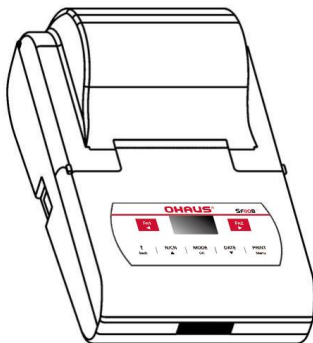




# SF-110B Printer Instruction Manual





## Table of Contents

1	INTRODUCTION.....	4
1.1	Features .....	4
1.2	Safety Precautions .....	5
1.3	Intended Use .....	7
2	INSTALLATION .....	8
2.1	Unpacking.....	8
2.2	Check/Install the Ink Ribbon Cartridge .....	8
2.3	Install the Printing Paper.....	10
3	OPERATION .....	13
3.1	Overview.....	13
3.1.1	Parts and Features .....	13
3.1.2	Control Panel.....	15
3.1.3	Display.....	18
3.2	Connecting and Printing .....	19
4	OPERATION MODES .....	20
4.1	Direct Mode .....	21
4.1.1	Mode Setup .....	21
4.1.2	Edit Sample Name and Lot Number .....	24
4.2	Weighing Mode.....	27
4.3	Multi Weighing Mode .....	28
4.4	Statistic.....	29
4.4.1	Mode Setup .....	31
4.5	SUM Mode.....	32

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4.6	Mean Mode.....	33
4.7	Formulation Mode.....	33
4.8	Loss Weight.....	34
4.9	Automatic Tare/Zero .....	36
5	CLOCK SETTINGS.....	37
5.1.1	Date & Time.....	37
5.1.2	Time Format .....	38
5.1.3	Automatic Timing Print.....	39
5.1.4	Start/Stop Timing Printing.....	40
6	MENU SETTINGS.....	42
6.1	Menu Navigation.....	42
6.2	Menu Structure .....	43
6.3	Printout Settings .....	44
6.4	Normal Settings .....	51
6.4.1	Operating Language.....	54
6.4.2	Screen Brightness .....	55
6.4.3	Authority Management .....	56
6.4.4	Password.....	57
6.4.5	User Login .....	59
6.5	Interface Settings.....	59
6.5.1	Interface Definition.....	62
6.5.2	Automatic Detection .....	65
6.5.3	Data Filtering .....	67
6.5.4	Data Matching .....	70
7	SF-110B EDITOR SOFTWARE.....	72

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7.1	Introduction.....	72
7.2	Custom Header and Trailer.....	75
7.3	Sample Name Code .....	78
7.4	User Login .....	82
8	MAINTENANCE .....	86
8.1	Troubleshooting .....	87
8.2	Service Information.....	89
8.3	Software Updates .....	89
9	ACCESSORIES .....	90
10	TECHNICAL DATA.....	91
10.1	Equipment Ratings .....	91
10.2	Specifications .....	92
10.3	Drawings and Dimensions .....	93
11	COMPLIANCE .....	94

# 1 INTRODUCTION

Thank you for purchasing this product.

Read this instruction manual carefully and use the printer correctly in accordance with the directions in the manual. When you have finished reading the manual, keep it in a safe place together with the printer so that you can refer to it at any time.

## 1.1 Features

The SF-110B is an advanced dot matrix printer from OHAUS instruments. The printer supports password protection that prevents unauthorized changes to the printer settings such as date/time. The SF-110B also provides full functionality from the most basic printing needs to the advanced applications, including statistics, totalization, formulation, loss weight and interval printing.

- High-speed dot matrix printing; printed pages are suitable for long-term preservation.
- Report in conformity with the GLP/GMP requirement.
- Built in clock: the printer is able to print out date & time, even be connected to a balance without clock.
- Administrator permission and user permission, refused to unauthorized modifications.
- Compatible with all OHAUS balances and scales.
- Sample name/lot number printing.
- Statistical calculation: statistical report can be built based on a maximum 999 samples, which outputs mean, standard deviation, deviation coefficient, summation, maximum, minimize, difference, etc. The calculation is based on 64-bit data, without visible

deviation.

- Editable header and trailer: including custom string, manufacturer, model, S/N, device ID, sample name/lot number, data/time, signature, etc. Each item can be enabled / disabled separately.
- Easy setup with the software provided with the printer (please scan the QR code to obtain the software).





## 1.2 Safety Precautions

### Signal Words

WARNING	For a hazardous situation with medium risk, possibly resulting in severe injuries or death if not avoided.
CAUTION	For a hazardous situation with low risk, resulting in damage to the device or the property or in loss of data, or minor or medium injuries if not avoided.
ATTENTION	For important information about the product. May lead to equipment damage if not avoided.
NOTE	For useful information about the product.

### Warning Symbols

General hazard	Explosion hazard
	

## Safety Precautions



**CAUTION:** Read all safety warnings before installing, making connections, or servicing this equipment. Failure to comply with these warnings could result in personal injury and/or property damage. Retain all instructions for future reference.

- Before connecting power, verify that the AC adapter's input voltage range and plug type are compatible with the local AC mains power supply.
- Do not position the equipment such that it is difficult to reach the power connection.
- Make sure that the power cord does not pose a potential obstacle or tripping hazard.
- Operate the equipment only under ambient conditions specified in these instructions.
- This equipment is for indoor use only.
- Do not operate the equipment in wet, hazardous or unstable environments.
- Do not allow liquids to enter the equipment.
- Do not place the equipment upside down on the platform.
- Use only approved accessories and peripherals.
- Disconnect the equipment from the power supply when cleaning.
- Service should only be performed by authorized personnel.



**WARNING:** Never work in an environment subject to explosion hazards! The housing of the instrument is not gas tight. (explosion hazard due to spark formation, corrosion caused by the ingress of gases)



### **1.3 Intended Use**

This instrument is intended for use in businesses and light industry. It shall only be used for measuring the parameters described in these operating instructions. Any other type of use and operation beyond the limits of technical specifications, without written consent from OHAUS, is considered as not intended. This instrument complies with current industry standards and the recognized safety regulations; however, it can constitute a hazard in use.

If the instrument is not used according to these operating instructions, the intended protection provided by the instrument may be impaired.

## 2 INSTALLATION

### 2.1 Unpacking

Carefully remove your SF-110B printer and each of its components from the package. Save the packaging to ensure safe storage and transport.

Please read the manual completely before installing and using the printer to avoid incorrect operation. Components included:

- Printer
- Power Adapter with plugs\*
- RS232 Cable
- Ink Ribbon
- Instruction Manual
- Paper Roll
- Paper Rotary Axis

**Note:** \* The included plugs vary depending on the region.

### 2.2 Check/Install the Ink Ribbon Cartridge

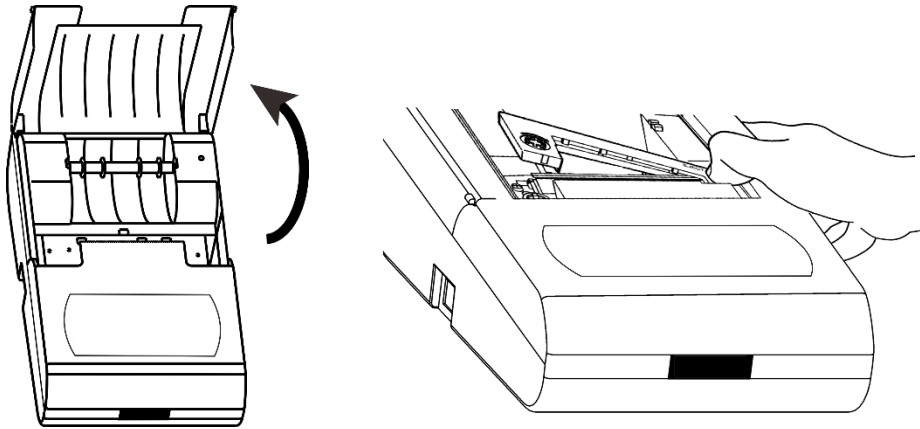
Ink ribbon has been installed in printer before they go out, but in the process of transportation, vibration may lead to the ribbon loose. Please before the first use of the printer, open the paper cover, check whether the ribbon is loose, if there is a loose, use finger to press the ribbon on both sides and make it flat.

If the ribbon was not installed, please install the ribbon according to the following method.

Place the printer facing towards you, first, put the Ink ribbon cartridge on the gear shaft on the left side of the mechanism, uplift the right side slightly, if the left side of the Ink

ribbon cartridge does not reach the bottom, press the knob of the ink ribbon cartridge and rotate it slowly towards the direction shown by the arrow. Once the left side reaches the bottom then press the right side hard to reach the bottom too.

Check if the Ink ribbon cartridge is installed correctly. Rotate the knob if the ribbon is bent or outside of the Ink ribbon cartridge, press the **[Back]** key to flatten and tighten the ribbon and to feed the paper into the ink ribbon cassette. Place the front cover back then the installation is completed.



**Note:**

- The installed ribbon should be in the front of paper, otherwise the printer wouldn't be able to print. To avoid this problem, we suggest you to install the Ink ribbon

cartridge first before installing the printing paper.

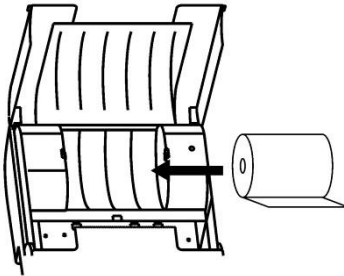
- If belt core of ribbon with wrinkles, please pull the ribbon out, and then rotate the pinion to tighten ribbon, ensure the belt core is flat.
- Replace ink ribbon cartridge when the print becomes unclear and faint. Open paper cover then take out the ink ribbon cartridge by pressing at the right end marked with “**Push**” as shown in the figure above. Then insert the new cartridge from straight above.
- Absolutely not use a damaged ribbon or unspecified types of ribbon, otherwise, it will cause the mechanism to block, reduce the life and lose the right to warranty.

