Minebea intec
The true measure

Operating Instructions

Compact Scale Puro® Count

98628-000-63 Edition 1.0.0 03/05/2020

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Foreword

Must be followed!

Any information in this document is subject to change without notice and does not represent a commitment on the part of Minebea Intec unless legally prescribed. This product should only be operated/installed by trained and qualified personnel. In correspondence concerning this product, the type, name, and release number/serial number as well as all license numbers relating to the product have to be cited.

Note

Table of contents

1 Introduction

1.1 Read the manual

- Please read this manual carefully and completely before using the product.
- This manual is part of the product. Keep it in a safe and easily accessible location.

1.2 This is what operating instructions look like

1. - n. are placed before steps that must be done in sequence.

▶ is placed before a step.

▷ describes the result of a step.

1.3 This is what lists look like

- indicates an item in a list.

1.4 This is what menu items and softkeys look like

[ ] frame menu items and softkeys.

Example:

[Start]- [Applications]- [Excel]

1.5 This is what the safety instructions look like

Signal words indicate the severity of the danger involved when measures for preventing hazards are not followed.

⚠ DANGER

Warning of personal injury

DANGER indicates death or severe, irreversible personal injury which will occur if the corresponding safety measures are not observed.

▶ Take the corresponding safety precautions.

⚠ WARNING

Warning of hazardous area and/or personal injury

WARNING indicates that death or severe, irreversible injury may occur if appropriate safety measures are not observed.

▶ Take the corresponding safety precautions.

⚠ CAUTION

Warning of personal injury.

CAUTION indicates that minor, reversible injury may occur if appropriate safety measures are not observed.

▶ Take the corresponding safety precautions.

NOTICE

Warning of damage to property and/or the environment.

NOTICE indicates that damage to property and/or the environment may occur if appropriate safety measures are not observed.

▶ Take the corresponding safety precautions.

Note:

User tips, useful information, and notes.

2 Safety instructions

2.1 General safety information

Follow these safety precautions:

- The equipment may only be used as intended for weighing tasks.
- The device may only be opened by authorised personnel.
- Observe the operating limits of the device.
- Ensure that the supply voltage at the installation site matches the AC input voltage indicated on the data label.
- Avoid shock stress (falling down, hard shocks, falling loads, any impact from the side).
- Do not use the equipment in hazardous areas and unstable environments.
- Do not expose the equipment to aggressive chemical vapors or to unnecessarily extreme temperatures, moisture, or vibration.
- Unplug the device before you connect or disconnect any electronic peripheral devices to or from the interface port.
- Unplug the power cord from the mains supply before cleaning.
- Make sure that no liquid enters the equipment.
- Do not use loads that exceed the capacity of the scale.

2.2 Incoming goods inspection

The shipment must be checked for completeness. A visual inspection must be performed to determine if the shipment has been damaged. If there are grounds for a complaint, this must be brought to the attention of the delivery company immediately. A Minebea Intec sales or service point must be informed. Visit our website http://www.puroscales.com or contact your dealer.

2.3 Before operational startup

NOTICE

Perform visual inspection.

Before operational startup as well as after storage or transport, inspect the product visually for signs of mechanical damage.

▶ The product may not be put into operation if it has visible damage and/or is defective.

3 Device installation

3.1 Package Contents

- Scale
- Sub-platform
- Safety Instructions and QR code with access to the detailed documentation
- Pan
- USB power supply and cord

3.2 Requirements on location

- Set up the device on a stable, even surface.
- Position the device so that the power plug is freely accessible and the power cord is not an obstacle or trip hazard.
- Avoid placing the device in close proximity to a heater or otherwise exposing the scale to heat or direct sunlight.
- Do not expose the device to excessive temperature flutuations.
- Protect the device from drafts that come from open windows or doors.
- Avoid exposing the device to extreme vibrations during weighing.
- Protect the device from aggressive chemical vapors.
- Do not expose the device to extreme moisture over long periods.

NOTICE

Acclimatizing the device

Condensation can form on the surfaces of a cold device when it is brought into a substantially warmer area.

▶ Unplug the device from the power supply and allow it to acclimatize for about 2 hours at room temperature.

3.3 Leveling the equipment

Purpose:

- to compensate for unevenness at the place of installation
- to ensure that the device is placed in a perfectly horizontal position for consistently reproducible weighing results

Always re-level the device any time after it has been moved to a different location.

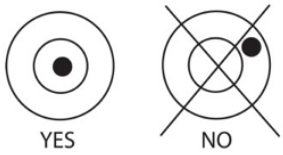
▶ Level the scale using the four leveling feet.

▶ Ensure that all leveling feet make contact with the floor.

▶ Turn the feet until the air bubble is centered in the level indicator.

▷ Each of the leveling feet must support an equal load.

- Adjusting the leveling feet: To raise the scale, extend the leveling feet (turn clockwise). To lower the weighing platform, retract the leveling feet (turn counterclockwise).



3.4 Power supply

AC power is used to power the scale when battery power is not needed.

Plug the USB-C plug into the USB-C jack on the bottom of the unit, then plug the AC power supply into a wall outlet.

Note:

Do not use the USB-C power supply cable for the PC communication. Instead use a standard USB-C cable.

3.4.1 Battery Power

The scale can be used on AC power immediately. Allow the battery to charge for 12 hours before using the scale on battery power. The Scale will automatically switch to battery operation if there is a power failure or the power cord is removed. With AC power, the scale is constantly charging, so the battery charge indicator (see Chapter 4.1.1.2) will remain lit. The scale can be operated during charging, and the battery is protected against overcharging.

When the device is switched on, the battery status LED lights red while the battery is charging and green when the battery is fully charged.

For maximum operating time, the battery should be charged at room temperature.

During battery operation, the battery symbol indicates the battery charge level remaining. The indicator will automatically turn off when the batteries are empty.

Symbol	Charge level
	0 to 10 % Remaining
	11 to 40 % Remaining
	41 to 70 % Remaining
	71 to 100 % Remaining

Note:

When battery symbol blinks fast, approximately 30 minutes working time is left.

When [lo.bat] is displayed, the scale will shut off.

Charging the scale must be performed in a dry environment.

⚠ WARNING

Risk of explosion can occur

If the rechargeable battery is replaced with the wrong type or if it is not properly connected.

- ▶ Battery is to be replaced only by an authorized Puro® service dealer.
- ▶ Dispose of battery according to local laws and regulations.

If the hardware can't recognize a connected ACCU, it is defined:

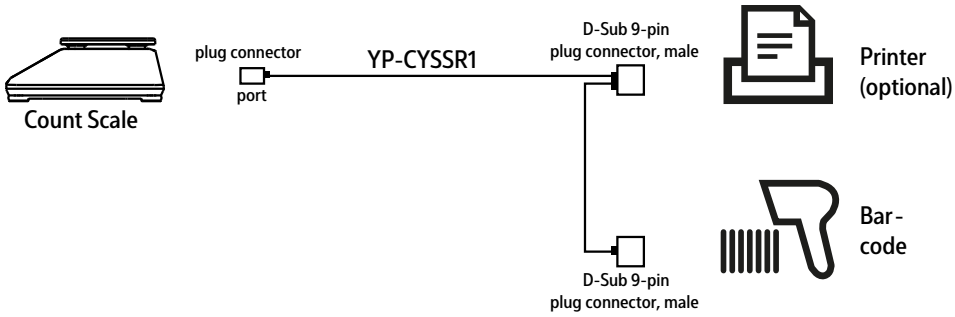
Battery	USB-C Cacle	Charging LED Light	Display Icon
Battery Not Full	Plug-in	Red	No Icon
Battery Full	Plug-in	Green	No Icon
No Battery install	Plug-in	Red	No Icon
Battery Not Full	Unplug	Turn off	Battery Content
Battery Full	Unplug	Turn off	Battery Full

3.5 Connect printer

A printer can be connected to the printer port on the underside of the device.

3.6 Connect scanner

Connect scanner according to the following figure. The product may only be connected using the original cable YP-CYSSR1.



4 Device description

4.1 Operating

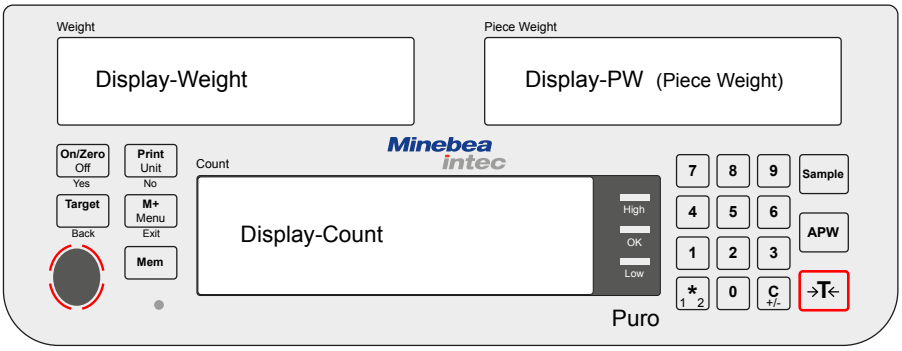
4.1.1 Display and operating elements

- Overview, see Chapter 4.1.1.1.
- Display elements, see Chapter 4.1.1.2.
- Operating elements, see Chapter 4.1.1.3.

