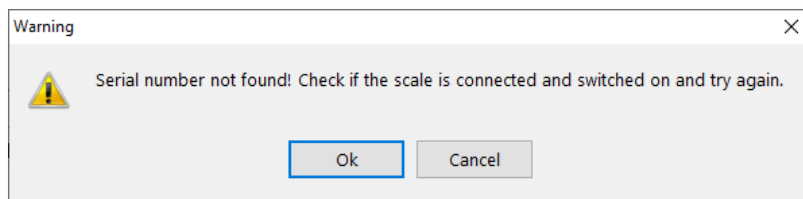


The program only reads out new data. If you want to read out old data, you will have to delete all data in the program up to the desired old data.

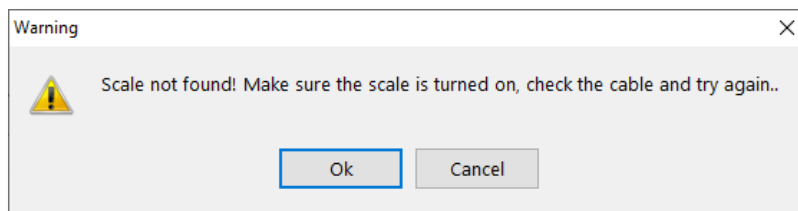
When using the scale as usual later, the following window opens:



With a simple click on "**Yes**", you automatically save your new measurement data in the attached database.



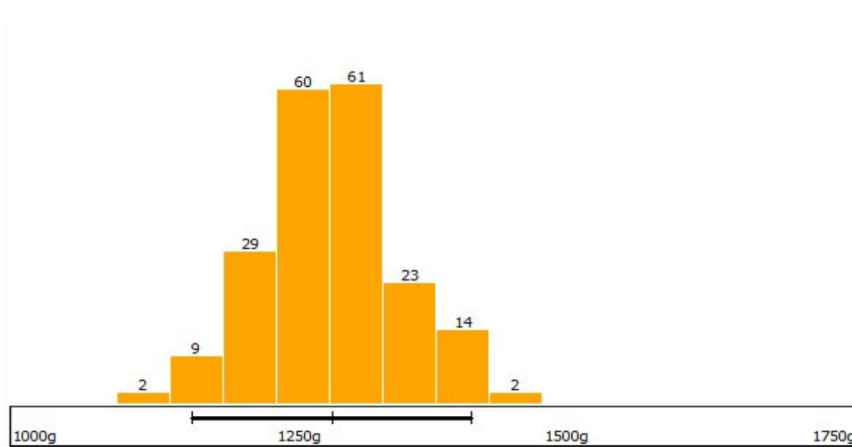
If this error message appears, you probably not turned on your scale correctly or your scale connection has not yet been recognised. Make sure that your scale is turned on and continue with the "OK" button.




Check the USB cord on your scale and continue with "OK" on the connected PC or laptop.

7.4 Histogram

Here you can see the histogram again.



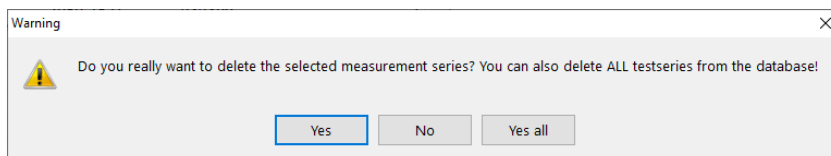
The orange bars mark the respective intervals. The number above the bars is the number of individual weights that fall within the respective interval.

If you see a horizontal red arrow in the histogram, there are weights that are no longer in the visible area of the diagram. Simply click on the  arrows to change the interval.

7.5 Deleting measurement

If unusable or erroneous measurement data has been uploaded to the software, you can easily remove it with the **"Delete"** button.

A pop-up menu opens which ensures if you really want to delete the imported measurement series. You also have the option of deleting all your measurements.



In addition, it is possible to delete individual measurement data of a measurement series. To do this, simply click right on the desired row and click on **"Delete"** to remove it.

No.	Timestamp	Weight	Multiple animals
1	11.05.2022 14:06:58	2258	1
2	11.05.2022 14:07:28	2172	1
3	11.05.2022 14:07:40	2857	1
4	11.05.2022 14:07:48	2818	1
5	11.05.2022 14:07:58	3051	1
6	11.05.2022 14:08:14	2337	1
7	11.05.2022 14:08:20		

7.6 Saving Data

7.6.1 CSV

With our software, it is possible to save your measurement series as a .csv file (Excel™) and integrate it into the MTool animal weight analysis program.

To do this, you only must click on your desired measurement series and on the button in the upper menu bar, and a window will appear to save your data.

