PENKO Engineering B.V.

Your Partner for Fully Engineered Factory Solutions

Manual:

FLEX indicator Bench scale V1

PENKO

an ETC Company

FLEX indicator Bench scale

IMPORTANT SAFETY INFORMATION
READ THIS PAGE FIRST!

PENKO Engineering B.V. manufactures and tests its products to meet all applicable national and international standards. It is vital that this instrument is correctly installed, used, and maintained to ensure it continues to operate to its optimum specification.

The following instructions must be adhered to and incorporated into your safety program when installing, using, and maintaining PENKO products. Failure to follow the recommended instructions can affect the system's safety and may increase the risk of serious personal injury, property damage, damage to this instrument and may invalidate the product's warranty.

• Read the instructions fully prior to installing, operating, or servicing the product. If this Instruction Manual is not the correct manual for the PENKO product you are using, call 0031(0)318-525630 for a replacement copy. Keep this Instruction Manual in a safe place for future reference.

• If you do not fully understand these instructions, contact your PENKO representative for clarification.

• Pay careful attention to all warnings, cautions, and instructions marked on and supplied with the product.

• Inform and educate your personnel about the correct installation, operation, and maintenance procedures for this product.

• Install your equipment as specified in the installation instructions of the appropriate Instruction Manual and as per applicable local and national codes. Connect all products to the proper electrical sources.

• To ensure correct performance, use qualified personnel to install, operate, update, program, and maintain the product.

• When replacement parts are required, ensure that qualified technicians use replacement parts specified by PENKO. Unauthorized components and procedures can affect the product's performance and may affect the continued safe operation of your processes. The use of non-specified 'look-alike' substitution parts may result in the risk of fire, electrical hazards, or improper operation.

• Ensure that all equipment doors are closed and protective covers are in place, except when maintenance is being performed by qualified persons, to prevent electrical shock and personal injury.

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WARNING

ELECTRICAL SHOCK HAZARD

Installing cable connections and servicing this instrument require access to shock hazard level voltages which can cause death or serious injury.

Disconnect separate or external power sources to relay contacts before commencing any maintenance.

The electrical installation must be carried out in accordance with CE directions and/or any other applicable national or local codes.

Unused cable conduit entries must be securely sealed by non-flammable blanking plates or blind grommets to ensure complete enclosure integrity in compliance with personal safety and environmental protection requirements.

To ensure safety and correct performance this instrument must be connected to a properly grounded, three-wire power source.

Proper relay use and configuration is the responsibility of the user.

Do not operate this instrument without the front cover being secured. Refer any installation, operation or servicing issues to qualified personnel.

WWW.PENKO.COM

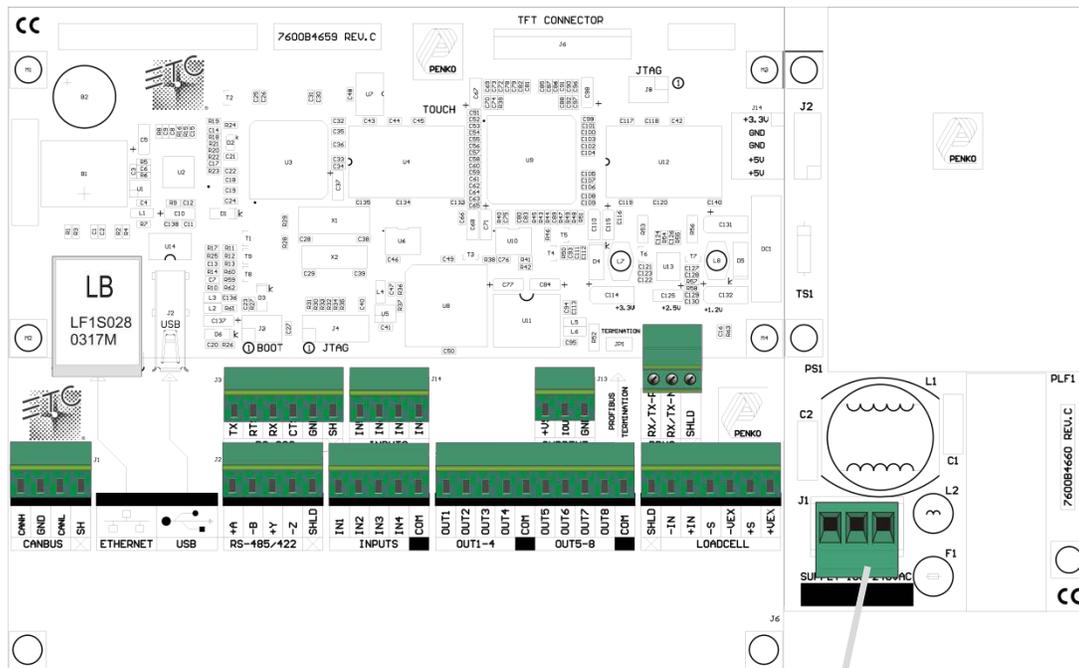PENKO Engineering B.V.is an ETC Company

Email: info@PENKO.com

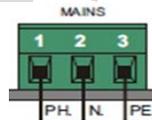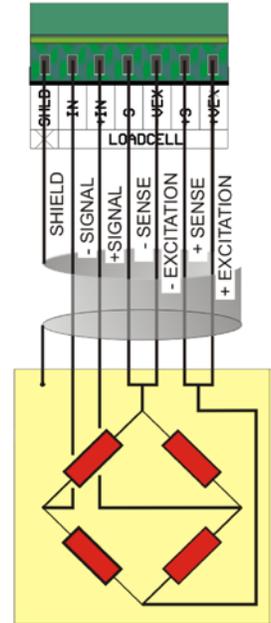# FLEX indicator Bench scale