## 2.3 Install the Printing Paper

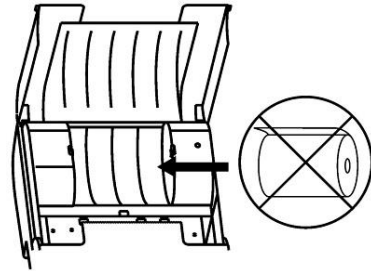
- Lift the paper cover.
- Insert the printing paper shaft into the center of the paper roll as shown in the figure below:



- Put the paper into the paper slot in correct position.

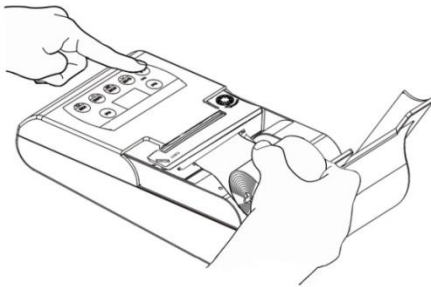


(a) Correct direction



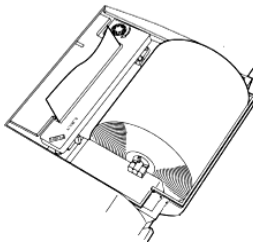
(b) Wrong direction

- Keep pressing **[Back]** key while inserting the printer paper end into the slot of the printer mechanism as shown bellow, feed the paper until its end comes out.



**Note:**

The old paper roll should be removed before installing the new paper roll. The paper left can be removed by pressing **[Back]** key, if it is short enough or been cut to short enough.

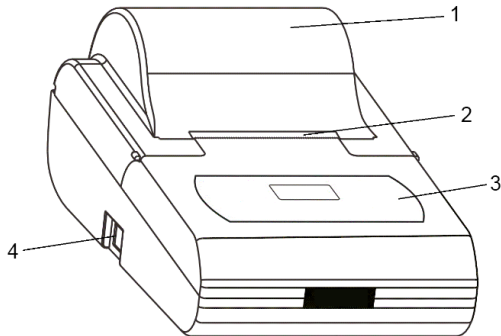


**CAUTION:** Thermal paper is not allowed for use, nor is unspecified paper, to avoid possible damage of the printer.

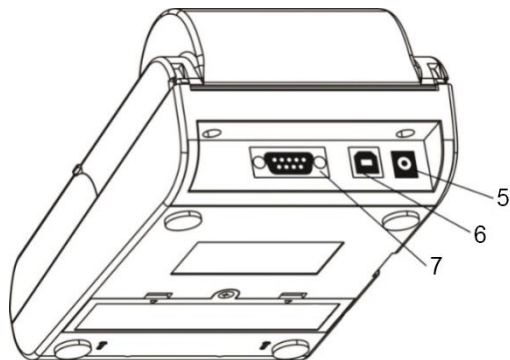
## 3 OPERATION

### 3.1 Overview

#### 3.1.1 Parts and Features



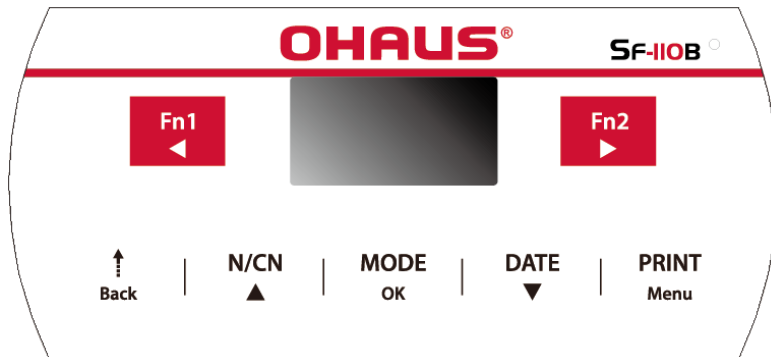
1. **Paper cover:** Open the paper cover to replace the ribbon and printing paper.
2. **Paper Cutter:** There are many small denticles in the front of the paper cutter, when the printing paper tear down from the cutter direction, the small denticles of paper cutter will pierce the paper in order to achieve tearing action.
3. **Control panel:** with keys and LCD display
4. **Power Switch:** Control the printer power on or off.








5. **Power jack:** Connect the included 12V AC adapter to power for the printer.
6. **USB device interface:** Connect to the computer for software update and SF-110B Editor.
7. **RS232 interface:** Connect to the scale.





### 3.1.2 Control Panel



Buttons	Functions
	<p><b>Fn1</b></p> <ul style="list-style-type: none"> <li>– Short press: Enter the sample name and lot number.</li> <li>◀ Press (in settings menu): Move the input position to the left.</li> </ul>
	<p><b>Fn2</b></p> <ul style="list-style-type: none"> <li>– Short press: Open the related function menu of the current operation mode.</li> <li>– Long press: Enable or disable the automatic tare function.</li> <li>▶ Press (in settings menu): Move the input position to the right.</li> </ul>

Buttons	Functions
	<p>↑</p> <ul style="list-style-type: none"> <li>– Short press: Feed the printer by one line.</li> <li>– Long press: Continuously feed until released.</li> </ul> <p><b>Back</b></p> <ul style="list-style-type: none"> <li>– Short press (in settings menu): Back to previous menu or cancel current parameter modification.</li> <li>– Long press (in settings menu): Delete all inputs.</li> </ul>
	<p><b>N/CN</b></p> <ul style="list-style-type: none"> <li>– Short press: Enable or disable the numbering function.</li> <li>– Long press: Reset the number to "000".</li> <li>– Lone press (more than 4 seconds): modify the report's serial number.</li> </ul> <p>▲</p> <ul style="list-style-type: none"> <li>– Short press (in settings menu): Switch to the previous setting options or increase parameter value.</li> <li>– Long press (in settings menu): Quickly increase the value.</li> </ul>
	<p><b>MODE</b></p> <ul style="list-style-type: none"> <li>– Short press: Choose operation modes.</li> <li>– Long press: Execute the user login / logout operation.</li> </ul> <p><b>OK</b></p> <ul style="list-style-type: none"> <li>– Short press (in settings menu): Access to a setting item or confirm the modified parameters.</li> </ul>

Buttons	Functions
	<p><b>DATE</b></p> <ul style="list-style-type: none"> <li>- Short press: Print the current date and time.</li> <li>- Long press: Enter the Date/Time Settings menu.</li> </ul> <p>▼</p> <ul style="list-style-type: none"> <li>- Short press (in settings menu): Switch to the next setting item or decrease the parameters setting value.</li> <li>- Lone press (in settings menu): Quickly decrease the value.</li> </ul>
	<p><b>PRINT</b></p> <ul style="list-style-type: none"> <li>- Short press: Perform printing operation.</li> </ul> <p><b>Menu</b></p> <ul style="list-style-type: none"> <li>- Long press: Enter the settings menu.</li> </ul>

**Notes:**

Short Press: Press less than 2 seconds.

Long Press: Press and hold for more than 2 seconds.

### 3.1.3 Display



#### Status

The content of the status bar vary depending on the operation mode.

<b>NAME</b>	Sample name / lot number printout.
<b>O/T</b>	Enable Auto-tare.

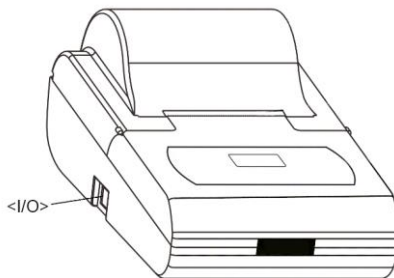
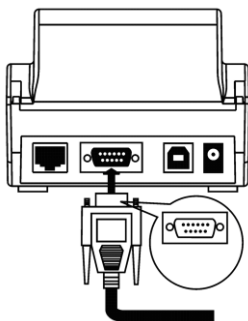
**Mode:** Indicates the currently selected mode of operation.

**Time:** Displays the current date and time. The current time is always displayed in most of modes.

## 3.2 Connecting and Printing

Before connecting, make sure the instrument and printer have the same RS232 parameter setting. For instrument Baud rate settings, please see the related manual.

- Choose and install the proper power adapter converter according to the located country/region.
- Disconnect the power supply.
- Connect the printer to the instrument with the RS232 cable.
- Connect the printer to the mains power and use the main switch **<I/O>** to power on the printer.
- Press **PRINT** key on the printer or on the instrument.

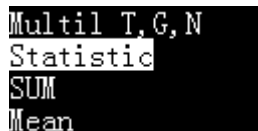


**Note:** Depending on the output setting of the weighing instrument, it may be necessary to wait for the data to stabilize after pressing the print key, but not immediately.

## 4 OPERATION MODES

In order to meet different application requirements, the printer is set with multiple operation modes, and the report styles of these modes are also different.

In the standby interface, press the **[MODE]** key, the display shows the available operating modes, as shown below:



```
Multil T,G,N
Statistic
SUM
Mean
```

Press ▲ or ▼ key to select the desired mode, and press **[OK]** key to confirm.

The SF-110B printer incorporates the following operation modes.

- Direct
- Weighing
- Multi Weighing
- Statistic
- SUM
- Mean
- Formulation
- Loss Weight

## 4.1 Direct Mode

Use this application to print the data from scale directly.

In the standby interface, press the **[MODE]** key, select **DIRECT** and press PRINT key on the scale.

This mode is usually used in the following scenarios:

- Print in the format defined by the scale.
- Print the calibration report output by the scale. This is because the calibration report needs to be output as is, but in other modes, the printer will automatically add other information or filter out the data except the weighing data.
- When a problem occurs in other modes, switch to the Direct mode temporarily and observe the original data to facilitate analysis and solve the problem.

### 4.1.1 Mode Setup

In the Direct mode, the header and trailer can be added manually or automatically.

The automatic header and trailer functions are usually used in the following scenarios:

- The information output by the scale lacks the necessary content, such as manufacturer information, model, S/N, signature, etc.
- Add sample name / lot number and other information to the report.
- Add controlled time / date and other information to the report output by the scale.