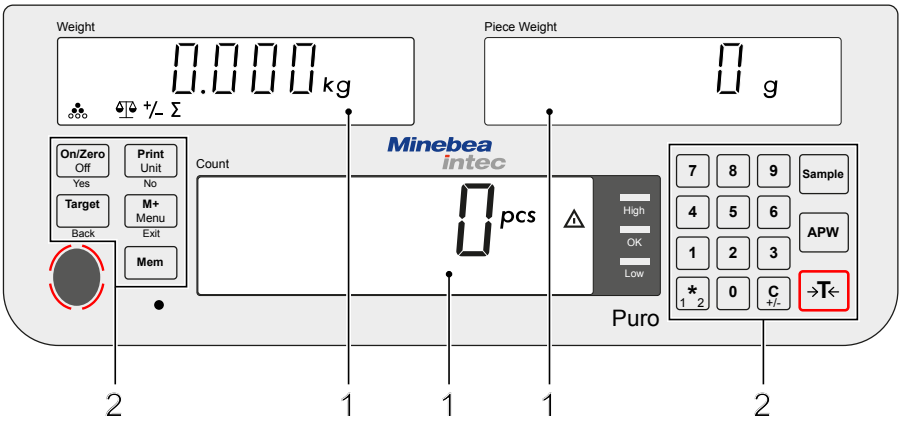
4.1.1.1 Overview

Display definitions:

- Display-Weight = little display on the left side
- Display-PW (Piece Weight) = little display on the right side
- Display-Count = bigger display in the middle

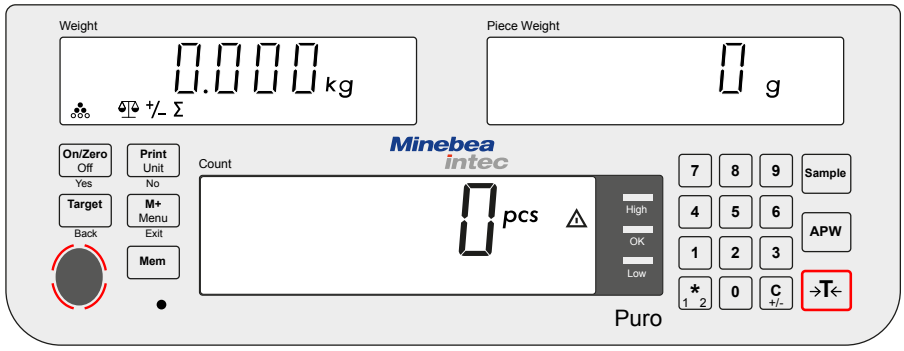


Control Panel.

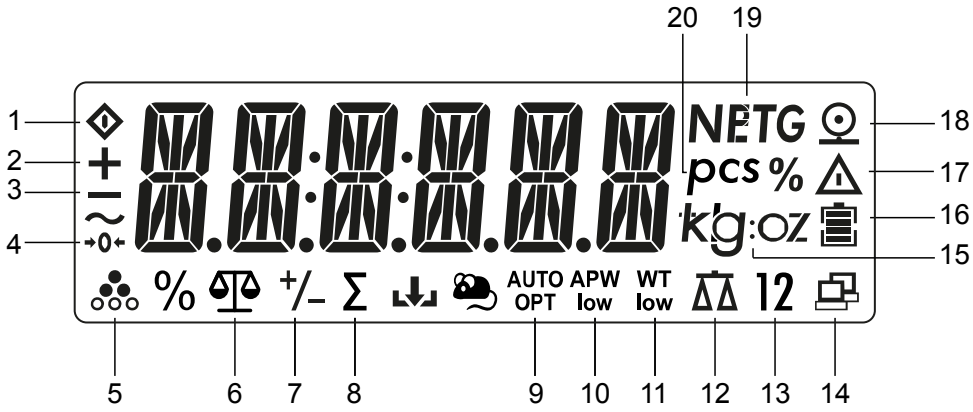


No.	Description
1	Display elements, see Chapter 4.1.1.2.
2	Operating elements, see Chapter 4.1.1.3.

4.1.1.2 Display elements

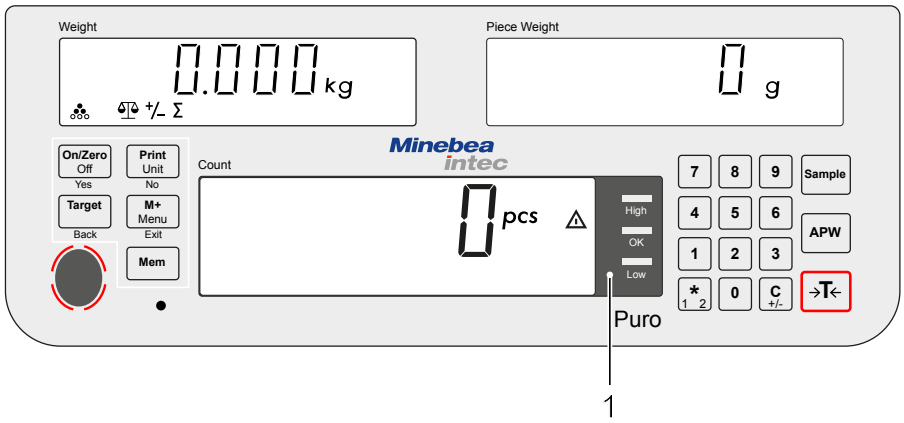


LCD Display



Item	Description	Item	Description
1	Busy	2	Plus symbol
3	Minus symbol	4	Zero-setting
5	Counting	6	Weighing
7	Checkweighing	8	Totalizing
9	Auto Taring or Auto Reference Optimization Symbol	10	Low Average Piece Weight
11	Low Sample Weight	12	Two scales are active
13	Number of the active scale	14	Data transfer
15	Weight unit	16	Battery charge
17	Warning symbol	18	Printer Icon
19	NET, Preset Tare, Gross	20	Pieces

LED indicators



The colored LED indicators (1) on the right side of the Count control panel are used in Check mode (see Chapter 6.4.2.2) and will light up according to the following rules:

	(Red) Weight value > upper tolerance limit (Green) Weight value ≤ ≥ is within OK range (Yellow) Weight value < lower tolerance limit

4.1.1.3 Operating elements

Button	Primary Function (short press) < 1 second	Secondary Function (long press) hold > 2 second
On/Zero Off	**On/Zero** Power on the scale (when scale is off). Set zero (when scale is on).	**Off** Power off the scale.
Print Unit	**Print** Sends the current value to the selected COM ports if AUTO-PRINT is set to off.	**Unit** Changes the weighing unit.
Target	**Target** Set Check limits, if Check Mode is WEIGHT or COUNT.	Select the Check Mode
M+ Menu	**M+** Write into the Totalization Storage or exit any input process.	**Menu** Enter the user menu.
Mem	**Mem** Store or load a Product	Start Product definition
Sample	**Sample** Set number of reference weights	
APW	**APW** Set Piece Weight	

Button	Primary Function (short press) < 1 second	Secondary Function (long press) hold > 2 second
→T←	**Tare** Set or clear a tare value	Clear Totalization storage
0 ... 9	**0...9** Input characters	
* 1 2	***12**	Change Scale
C +/-	**C +/-** Clear the last input charcter or ends the display of the totalization values.	Toggles the sign

Buttons Menu Navigation

Button	Menu Function (short press) < 1 second
On/Zero Off	**Yes** Accepts the current setting on the display.
Print Unit	**No** Rejects the current setting on the display and advances to the next available setting. Advances to the next menu or item. Show next value.
Target	**Back** Moves back to previous menu items. Show privious value.
M+ Menu	**Exit** Exits the user menu. Aborts the calibration in progress.

5 Operation

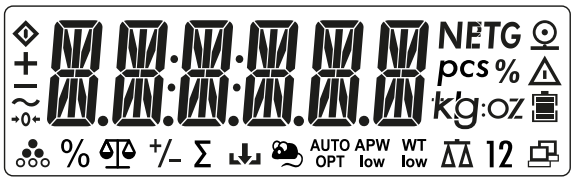
5.1 Basic Weighing Function

5.1.1 Turn on the device

▶ Press the On/Zero Off Button for a short time.

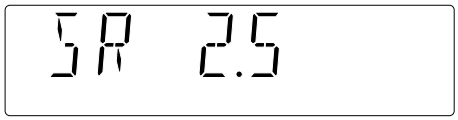
▷ All Elements of **all** displays will be shown for 2 seconds.

All Checkweighing LEDs are ON for 2 seconds.

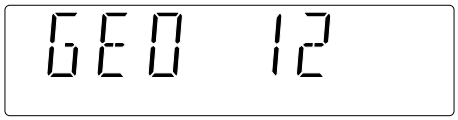


After this time the software version number [SR 2.5] is shown for 2 seconds on the Display-Weight and also on the Display-PW the selected Geo area like: [GEO 12] is shown for the same time. The Display-Count is empty.

Weight



Piece Weight



The latest active (selected) application combination before turning OFF the device will be started. If the applications were already initialized, they start with these parameters.

Default unit for the very first start is [kg].

If a second scale is defined in menu then device starts up always with WP1.

5.1.2 Turn off the device

▶ Press the On/Zero Off Button for a long time.

▷ The Display-Count will show [-OFF-] for about 2 seconds.

Count

The other displays are dark. After that time the device switches off and all displays are dark.

This button is active in **ALL** application and menu states!

5.1.3 Adjust GEO setting

Adjust the GEO setting according to your location to ensure accurate weighing results. See Chapter 8.3.

5.1.4 Display Functions

In normal weighing mode the displays have the following functionalities:

- Display-Weight shows the actual weight value with the selected unit.
- Display-PW shows the actual piece weight with the gram or ounce.
- Display-Count shows the calculated number of pieces with unit pcs.

The "Charging" Symbol is only shown on the Display-Weight if there is an ACC connected.

The "Weighing" Symbol 12 is only shown on the Display-Weight.
If there is only one scale the "Weighing" Symbol is dark. Only if two scales are the "Weighing" Symbol is visible on Display-Weight!

5.1.5 Digit

One "d" represents the lowest displayable weight value.
For example d = 0,02g → 2d = 0,04g → 3d = 0,06g

5.1.6 Unloaded Scale

A scale is unloaded generally when the weight on the pan is below 2d (<2d).

5.1.7 Enter Values

Values can be entered via the key pad and are shown on the Display-Count.
All inputs starts with a dark display and on the right side with a blinking under line (cursor) at the last digit. The input can be corrected via the C +/- Button which deletes the last digit of the input.

The * 1 2 decimal button as first input Character is also alternatively allowed. Then the software added the zero before the decimal point automatically.

5.1.8 Initializations

During any initialization process an activation of the menu isn't possible!

5.1.9 Active Applications for the first start up

For the very first start of the device the applications "Weighing" and "Totalization" are activated automatically and Checkweighing is OFF.

