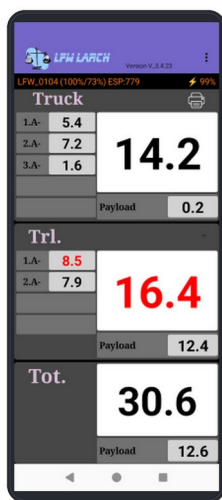


OPERATING MANUAL

Air suspension scale

LFW-ESP-APP

Model: smartphone app “LFW V2” for LFW-ESP-20 and LFW-ESP-DIN



Document	BA-31102026-LFW-ESP-APP-EN
Device	Smartphone (Android / iOS) with app “LFW V2”
Version	V311026
App	Illustrations: app version V_3.4.23, language EN
Issue	10/2026

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1 General description

With the app “LFW V2”, a standard smartphone becomes a display and control unit for the LFW-ESP-20 and LFW-ESP-DIN air suspension scales. The app shows the axle loads, the weight of truck and trailer and the total weight.

The smartphone connects to the measuring unit via Wi-Fi. For this, the measuring unit in the truck sets up its own network named LFW_<FID><AID>, e.g. LFW_0104. The measuring unit in the trailer joins the same network if the company ID (FID) and trailer ID (AID) match.

All displays and settings of the weighing system are available via the app. Transferring the system to another vehicle, the sensor mapping and changing the warning weights (legal requirements) are only possible via the app.

App “LFW V2” – free of charge for Android and iPhone

Android: Google Play Store, play.google.com/store/apps/details?id=com.lfw.lfw

iPhone: Apple App Store, search for “LFW V2”.

In addition to the smartphone, the LFW-ESP-M5 display unit can also be connected (separate manual).

The app is available in German, English, Italian and Norwegian (section 4.1). The illustrations show the Android version in English. There are slight differences between Android and iOS due to the operating system.

Caution

The system is not approved for legal-for-trade (verified) weighing!

2 Commissioning

2.1 Installing the app

1. Install the app “LFW V2” from the Google Play Store or the Apple App Store.
2. Open the app. On first start, allow the permissions for location, Wi-Fi and Bluetooth. They are needed for the Wi-Fi connection to the scale and for the printer.
3. To switch the app to English: **Terminal settings** → language **EN** (section 4.1).

2.2 Connecting to the scale

The scale must be switched on (ignition on).

1. Open the Wi-Fi settings of the smartphone, e.g. via the menu item **Connect scale** (section 3.3).
2. Select the network of the scale, e.g. **LFW_0104**.
3. Enter the network key if one has been set on the measuring unit.
4. A message that the network has no internet access is normal: the scale does not provide an internet connection.
5. Return to the app. The network name appears in the info line and the weights are displayed.

Note

To keep the smartphone in the scale's Wi-Fi, the mobile data may have to be switched off. Alternatively, use the setting “Mobile Daten/WIFI Dualmode” (section 4.1).

3 Operation

3.1 Basic display

After start-up, the app shows the weights in tonnes. Which areas are displayed is set in the terminal settings (section 4.1).

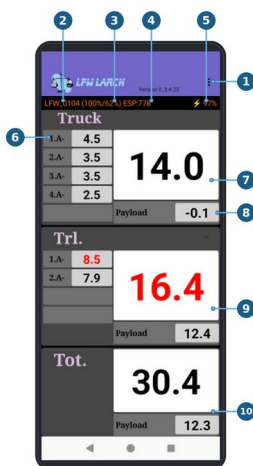


Fig. 1 – Basic display truck and trailer

No.	Element	Meaning
1	Menu 	Open the menu (section 3.3)
2	Network name	Connected Wi-Fi of the scale, e.g. LFW_0104
3	Signal strength	Signal strength to the truck / to the trailer in %
4	ESP	Serial number of the measuring unit
5	Battery	Charge level of the smartphone
6	Axle loads	Axle load per axle (1.A, 2.A ...) of truck or trailer
7	Truck	Total weight of the truck
8	Payload	Payload of truck, trailer or whole combination
9	Trl.	Total weight of the trailer
10	Tot.	Total weight of truck and trailer

Display truck only

If “Truck” is selected in the terminal settings, the basic display only shows the truck with total weight, payload and axle loads.