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Wiring connection for model FLEX 2100
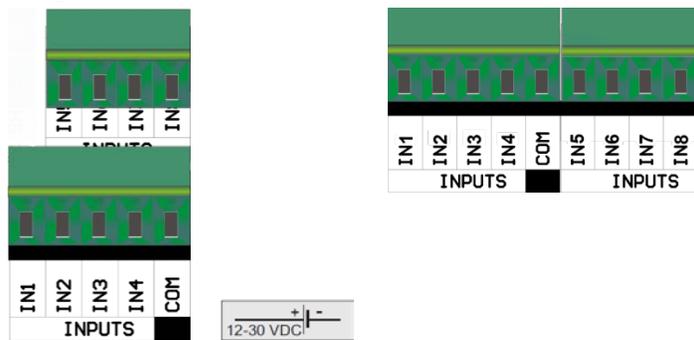

Loadcell Connection

AC Power supply
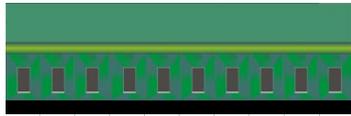230 Vac 50/60 Hz

Digital Inputs:

Input 1: Not used

Input 2: Not used

Input 3: Not used

Input 4: Not used

Input 5: Not used

Input 6: Not used

Input 7: Not used

Input 8: Not used

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Digital Outputs:

Output 1: Not used

Output 2: Not used

Output 3: Not used

Output 4: Not used

Output 5: Not used

Output 6: Not used

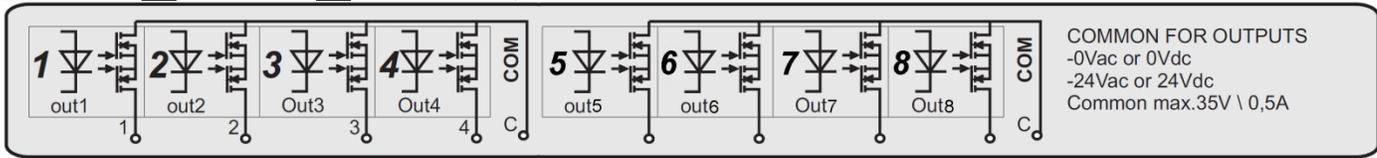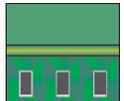Output 7: Not used

Output 8: Not used

Analog Output: (optional)
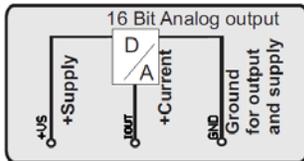
Power supply
For analog output
18-30Vdc

Output: Not used

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Information

When the FLEX is started up, it will show the information screen. On this screen the PENKO information and the program version is shown. After 5 seconds the "Production" screen is shown or when the "Menu" button is pressed the "Selection Menu" is shown.

Language selection

Press on "Language" in the Information screen, now you can choose a language or press on Return to return to the Information screen.

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Selection Menu

From the Selection menu it's possible to enter several Screens.
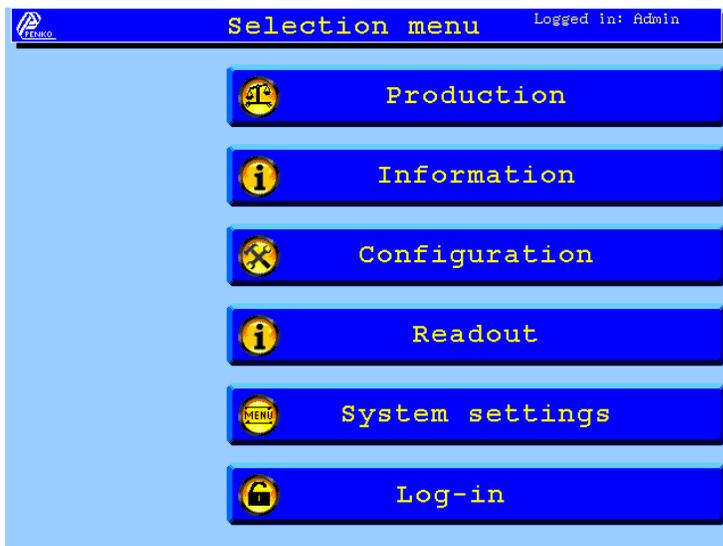
The Configuration, Readout, System setting and the ability to change the recipe parameters are locked by a password, log-in with the Log-in button first. To log-out, press the Log-out button.