5.1.10 Two scales

A second platform can be connected to realize a counting system consisting of a reference scale and a scale for larger quantities.
Each scale has a separate serial number with 13 characters.
Number design:

- Serial number of Weighing scale 1: W1 38457989
- Serial number of Weighing scale 2: W2 38457989

Printed is:

```
SERNO: W1 38457989
SERNO: W2 38457989
```

Displayed is in [INFO] in menu:
[W1 38457989] and [W2 38457989]

6 Application Programs

6.1 General Information

Counting is the main application which is always active.

The scale is always started with Counting.

The following applications can be activated parallel to counting:

- Check weighing (in two modes: Check-Weighing and Check-Count).
- Totalization which accumulates pieces or weights.
- Automatic Tare.
- Automatic Print.

There is a Product Storage for 30 products.

6.2 Weighing Mode

If Counting isn't initialized (piece weight = 0) then the application symbol weight is shown on Display-Weight.

Weight

6.2.1 Stability

The weighing value and the application symbols are displayed on Display-Weight.

If a weighing value is stable, the unit symbol shall the displayed on Display-Weight and also on Display-Count:

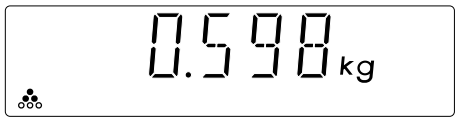
stable:	[2.342 kg]	and [47 pcs]
unstable:	[2.342]	and [47]

and printed:

stable:	`2.342 kg , 47 pcs`
unstable:	`2.342 , 47`

Stable weighing value on Display-Weight:

Weight



6.2.2 Taring

▶ Press the →T← Button briefly for taring if the pan is loaded.

▷ On the Display-Weight the [NET] Symbol is shown.

While the taring process is in action the Busy-Symbol is shown on Display-Weight without a weighing value and the Display-Count is dark.

Tared value on Display-Weight:

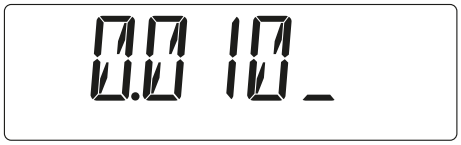
Weight

6.2.3 Preset Tare

There is only **one** Tare storage in the device which contains either a measured weight value (pressing →T← button) or an entered value (Preset Tare).

1. Enter a weighing value like [0.010] via the numeric keypad or a Scanner.
   ▷ This value is shown on the Display-Count.

Count



2. Press the →T← Button briefly.
   ▷ The input value is set as Preset-Tare with the actual unit and overwrites the actual value in the Tare storage.

   The weight value on Display-Weight is calculated with this Preset Tare value advance.

   The actual number of pieces on the pan is recalculated and displayed on the Display-Count.

Clearing Preset Tare by:

3. Pressing →T← Button when pan is unloaded.
   ▷ Clear Tare storage.

Set new Tare value by:

Pressing →T← Button when pan is loaded, then the Tare storage is overwritten with the weight on the pan.

Or pressing On/Zero Off Button when pan is unloaded. Clear Tare storage.

After Turning OFF the device Preset Tare is also cleared.

6.2.4 Weight Unit switch

You can toggle the display of a weight value between different weight units.

▶ Pressing the Print Unit Button for a long time will change the displayed unit.

Possible units are: gram [g], kilogram [kg], pound [lb], ounce [oz], pound-ounce [l:o].

Only such units that have been activated in the menu can be changed.

While the button is pressed the unit will change and after about 2 second the next unit will be displayed and so on, until the button is released.

The units switch results on Display-Weight and Display-PW:

Units on Display-Weight	Units on Display-PW
kilogram	gram
gram	gram
pound	ounce
ounce	ounce
pound : ounce	ounce

6.2.5 Printouts

Printout elements are configured in menu.

Printout	Description
`  5.003 g  N`	positive netto weight value
`- 0.003 g  N`	negative netto weight value
`  2.003 g  G`	positive measured gross weight value
`  2.003 g  G#`	positive calculated gross weight value
`  1.003 g  T`	tare weight value (measured value)
`  0.010 g  PT`	preset tare value (entered value)
`- 0.010 !  G`	stable gross weight below zero

6.3 Counting Mode

Scale starts up with counting. If a piece weight was set before turning OFF the device, the devices starts up with this piece weight again.

Counting is always active. But it might be uninitialized.

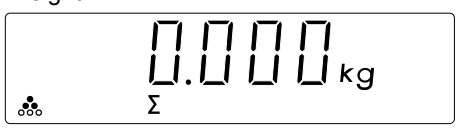
If there is no piece weight initialized both Display-PW and Display-Count show [0.] and the application symbol weight is displayed on Display-Weight.

The device starts up with Totalization activated.

Weight

Counting isn't initialized

Weight



Counting is initialized

6.3.1 Initialization Mode

- Initialization by Sample (see chapter 6.3.1.1)
- Initialization by known Piece Weight (see chapter 6.3.1.2)

Count-Initialization is only possible on scale 1! Initialization is done with the internal scale resolution.

6.3.1.1 Initialization by Sample

This initialization only takes place if the weight values are stable.

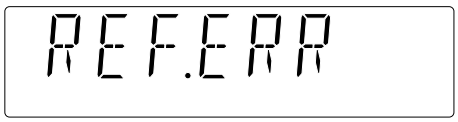
- Initialization (see chapter 6.3.1.1.1)
- Initialization negative Sample (see chapter 6.3.1.1.2)

These initializations are also possible if already a piece weight is calculated.

The input can be corrected via the C +/- Button which deletes the last digit of the input.

If the pan is unloaded (<2d) then the error message [REF.ERR] is displayed on Display-PW for about two seconds.

Piece Weight



6.3.1.1.1 Initialization

1. Put a number of pieces on the pan.
2. Input the desired number of pieces on the pan via the key pad (only integer values) or a scanner.
   ▷ The input value will be displayed on Display-Count.
3. Then press the Sample Button briefly.
   ▷ The new calculated piece weight is displayed on Display-PW and the actual calculated number of pieces is displayed on Display-Count.

6.3.1.1.2 Initialization negative Sample

If a negative Sample is required (= removing samples from a container):

1. Put a filled container on the pan.
2. Press the →T← Button briefly (tare the weight).
3. Remove a number of pieces from the container.
   ▷ Now a negative weight value is displayed on Display-Weight.

Go on at step 2 on chapter 6.3.1.1.1.

6.3.1.2 Initialization by known Piece Weight

1. Input the desired piece weight via the key pad or a scanner.
   ▷ The input value will be displayed on Display-Count.
2. Then press the APW Button briefly.
   ▷ The new calculated piece weight is displayed on Display-PW and the actual calculated number of pieces is displayed on Display-Count.

6.3.2 Running Mode (without Checkweighing)

Automatic Reference Optimization (see Chapter 6.3.2.1).

If a piece weight is initialized then it is shown on Display-PW.

▶ Put a weight on the pan.
   ▷ The actual weight value is shown on the Display-Weight.

   On Display-Count the calculated number of pieces is shown.

   Application Symbol count is displayed on the Display-Weight.

- Pressing the [Print Unit] Button briefly a printout is generated.
- Pressing the [Print Unit] Button long the unit switches on Display-Weight and in some cases also on Display-PW (see Chapter 6.4.1).
- Pressing the [APW] or the [Sample] Button briefly or the key pad an initialization is started as described above.
- Pressing the [Target] Button long or briefly looks at chapter Checkweighing.
- Pressing the [Mem] Button look at chapter product memory.
- Pressing the [C +/-] Button the initialization is cleared.

6.3.2.1 Automatic Reference Optimization

If in menu [OP.FUNC] - [A.OPT] - [ON] is set, then the automatic reference optimization is activated. The symbol AUTO is shown on the Display-PW.

Main feature is to calculate automatically the piece weight more exactly.

The optimization calculates the piece weight again if the following conditions are all fulfilled:

- Scale has stability
- No sign change
- The current piece count exceeds the original piece count by at least two. The new piece count must not be more than twice as large as the old piece count (this restriction does not apply to the first optimization if the piece weight was entered using a bar code scanner or keyboard input).
- The internally calculated number of pieces (e.g. 17.24) must deviate by less than ± 0.3 pieces from the whole number (in the example: 17).
- If an optimization has taken place the symbol AUTO OPT is shown on the Display-PW and the new calculated piece weight is also shown in Display-PW.

Automatic Optimization isn't done on scale 2.

6.3.3 Printouts (without Checkweighing)

Normal printout:

Printout	Description
`441 pcs QNT`	positive value
`- 41 pcs QNT`	negative value
`MODE: COUNT`	activated Application
`WREF 4.15431 oz`	piece weight, same value as shown on Display-PW

6.4 Check Mode

For Check Weighing there are limit LEDs which signal the actual range.

6.4.1 Check Weighing Modes

While Counting is running Check Weighing Modes can be activated via [Target] Button.

▶ Press the [Target] Button long and hold it.

▷ [CHECK] is shown on Display-Weight.

The activated Check Mode is shown on the Display-PW for about 2 seconds. Display-Count is dark.

After this waiting time the next mode is displayed and so on. If the [Target] Button is released the mode displayed on Display-PW is selected.

Possible Check Modes are:

[OFF]	Checking is off.
[WEIGHT]	Check Weighing is active
[COUNT]	Check Count is active

If Check Mode [WEIGHT] is activated and Count isn't initialized then the Display-Weight shows the application symbols: ⚖ +/–.

But if Counting is initialized the count symbol is shown additional ⁂ ⚖ +/–.

If Check Mode [COUNT] is activated and Count is initialized the Display-Weight shows the symbols: ⁂ +/–.

6.4.2 Check Weight values

- Initialize Check Weighing (see chapter 6.4.2.1)
- Running Mode (see chapter 6.4.2.2)
- Printouts (see chapter 6.4.2.3)

6.4.2.1 Initialize Check Weighing

The [C +/-] Button pressed long generates a minus sign in input mode on Display-Count.

Pressing [M+ Menu] (Exit) Button the initialization process is left at once without storing a new input or limit.