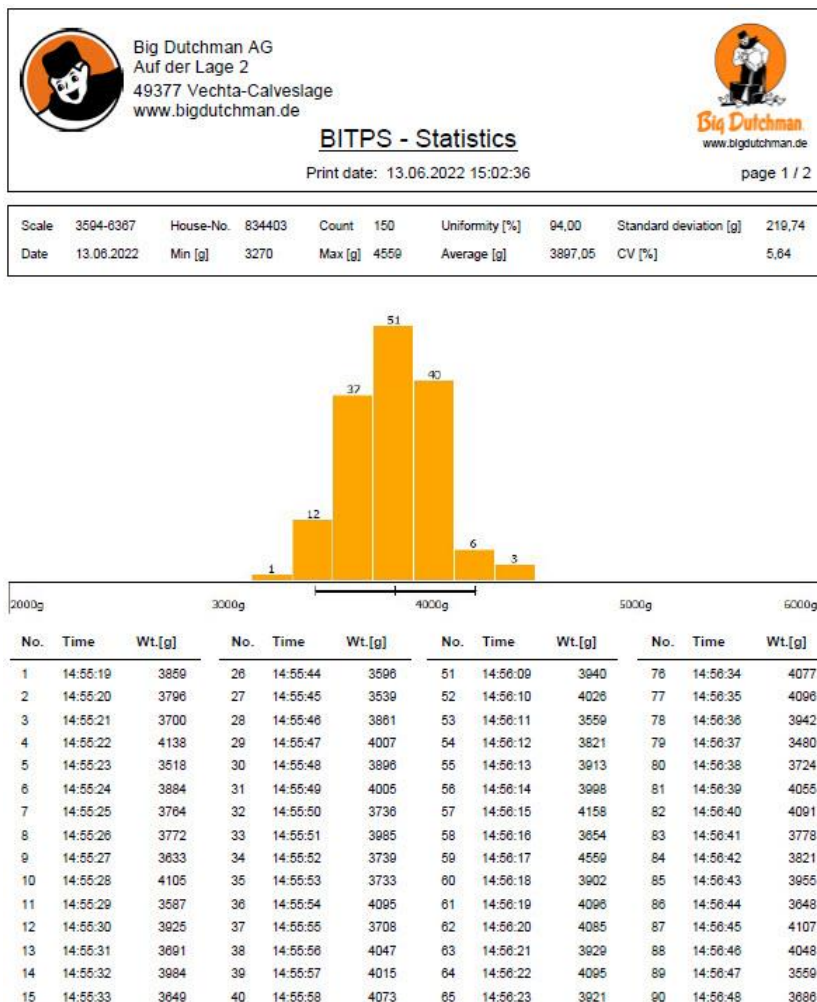



For more information on the **MTool** animal weight analysis program, see:

<https://www.mud-tierschutz.de/mud-tierschutz/beratungsinitiativen/etablierung-eines-managementtools-bei-legehennen/mtool-fuer-jung-und-legehennen/>

7.6.2 Print

If you want to print out a completed measurement series, this is possible by clicking on the menu item "**Print**" in the main window. A new window appears with a print preview.



On this information sheet you can see an evaluation of your measured values, a histogram, and all measured values, which you can print out. By pressing the button  you can print the document as seen above.

The header with the company address and logo can be changed as desired.

To do this, click on the menu item **"Print options"** in the **"Settings"** menu bar.

A new window appears with 4 input options and an option to upload your logo.

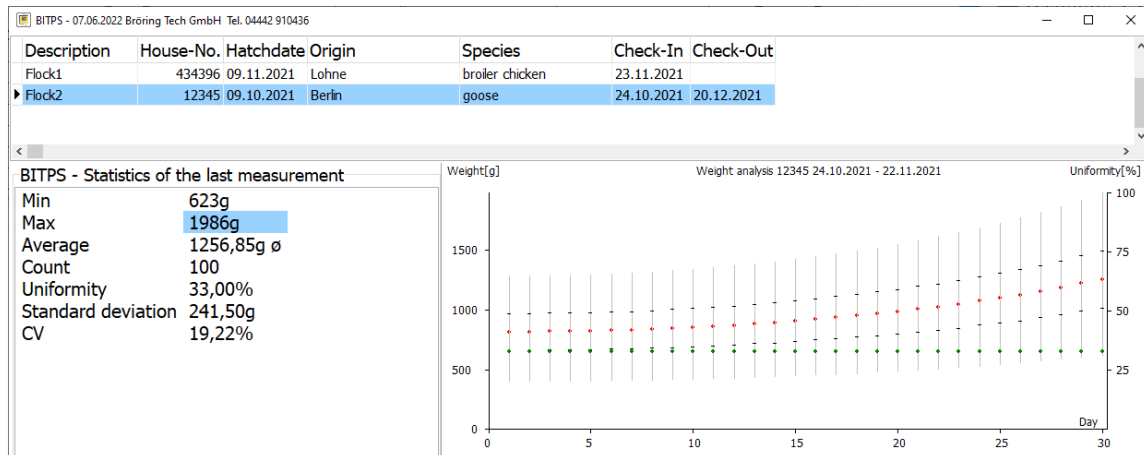
By clicking **"Open"** you can upload your desired logo. After you have added your address in the text fields, you can confirm your entry with **"Save"** and a confirmation window appears.

7.7 Weight analysis

To enter a flock, first select a measurement series of a house and click on the button **"Flocks"**. A new form appears to enter the flock information.