**Manually print the header and trailer:**

In the "Direct mode", press the **[Fn2]** key, the following list appears:

1. Print header
2. Print trailer
3. Auto Header

1. **Print header:** Select once, print header once manually.
2. **Print trailer:** Select once, print trailer once manually.

**Automatic print header and trailer:**

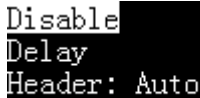
In the "Direct mode", the printer can automatically add a header at the beginning of the data output by the scale, and automatically or manually add a trailer at the end. The operation method is as follows:

Press the **[Fn2]** key in the "Direct mode", then select "3. Auto header".

1. Print header
2. Print trailer
3. Auto Header



Press **[OK]** key:



```
Disable
Delay
Header: Auto
```

- **Disable**  
Disable the auto header and trailer function.
- **Delay**  
Select this option and the printer will ask for a delay time. When the printer receives the first data of the scale, it will automatically add a header. When the scale stops outputting data beyond the delay time set by this item, the printer automatically adds a trailer; after outputting the trailer, the printer repeats the above process. This is suitable when the scale continuously outputs all data.
- **Header: Auto**  
Select this option, the printer will automatically add a header before the first data output from the scale, user needs to manually press the **[OK]** key to output the trailer, This is suitable for the user to decide when to output the trailer and end the report.

## 4.1.2 Edit Sample Name and Lot Number

The sample name / lot number can be printed in the header or data, or both, as shown below:

```

Model:          EX225
S/N:           D23452456
Date:          2020/04/11
Start:         21:41:43
Sample:        NaCl
Lot No.        B201203456
-----
001 H2O        10.04 mg
002 Cl         10.05 mg
003 NaOH       10.06 mg
-----
End:           21:42:15

Signature:
-----

```

The sample name can be up to 40 characters and the sample batch number can be up to 24 characters. Press **[Fn1]** key, the display is as shown below:

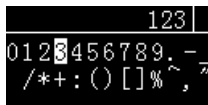
```

1. Sample Name
2. Sample Code
3. Sample LOT.
4. Name in data  ← ▲ or ▼ →
5. Code in data
6. LOT. in data

```

**1. Sample Name:** To enter the sample name in the header, select this item and press **[OK]** key.

The printer supports standard ASCII (American Standard Code for Information Interchange) character input, including numbers, symbols, and upper and lower case characters. The following figure shows the character input dialog style:



Press **[PRINT]** key to input the highlighted character.

Press ◀ or ▶ to move the cursor left and right.

Press ▲ or ▼ to move the cursor up and down.

Press **[Back]** to delete the characters, and long press **[Back]** to clear all the input content.

Press **[OK]** to confirm the entry and exit.

If the input content is empty, the sample name will not be printed; if you want to output the sample name with empty content, you can enter a space.

**2. Sample Code:** Enter the code, and the header outputs the sample name corresponding to the code (see Section 7.3 to create the correspondence between the digital code and the name).

**3. Sample LOT:** Print a lot number in the header. If the input content is empty, the lot number will not be printed; if you want to output the lot number with empty content, you can enter a space.

**4. Name in data:** Output the sample name in front of the weighing data, it will only be printed once, if necessary, please enter the sample name before each weighing.

**5. Code in data:** Enter the code and output the name corresponding to the code in front of the weighing data. (see Section 7.3 to create the correspondence between the digital code and the name).

It will only be printed once, if necessary, please enter the sample name before each weighing.

**6.LOT. in data:** Print a lot number before the weighing data, it will only be printed once, if necessary, please enter the lot number before each weighing.

After editing and pressing the **[BACK]** key to return, the following icon is displayed in the upper left corner of the display:



**Note:**

- The sample name / lot number printout in the header will be automatically closed after printing once, if you want to keep the printout without input, long press **[Fn1]** key when the icon **NAME** disappears until the icon is displayed, the printer will remain in this state until long press **[Fn1]** key again, or clear the sample name and lot number.
- If the input content is empty, the sample name/lot number will not be printed, you can enter a space character and fill it out manually.
- The sample name / lot number output before the weighing data will only be printed

once, if necessary, please enter it before each weighing.

## 4.2 Weighing Mode

Use this mode to output a weighing report that meets GLP requirements. The header is added before the weighing data, and the trailer is added after the weighing data.

In the standby interface, press the **[MODE]** key, select **WEIGHING** and press the **[PRINT]** key on the printer.

To edit sample name / lot number, please refer to Section 4.1.2.

To modify the format of the header or trailer, please refer to Section 7.2.

```
-----  
Model:          EX225  
S/N:           D23452456  
Date:          2017/03/29  
Time:          00:26:52  
-----
```

```
      N +      10.01 mg
```

```
Signature:  
-----
```

**Note:** In weighing mode, each weight data prints a separate report. If the scale outputs multiple weight data at a time, such as tare, gross, and net weight, the printer will output 3 data. To avoid this, please press the **[PRINT]** key on the printer to perform the printing operation.

### 4.3 Multi Weighing Mode

This mode differs from the "weighing mode" in that it can output multiple data in one report. The report style is as follows:

```
-----  
Model:          EX225  
S/N:           D23452456  
Date:          2017/03/29  
Start:         00:32:43  
-----  
001      N +    10.02 mg  
002      N +    10.03 mg  
003      N +    10.04 mg  
-----  
End:         00:32:47  
  
Signature:  
-----
```

#### Operation:

- Press **[MODE]** key and select "MULTI WEIGHING".
- Put the sample into the scale, and after the data is stable, press the **[PRINT]** key on the printer.
- Repeat the previous step until all samples are weighed, press the **[MODE]** key to end and print the trailer.

#### Note:

- If you want to modify the format of the header, trailer and weighing data, please refer to Section 7.2.
- When the number of data reaches two or more, you can press **[Fn2]** to print the

statistical report and end. This operation is equivalent to Section 4.6 "Statistic Mode".

- If you press the print key on the scale, it may output three data including tare, gross and net weight at the same time. To avoid this problem, please press the **[PRINT]** key on the printer to perform the printing operation.

## 4.4 Statistic

In this mode, up to 999 data can be statistically calculated, and the average, standard deviation, deviation coefficient, sum, minimum, maximum, and difference can be output.

Users can decide which statistical items are needed by setting.

The calculation process uses 64-bit double-precision floating-point numbers without visual errors. The report format is as follows:

```

-----
Model:                EX225
S/N:                  D23452456
Date:                 2017/03/29
Start:                01:36:18
-----<STAT>-----
001      N +      10.03 mg
002      N +      10.02 mg
003      N +      10.02 mg
-----<RESULT>-----
n                    3
x̄                    10.022 mg
s                    0.00100 mg
srel                 0.009978 %
total                30.07 mg
min                  10.02 mg
max                  10.03 mg
Diff                 0.01 mg
-----
End:                 01:36:21

Signature:
-----

```

**Operation:**

- Press **[MODE]** key and select "**Statistic**".
- Put the sample into the scale, and after the data is stable, press the **[PRINT]** key, the printer will print sample weight, and add it into statistical queue.
- Repeat the previous step until all samples are weighed, press the **[OK]** key to end and print the report.

The output items in the statistical report are listed below:

Statistical items	Symbol	Description
Measuring time	n	
Mean value	$\bar{x}$	= total / n
Standard deviation	s	= $\sqrt{\sum(X_i - \text{Mean})^2 / (n-1)}$ Xi: every weight data
Coefficient of deviation	srel	= $(s / \bar{x}) * 100\%$
Sum	total	
Minimum value	min	
Maximum value	max	
Difference	Diff	= max - min
mean deviation	AD	= $(\sum  x_i - \bar{x} ) / n$ Xi: every weight data
Coefficient of mean deviation	RAD	= $(AD / \bar{x}) * 100\%$
minimum deviation	Min DR	= $(\text{min} - \bar{x}) * 100\%$
maximum deviation	Max DR	= $(\text{max} - \bar{x}) * 100\%$



### 4.4.1 Mode Setup

Press the **[Fn2]** key to enter the statistical mode setting menu. The user can decide which statistical items need to be output. The following is a list of each setting item:

Item	Default	Options	Memo
Print mean variation in STAT.	×	√, ×	Output the difference between each weighing data and the average value, expressed as a percentage.
Print number in STAT. report	√	√, ×	Output the number of weight data, which is indicated by "n".
Print mean value in STAT.REP.	√	√, ×	Output the mean value, which is indicated by " $\bar{x}$ ".
Print standard deviation.	√	√, ×	Output the standard deviation value, which is indicated by "s".
Print variation coefficient.	√	√, ×	Output deviation coefficient value, which is indicated by "srel".
Print mean deviation in STAT.	×	√, ×	Output average deviation value, which is indicated by "AD".
Print mean DEV. Coefficient.	×	√, ×	Output coefficient of mean deviation value, which is indicated by "RAD".
Print sum value in STAT. REP.	√	√, ×	Output sum value, which is indicated by "total".

Item	Default	Options	Memo
Print minimum in STAT.report	√	√, ×	Output minimum value, which is indicated by “min”.
Print minimum deviations..	×	√, ×	Output minimum deviation value, which is indicated by “min DR”.
Print maximum in STAT. report	√	√, ×	Output maximum value, which is indicated by “max”.
Print maximum deviations..	×	√, ×	Output maximum deviation value, which is indicated by “max DR”.
Print difference in STAT.REP.	√	√, ×	Output the difference value between the maximum and the minimum, which is indicated by “diff”.
Maximum number of statistics	999	2 ~ 999	When the weighing times reach this set value, the statistical report will be output automatically and end.

## 4.5 SUM Mode

Calculate the summation of several samples (up to 999). Only summation value is printed under this mode, with the same format and operation as in statistic mode, please refer to Section 4.6.

## 4.6 Mean Mode

Calculate the mean value of several samples (up to 999). Only mean value is printed under this mode, with the same format and operation as in statistic mode, please refer to Section 4.6.