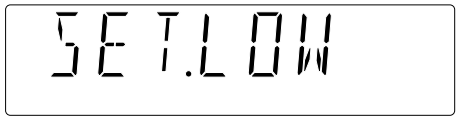
Pressing [Print Unit] (No) or [C +/-] button briefly the blinking limit value is cleared and a blinking cursor is shown on the right side ready for a new input.

Initialization is possible on both scales.

1. After a Check Mode is selected press the [Target] Button briefly.

▷ [SET.LOW] is displayed on the Display-Weight.

Weight



The previous low limit is also displayed on Display-PW with the unit which was active before pressing the [Target] Button.

On the Display-Count this weight value is also shown blinking. The Yellow LED is on.

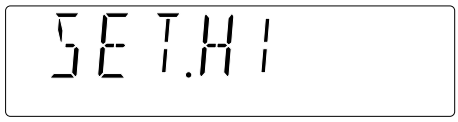
2. Enter a numeric weight value via the key pad or a scanner which then is displayed on Display-Count.
   ▷ On Display-Count the same unit is shown as on Display-Weight.

   The input value isn't blinking. Only the actual cursor position (marked by an under line) is blinking. Input starts from the right side.

3. Accept the input by pressing [On/Zero Off] (Yes) Button briefly.
   ▷ If [Target] (Back) Button is pressed briefly then the input is rejected, the limit isn't changed.

   [SET.HI] is displayed on the Display-Weight.

Weight



The previous high limit is also displayed on Display-PW with the unit which was active before pressing the [Target] Button.

On the Display-Count this weight value is also shown blinking. The Red LED is on.

4. Enter a numeric weight value via the key pad or a scanner which then is displayed on Display-Count.
   ▷ The input value isn't blinking. Only the actual cursor position (an under line) is blinking.

5. Accept the input by pressing [On/Zero Off] (Yes) Button briefly or press the [Target] (Back) Button then the input is rejected.
   ▷ If the limit conditions are correct then Check Weighing is initialized.

Count

But if there is an error because e.g. high limit < low limit the Display-Count shows [LIM.ERR] for about 2 seconds then go back to step 1.

The normal Counting mode is active again. Additional the Check LEDs are active if the pan is loaded.

Checking additional weights then both limits must be a positive value.

Checking removed weights then both limits must be a negative value.

Using "Zero Check" then the high limit is a positive and the low limit is a negative value.

Checking exactly a weight the under and over limit must be the same.

6.4.2.2 Running Mode

Limit LEDs:

positive weight	< low limit	Yellow LED will light
positive weight	≥ low limit and ≤ high limit	Green LED will light
positive weight	> high limit	Red LED will light
negative weight	> low limit	Yellow LED will light
negative weight	≤ low limit and ≥ high limit	Green LED will light
negative weight	< high limit	Red LED will light

Using "Zero Check" the reference weight is put on the pan and then the scale is tared. The reference weight is removed and then the weight to be checked is put on the pan.

6.4.2.3 Printouts

Counting isn't initialized:

Printout	Description
`115 g OVER`	positive netto value > high limit
`- 115 g OVER`	negative netto value < negative high limit
`99 g ACCEPT`	positive netto value in target area
`75 g UNDER`	positive netto value < low limit
`MODE: CHECKWEIGH`	activated Application
`UNDER LIMIT 81 g`	Low Limit
`OVER LIMIT 100 g`	High Limit

Counting is initialized:

Printout	Description
`115 g OVER`	positive netto value > high limit
`- 115 g OVER`	negative netto value < negative high limit
`99 g ACCEPT`	positive netto value in target area
`75 g UNDER`	positive netto value < low limit
`115 pcs`	netto count
`MODE: CHECKWEIGH`	activated Application
`UNDER LIMIT 81 g`	Low Limit
`OVER LIMIT 100 g`	High Limit
`WREF 0.35423 g`	piece weigh

6.4.3 Check number of pieces

- Initialize Check count (see chapter 6.4.3.1)

- Running Mode (see chapter 6.4.3.2)
- Printouts (see chapter 6.4.3.3)

6.4.3.1 Initialize Check Count

The C +/- Button pressed long generates a minus sign in input mode on Display-Count.

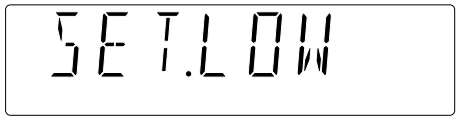
Pressing M+ Menu (Exit) Button the initialization process is left at once without storing a new input or limit.

Pressing Print Unit (No) or C +/- button briefly the blinking limit value is cleared and a blinking cursor is shown on the right side ready for a new input.

Initialization is possible on both scales.

1. After a Check Mode is selected press the Target Button briefly.
   ▷ [SET.LOW] is displayed on the Display-Weight.

   Weight

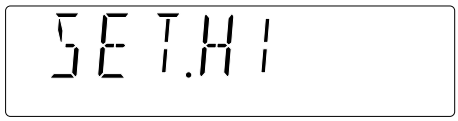
   

   The previous low limit is also displayed on Display-PW.

   On the Display-Count this number of pieces is also shown blinking. The Yellow LED is on.
2. Enter a number of pieces via the key pad or a scanner which then is displayed on Display-Count.
   ▷ The input value isn't blinking. Only the actual cursor position (marked by an under line) is blinking. Input starts from the right side.
3. Accept the input by pressing On/Zero Off (Yes) Button briefly.
   ▷ If Target (Back) Button is pressed briefly then the input is rejected → the limit isn't changed.

   [SET.HI] is displayed on the Display-Weight.

   Weight

   The previous high limit is also displayed on Display-PW.

   On the Display-Count this number of pieces is also shown blinking. The Red LED is on.
4. Enter a number of pieces via the key pad or a scanner which then is displayed on Display-Count.
   ▷ The input value isn't blinking. Only the actual cursor position (an under line) is blinking.

5. Accept the input by pressing [On/Zero Off] (Yes) Button briefly or press the [Target] Button then the input is rejected.

   ▷ If the limit conditions are correct then Check Weighing is initialized.

   Count

   But if there is an error because e.g. high limit < low limit the Display-Count shows [LIM.ERR] for about 2 seconds then go back to step 1.

   The normal Counting mode is active again. Additional the Check LEDs are active if the pan is loaded.

Checking additional weights then both limits must be a positive value.

Checking removed weights then both limits must be a negative value.

Using "Zero Check" then the high limit is a positive and the low limit is a negative value.

Checking exactly a weight the under and over limit must be the same.

6.4.3.2 Running Mode

- Only number of pieces will be checked.

Limit LEDs:

positive number of pieces	< low limit	Yellow LED will light
positive number of pieces	≥ low limit and ≤ high limit	Green LED will light
positive number of pieces	> high limit	Red LED will light
negative number of pieces	> low limit	Yellow LED will light
negative number of pieces	≤ low limit and ≥ high limit	Green LED will light
negative number of pieces	< high limit	Red LED will light

Using "Zero Check" the reference weight is put on the pan and then the scale is tared. The reference weight is removed and then the weight to be checked is put on the pan.

Show the warning symbol ⚠ on Display-Count if unit [pcs] is displayed.

6.4.3.3 Printouts

Counting isn't initialized:

Printout	Description
`115 g N`	normal netto value as result
`MODE: CHECKWEIGH`	activated Application
`UNDER LIMIT -20 pcs`	Low Limit
`OVER LIMIT -60 pcs`	High Limit

Counting is initialized:

Printout	Description
`115 pcs OVER`	positive netto count > high limit
`- 115 pcs OVER`	negative netto count < negative high limit
`99 pcs ACCEPT`	positive netto count in target area
`75 pcs UNDER`	positive netto count < low limit
`MODE: CHECKWEIGH`	activated Application
`UNDER LIMIT -20 pcs`	Low Limit
`OVER LIMIT -60 pcs`	High Limit
`WREF 0.35423 oz`	piece weigh, same as displayed

6.4.4 Menu settings

Regarding Check application there are some more functions which can be activated via the menu:

OP.FUNC

A.TARE	Automatic Tare
OFF	disabled* (default setting)
ON	1st stable weight is tared
ON-ACC	Stable loads within the accept limits are tared (in all check modes)
BEEP.SI	Beeper Signal (in Checkweighing Mode)
OFF	disabled* (default setting)
ACCEPT	Beep when weight is within accept area
UNDER	Beep when weight is under the low limit
OVER	Beep when weight is over the high limit
UNDOVR	Beep when weight is outside the accept area

6.5 Totalization Mode

The application symbol is Σ. It is shown only on Display-Weight.

If counting isn't initialized then only weights are accumulated. If counting is already initialized then pieces and weights are accumulated.

Only Net values can be accumulated!

6.5.1 Menu Selection

This application is selectable in menu:

OP.FUNC

TOT.SET	Totalization Setting
OFF	disabled* (default setting)
AUTO	Automatic Totalization
MAN	Manual Totalization

6.5.2 Running Modes

- Manual Mode (see chapter 6.5.2.1)
- Automatic Mode (see chapter 6.5.2.2)
- Printouts (see chapter 6.5.2.3)

▶ The statistical information can be shown on the display by briefly pressing the M+ Menu Button.

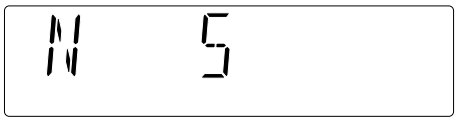
But the pan must be unloaded (weight < 2d) too.

The following parameters are displayed for three seconds:

Weight

totalized weight with unit

Piece Weight



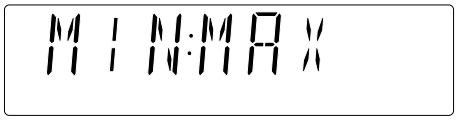
number of elements in the sum memory

Count

total number of pieces if counting is active or the display is dark if only weighing in active!