Screen if Configuration, Readout and System settings are disabled:

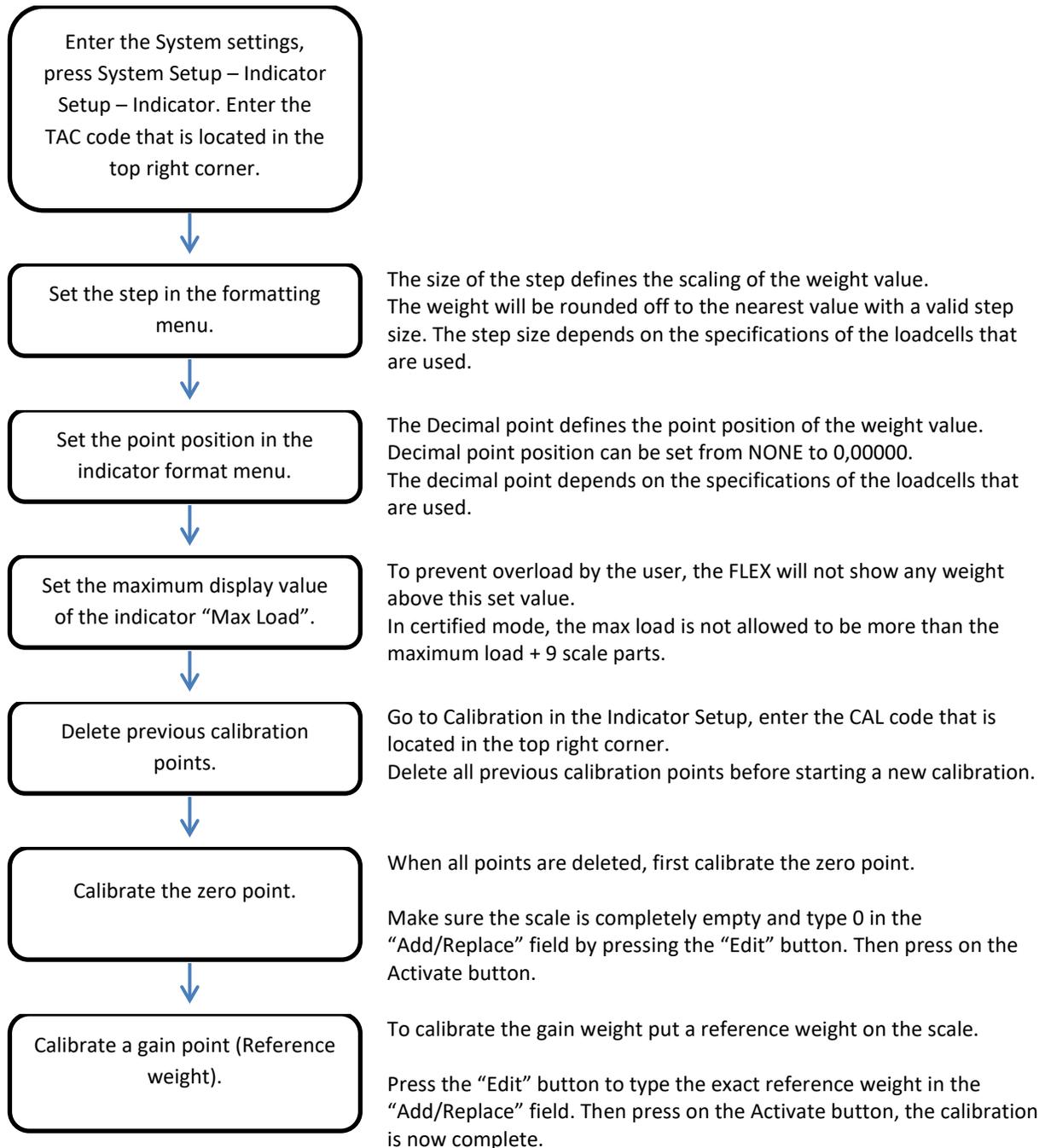*Screen if Configuration, Readout and System settings are enabled:*

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First use of the indicator

Before using the controller, please setup the internal indicator first.