## 4.7 Formulation Mode

Use this mode to print out a report containing multiple components and output the total net weight of each component. The printing example is shown in the figure below:

```
-----  
Model:           EX225  
S/N:             D23452456  
Date:            2020/04/06  
Start:           20:08:07  
-----<FORMULATION>-----  
COMP001          10.02 mg  
COMP002          10.03 mg  
COMP003          10.04 mg  
Net:             30.09 mg  
-----  
End:             20:08:10  
  
Signature:  
-----
```

**Operation:**

- Press **[MODE]** key and select "**Formulation**" mode.
- Weigh the first component, press the **[PRINT]** key, the printer outputs the weight of a component.
- After weighing all components, press the **[OK]** key, the printer outputs the total weight and ends.

**4.8 Loss Weight**

In this mode, the printer will subtract the second weight from the weight received the first time, and output the difference. This mode is particularly useful when weighing powder samples. The output report style is as follows:

```

-----
OHAUS
Model:          EX225
S/N:           D23452456
Date:          2020/10/30
Start:         10:12:47
----- <LOSS WEIGHT> -----
Sample:        100.10 g
Lost:          100.00 g
Final:         0.10 g
-----
End:           10:13:08
Signature:
-----

```

Without tare value

```

-----
OHAUS
Model:          EX225
S/N:           D23452456
Date:          2021/10/30
Start:         10:20:45
----- <LOSS WEIGHT> -----
Tare:          10.01 g
Sample:        100.10 g
Lost:          10.00 g
Final:         90.10 g
-----
End:           10:21:10
Signature:
-----

```

With tare value

**Operation:**

- Press **[MODE]** key and select "**Loss Weight**" mode.
- Zero the scale and add the weighing paper. If you need to print the weight of the weighing paper (printout as "tare"), please press the **[Fn2]** key on the printer, the printer will output the tare weight and tare the scale automatically. If you do not need to print the tare weight, please directly press the tare key on the scale.
- Pour the sample into the weighing paper, wait for the scale to stabilize and press the **[PRINT]** key on the printer, the printer will output the total weight (printout as "Sample").
- Remove the sample on the weighing paper into the container, and then weigh the weighing paper again. After the reading is stable, press the **[PRINT]** key, and the printer will output the weight of the sample attached to the weighing paper (printout as "Lost" ) , and automatically calculate the weight of the sample poured into the container (printout as "final"), the operation is complete.

## 4.9 Automatic Tare/Zero

With this feature, the printer will automatically control the scale to perform the tare/zero operation after receiving valid weighing data.

In the standby interface, long press **[Fn2]** key to turn on/off the automatic tare/zero.

The corresponding status is displayed in the upper right corner of the screen, as shown below:



Automatic tare on



Automatic tare off

When the automatic tare/zero is turned on, wait for the scale reading is stable, press the **[PRINT]** key on the printer. After the printer receives the weighing data, it will immediately send a tare/zero command to the scale. Please refer to Section 6.5 to select the “tare” or “zero” command.

## 5 CLOCK SETTINGS

### 5.1.1 Date & Time

When the printer is used for the first time, or the power is turned off for a long time, the time setting may be incorrect. Please set the time before use.

Note: If the printer is set with an administrator password, you need to enter the password before setting (see *Section 6.4.4*).

- In the standby interface, press and hold the **[DATE]** key to enter the time setting menu. As shown below:

```
Set Date & Time
Set Time Format
Set Timing Print
Start Timing PRN
```

- Press the **[OK]** key. If the administrator password is set, the printer will ask for the password. After entering the correct password, the following figure will appear:

```
[ Minute ]
22: 31: 52
2020--04--12
PressBack return
```

- Press **▲** and **▼** to adjust the value, press **[Fn1]** or **[Fn2]** key to change the input position. After the adjustment is completed, press **[OK]** to confirm and skip to the next item.

- After setting, press **[BACK]** key to return.

## 5.1.2 Time Format

In the standby state, long press the **[DATE]** key to enter the time and date setting menu, as shown below:

```
Set Date & Time
Set Time Format
Set Timing Print
Start Timing PRN
```

Select **"Set Time Format"** and press **[OK]** key to enter, press the **▲** or **▼** key to select the desired setting item, press **[OK]** to enter the setting, as shown below:

```
Date style
      yyyy-mm-dd
```



```
dd-mm-yy
yyyy-mm-dd
mm-dd-yyyy
dd-mm-yyyy
```

```
Date Separator
      /
```



```
Date Separator
      - / .
```

```
Time style
      hh:mm:ss
```



```
hh:mm:ss
hh:mm
hh:mm AM (PM)
hh:mm:ss AM (PM)
```



### 5.1.3 Automatic Timing Print

Using this function, the printer can automatically acquire data at specified intervals and repetitions. This function is especially useful when you want to continuously observe changes in the weighing value. This function can be used in any mode.

#### Operations:

In standby status, long press **[DATE]** key then select “**Set Timing Print**”, as below:

```
Set Date & Time
Set Time Format
Set Timing Print
Start Timing PRN ← [OK]
```

<pre>Auto print time       10 SEC Set zero to dis- able</pre>	← ▲ or ▼ →	<pre>Timing Print it- eration      6       0-60000 0: Loop</pre>
---	------------	--

Set the desired printing interval time and iteration times and press **[BACK]** to return.

**Note:** If you want to output continuously, please set the iteration times to 0.

### 5.1.4 Start/Stop Timing Printing

In standby status, long press **[DATE]** key, select “**Start Timing PRN**”, then press **[OK]** to start interval printing:

```
Set Date & Time
Set Time Format
Set Timing Print
Start Timing PRN
```

The display of the printer is shown below:

```
NAME O/T
WEIGHING
N:00006 00:00:08
```

The bottom of the display shows the remaining times and the countdown time for the next printing.

When the number of repetitions is set to 0, the remaining number of times will be set to infinity, as shown in the following figure:

```
NAME O/T  
WEIGHING  
N: Loop 00:00:08
```

When the countdown becomes "00:00:00", the printer will automatically print once, and the remaining number "N" will automatically decrease by 1. When it decreases to 0, the interval printing will automatically stop.

### Manually stop timing printing

When the timing printing is working, long press the **[DATE]** key, the printer displays as shown below:

```
Set Date & Time  
Set Time Format  
Set Timing Print  
Stop Timing PRN
```

Select "**Stop Timing Print**", and then press **[OK]** to confirm.

## 6 MENU SETTINGS

### 6.1 Menu Navigation

#### Enter the Menu

From any Mode screen, Long press **[Menu]**. The Main Menu List appears on the display. If an administrator password is set, the printer will ask for the correct password (see *Section 6.4.4*).



```
MAIN MENU
1. Printout
2. Normal set
3. Interface set
```

#### Select the Sub-Menu

Press **▲** key or **▼** key to switch the selected item of the Main Menu List, then press **[OK]** key. The Sub-Menu appears.

#### Select the Menu Item

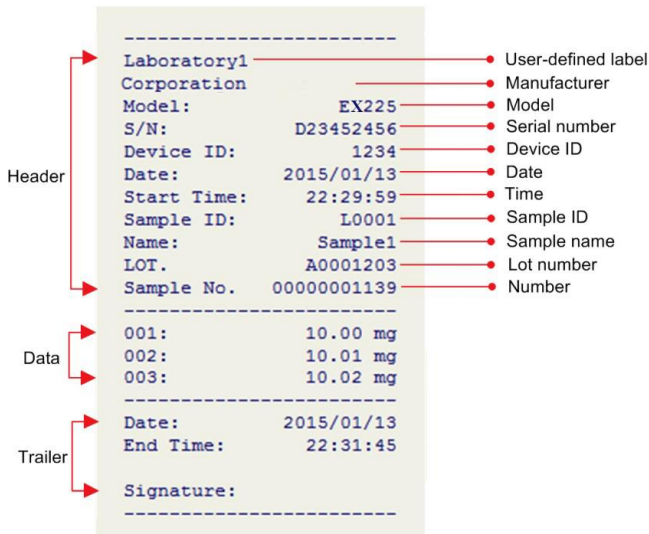
Press **[OK]** key to confirm the settings, then press **[BACK]** key to exit the sub menu.

## 6.2 Menu Structure

<b>Printout</b>	<b>Normal Set</b>	<b>Interface Set</b>
Header	Language	Auto baud
Trailer	Key press beep	Baud
Others	Screen save time	Data bits
	Screen brightness	Parity
	Password	Stop bits
	Require login	Handshake
	Time Synchronization	Terminate char
	Hold run mode	Data output mode
	Printout font	Disable command
	Enable fast feed	Use Zero or Tare
	RunMode Config	Data filter
		Data matching
		Enable demo mode
	Factory reset	

## 6.3 Printout Settings

The printer allows the user to set the style of the printer output report as required. The following is a report style that conforms to the GLP specification:



The printer allows the user to set the header, data, and trailer styles in the report, allows each output item to be turned on and off, and can set the content of each output option.

Long press the **[MENU]** key to enter the setting menu, as shown below:



```
MAIN MENU
1. Printout
2. Normal set
3. Interface set
```

\*If an administrator password is set, you need to enter the correct password before entering the menu.

Select "1. Printout" and press the **[OK]** key to confirm, as shown below:



```
1. Header
2. Trailer
3. Others
```

The user can set the header, trailer and other output options separately.

**“1. Header” setting menu list:**

Item	Default	Options	Memo
Print date & time at starts	x	√,x	Whether print time and date immediately after power on.
Print label at starts	x	√,x	Whether to print the user-defined label immediately after power on, the label needs to be imported using SF-110B Editor software.
Print label in report header	x	√,x	Whether print user-defined label in header.
Print MFGR in report header	√	√,x	Whether print manufacturer in report header.
Manufacturer:	OHAUS	Up to 16 characters	Enter the manufacturer information here.
Print model in report header	√	√,x	Whether Print model in report header.
Device Model		Up to 16 characters	Enter the device model here.
Print SN in REP. header	√	√,x	Whether print SN in report header.
Device SN		Up to 16 characters	Enter the device SN here.
Print ID in REP. header	x	√,x	Whether print ID in report header, the ID is user-defined.