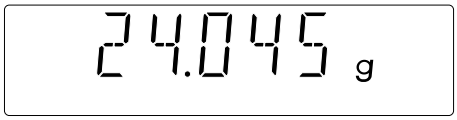
After the first three seconds are over the next statistical parameters will be shown for three seconds too:

Weight



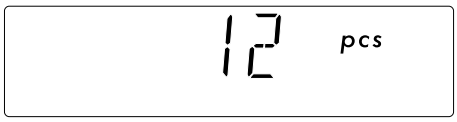
Text for minimum and maximum value

Piece Weight



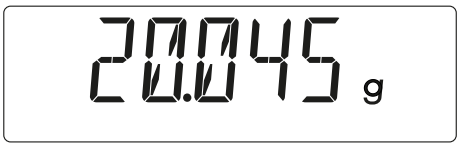
minimum weight

Piece Weight



minimum number of pieces

Count



maximum weight

Count

maximum number of pieces if pieces are accumulated

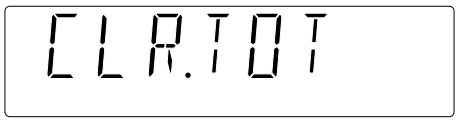
The C +/- Button ends this state and activates the state before.

This state is left automatically when the waiting time is over. It goes on with the state before.

- Clearing the statistical information is done by long pressed →T← Button.

  Therefore the pan must be unloaded: weight on the pan < 2d.

  Weight

  Then [CLR.TOT] is displayed.

- If the statistical information shall be cleared press On/Zero Off (Yes) Button briefly.
- If the statistical information shall not be cleared press Print Unit (No) Button briefly.
- Clearing the counting initialization is done via the C +/- Button pressed briefly or via a new counting initialization which will cause that the Totalization parameters are cleared.

After the sum memory was written the Display-Weight shows the sum weight (= sum value after takeover), Display-PW shows the number of elements in the sum memory after take over, Display-Count shows the content of sum memory (only number of pieces, no weights) after takeover. This state lasts for about 2 seconds.

If a weight or a number of pieces was taken over into the sum memory the symbol will keep flashing until the weight is removed from the pan and the weight < 2d. A new addition can only be started when the pan was unloaded before.

If there are two scales connected then the weights are added accurate to display.
Example: first item in sum memory is taken from WP1 and the second one from WP2:

1,003 kg	// WP1 with accuracy 1 g
+ 5,15 kg	// WP2 with accuracy 50 g
= 6,153 kg	// total = sum memory

Totalization shall be done also with negative weight values (removing mode). Put weights on the pan, press →T← Button. Then remove first weight. Add to Totalization memory. Press →T← Button again. Then remove second weight. Add to Totalization memory.

6.5.2.1 Manual Mode

Stable weights ≥ 2d can be accumulated via the M+ Menu Button pressed briefly. That is also valid for a number of pieces when there is stability.

The next weight / number of pieces can be accumulated if the scale was unloaded before!

6.5.2.2 Automatic Mode

Stable weights ≥ 2d shall be accumulated automatically if the scale is unloaded before. That is also valid for a number of pieces if there is stability.

6.5.2.3 Printouts

Min, Max is only printed if ALL is selected in print content [PRINT] - [CONTNT] - [TOTAL] in menu.

Weights as parameters (= weights are added up):

Printout	Description
`N:  2`	Number of weighing done, here 2
`TOTAL:  1.955 g`	Totalized value
`MAX:  1.485 g`	Maximum value
`MIN:  0.470 g`	Minimum value

Pieces as parameters (= pieces and weights are added up):

Printout	Description
`N:  25`	Number of weighing done, here 25
`TOTAL:  148 g`	Totalized value of weights
`124 pcs`	Totalized value of pieces
`MAX:  20 g`	Maximum value as weight
`10 pcs`	Maximum value as number of pieces
`MIN:  4 g`	Minimum value as weight
`2 pcs`	Minimum value as number of pieces

6.6 Auto-Tare

Application symbol AUTO is on Display-Weight.

Weight

6.6.1 Menu Selection

OP.FUNC
- **A.TARE**
  - **OFF** — Automatic Tare disabled* (default setting)
  - **ON** — first stable weight ≥ 2d is tared
  - **ON-ACC** — Check: every stable weight within the accept limits is tared. That means Auto-Tara isn't done only for one time!

6.6.2 Running Mode

Normal reaction:

- First weight put on the pan is tared if it is ≥ 2d.
- If the scale is unloaded (<2d) the Tara storage is cleared.

Check weighing applications:

- First option [ON]:

  First weight put on the pan is tared if it is ≥ 2d
- Second option [ON-ACC]:

Only stable values within the accepted limit area is tared if load ≥ 2d. Here each weight in the accepted limit area is tared.

This function is executed before automatic print and also before automatic Totalization! Automatic Tare has higher priority as Printing or Totalization. First weight put on the pan is tared. Second weight put on the pan is taken over into the totalization storage and is also printed automatically when "Automatic print" and "Totalization Automatic" is selected in menu.

Auto-Tare isn't active if the menu is active or an initialization process is running.

Auto-Tara isn't active if a Preset-Tare is set before or a product with Preset-Tare has been loaded.

6.7 Auto-Print

A print is done automatically for **one time** if the Netto weight on the pan is ≥ 2d.

If the weight is removed from the pan and the Netto weight is <2d then the next Netto weight ≥ 2d generates a print.

6.7.1 Menu-Selections

Set conditions at menu point [PRINT]:

PRINT	
├ **A.PRINT**	automatic printout
│ ├ **OFF**	disabled* (default setting)
│ ├ **ON.STAB**	automatic print on stability for one time, if weight >1d
│ ├ **INTER**	automatic print at defined intervals of seconds **without** stability
│ │ ├ **25**	Enter an interval in seconds in range from 1 to 3600
│ ├ **CONT**	automatic print at every weighing cycle **without** stability
│ ├ **ACCEPT**	automatic print for one time **with stability** within check limits

6.7.2 Running Mode

- Running Mode general (see chapter 6.7.2.1)
- Running Mode: ON STABLE (see chapter 6.7.2.2)
- Running Mode: INTER (see chapter 6.7.2.3)
- Running Mode: CONTNT (see chapter 6.7.2.4)
- Running Mode: ACCEPT (see chapter 6.7.2.5)

6.7.2.1 Running Mode general

"Auto-Print" has second priority after "Auto-Tare". First weight on the pan is handled by "Auto-Tare". The second weight on the pan is handled by "Auto-Print".

6.7.2.2 Running Mode: ON STABLE

An automatic printout is generated when the weight value is stable. This may be done delayed. So the printout waits until the weight value is stable.

Each selected element in [PRINT] - [CONTNT] is printed except the functionality like TOTALIZATION if it isn't activated in menu.

This automatic print is generated **after** the weight is accumulated in TOTALIZATION with AUTO-Mode. So TOTALIZATION has higher priority than Auto-Print.

6.7.2.3 Running Mode: INTER

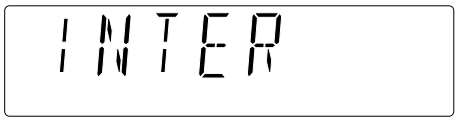
An interval is to be selected in the menu. The selectable steps are in seconds starting from 1 to 3600 second.

Example: 5 seconds are selected, so each 5 seconds a printout is generated automatically. The printout is done when the weight value is stable or not.

Each selected element in [PRINT] - [CONTNT] is printed except the functionality like TOTALIZATION if it isn't activated in menu.

Weight

Piece Weight



During this state Display-Weight shows [A.PRINT], Display-PW shows [INTER] and Display-Count shows the number of seconds which can be entered via the keypad or a scanner.

6.7.2.4 Running Mode: CONTNT

Each selected element in [PRINT] - [CONTNT] is printed except the functionalities like TOTALIZATION if it isn't activated in menu and Preset Tare when it is empty.

The elements are printed with or without stability as fast as possible.

6.7.2.5 Running Mode: ACCEPT

An automatic print is only generated when one application of "Checkweighing" is activated AND the weight on the pan or the removed weight is within the defined limits.

This automatic print is generated **after** the weight is accumulated in TOTALIZATION with AUTO-Mode.

Each selected element in [PRINT] - [CONTNT] is printed except the functionality like TOTALIZATION if it isn't activated in menu.

6.8 Product Memory

The device has a product memory which contains 30 products at maximum.

Each product contains at minimum:

- Product ID (memory number)
- Product Name = 12 ASCII character long. Via scanner alpha characters are possible!
- Preset Tare value
- Piece Weight
- Checkweighing Low Limit = a weight value or a number of pieces.
- Checkweighing High Limit = a weight value or a number of pieces.

If a Checkweighing limit is unequal to zero then the application Checkweighing is activated. Or if these limits are equal zero then the application Checkweighing is deactivated.

Example: Checkweighing is active. If a product is activated which contains only counting parameters then Checkweighing is set to [OFF] (is deactivated).

If the [Mem] Button is pressed briefly and the user wants to end this state (storing or loading) this is done by pressing the [M+ Menu] (Exit) Button briefly.

If there are two scales defined in menu then the product can be loaded even the scales have different accuracies. This is the responsibility of the customer.

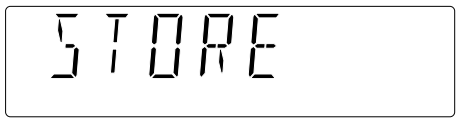
Contents of Product Id and Product Name are printed when no product is loaded or the product settings were changed or the whole product memory is empty.

6.8.1 Storing Product Data

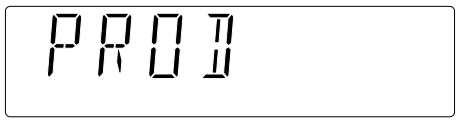
Requirement for storing: Application is already initialized.

1. Press the [Mem] Button briefly.
   ▷ The displays show:

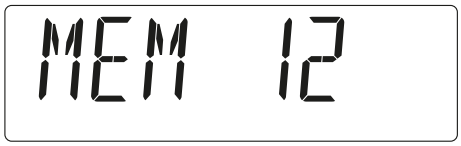
Weight



Piece Weight



Count



= next free product storage number is blinking

The memory number (ID) can be changed via the key pad or scanner.