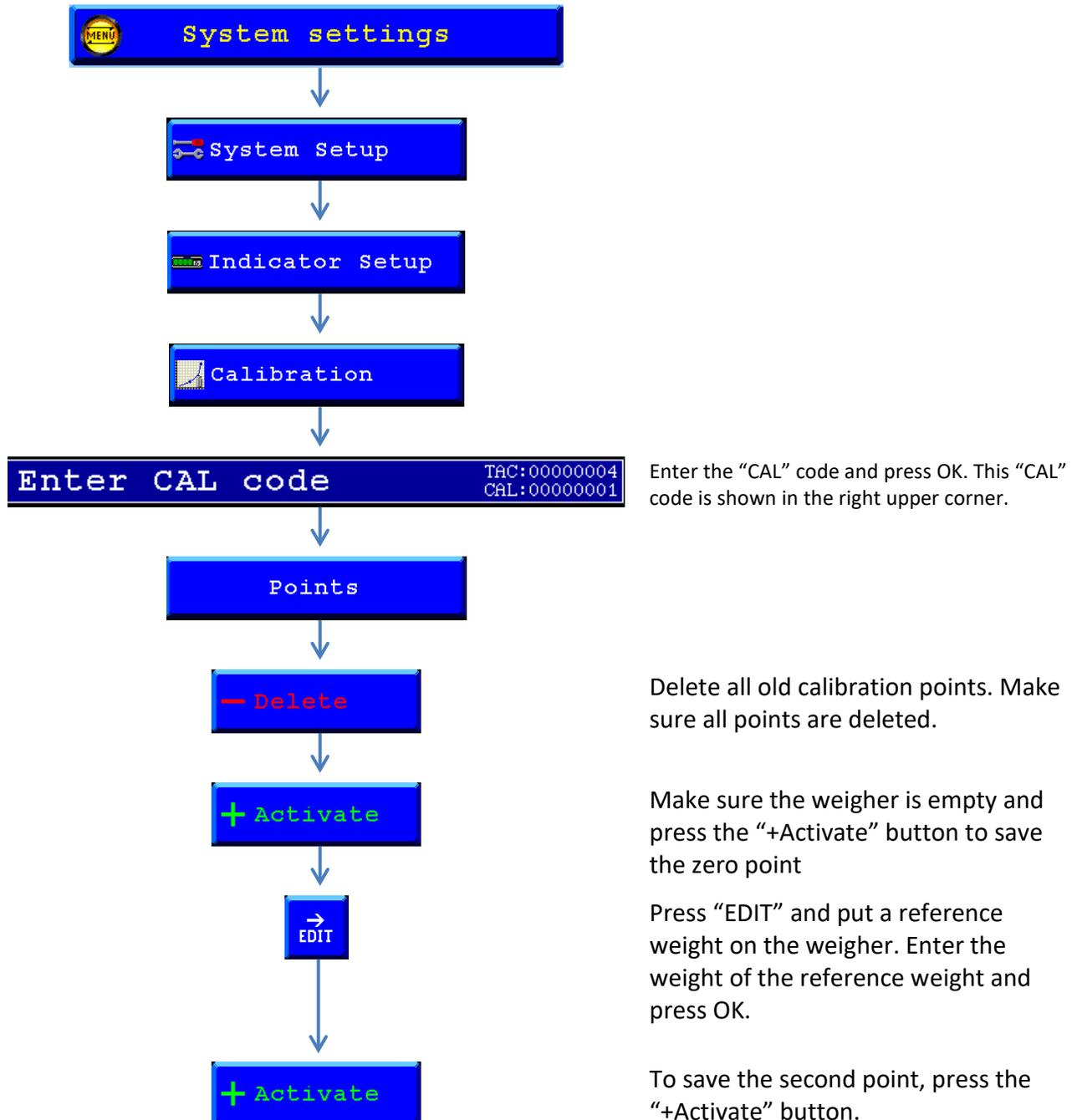Login first to enter the System settings, default no password is selected.

The overall password is "25630".

Enter the System settings, press System Setup – Indicator Setup – Indicator. Enter the TAC code that is located in the top right corner.

Set the step in the formatting menu.

The size of the step defines the scaling of the weight value.
The weight will be rounded off to the nearest value with a valid step size. The step size depends on the specifications of the loadcells that are used.

Set the point position in the indicator format menu.

The Decimal point defines the point position of the weight value.
Decimal point position can be set from NONE to 0,00000.
The decimal point depends on the specifications of the loadcells that are used.

Set the maximum display value of the indicator "Max Load".

To prevent overload by the user, the FLEX will not show any weight above this set value.
In certified mode, the max load is not allowed to be more than the maximum load + 9 scale parts.

Delete previous calibration points.

Go to Calibration in the Indicator Setup, enter the CAL code that is located in the top right corner.
Delete all previous calibration points before starting a new calibration.

Calibrate the zero point.

When all points are deleted, first calibrate the zero point.

Make sure the scale is completely empty and type 0 in the "Add/Replace" field by pressing the "Edit" button. Then press on the Activate button.

Calibrate a gain point (Reference weight).

To calibrate the gain weight put a reference weight on the scale.

Press the "Edit" button to type the exact reference weight in the "Add/Replace" field. Then press on the Activate button, the calibration is now complete.

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Calibration

To calibrate the indicator, follow the next steps:

```
MENU   System settings
```

↓

```
System Setup
```

↓

```
Indicator Setup
```

↓

```
Calibration
```

↓

```
Enter CAL code          TAC:00000004
                        CAL:00000001
```

Enter the "CAL" code and press OK. This "CAL" code is shown in the right upper corner.

↓

```
Points
```

↓

```
— Delete
```

Delete all old calibration points. Make sure all points are deleted.

↓

```
+ Activate
```

Make sure the weigher is empty and press the "+Activate" button to save the zero point

```
→
EDIT
```

Press "EDIT" and put a reference weight on the weigher. Enter the weight of the reference weight and press OK.

↓

```
+ Activate
```

To save the second point, press the "+Activate" button.

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Configuration

Before using the controller, please setup the configuration for your application first.

Login first to enter the Configuration, the default password is "0" this means that no password is needed. If the password is forgotten, the overall password is "25630".

Button	Explanation
Cancel	Return to the "Selection Menu" without saving the parameters.
Next	Go to the next set of parameters.
Ok	Return to the "Selection Menu" and save the parameters.
Edit, -, +	Edit the parameter.