<b>Item</b>	<b>Default</b>	<b>Options</b>	<b>Memo</b>
Device ID		Up to 16 characters	Enter the device ID here.
Print date in report header	√	√, x	Whether print date in report header.
Print time in report header	√	√, x	Whether print time in report header.
Print number in report header	x	√, x	Whether print number in report header.
Print Delimiter in report	√	√, x	Whether print separation line between header and data.

**“2. Trailer” setting menu list:**

Item	Default	Options	Memo
Print date in report trailer	×	√, ×	Whether print date in report trailer
Print time in report trailer	√	√, ×	Whether print time in report trailer
Print signature	At Trailer	No Printing At Header At Trailer Header&Trailer	Decide where to print signature.
Prn user-defined in REP.trailer	×	√, ×	Decide whether to print the user-defined label in the trailer. The label needs to be imported using SF-110B Editor software.
Print time at weighing Mode	×	√, ×	Whether to print time in the trailer under weighing mode.
Line feed at trailer	3	0 ~ 40	Set the number of lines the printer feeds after printing the report.

### “3. Others” setting menu list:

Item	Default	Options	Memo
Batch Auto INCR	×	√, ×	Whether the lot number value is automatically increased by 1 after printing.
Printout Language	English	English Chinese	Decide the language of the printout.
Characters/Line	0	0 ~ 40	Set the maximum number of characters output one line in the report. 0: Auto Other: Set by user
Printout Invalid Data	×	√, ×	<p>×: Except for Direct mode, the printer only processes valid weighing data and filters other data. For filtering behavior, please refer to <i>Section 6.5</i>.</p> <p>√: In all operating modes, the printer prints all received data, which means that other content output by the scale may appear in the report.</p>

Item	Default	Options	Memo
Weight data time format	None	None hh:mm hh:mm:ss	Set the time format added before weighing data.  This feature is only valid in multiple weighing, statistic, sum and mean mode.
Weighing Data Decimal digits	8	0-8	<b>8:</b> Decimal places are determined by the scale output.  0-7: Set by this setting
User-defined unit	None	Any ASCII characters	When the weighing data output by the scale does not contain a unit, this setting is used to add a unit, otherwise, the setting option is invalid.
User-defined line feed	4	0-9	Set the line spacing of the printout report, take effect after restarting the printer.

To customize header and trailer, please refer to *Section 7.2*.

## 6.4 Normal Settings

Item	Default	Options	Memo
Language	English	English Chinese	Select operating language.
Key press beep	ON	ON, OFF	Enable or disable the key beep.
Screen save time	10 minutes	0-120 minutes	When the printer is not operated for more than the set time, the screen automatically enters the power saving mode. <b>Set to 0:</b> turn off the screen saver.
Screen brightness.	150	0~250	Set screen brightness.
Password	NA	6 digits	Administrator password setting.
Require login	x	x, √	Login required to use the printer.
Time Synchronization	Balance first	None Balance first Printer-low Printer-High	Time synchronization function, only applicable to some brand balances. <b>None:</b> Disable <b>Balance first:</b> Use balance time instead of printer time. <b>Printer-low:</b> In weighing mode, the printer time will replace the balance output time. <b>Printer-High:</b> In any mode, the printer time will replace the balance time.

Item	Default	Options	Memo
Hold run mode	ON	ON, OFF	<p>X: After one mode ends, the printer automatically returns to Direct mode.</p> <p>√: Keep current mode.</p>
Printout Font	40/Line	24/Line 40/Line	<p>24/Line: 24 characters are output in one line, and the font is large.</p> <p><b>40/Line:</b> Output 40 characters per line, the font is small. <u><i>The settings must be restarted after modification to take effect.</i></u></p>
Enable Fast Feed	x	x, √	<p>x: Turn off the fast paper-feeding mechanical of the mechanism, at this time the printing speed will drop by about 30%.</p> <p>√: Enable the fast paper-feeding mechanical of the mechanism, but the life of the mechanism will be slightly reduced.</p>

RunMode Config	1111111111 11	Each bit can be individually set to 0 or 1	Each bit corresponds to a mode of enable or disable, 0: disable 1: enable  <b>DIRECT</b> ...Highest bit (left) WEIGHING MULTI WEIGHING Statistic SUM Mean Formulation Loss Weight
-------------------	------------------	---	--

## 6.4.1 Operating Language

The printer provides two methods for setting the operating language:

- Long press **[Menu]** , then press ▼ key to enter the Normal set menu.
- Quick setting when booting.

This method allows to select the desired language simply and quickly even if the operator cannot understand the current printer display language.

### Operation:

Turn on the printer power, when the display shows the first screen, immediately press the **[BACK]** key, the display shows the language selection list, as shown below:



Select the desired language and press **[OK]** to confirm.



## 6.4.2 Screen Brightness

### Operations

- Long press **[Menu]** , then press ▼ key and press **[OK]** to enter the Normal set menu.
- Keep pressing ▼ key to select the “**Screen brightne.**”



Screen brightne.  
85  
Press **OK** Enter

- Press the **[OK]** key, then the value is highlighted, as shown in figure below:



Screen brightne.  
85  
Press **OK** Enter

- Press ▲ or ▼ key to change the value; press and hold these keys can increase/decrease the value quickly.
- Press **[Fn1]** or **[Fn2]** key to change the input position, in this example, the input position can be switch between tens and ones, and then press ▲ or ▼ to adjust values, this feature can speed up the input.
- After input, press **[OK]** key to save and return.
- Press the **[Back]** key to abandon the modification and return, the setting value will not be modified.

### 6.4.3 Authority Management

The printer supports two levels of user rights management: administrator rights and user rights.

- The administrator has the highest authority and can not only operate the printer, but also set the printer completely, including adjusting the time. The printer only allows one administrator.
- The user authority can only use the printer to perform printing operations, and cannot modify the parameters including time. One printer supports up to 150 users.
- If you do not set administrator rights, the printer will be used without restrictions, and all settings can be modified without restrictions.
- If you do not set user rights, the printer will be used without restrictions, but any settings are required enter the administrator password.

For the setting of administrator authority, please refer to *Section 6.4.4*.

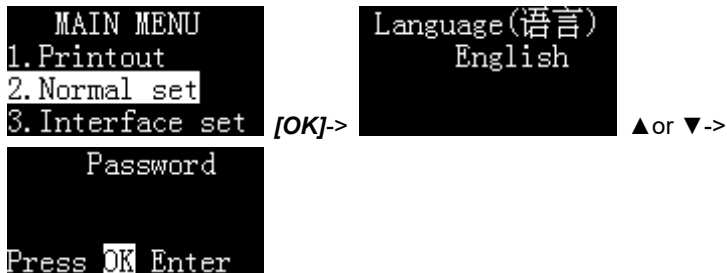
For the user authority, please refer to *Section 7.4*.

Note: If you need to set user permissions, you must first set the administrator password.

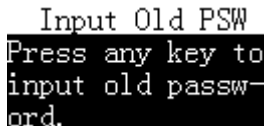
## 6.4.4 Password

To prevent unauthorized changes to time and other important settings, a 6-digit password can be set. Long press the **[MENU]** key to enter the setup menu.

If the password is currently set, the correct password must be entered first. Select "**Normal set**" and switch to "Password", as shown below:



Press **[OK]** key, if the password has been set before, the printer will ask for the current password, as shown below:



After entering the correct password, the printer asks for a new password, as shown below:

```
Input New PSW
Press any key to
input new passw-
ord.
```

Press any key, and then enter the new password, the maximum length is 6 digits, in order to confirm the entered password, after the input is completed, the printer requests to enter it again, as shown in the following figure:

```
INPUT CONFIRM
Pls input again.
Any key continue
```

The password entered twice must be exactly the same, otherwise the information shown in the figure below is displayed:

```
Different inputs
Any key retry...
```

In this case, follow the prompts to restart the setup. Once the password is set, press **[BACK]** to exit the main menu.

**Note:**

- If the entered password is empty, the password protection will be cancelled.
- Please save the password properly to avoid forgetting.

## 6.4.5 User Login

Please refer to *Section 7.4* for details.

## 6.5 Interface Settings

This menu is used to set the communication parameters between the printer and the scale.

The communication parameters of the printer must be consistent with the scale. Incorrect settings will cause the printer to not work properly!

The printer has the function of automatically detecting and setting communication parameters, please refer to *Section “6.5.2 Automatic Detection”*.

Item	Default	Options	Memo
Auto Baud	√	x, √	It is used to automatically match the baud rate of the scale. This feature supports most OHAUS weighing instruments. If you cannot communicate with the scale normally, you can refer to Section 6.5.2 to solve the problem.
Baud	9600	300,600,1200, 2400,4800, 14400,9600, 19200, 38400,57600, 115200	The communication rate, which determines the communication speed, must be consistent with the scale setting.

Item	Default	Options	Memo
Data bits	8Bits	7Bits / 8Bits	The number of data bits contained in a frame of data, must be consistent with the scale setting.
Parity	None	None/ODD/EVEN	The bit used for verification, must be consistent with the scale setting.
Stop bits	1Stop	1Stop, 2Stop	The length of the bit indicating the end of the data, must be consistent with the scale setting.
Handshake	Xon/ Xoff	None, DTR/CTS, Xon / Xoff, nDTR / CTS	Data handshake protocol, must be consistent with the scale setting.
Terminate char	CR+LF	CR+LF, CR, LF, WIN, ETX,None	Indicates the end of data, which must be consistent with the scale setting.
Data output mode	Output once	Output once Continuous	<b>Output once:</b> Applicable to scales that press the print key once and output data once.  <b>Continuous:</b> Applicable to scales that continuous output.
Disable Command	x	x, √	<b>x:</b> Normal operating mode √: It is usually used to connect instruments other than the scale, such as a PH meter.