2. Press the [Mem] or [On/Zero Off] (Yes) Button briefly storing the product parameters.

   First product memory has the number 1.

   If the Input contains an error e.g. memory number is too big, then Display-Count shows [LIM.ERR] for about 2 seconds.

Count

During the storing process the Busy symbol ◈ in Display-Weight is active and the other displays are dark.

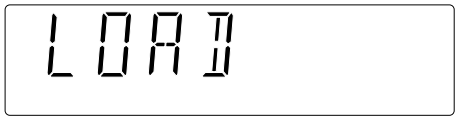
The storage memory (ID) is freely selectable. It doesn't have to be the next free one.

If the selected memory is already occupied then this memory is overwritten.

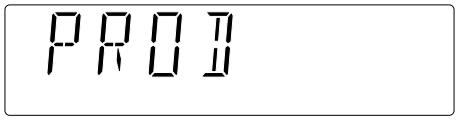
6.8.2 Load Product Parameters

1. Input a product memory number via the key pad or a scanner.
   ▷ Number is shown on Display-Count.
2. Press the [Mem] Button briefly.
   ▷ The displays show:

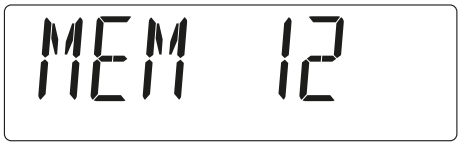
Weight



Piece Weight



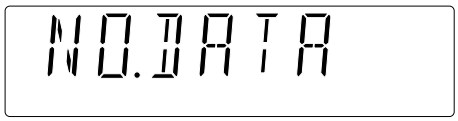
Count



3. Pressing the Mem or On/Zero Off (Yes) Button.
   ▷ The product parameters of the selected product are loaded.

   If the memory is empty then [NO.DATA] is shown on Display-Weight for about 1 second.

   Weight

   After that time the device returns to the state before input the product number.

The product ID in Display-Count can be changed via the Print Unit (No) and Target (Back) Buttons pressed briefly.

Using the Print Unit (No) Button the number is incremented, but only occupied storages are incremented.

Using the Target (Back) Button the number is decremented but only occupied storages are decremented.

Example: Storages 1, 2, 5, 7 are occupied. Displayed number is 5 then pressing Print Unit (No) Button → 7 is displayed. Pressing Target (Back) → 5 is displayed.

If the entered product ID is too big (>30), then the Display-Count shows for about 2 seconds [LIM.ERR].

Count

6.8.3 Change/Define Product Parameters

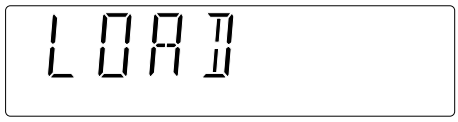
Here a present product can be changed or a new product can be defined.

Pressing the M+ Menu (Exit) Button briefly in any state of this input process the device returns to the state before starting this input process.

1. Input a product ID via the key pad or a scanner.
   ▷ Number is shown on Display-Count.
2. Press the Mem Button briefly.

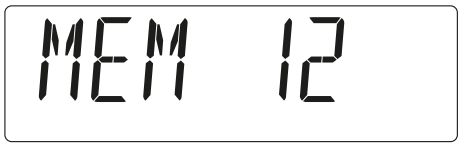
▷ The displays show:

Weight



Piece Weight

Count



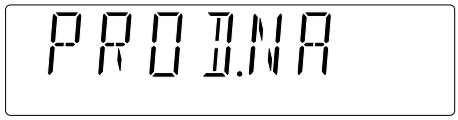
3. Pressing the Mem Button long.

▷ [CHANGE] is shown on Display-Weight as long as the button is pressed.

Weight

After the Mem Button was released [PROD.NA] is displayed on Display-Weight for about 2 seconds.

Piece Weight

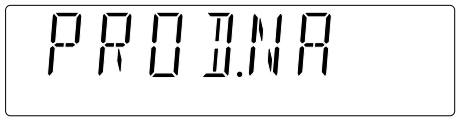


Display-PW is empty and Display-Count isn't changed.

After that 2 seconds the actual product name is displayed blinking on Display-Weight and Display-PW. Display-Count shows the entered product ID (doesn't change).

If an input is done during [PROD.NA] is displayed then the input process starts at once with a blinking under line (cursor) with the last digit of Display-PW.

Piece Weight



The blinking product name can be changed via key pad or scanner.

The input of the product name which can be up to 12 characters long is done on Display-PW and also an Display-Weight. Possible characters are numbers, capital letters, "-", "/", "." and blank.

Example: Product name is 123456789012.

Then [123456] is shown on Display-Weight and [789012] is shown on Display-PW.

4. Pressing C +/- Button briefly while the product name is blinking.

▷ The whole product name is cleared on the displays and a blinking under line is shown for a new input in Display-PW at it's last digit.

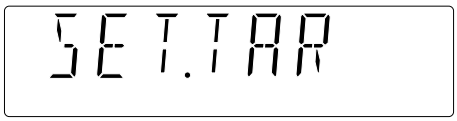
5. Pressing [C +/-] Button briefly while the cursor is blinking.
   ▷ The last digit before the blinking cursor is deleted.

   Pressing a key of the key pad the old name is cleared and the pressed number is shown.

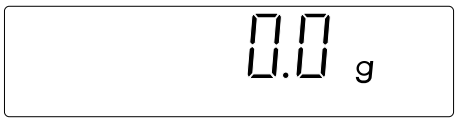
   If a string of 12 characters is scanned via a scanner the whole string is displayed.
6. Pressing the [On/Zero Off] (Yes) Button briefly.
   ▷ The input string is taken over, go on point ①.

- ① It is shown on

Weight

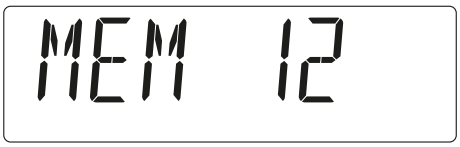


Piece Weight



blinking weight value of Preset-Tare in the unit used before activating this change process.

Count



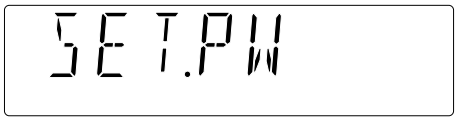
The Preset Tare value can be entered via key pad or scanner.

The value is taken over by pressing the [On/Zero Off] (Yes) Button briefly. Go on point ②.

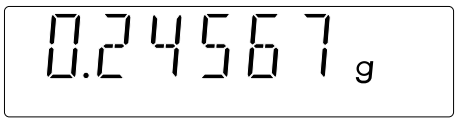
Pressing the [Target] (Back) Button go back to Product Name.

- ② It is shown on

Weight

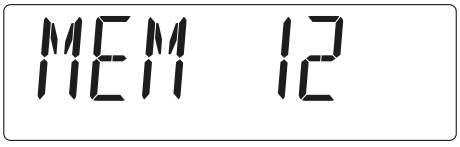


Piece Weight



blinking weight value of piece weight in the unit defined before activating this change process. (here only g or oz are possible as units).

Count



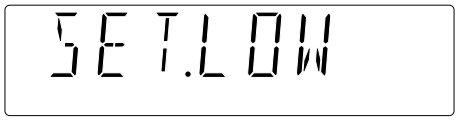
The Piece weight can be entered via key pad or scanner.

The value is taken over by pressing the [On/Zero Off] (Yes) Button briefly. Go on point ③.

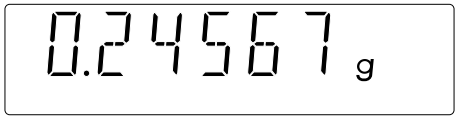
Pressing the [Target] (Back) Button go back to point ①.

- ③ It is shown on

Weight



Piece Weight

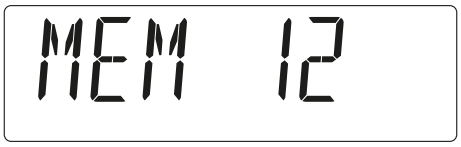


blinking weight value of Low Limit if checkweighing was initialized. Show unit used before activating this change process.

Piece Weight

Blinking number of pieces if Checkcount was initialized.

Count



The Low Limit can be entered via key pad or scanner.

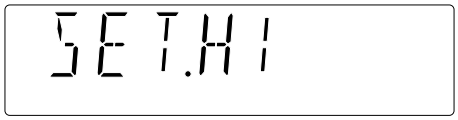
Pressing the [Print Unit] Button long, the unit will change between a weight unit used before this change process and unit pcs if the product wasn't initialized before (= empty product). This selection is also used in point ④ (Set high limit).

The value is taken over by pressing the [On/Zero Off] (Yes) Button briefly. Go on point ④.

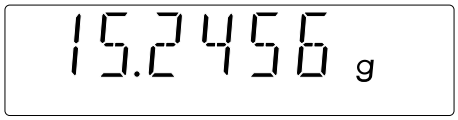
Pressing the [Target] (Back) Button go back to point ②.

- ④ It is shown on

Weight

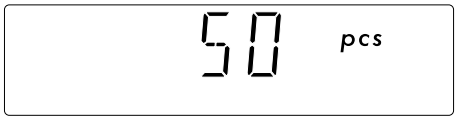


Piece Weight



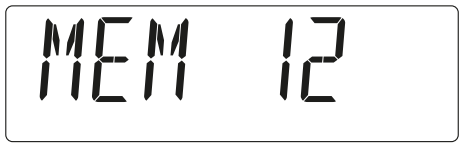
blinking weight value of High Limit if checkweighing was initialized. Show unit used before activating this change process.

Piece Weight



Blinking number of pieces if Checkcount was initialized.

Count



The High Limit can be entered via key pad or scanner.

Handling of an empty product see point ③.

The value is taken over by pressing the [On/Zero Off] (Yes) Button briefly. Go on point ⑤.

Pressing the [Target] (Back) Button go back to point ③.

The limits are checked with the same conditions as defined in chapter 6.4.2.1.

If a condition is violated [LIM.ERR]is shown on Display-PW for about 1 second.