Fig. 2 – Basic display truck only

3.2 Warning weight and sensor failure

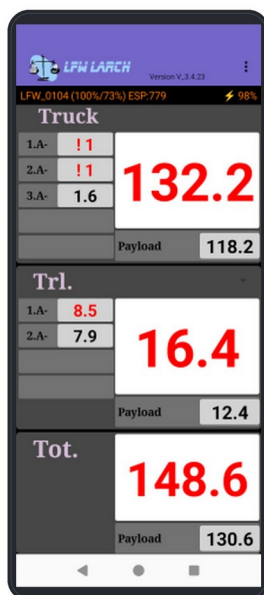


Fig. 3 – Warning weight exceeded and sensor failure

- **Warning weight exceeded:** The value concerned (axle load, vehicle weight or total weight) is shown in red. The warning weights are set in the parameters (section 5.2).
- **Sensor failure:** Instead of the axle load, a red “!” with the number of the failed sensor appears on the assigned axle.

Caution

In the event of a sensor failure, the axle load and the weights it is part of are no longer correct. Have the sensor checked or replaced.

3.3 Menu

The menu is opened with the  symbol at the top right.

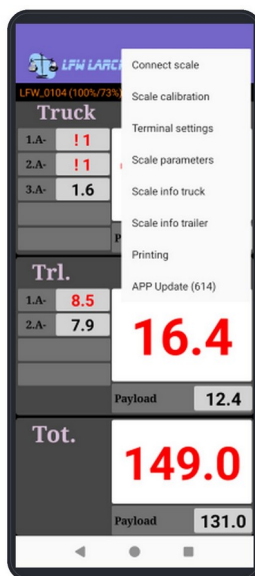


Fig. 4 – Menu

Menu item	Function
Connect scale	Establish the Wi-Fi connection to the scale (section 2.2)
Scale calibration	Calibration empty and full (section 7)
Terminal settings	Settings of the app and the printer (section 4)
Scale parameters	Axes, sensor mapping, warning weights (section 5)
Scale info truck / trailer	Stored values and current sensor values (section 6)
Printing	Print a receipt (also via the printer symbol, section 4.3)
APP Update	Search for new software for app and scale (section 3.4)

Note

Settings on the scale are only possible while the scale is connected.

3.4 Updates for app and scale

With the menu item **APP Update**, the app checks whether newer software for the app and for the LFW-ESP-*** scale is available on the server. If so, it is downloaded to the smartphone.

Requirement

For the update check, the smartphone must first be connected to the internet via Wi-Fi or mobile data. No internet connection is possible in the scale's Wi-Fi.

Updating the app

1. The app immediately checks whether an update is possible.
2. If a newer version is available, a prompt appears: **install now**, **later** or **cancel**.
3. If you choose “later” or “cancel”, the installation is only offered again at the next check.

Updating the scale (firmware)

1. The new firmware is initially only downloaded to the smartphone.
2. As soon as there is a connection to the scale, the app compares the downloaded firmware with the installed one (message “Update check”).
3. If the downloaded firmware is newer, the same prompt appears as for the app: **install now**, **later** or **cancel**.