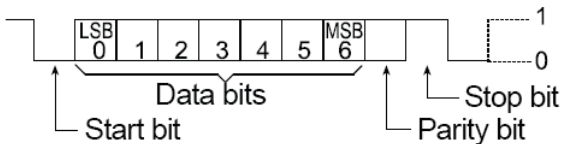
Item	Default	Options	Memo
Use Zero or Tare	Tare	None, Tare, Zero	Set the command used when the printer sends tare/zero operation to the scale. None: Do not send instructions Tare: send a Tare command Zero: send a Zero command
Data Filter			Please refer to <i>Section "6.5.3 Data Filtering"</i> .
Data Matching			Please refer to <i>Section "6.5.4 Data Matching"</i> .
Enable Demo Mode	x	x, √	√: When the <b>[PRINT]</b> key is pressed, the printer simulates receiving balance data for function demonstration. For normal use, please set to x.
Factory default			Restore factory default settings.

## 6.5.1 Interface Definition

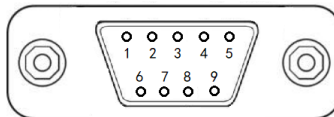
The printer interface is a standard RS232C communication interface with the following characteristics:

- D-Sub 9pin, male
- Asynchronous, bi-directional, half duplex
- Baud rate: 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200
- Parity: None, Odd, Even
- Data bits: 7bit, 8bit
- Stop bits: 1stop, 2stop
- Handshake: None, DTR/CTS, nDTR/CTS, Xon/Xoff

The following is a data frame format of 7 data bits, 1 stop bit, and 1 parity bit:



D-Sub 9pin assignments:





Pin No.	Signal	Direction	Description
1	NC		No connection
2	RXD	Input	Receive data
3	TXD	Output	Transmit data
4	DTR	Output	Data terminal ready (Connect to pin7 internal)
5	SG		Signal ground
6	DSR	Input	Data set ready
7	RTS	Output	Request to send (Connect to pin4 internal)
8	CTS	Input	Clear to send
9	NC		No connection

### Handshake:

NONE	The printer and the balance can communicate at any time without flow control.
XON/XOFF*	When the device receives the <XOFF> control character, it stops sending data to another device until it receives the <XON> control character.
DTR/CTS	When the device is ready to receive data, the DTR pin outputs a logic low level (RS232 positive level) to notify another device; otherwise, when the device cannot receive data, the DTR pin outputs a logic high level (RS232 negative level).
nDTR/CTS	Similar to DTR / CTS, but the action level is reversed.

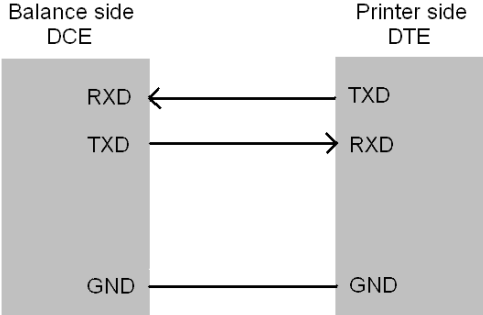
### Notes:

XON control character: 0x11 (hexadecimal format).

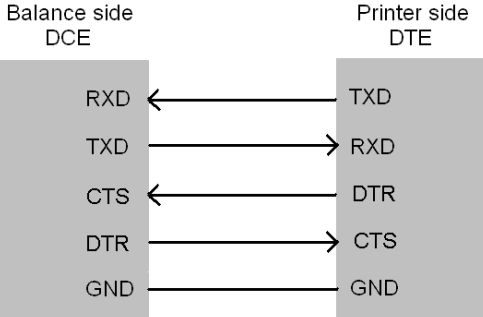
XOFF control character: 0x13 (hexadecimal format).

**Connection method:**

Handshake Protocol = None, XON/XOFF:



Handshake Protocol = DTR/CTS, nDTR/CTS:



## 6.5.2 Automatic Detection

The communication parameters of printer and scale need to be completely compatible to allow normal operation. This function can automatically recognize the communication parameters and set the parameters in the printer to be compatible with a scale, thereby eliminating common issues caused by incorrect communication parameter settings.

### Operation:

- Make sure that the printer and scale is properly connected, and the balance is ready for work.
- Turn off the printer's power switch, press and hold the **[PRINT]** key and turn on the power switch. Keep holding the key until the printer begins to print the following message:

```
-----Auto-Set-----  
Please send data to printer, the printer will output the results immediately, if the printer does not respond, it means that printer does not receive data.  
-----
```

- Press print key **on the scale (not on the printer)**, once data transfer is detected, the printer will immediately analyze the data and print out correct communication parameters and received data. If there is no response in printer, please check if the

connecting cable is correct and make sure that data is transferred after print key on balance is pressed.

- If the printed content is correct, press **[OK]** to accept the parameters analyzed by printer, then the printer can return to normal working status.

**Notes:**

- If the automatic detection fails to recognize the data, please check whether the data cable is reliable, or replace the other data cable and try again. If the printer is equipped with different data cable or cable adapter, try all combinations and use this "Automatic Detection" function in each combination until data is detected.
- Do not plug or unplug the data cable while it is powered on. The plug and unplug of the data cable must be performed when the power is turned off. Otherwise, incorrect results may occur. If this happens, perform this operation again.
- When multiple results are detected, press ▲ or ▼ key to select different results, usually the first result is available.
- After the automatic detection result is accepted, the "**Auto baud**" item under the **Main menu**→**Interface set** will be automatically disabled.

### 6.5.3 Data Filtering

Except the **DIRECT** mode, the printer only processes weighing data. The printer recognizes the weighing data according to the following rules:

1. The right-most character string is recognized as a unit, and there is only one. For example, the following are valid weighing data:

*N + 100.000 kg*

*100.000kg*

The following are invalid weighing data, because the right side contains two strings: kg, S:

*N +100.000 kg S*

2. The unit length cannot exceed 6 characters.
3. The digits must be on the left side of the unit.
4. The leftmost part of the value cannot be directly connected with a string, at least one space, for example, the following is a invalid weighing data:

*Tare100.000 kg*

the following are valid weighing data:

*Tare: 100.000 kg*

*Tare 100.000 kg*

This parameter is used to filter specific content in the data transmitted by the scale. For example, suppose the scale outputs the following data:

*+ 100.00 kg S*

This data does not comply with the No.1 rule above, which will cause the printer not to recognize this data as weighing data, and it will not work in modes other than the Direct mode. In order for the printer to recognize it as weighing data, it is necessary to filter this string, at this time, you can set this parameter to "S", as below:

MAIN MENU 1. Printout 2. Normal set 3. Interface set	→[OK] -> ▲ or ▼ →	Data Filter S
---	-------------------	------------------

If you want to filter multiple strings in the data, you can enter it with a comma separator. For example, the following setting will filter "S" and "Net" in the data.

MAIN MENU 1. Printout 2. Normal set 3. Interface set	→[OK] -> ▲ or ▼ →	Data Filter S, Net
---	-------------------	-----------------------

If you want to print out the filtered data, but do not process the data, such as adding statistical calculations, please set up the printer as follows:

```
MAIN MENU
1. Printout
2. Normal set
3. Interface set  ->

1. Header
2. Trailer
3. Others

Printout Invalid
Data ✓
```

**Note:**

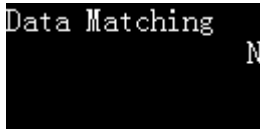
- Please use this function with caution. Improper setting will cause the printer to not work properly.
- Please pay attention to case sensitivity when setting this parameter.
- The data filtering function is invalid in the Direct mode.

## 6.5.4 Data Matching

In modes other than the Direct mode, if the scale outputs multiple weighing data at the same time, but only wants to print one or part of the data, you can use this parameter to match the specified weighing data. For example, the scale outputs the following:

```
+ 100.00 kg N  
+ 50.00 kg T  
+ 150.00 kg G
```

If you want to process only the data containing "N" identifier, you can set this parameter to "N", as shown below:

A screenshot of a terminal window showing the 'Data Matching' parameter set to 'N'. The text 'Data Matching' is on the first line, and 'N' is on the second line, both in a monospaced font against a black background.

```
Data Matching  
N
```

Since the identifier "N" is behind the unit, it violates the first rule of weighing data identification in *Section "6.5.3 Data Filtering"*, the printer will not accept this data as weighing data, therefore, in this example, the string "N" needs to be filtered, as shown below:

A screenshot of a terminal window showing the 'Data Filter' parameter set to 'N'. The text 'Data Filter' is on the first line, and 'N' is on the second line, both in a monospaced font against a black background.

```
Data Filter  
N
```



The printer always executes "Data Matching" before performing "Data Filtering".

If you want to match multiple strings, you can separate them with commas.

For example, if you want to process the data containing "N" and "Gross" as weighing data, please follow the settings below:



```
Data Matching
      N, Gross
```

**Note:**

- Please use this function with caution. Improper setting will cause the printer to not work properly.
- Please pay attention to case sensitivity when setting this parameter.
- The data matching function is invalid in the Direct mode.

## 7 SF-110B EDITOR SOFTWARE

### 7.1 Introduction

SF-110B Editor is a software specially designed for this printer. It is easy to operate and compact, it does not need to install any driver, and can be used in almost all windows operating systems to achieve the following functions:

- Import custom header and trailer.
- Import the sample name code table, which only need to input the numeric code to printout the complex sample name.
- Import user list to realize user management.

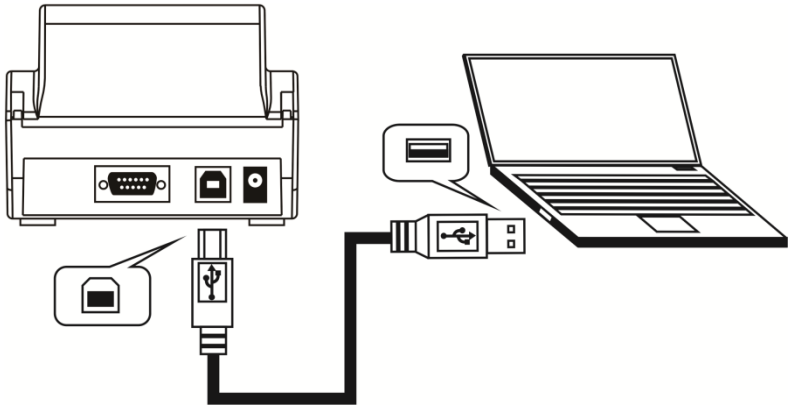
Please scan the QR code to obtain the software.