Count

Then the input process for low limit is going on with the old value.

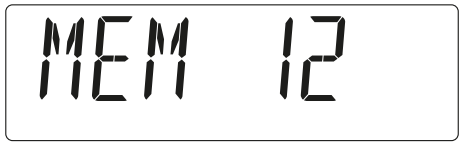
- ⑤ It is shown on

Weight

blinking

Display-PW is empty.

Count



The product data are saved by pressing the [On/Zero Off] (Yes) or [Mem] Button briefly.

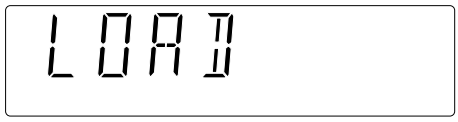
Pressing the [Target] (Back) Button go back to point ④.

- Depending on the product data the applications are initialized. If checkweighing was deactivated before and now the product contains a limit > 0 then Checkweighing is initialized automatically and vice versa.
- Applications are running, changing or initialization process was left.

6.8.4 Delete Product Storage/Parameters

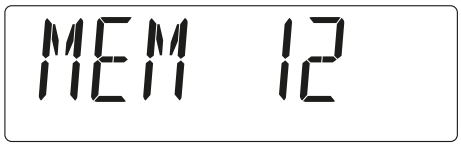
1. Input a product number via the key pad or a scanner.
   ▷ Number is shown on Display-Count.
2. Press the [Mem] Button briefly.
   ▷ The displays show:

Weight



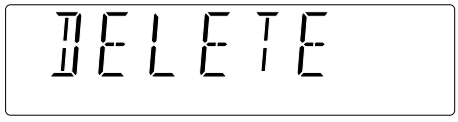
Piece Weight

Count



3. Pressing the [C +/-] Button briefly.
   ▷ The displays show:

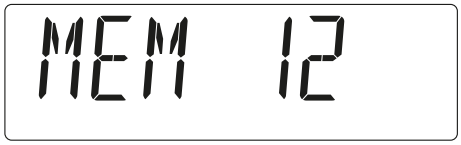
Weight



blinking

Display-PW is empty.

Count



4. Pressing the [On/Zero Off] (Yes) or [Mem] Button briefly the product storage (parameters) is deleted or pressing the [M+ Menu] (Exit) Button briefly process is left.

6.8.5 Printouts

In menu: [PRINT] - [CONTNT] it can be defined that the product storage and product name is to be printed:

Printout	Description
`PROD-ID: 2`	Product storage number (ID), here 2
`PROD-NAME: Metal4712123`	Product name; 12 alpha-numeric character at max.

6.9 Handling Second Scale

If a second scale is activated then the Display-Weight looks like:

Weight

Scale WP1 is active

Weight

Scale WP2 is active

A scale switch is done by long pressed * 1 2 (Scale) Button: If scale 1 is active then it is switched to scale 2 and vice versa.

The weight values of the active scale will be written to the display, will used for Count and Check application, will be used for printing and PC-Output. This means always the weights of one scale are used!

Initialization of application count is only done on scale 1. But the initialization of Checkweighing can be done on both scales. The initialized application runs also on scale 2. Loading a product is also possible on both scales.

7 Menu Settings

Activated menu selections are signed by the symbol: [o].

If the latest menu level is reached the active selected parameter signed with [o] is displayed first.

If there has been a change in one or several menu items, so this parameters are present after leaving the menu. This could also be realized by a software-reset or any other solution.

If the menu is activated via the M+ Menu button long pressed then [M.E.N.U] is displayed as long as this button is pressed. If the button is released the first element of the highest menu level [METRO] is displayed.

A menu level can be left via the menu item [END]. Then it is changed in the next higher level. If the highest menu level is active and [E.N.D] is selected the menu will be left.

Inputs via key pad are only possible on the right state where an input is expected.

The User Menu (Menu Mode) allows the customizing of scale settings.

Note:

Additional Sub-Menus may be available if Interface Options are installed.

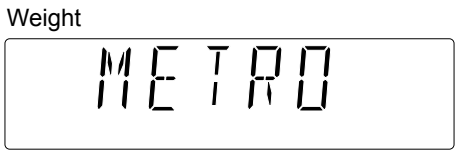
See Interface User Manual for the additional setting information.

7.1 Menu Representation on Displays

Presentation of the first 3 menu levels in the 3 displays.

Example:

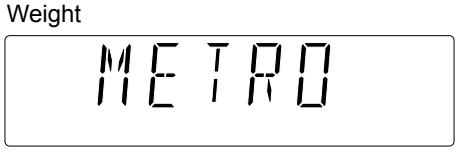
- First menu level:



First menu level

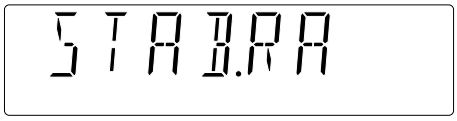
Display-PW and Display-Count are empty.

- Second menu level is selected:



First menu level

Piece Weight

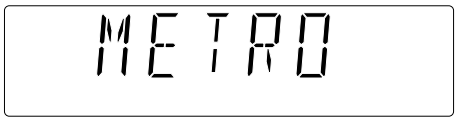


Second menu level

Display-Count is empty.

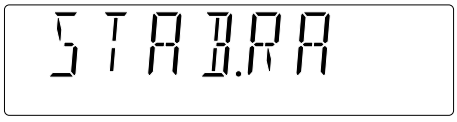
- Third level is reached:

Weight



First menu level

Piece Weight



Second menu level

Count

Third menu level = selection

If there are more than three menu levels the latest levels will be shown.

Weight

Second menu level

Piece Weight

Third menu level

Count

Fourth menu level

Example:

- Second Level is reached:

Weight

First menu level

Piece Weight

Second menu level

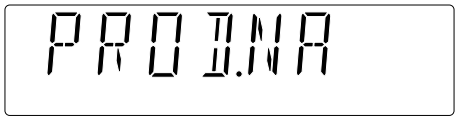
Display-Count is empty.

- Third Level is reached:

Weight

First menu level

Piece Weight



Second menu level

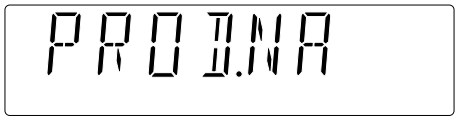
Display-Count is empty.

- Fourth Level is reached:

Weight

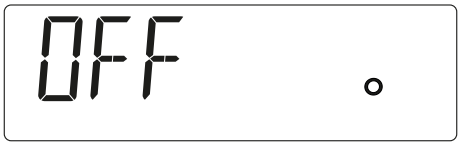
First menu level

Piece Weight



Second menu level

Count



Fourth menu level = selection

7.2 Menu Mode

Enter into Menu Mode:

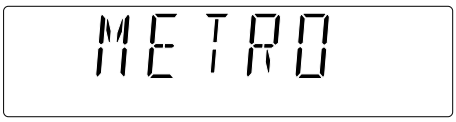
1. Press the M+ Menu button long.

   ▷ On the Display-Weight [M.E.N.U] is shown for 2 seconds and then the 1st menu item [METRO].

   Weight

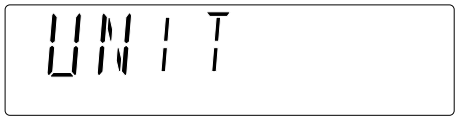
   Weight

2. Press Print Unit (No) button to move to the next menu item.

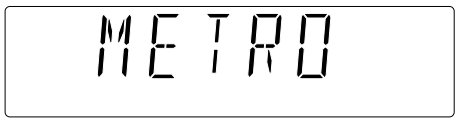
   ▷ The 2nd menu item [UNIT] shown on Display-Weight.

Weight

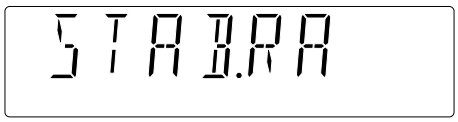


3. Or press On/Zero Off (Yes) button to enter into Sub-Menus on Display-PW (in this example [[METRO][STAB.RA]] .
   ▷ The second menu level is shown on Display-WP.

Weight



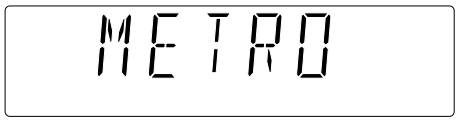
Piece Weight



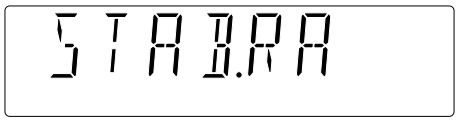
Display-count is empty.

4. To enter into menu item (in this example [[METRO][STAB.RA]] , press On/Zero Off (Yes) button.
   ▷ On Display-Count value 1D is blinking.

Weight



Piece Weight

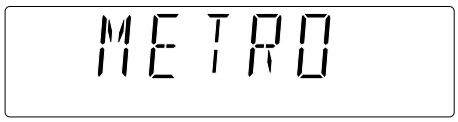


Count

The current selection is signed by [∘].

5. Press Print Unit (No) button to change setting or press On/Zero Off (Yes) button to accept setting.
   ▷ The next second menu level [FILTER] shown on Display-WP.

Weight

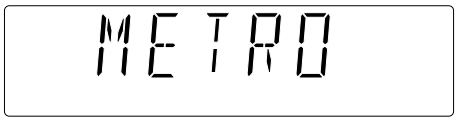


Piece Weight

Display-count is empty.

6. Press Print Unit (No) button to go forwards on Display-PW or press Target (Back) button to go backwards.

Weight

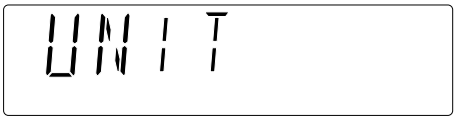


Piece Weight

7. When [END] is displayed, press On/Zero Off (Yes) button.

▷ The 2nd menu item [UNIT] shown on Display-Weight.

Weight



8. Press M+ Menu (Exit) button to exit the menu.

7.3 Handling Input Values in menu

For menu items with numeric settings such as Capacity, the current setting is displayed with all digits flashing.