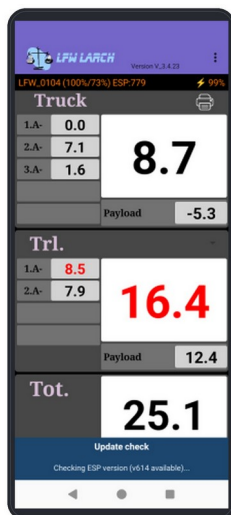


Fig. 5 - Update check: comparing the firmware version

4 Terminal settings

4.1 Overview

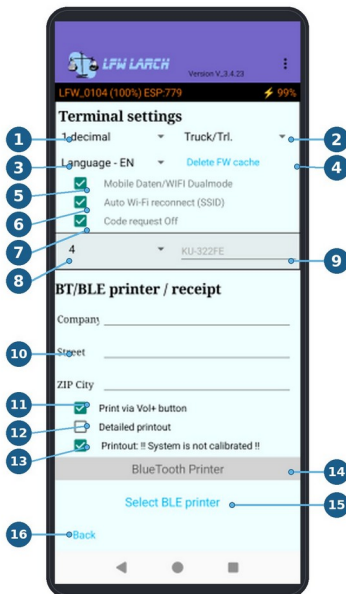


Fig. 6 – Terminal settings

No.	Element	Meaning
1	1 decimal	Weight with 1 or 2 decimal places
2	Truck/Trl.	Basic display: truck only, trailer only or truck and trailer
3	Language	Language of the app: DE, EN, IT or NO
4	Delete FW cache	Delete cached firmware data
5	Mobile Daten/WiFi Dualmode	Mobile data stays active alongside the scale's Wi-Fi
6	Auto Wi-Fi reconnect (SSID)	Automatically connect to the stored network (SSID)
7	Code request Off	Ticked: no code request before settings; switch on/off with code 1903

Trailer registration and BT/BLE printer / receipt

No.	Element	Meaning
8	Trailer	Select the trailer (AID) for the registration number
9	Registration	Registration number of the selected trailer
10	Company, Street, ZIP City	Header lines of the printed receipt
11	Print via Vol+ button	Start printing with the volume + key (not available in all cases)
12	Detailed printout	Receipt with all axle loads
13	Printout: !! System is not calibrated !!	Print the note that the system is not verified
14	Printer name	Connected Bluetooth printer
15	Select BLE printer	Search for and connect a printer (section 4.2)
16	Back	Back to the basic display

Note

If the app was installed via the Google Play Store, not all settings described here may be available.

Code request

The code request protects calibration, parameters and terminal settings against unintentional changes. To switch the code request on or off, enter the code 1903.

4.2 Connecting a BLE printer

With the optional Bluetooth printer (BLE), the current weights can be printed.

1. Switch on the printer and bring it close to the smartphone.
2. Open **Terminal settings** in the menu and tap **Select BLE printer**. The app searches for printers ("Printer search...").
3. Select the printer from the list "**BLE printer (strongest first)**". The printer with the strongest signal is at the top.
4. The name of the connected printer is displayed.

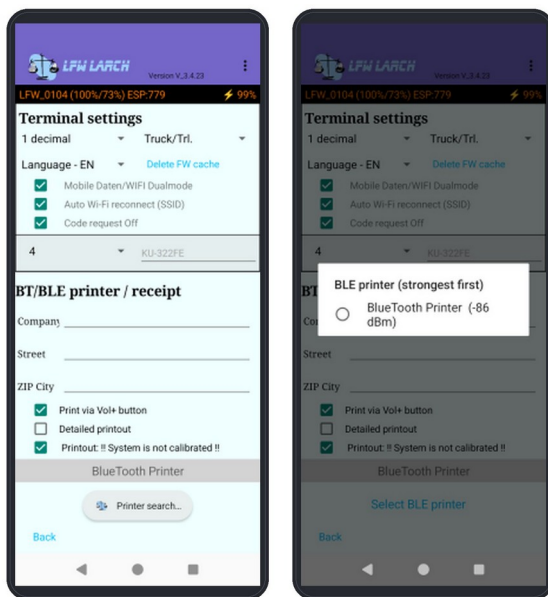


Fig. 7 – Printer search and selection of the BLE printer

Note

A printer that has been connected once is reconnected automatically as soon as it is within reach. When the printer is connected, the printer symbol appears in the basic display.

4.3 Printing

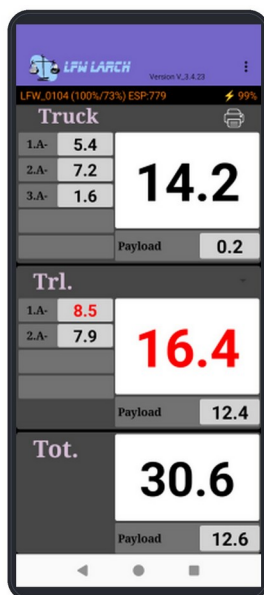


Fig. 8 – Basic display with connected printer

Printing can be started in three ways:

- with the **printer symbol** in the basic display,
- in the menu with **Printing**, or
- with the **volume +** key of the smartphone if “Print via Vol+ button” is switched on.