### Connection

Connect the USB port on the back of the printer to the USB port of the computer through the USBA/M-USBB/M data cable (a common USB printer or scanner data cable).

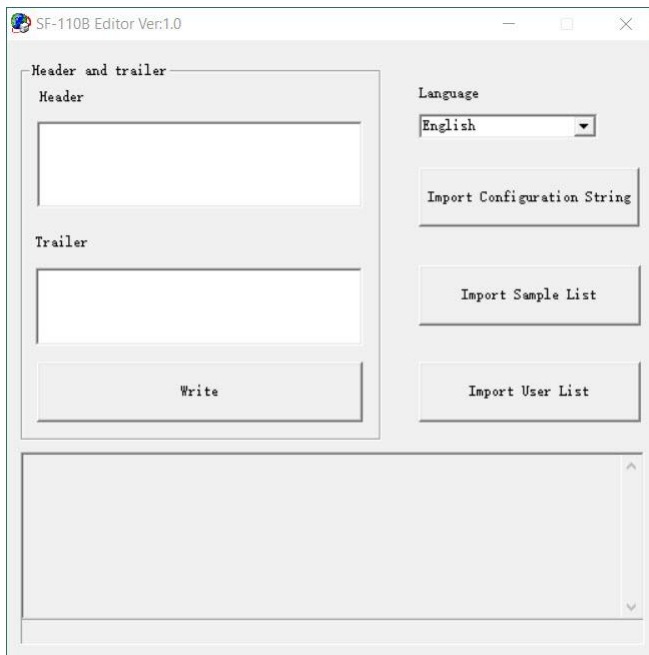
Do not connect the power adapter to the printer, as shown in the following:



**Note:**

The USB A/M - USB B/M cable is not included in printer's package, please prepare by yourself.

Execute the SF-110B Editor software. If the connection is normal, the buttons on the software should be available, as shown below:



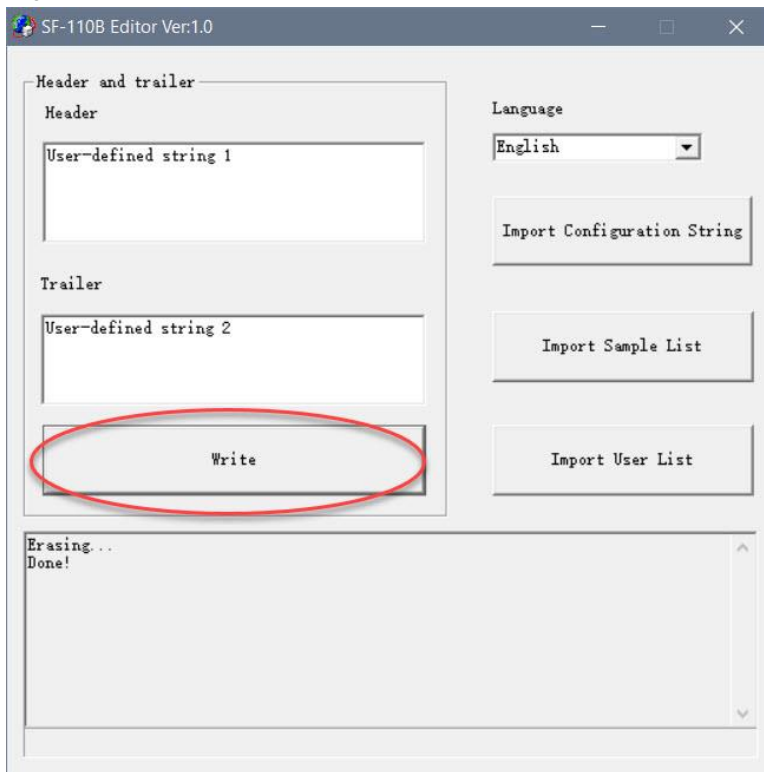
After the operation is completed, unplug the USB cable.

## 7.2 Custom Header and Trailer

Using SF-110B Editor software, users can customize two strings(labels) and output them at the beginning of the header and at the end of the trailer respectively.

```
-----  
User-defined string1  
OHAUS  
Model:           EX225  
S/N:             D23452456  
Date:            2020/04/13  
Time:            22:15:06  
-----  
N + 10.02 mg  
  
Signature:  
User-defined string2  
-----
```

Please refer to *Section 7.1* and use SF-110B Editor software to write custom header and trailer strings to the printer, as shown below:



After completion, remove the printer from the computer, connect the power adapter to printer, enter the setup menu, refer to the following settings.

- Enable header printing of user-defined string.

<pre>MAIN MENU 1. Printout 2. Normal set 3. Interface set -&gt;</pre>	<pre>1. Header 2. Trailer 3. Others -&gt;</pre>	<pre>Print label in report header ✓</pre>
---	---	---

- Enable trailer printing of user-defined string.

<pre>MAIN MENU 1. Printout 2. Normal set 3. Interface set -&gt;</pre>	<pre>1. Header 2. Trailer 3. Others -&gt;</pre>	<pre>Prn user-defined in REP. trailer ✓</pre>
---	---	---

**Note:**

The maximum length of the user-defined characters in the header and trailer is 500 respectively.

## 7.3 Sample Name Code

When there is a lot of input information, using the code input method will greatly simplify the operation. With EXCEL, create a table containing the correspondence between the digital code and the name, and then import this table into the printer through SF-110B Editor. When you need to print the name, just Enter the corresponding code.

The operation method is as follows:

### 1 Prepare the table:

First, use EXCEL to create a table containing codes and names, as shown in the following figure:

	A	B	C
1	1	NaCl 10mL 201312	
2	2	NaOH 5mL 20131567890	
3	3	Terbinafine hydrochloride	
4			
5			
6			
7			
8			

**Note:** Use shorter codes to reduce input time.



If the most significant digit of the code contains "0", such as "001", the column where the code is located must use text format, not numeric format, otherwise, EXCEL will automatically remove the zero in front of the code, resulting in incorrect coding.

After making the table, save as "CSV" format.

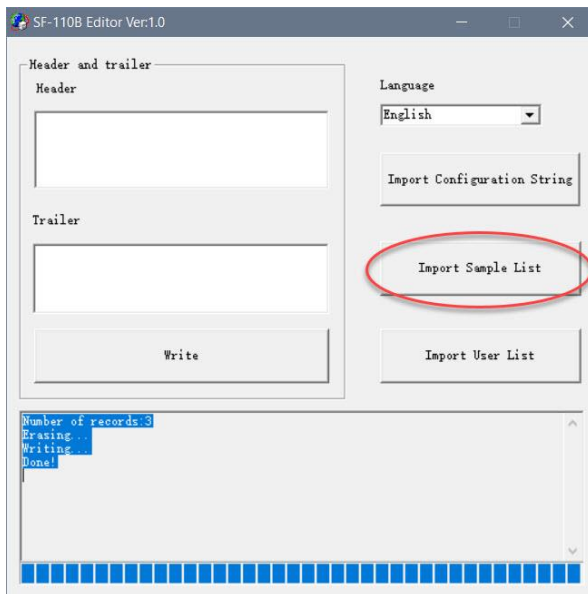
In order to check whether the table's format is correct, you can use Notepad to open it, the correct format should be similar to the following:

```
1,NaCl 10mL 201312
2,NaOH 5mL 20131567890
3,Terbinafine hydrochloride
```

The code and the name are separated by a comma. You can also use Notepad to edit this table and change the file extension to CSV.

## 2 Import the table


Please refer to *Section 7.1* and use SF-110B Editor software to import the prepared table into the printer, as shown in the figure below:



**Note:** When a new table is imported, the original table will be overwritten. After the table is imported, unplug the USB data cable and restore the connection to the scale.

### 3 Use code input method:

When you need to use the code input method, press the **[Fn1]** key at the standby interface, the following list is displayed:



```
1. Sample Name
2. Sample Code
3. Sample LOT.
4. Name in data
5. Code in data
6. LOT. in data
```

→ ▲ or ▼ →


#### “2.Sample Code”

Enter the code, and the header outputs the sample name corresponding to the code.

#### “5.Code in data”

Enter the code and output the name corresponding to the code in front of the weighing data. This is applicable to Multi Weighing Mode, Statistic, SUM Mode and Mean Mode.

If necessary, select "2. Sample Code" or "5. Code in data" and press the **[OK]** key, as shown in the following figure:



```
1
0123456789
NaCl 10mL 201312
```

Enter the code, the corresponding name is displayed at the bottom of the screen, and press the **[OK]** key to exit.

## 7.4 User Login

In order to prevent unauthorized operation of the printer, you can set a login password for each user. Before using the printer, you must enter the login password, otherwise you cannot use the printer.

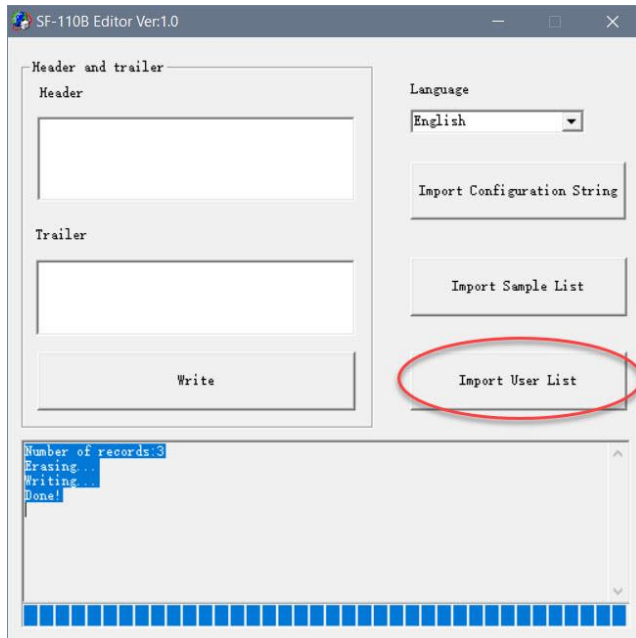
### 1 Preparation:

Please refer to *Section 6.4.4* to set the administrator password first.