Default settings:

Program	Indicator
User password	0
Admin password	0

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Configuration Parameters

```
                Program
Select the desired program.
-
- Indicator
- Checkweigher
- Counting
            User password
Set  the user password.
With this password the
settings can be changed.
The configuration readout and
system settingen are still locked,
            Admin password
Set the admin password.
With this password the
settings, configuration, readout and
system settings can be changed.
```
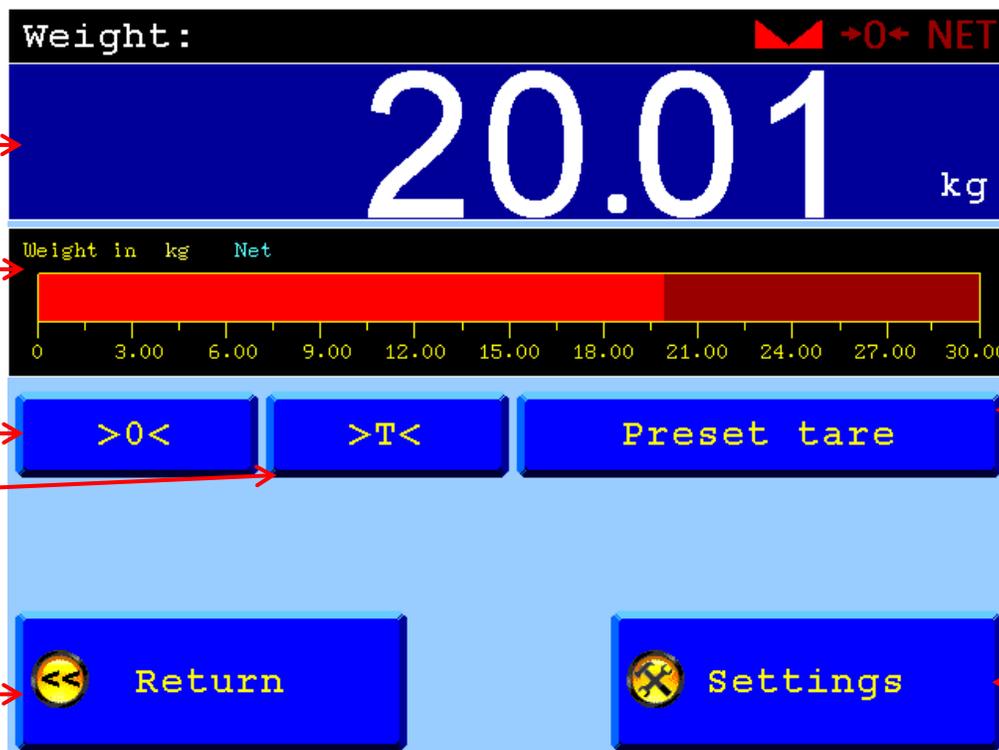
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Production - Indicator

Go tot he Production screen by pressing on the button "Production" in the Selection menu.

Icon:	Description:
	Weight is stable
	Weight is zero
	Tare active

Actual weight →

Weight in gross / net →

Set zero / tare the scale →

Set preset tare

Return to Selection menu →

Edit settings

Weight: 20.01 kg

Weight in kg Net
0   3.00   6.00   9.00   12.00   15.00   18.00   21.00   24.00   27.00   30.00

>0<   >T<   Preset tare

Return   Settings

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Indicator settings

Press the button "Settings" in the Production screen, here you can change the parameters for the specific settings.

Press on the parameter below value to change the parameter.
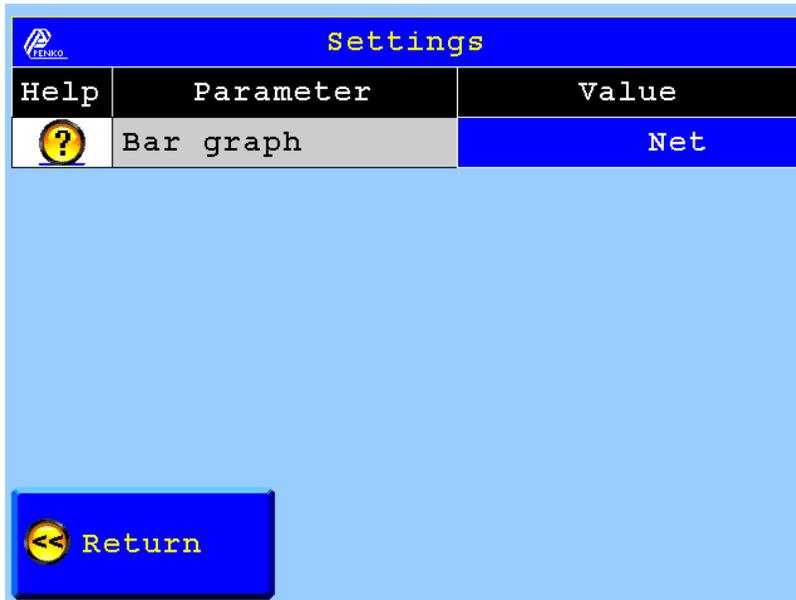
Press on the questionmark infront of the parameter to vieuw the information. Press on X to return tot he parameters.
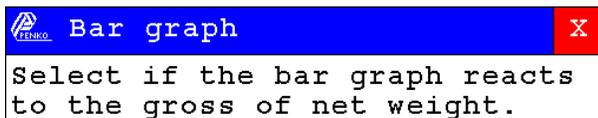
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Production – checkweigher

Go tot he Production screen by pressing on the button "Production" in the Selection menu.