Note

Printing with the volume + key is not available in all cases.

The receipt contains the weights as in the basic display and the company details from the terminal settings.

5 Scale parameters

In the parameters, the scale is adapted to the vehicle. After opening, the app asks whether the parameters of the truck or the trailer are to be changed. The input is spread over three pages; Next takes you to the next page.

Note

If the exact vehicle configuration is given when ordering, the parameters are already set on delivery.

All changes must be transferred to the scale with Save. The data is retained even without power.

Safe Loc. saves all parameters locally on the smartphone.

Caution

The company ID (FID) and trailer ID (AID) form the network name. After a change, the smartphone must be reconnected to the network. Truck and trailer must have the same FID and AID.

5.1 Parameters and sensor mapping

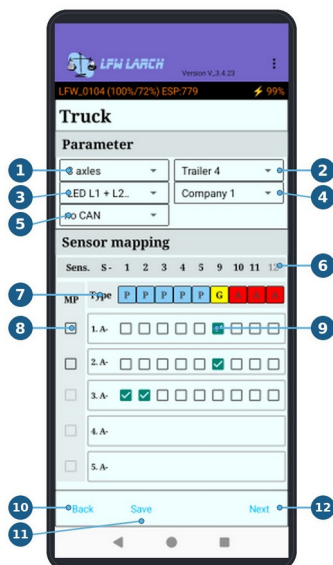


Fig. 9 – Parameters and sensor mapping (page 1)

No.	Element	Meaning
1	Axles	Number of axles of the vehicle
2	Trailer	Trailer ID (AID), 1–99
3	LED display	Display layout on the LFW-ESP-20
4	Company	Company ID (FID), 1–99
5	CAN	CAN connection (no CAN / CAN)
6	Sens.	Number of the sensor input
7	Type	Sensor type: P = pressure sensor, G = angle sensor (gyro), D = strain gauge (DMS)
8	MP	Special function per axle
9	Mapping	Tick = sensor is assigned to this axle
10	Back	Back without saving
11	Save	Transfer the settings to the scale
12	Next	To the next page

5.2 Warning weight



Warn weight		
1. Axle	7500	Kg
2. Axle	9000	Kg
3. Axle	9000	Kg
4. Axle		Kg
5. Axle		Kg
Truck	32000	Kg
Train	40000	Kg

Back Save Cancel Next

Fig. 10 – Warn weight (page 2)

A warning weight in kg can be entered for each enabled axle as well as for the total truck weight (Truck) and the gross combination weight (Train). If a warning weight is exceeded, the value concerned is shown in red in the basic display.

5.3 FA/RA axle allocation

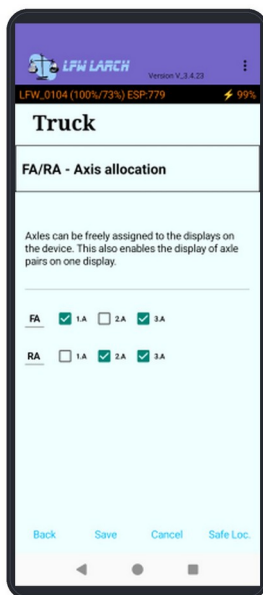


Fig. 11 – FA/RA axle allocation (page 3)

The axles can be freely assigned to the FA (front axle) and RA (rear axle) displays on the measuring unit. This also allows axle pairs to be shown on one display.

- **Save:** transfer the settings to the scale
- **Safe Loc.:** save all parameters locally on the smartphone
- **Cancel:** discard changes

6 Scale info

Under “Scale info truck” or “Scale info trailer”, the values stored in the measuring unit are displayed. The page is used for checking and troubleshooting.