Now, you need to prepare an EXCEL table that contains each user's login password and corresponding user name.

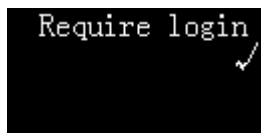
This operation is the same as *Section 7.3 "Sample Name Code"*, except that the code is replaced by a fixed 6-digit login password and the name for the user name.

After completion, run the SF-110B Editor software, click **"Import User List"**, select the prepared CSV file, as shown below:



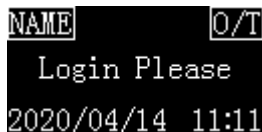
If an administrator password is set, the software will ask for a password when importing. For the operation method of SF-110B Editor software, please refer to *Section 7.1*.

After importing the user list, make the following settings on the printer:



## 2 Login operation:

After the above operations are completed, the printer displays the following in the standby interface:



The login status of the display is "Login Please".

At this time, the printer's operations except the following will be prohibited:

- Press **[BACK]** key to feed paper.
- Press **[OK]** key to enter the login password.
- Press and hold the **[MENU]** key to enter setting menu (administrator password required).

Press **[OK]** key, the printer displays the following information, asking for the login password:



Input Code:

After entering the correct login password, the display shows the current working mode, at this time, the printer can perform normal printing operations.

### 3 Log out operation

After completing the operation, you must log out in time to avoid the next user using the printer without logging in. Long press the **[OK]** key, when prompted to enter the code, without entering any information, directly press the **[OK]** key to log out, at this time the display screen login state returns to the "Login Please" state.

When the printer enters the screen saver because it has not been operated for a long time, it will also automatically log out.

## 8 MAINTENANCE

Under normal conditions the printer requires practically no maintenance. The OHAUS service department is available if servicing is required. Please ask your responsible OHAUS dealer for details.

- When cleaning the printer, make sure no liquid flows into the printer.
- Keep the irritant liquid far away from printer.
- Remove the power cables and the data cables before cleaning.
- Please use soft dry cloth to wipe the printer after cleaning.
- Dry your hands before coming into contact with the AC adaptor.
- Keep it in a dry environment, if the printer will not be used for a long time pack it into the factory packaging.
- To avoid damage to the printer, it is strongly recommended to use ink ribbon and other consumables from the original supplier.
- Turn off the power supply of printer after usage. Please remove the adaptor/batteries if it is not going to be used for a long time.
- Always use original consumables. Unqualified consumables will damage the printer or shorten the life of the printer.



## 8.1 Troubleshooting

When the printer encounters the following problems, please try to solve it according to the instructions in this manual, if it can not be solved, please contact the service representative.

1. The printer does not print after pressing the **[PRINT]** key.
  - The cable between the printer and the scale is not secure, please check and reconnect.
  - The communication parameters between the printer and the scale do not match, please refer to *Section "6.5.2 Automatic Detection"*. If the printer is equipped with different cable or cable adapter, please try all combinations and use "Automatic Detection" in each combination until data is detected.
  - Reset the scale to factory settings. If the scale data port is turned off or not assigned to the printer, please change the scale port settings according to the scale manual to make it available and assign it to the printer.
2. Print content looks light.
  - The ribbon has expired, please replace with a new one.
3. Paper jam.
  - Cut out the spare print paper, then press key **[BACK]** to take out the spare paper, if can't take out, please use tweezers to take out the paper.
4. When the **[BACK]** key is pressed, the printer makes a paper-feeding sound, but no paper feed.
  - There may be foreign objects in the paper feed slot of the mechanism, use tweezers to carefully remove them.

5. The printed content presents a mirror.
  - The ribbon is installed incorrectly, please remove the printing paper first, then reinstall the ribbon, and then install the printing paper after installing the ribbon.
6. Uneven print content.
  - The ribbon is not installed properly, please reinstall the ribbon.
  - The ribbon is wrinkled. Please remove the ribbon, pull out the ribbon core, and then tighten it again to ensure that the ribbon is not wrinkled before installing it back into the printer.
  - Replace the new ribbon, please pay attention to use the ribbon produced by EPSON.
7. The printing action looks normal, but nothing is printed.
  - The ribbon is installed incorrectly, reinstall the ribbon.
8. The printed content overlaps.
  - Paper jams, please refer to the above paper jam processing methods to solve.
  - The installation direction of the printing paper is wrong, please refer to the manual to reinstall.
  - Please use high-quality printing paper.
  - No paper shaft installed, please install paper shaft.
  - Please do not use thermal paper.
9. The printer does not power on.
  - Unmatched power adapter is used, please use the power supply of the printer.

10. The printer prints continuously.

- This is because the scale output is set to continuous output.
  - Change the scale output setting to single output.
  - Set the printer as follows

```
MAIN MENU
1. Printout
2. Normal set
3. Interface set .->
```

```
Data output mode
Continuous
```

## 8.2 Service Information

If the troubleshooting section does not resolve or describe your problem, contact your authorized OHAUS service agent. For service assistance or technical support, please visit our web site, [www.ohaus.com](http://www.ohaus.com) to locate the OHAUS office nearest you. An OHAUS product service specialist will be available to provide assistance Monday through Friday.

## 8.3 Software Updates

OHAUS is continuously improving its balance software. To obtain the latest release, please contact your Authorized OHAUS Dealer or OHAUS Corporation.

## 9 ACCESSORIES

<b>Part Number</b>	<b>Description</b>
12120799	Paper roll
30529322	Ink ribbon, black

## 10 TECHNICAL DATA

### 10.1 Equipment Ratings

Indoor use only

Altitude: 2000m

Operating temperature: 0 to 40°C

Relative humidity: 10% - 80%

Electrical supply: 12VDC, 2.0A. (For use with certified or approved power supply, which must have a SELV and limited energy output.)

Voltage fluctuations: Mains supply voltage fluctuations up to  $\pm 10\%$  of the nominal voltage.

Overvoltage category  
(Installation category): II

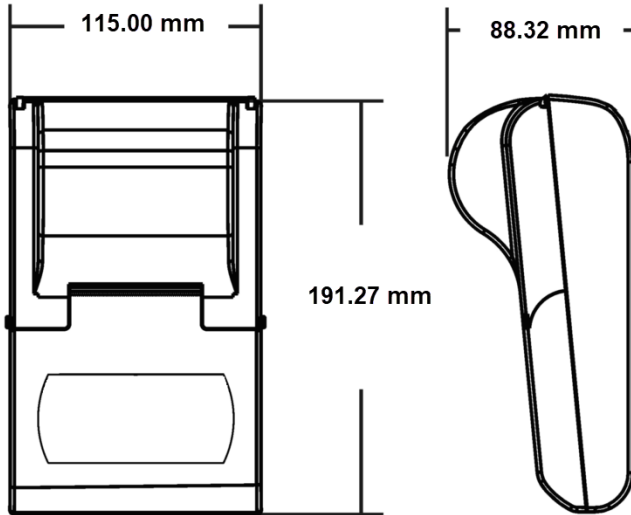
Pollution degree: 2

## 10.2 Specifications

<b>Model</b>	<b>SF-110B</b>
Printing method	8 print solenoids impact dot matrix.
Printing unit	Dot matrix printer 5x7, 40-character line length
Printing speed	1.7 lines per second
Lifetime	1 million lines
Operation modes	Direct, Weighing, Multi Weighing, Statistic, Sum, Mean, Formulation, Loss Weight
Paper roll (W x Dia.)	Standard paper, 57.5 mm x Ø 50 mm max.
Ink ribbon cartridge	EPSON ERC-22 or ERC-09B
Display	128 x 64 dots, OLED display
Power Requirements	AC adapter Input: 100 – 240 VAC, 50 - 60 Hz AC adapter output: 12VDC, 2.0A
Interface	RS232C
Ambient temperature	0 °C – 40 °C
Printer Dimensions (W x D x H)	115 mm x 191.27 mm x 88.32 mm
Packaging dimensions (W x D x H)	177 mm x 235 mm x 169 mm





Model	SF-110B
Net weight	580g (paper roll included)
Shipping Weight	1.5kg

### 10.3 Drawings and Dimensions



## 11 COMPLIANCE

Compliance to the following standards is indicated by the corresponding mark on the product.

Mark	Standard
	<p>This product complies with the applicable harmonized standards of EU Directives 2011/65/EU (RoHS), 2014/30/EU (EMC) and 2014/35/EU (LVD). The EU Declaration of Conformity is available online at <a href="http://www.ohaus.com/ce">www.ohaus.com/ce</a>.</p>
	<p>This product complies with the applicable statutory standards of the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012, UK Electromagnetic Compatibility Regulations 2016 and Electrical Equipment (Safety) Regulations 2016. The UK Declaration of Conformity is available online at <a href="http://www.ohaus.com/uk-declarations">www.ohaus.com/uk-declarations</a>.</p>
	<p>This product complies with the EU Directive 2012/19/EU (WEEE). Please dispose of this product in accordance with local regulations at the collecting point specified for electrical and electronic equipment. For disposal instructions in Europe, refer to <a href="http://www.ohaus.com/weee">www.ohaus.com/weee</a>.</p>
	<p>EN 61326-1</p>

### ISO 9001 Registration

The management system governing the production of this product is ISO 9001 certified.



## LIMITED WARRANTY

OHAUS products are warranted against defects in materials and workmanship from the date of delivery through the duration of the warranty period. During the warranty period OHAUS will repair, or, at its option, replace any component(s) that proves to be defective at no charge, provided that the product is returned, freight prepaid, to OHAUS.

This warranty does not apply if the product has been damaged by accident or misuse, exposed to radioactive or corrosive materials, has foreign material penetrating to the inside of the product, or as a result of service or modification by other than OHAUS. In lieu of a properly returned warranty registration card, the warranty period shall begin on the date of shipment to the authorized dealer. No other express or implied warranty is given by OHAUS Corporation. OHAUS Corporation shall not be liable for any consequential damages.

As warranty legislation differs from state to state and country to country, please contact OHAUS or your local OHAUS dealer for further details.







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