Icon:	Description:
	Weight is stable
	Weight is zero
	Tare active

The led bar shows if the weight is to light (Yellow), within tolerance (Green) or to heavy (Red).
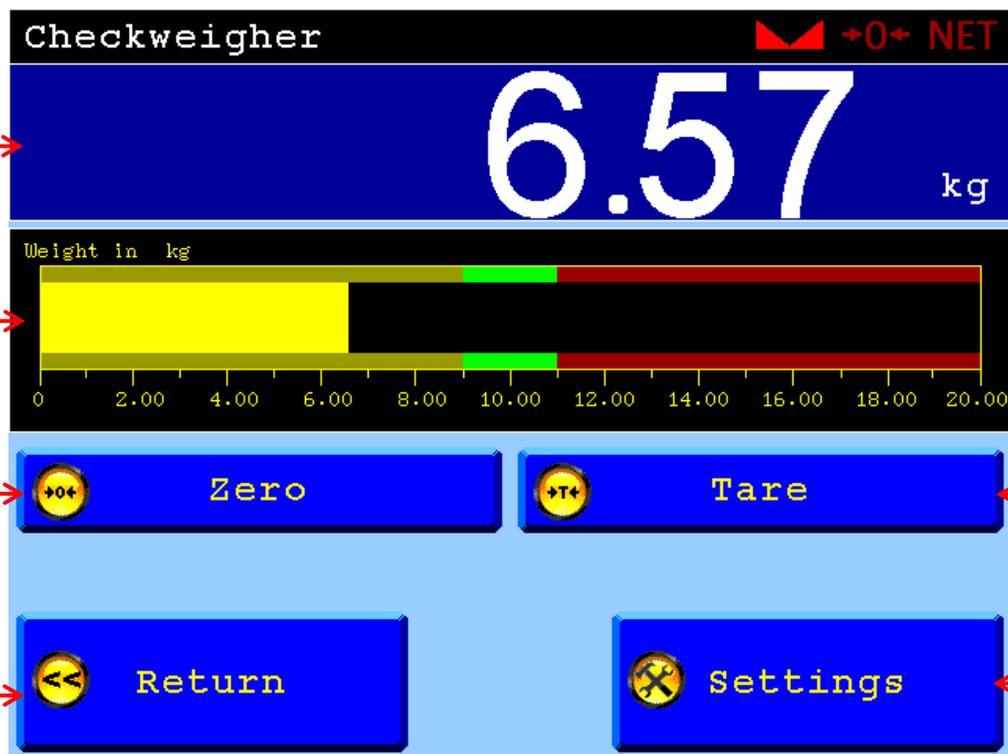
Actual weight

Net weight

Set zero

Return to Selection menu

Tare scale

Edit settings

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Indicator settings

Press the button "Settings" in the Production screen, here you can change the parameters for the specific settings.

Press on the parameter below value to change the parameter.
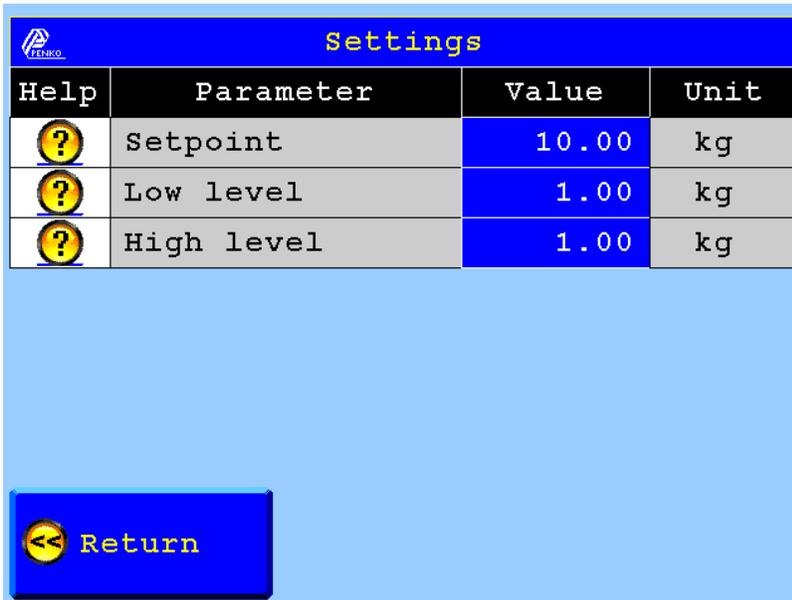
Help	Parameter	Value	Unit
?	Setpoint	10.00	kg
?	Low level	1.00	kg
?	High level	1.00	kg

<< Return

Press on the questionmark infront of the parameter to vieuw the information. Press on X to return tot he parameters.
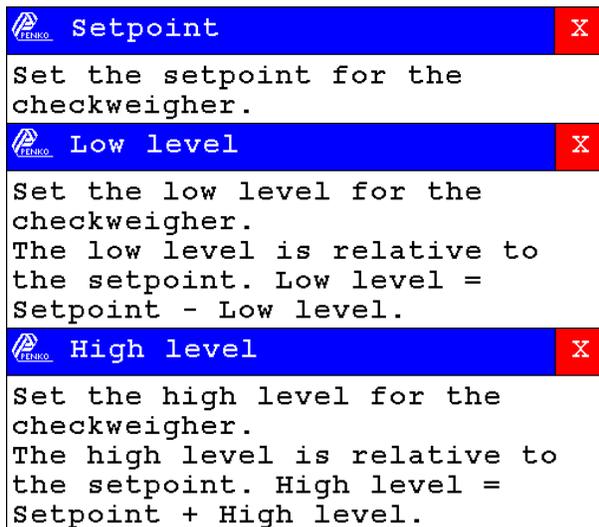
Setpoint [X]
Set the setpoint for the checkweigher.