Fig. 12 – Scale info truck

Area	Content
Curve 1 / 2	Stored calibration values per axle: weight (G) and sensor value (P), unloaded (l) and loaded (h)
W1 ... W3, WG, WZ	Warning weights of the axles, total truck weight, gross combination weight
AZ / SZ	Number of axles / number of sensors
Vers.	Software version of the measuring unit
Sensors (current)	Current values of sensors S1 ... S12

7 Calibration

7.1 General notes

- Before the first calibration, the parameters must be adapted to the vehicle (section 5).
- Calibration is carried out once unloaded (EMPTY) and once loaded (FULL). The order does not matter.
- Carry out the loaded calibration with the vehicle as fully loaded as possible.
- The vehicle stands level, free of tension and with the parking brake released.
- The axle loads are determined with a verified scale.
- Calibration is only possible while the scale is connected.

Caution

The system is not approved for legal-for-trade (verified) weighing!

7.2 Procedure

1. Select **Scale calibration** in the menu.
2. Prompt “Truck or trailer?”: select **TRUCK** or **TRAILER**.
3. Prompt “Empty or full calibration?”: select **FULL** (loaded) or **EMPTY** (unloaded).

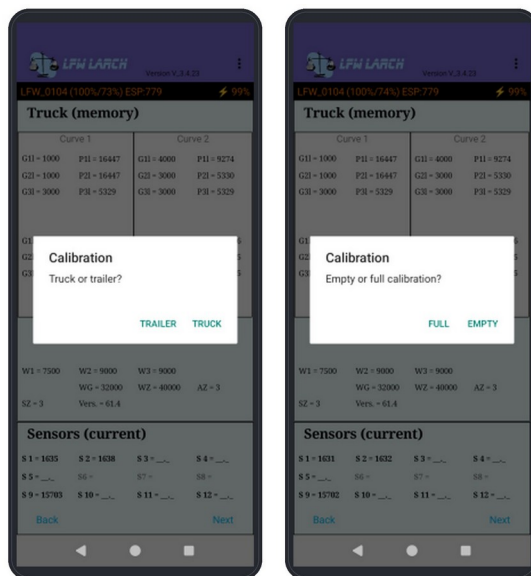


Fig. 13 – Prompts at the start of calibration

Note

If an error occurs during transmission, two further attempts are made automatically. Only then does the app abort with an error message. The calibration data remains stored in the measuring unit even without power.

Entering the axle loads

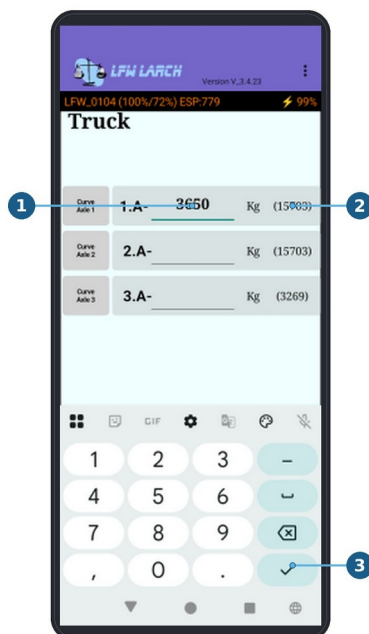


Fig. 14 – Entering the axle loads

No.	Element	Meaning
1	Input field	Enter the weighed axle load in kg
2	Sensor value	Current sensor value of the axle (in brackets)
3	Tick ✓	Save the value and transfer it to the scale

1. Enter the weighed axle load in kg in the field of the axle.
2. Save with the tick ✓ on the keyboard. The value is transferred to the memory of the scale.
3. Repeat for each axle. Each axle can be calibrated individually and in any order.
4. Repeat the calibration in the other load condition.

8 Technical data

Feature	Value
App	"LFW V2", free of charge
Operating system	Android (Google Play Store), iOS (Apple App Store)
Languages	German, English, Italian, Norwegian
Scales	LFW-ESP-20, LFW-ESP-DIN, each for truck and trailer
Connection	Wi-Fi 2.4 GHz to the measuring unit, network name LFW_<FID><AID>
Printer	Bluetooth printer (BLE), optional equipment
Illustrations	App version V_3.4.23

9 Contact



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