For the weight analysis, the Check-in date and the hatch date are required. In addition, the origin, the species, the Check-out date, and a name for the flock can be entered. Click on the **"Save"** button to save your information.

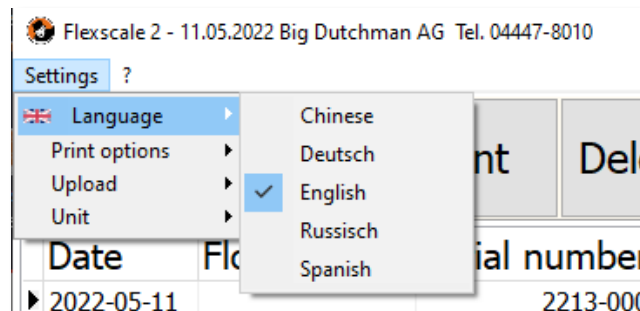
To view the horde analysis, click on the button **"Form"**.



There you can see the flocks depending on the stabling date (Check-In), and statistics of the last measurement series of the selected flock. In addition, you can see the weight of the flock over a certain period of time. If a flock has been stabled for more than 40 days, weeks instead of days are displayed for clarity. In this form, the date of removal (Check-Out) can be entered by selecting the house and right clicking on it. This makes the house available for new flocks.

7.8 Select Language

To change the language, open the menu item **"Language"** in the main window. There you can choose between the languages German, English, Spanish, Chinese and Russian.



7.9 Chick weighing

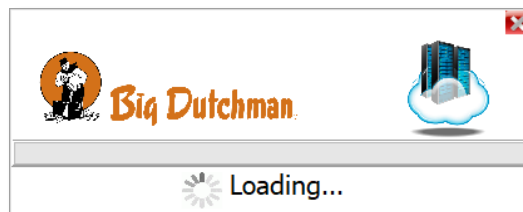
There is a possibility to weigh chicks with a laboratory scale. To do this, the chicks are simply placed on the scale and recorded when the weight is stable. This data can then be completed with the **"Close"** button and is recorded in the database. The current weight of the scale is constantly displayed, and notification sounds indicate whether a chick has been recorded or a new chick can be weighed.

7.10 Cloud upload

This function is only available if you have cloud access.

The menu item “**upload**” allows you to upload your data to a cloud database. All data that has not yet been recorded by the cloud database is automatically uploaded. You can also have your data uploaded to your own in-house server.

We will support you during the installation of this server.



8 Technical information

Device designation:	FlexScale2
Protection class:	IP23, Protected from water spray
Temperature range:	Operating 5 °C to 45 °C, storage 0 bis 60 °C
Air humidity:	Max. 90%, non-condensing
Rechargeable battery:	18650 Li-Ion, 1 cell, 3000 mAh
Battery life:	Up to 16 hours
Charging time:	Approx. 3 hours
Battery charger:	5 V DC, 1 A, external USB power supply unit
Connector:	USB type B
Bluetooth:	Class 2, up to 10 m
WiFi:	802.11 b/g/n (2,4 GHz)
Dimensions:	206 x 125 x 57 mm (H, W, D)
Weight:	816 g

Accessories:	Battery charger (Output 5V/1A, Input 100-240V/50-60Hz), In-car charger (Output 5V/1A, Input 12V DC), USB-cable (USB type B to USB Type A), User Manual, Carrying case
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Optional:	Various suspending devices for chickens, Calibration weight 1 kg
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Safety notices:

This device complies with the conditions 2004/108/EC (electromagnetic compatibility) and 2006/95/EC (low voltage) as specified in the addendum 93/68/EEC (CE mark).

9 Declaration of Conformity

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Declaration of Conformity

Konformitätserklärung für Geräte mit CE-Zeichen
Declaration of Conformity for devices with CE sign
Déclaration de conformité pour appareils portant la marque CE
Declaración de conformidad para aparatos con marca CE
Dichiarazione di conformità per apparecchi contrassegnati con la marcatura CE

Konformitätserklärung: Wir erklären hiermit, dass das Produkt, auf das sich diese Erklärung bezieht, mit den nachstehenden Normen übereinstimmt.

Declaration of conformity: We hereby declare that the product to which this declaration refers conforms with the following standards.

Declaración de conformidad: Manifestamos en la presente que el producto al que se refiere esta declaración está de acuerdo con las normas siguientes

Déclaration de conformité: Nous déclarons avec cette responsabilité que le produit, auquel se rapporte la présente déclaration, est conforme aux normes citées ci-après.

Dichiarazione di conformità: Dichiariamo con ciò che il prodotto al quale la presente dichiarazione si riferisce è conforme alle norme di seguito citate.

Digitales Messsystem: BIT PS 4.0 IoT

EMV-Richtlinie 2004/108/EG EN 55022:2010 EN 61000-3-2:2006+A1:2009+A2:2009 EN 61000-3-3:2008 EN 55024:2010

Lohne, 1. January 2018

A handwritten signature in blue ink, appearing to be "S. B.", is written over the date.