Low level [X]
Set the low level for the checkweigher.
The low level is relative to the setpoint. Low level = Setpoint - Low level.

High level [X]
Set the high level for the checkweigher.
The high level is relative to the setpoint. High level = Setpoint + High level.
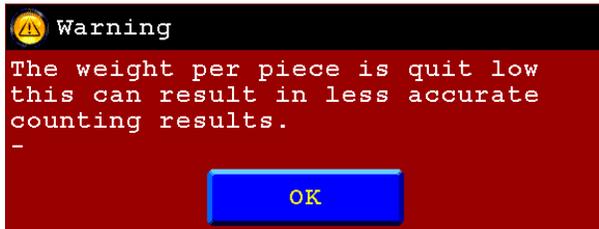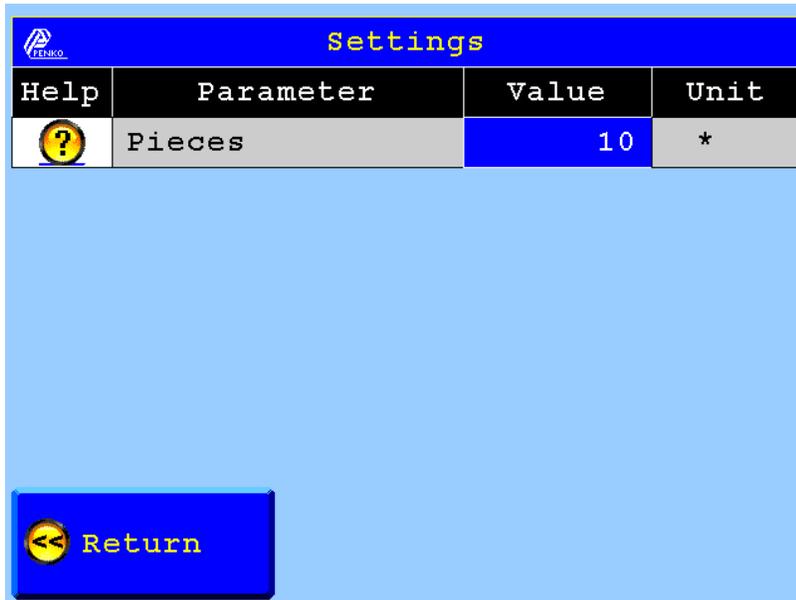
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Production – Counting

Go tot he Production screen by pressing on the button "Production" in the Selection menu.

Icon:	Description:
	Weight is stable
	Weight is zero
	Tare active

First set the count by pressing on the >0< button, then lay the set amount of pieces on the scale and press on the 10pcs button. This amount can be changed in the settings menu.

If the weight per piece is to low then the waring below will apear. The counting will work, but it's less accurate.

⚠️ **Warning**
The weight per piece is quit low this can result in less accurate counting results.
-

OK
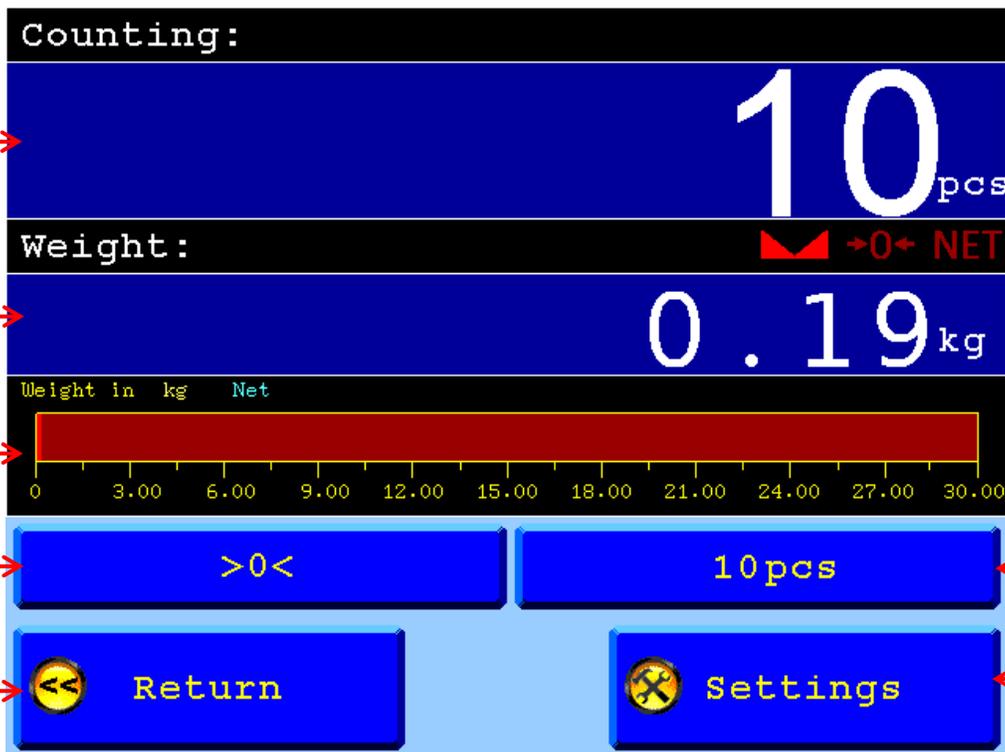
Actual amount of pieces

Actual weight

Led bar

Set zero

Return to Selection menu

Calibrate the amount of pieces

Edit settings

Counting:

10 pcs

Weight:

0.19 kg

Weight in kg   Net

0   3.00   6.00   9.00   12.00   15.00   18.00   21.00   24.00   27.00   30.00

>0<   10pcs

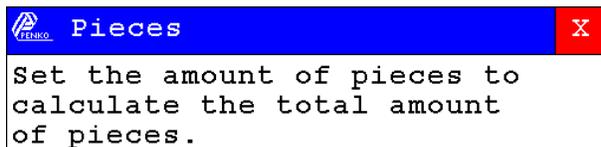Return   Settings

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Indicator settings

Press the button "Settings" in the Production screen, here you can change the parameters for the specific settings.

Press on the parameter below value to change the parameter.

Press on the questionmark infront of the parameter to vieuw the information. Press on X to return tot he parameters.
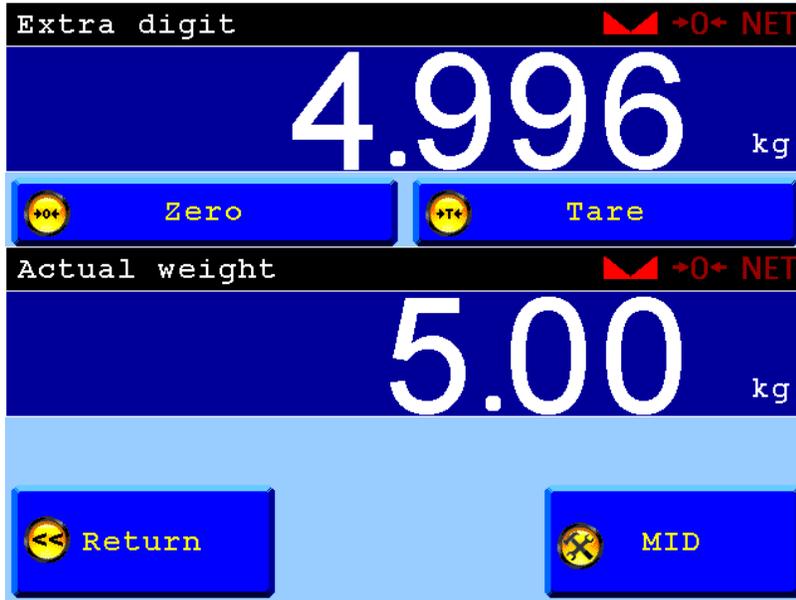
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Readout

To go to the Readout screen, press the "Readout" button from the Selection Menu screen. After 5 seconds the "Selection Menu" screen is shown again.

Press on "MID" to view the Certified information.

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Process settings

Go tot he Selection menu – System Settings – System Setup – Process Setup to view the settings. Check if the settings match the the pictures below.

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Indicators

Go tot he Selection menu – System Settings – System Setup – Indicator Setup - Indicators to check the settings. Check if the settings match the the pictures below.

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Notes

About PENKO

Our design expertise include systems for manufacturing plants, bulk weighing, check weighing, force measuring and process control. For over 35 years, PENKO Engineering B.V. has been at the forefront of development and production of high-accuracy, high-speed weighing systems and our solutions continue to help cut costs, increase ROI and drive profits for some of the largest global brands, such as Cargill, Sara Lee, Heinz, Kraft Foods and Unilever to name but a few.

Whether you are looking for a simple stand-alone weighing system or a high-speed weighing and dosing controller for a complex automated production line, PENKO has a comprehensive range of standard solutions you can rely on.

Certifications

PENKO sets high standards for its products and product performance which are tested, certified and approved by independent expert and government organizations to ensure they meet – and even – exceed metrology industry guidelines. A library of testing certificates is available for reference on:
http://penko.com/nl/publications_certificates.html

PENKO Professional Services

PENKO is committed to ensuring every system is installed, tested, programmed, commissioned and operational to client specifications. Our engineers, at our weighing center in Ede, Netherlands, as well as our distributors around the world, strive to solve most weighing-system issues within the same day. On a monthly basis PENKO offers free training classes to anyone interested in exploring modern, high-speed weighing instruments and solutions. A schedule of training sessions is found on: **www.penko.com/training**

PENKO Alliances

PENKO's worldwide network: Australia, Belgium, Brazil, China, Denmark, Germany, Egypt, Finland, France, India, Italy, Netherlands, Norway, Poland, Portugal, Slovakia, Spain, Syria, Turkey, United Kingdom, South Africa, Slovakia Sweden, Switzerland and Singapore. A complete overview you will find on: **www.penko.com/dealers**