1. Press On/Zero Off (Yes) Button to accept the setting or press Print Unit (No) Button to resume editing.
2. For End menu items, pressing On/Zero Off (Yes) Button advances to the next menu, while pressing Print Unit (No) Button returns to the top of the current menu.

7.4 Menu Navigation

Overview of Menu Mode options.

METRO	Metrology (see chapter 7.4.1)
UNIT	Weighing units (see chapter 7.4.2)
OP.FUNC	Operation functions (see chapter 7.4.3)
PRINT	Printer outputs (see chapter 7.4.4)
PRN.COM	Printer port communication (see chapter 7.4.5)
PC.OUT	PC output (see chapter 7.4.6)
PC.COM	PC port communication (see chapter 7.4.7)
CAL.ADJ	Calibration / Adjustment (see chapter 7.4.8)
AD.CON2	ADC configuration of the second scale, **only visible when** [AD.CON2] (see chapter 7.4.9) was activated before
INFO	Information (shows serial number and type designation)(see chapter 7.4.10)
SECURE	Block menu items (see chapter 7.4.11)
E.N.D.	Leave menu

7.4.1 Menu Selection [METRO]

Enter this menu to customize display functionality and scale functionality.

Default settings are identified by an "*"

METRO

STAB.RA	Stability range valid for both scales
0.5D	0.5 digits
1D	1 digit*
2D	2 digits
4D	4 digits
FILTER	Adaption Filter valid for both scales
LOW	Less precion, short stabilization time
MED	Normal precion, medium stabilization time*

HI	High Precion, Long stabilization time
A.ZERO.T	Auto Zero-Tracking valid for both scales
OFF	Turn off
0.5D	Drift of 0.5 digit / second*
1D	Drift of 1 digit / second
3D	Drift of 3 digit / second
AUT.OFF	Auto Off Timer
OFF	Turn off*
1 MIN	power off after 1 minute of no activities
5 MIN	power off after 5 minute of no activities
10 MIN	power off after 10 minute of no activities
RESET	Factory setting
NO	not restored*
YES	enabled
END	Leave menu level

7.4.2 Menu Selection [UNIT]

Enter this menu to customize weighing unit to be used.

Default settings are identified by an "*"

UNIT

kg	Kilogram
OFF	disabled
ON	enabled*
g	Gram
OFF	disabled
ON	enabled*
lb	Pound
OFF	disabled
ON	enabled*
oz	Ounce
OFF	disabled
ON	enabled*
lb:oz	Pound / Ounces
OFF	disabled*
ON	enabled
RESET	Factory setting
NO	not restored*
YES	enabled
END	Leave menu level

7.4.3 Menu Selection [OP.FUNC]

Enter this menu to setup scale parameters.

Default settings are identified by an "*"

OP.FUNC

WP2	Activate a second scale
OFF	disabled*
ON	enable
UNIT.ON	Select unit at Power ON
AUTO	Last unit in use when turned OFF*
kg	kilogram
g	gram

lb	pound
oz	ounce
lb:oz	pound:ounces
ZERO.RA	Zero Range
2%	disabled
10%	enabled*
A.OPT	Automatic reference weight optimization
OFF	disabled
ON	enable*
A.TARE	Automatic Tare
OFF	disabled*
ON	1st stable weight is tared
ON-ACC	Stable loads within the accept limits are tared (in all check modes)
BEEP.OP	Beep when piece weight has been optimized automatically
OFF	disabled
ON	enable*
BEEP.SI	Beeper Signal (in Checkweighing Mode)
OFF	disabled*
ACCEPT	Beep when weight is within accept area
UNDER	Beep when weight is under the low limit
OVER	Beep when weight is over the high limit
UNDOVR	Beep when weight is outside the accept area
BEEP.KE	Button Sound
OFF	disabled
ON	enabled*
TOT.SET	Totalization Setting
OFF	disabled
AUTO	Automatic Totalization
MAN	Manual Totalization*
LIGHT.T	Back lighting time (D.LIGHT = AUTO)
3 SEC	Backlight off after 3 minutes of no activity
5 SEC	Backlight off after 5 minutes of no activity*
8 SEC	Backlight off after 8 minutes of no activity
D.LIGHT	Display Backlight
OFF	disabled
ON	enabled
AUTO	turns on when a button is pressed or the displayed weight changes*
COM.EQU	Communication Module
OFF	disabled*
BLUE.TH	Bluetooth Enabled (when Bluetooth module installed)
WIFI	Wi-Fi Enabled (when WIFI module installed)
ETHER.N	Ethernet Enabled (when Ethernet module is installed)
RESET	Factory setting
NO	not restored*
YES	enabled
END	Leave menu level

7.4.4 Menu Selection [PRINT]

Enter this menu to configure print conditions and printouts.

Default settings are identified by an "*"

PRINT	
STABLE	Printing criteria
OFF	values are printed immediately
ON	values are only printed when stable*
A.PRINT	Automatic Print
OFF	disabled*
ON.STAB	Print on stability for one time, if weight >1d
INTER	Printing at the defined interval
1...3600	1 ... 3600 second
CONT	Print continously
ACCEPT	Print on stable and within checklimit
CONTNT	Content of a printout
RESULT	Display Value
OFF	disabled
ON	enabled*
GROSS	Gross Value; it doesn't matter measured or calculated
OFF	disabled*
ON	enabled
NET	Net Value; it doesn't matter measured or calculated
OFF	disabled*
ON	enabled
TARE	Tare
OFF	disabled*
ON	enabled
PRE.TAR	preset Tare
OFF	disabled*
ON	enabled
HEADER	Header info; set via the interface (see SBI-specification)
OFF	disabled*
ON	enabled
FOOTER	Footer info; set via the interface (see SBI-specification)
OFF	disabled*
ON	enabled
MODE	Mode info
OFF	disabled*
ON	enabled
INFO	Check limits
OFF	disabled*
ON	enabled
PW	piece weight
OFF	disabled*
ON	enabled
TOTAL	Total Value
OFF	disabled*

├─ **RESULT**	Accumulated result is printed
├─ **ALL**	Result and statistical parameters like Min, Max, ...
├─ **PROD.ID**	Product storage number
├─ **OFF**	disabled*
├─ **ON**	enabled
├─ **PROD.NA**	Product name; 12 alpha-numeric characters at maximum
├─ **OFF**	disabled*
├─ **ON**	enabled
├─ **SERNO**	serial number of the active (displayed) scale Example: W1 38457989 or W2 38457989
├─ **OFF**	disabled*
├─ **ON**	enabled
├─ **LI.SET**	List Set
├─ **FORMAT**	Format send to printer and to PC
├─ **MULTI**	Multi-line (single column) printout*
├─ **SINGLE**	Single line printout; whole content defined above is printed in one line
├─ **FEED**	Paper Feed Setting
├─ **LINE**	Move a paper up one line after printing
├─ **4LF**	Move a paper up four lines after printing*
├─ **FORM**	Form feed after printing
├─ **END**	
├─ **PROD.LI**	Print whole product storage
├─ **NO**	disabled*
├─ **YES**	print all products. This is done in that moment when YES is selected. Then all products are printed. Afterwards NO is set automatically!
├─ **RESET**	Factory setting
├─ **NO**	not restored*
├─ **YES**	enabled
├─ **END**	Leave menu level

"Without stability" means here weight values with or without stability.

"With stability" means here only weigh values with stability!

7.4.5 Menu Selection [PRN.COM]

Enter this menu to setup Print Communication parameters.

Default settings are identified by an "*"

PRN.COM

├─ **BAUD**	Baud Rate
├─ **2400**	2400
├─ **4800**	4800
├─ **9600**	9600*
├─ **19200**	19200
├─ **38400**	38400
├─ **57600**	57600
├─ **115200**	115200
├─ **PARITY**	Parity

7 EVEN	7 data bits, even parity
7 Odd	7 data bits, odd parity
7 NONE	7 data bits, no parity
8 NONE	8 date bits, no parity*
STOP	Stop Bit
1	1*
2	2
RESET	Factory setting
NO	not restored*
YES	enabled
END	Leave menu level

7.4.6 Menu Selection [PC.OUT]

Enter this menu to define PC Output parameters.

This is an additional interface based on RS232 with USB-C connector.

Default settings are identified by an "*"

PC.OUT

MODE	PC Output Mode
OFF	disabled*
MAN.OUT	Manual output without stability = device expects a request via a serial interface. Response is generated **immediately**
MAN.STA	Manual output without stability= device expects a request via a serial interface.
INT.OUT	interval output with 16 characters **without** stability = device sends weighing values automatically without stability in the selected interval of display refresh cycles (see below)
AUT.OUT	automatic output **without** stability with 16 characters = device sends weighing values without stability automatically **every** display refresh cycle
AUT.STA	automatic output with stability **with** 16 characters at each value change = device sends weighing values with stability automatically
INTERV	Set the output interval (when INT.OUT is selected)
1 CYC	Each display cycle
2 CYC	After 2 display cycle
5 CYC	After 5 display cycle
10 CYC	After 10 display cycle*
20 CYC	After 20 display cycle
50 CYC	After 50 display cycle
100 CYC	After 100 display cycle
RESET	Factory setting
NO	not restored*
YES	enabled
END	Leave menu level

"Without stability" means here weight values with or without stability.

"With stability" means here only weigh values with stability!

7.4.7 Menu Selection [PC.COM]

Enter this menu to define PC Communication parameters.

Default settings are identified by an "*"

PC.COM	
BAUD	Baud Rate
4800	4800
9600	9600*
19200	19200
38400	38400
57600	57600
115200	115200
PARITY	Parity
7 EVEN	7 data bits, even parity
7 Odd	7 data bits, odd parity
7 NONE	7 data bits, no parity
8 NONE	8 date bits, no parity*
7 MARK	7 data bits, no parity
7 SPACE	7 data bits, no parity
STOP	Stop Bit
1	1*
2	2
HAND.SH	Handshake
NONE	No Handshaking*
XON.XOF	has no function
RESET	Factory setting
NO	not restored*
YES	enabled
END	Leave menu level

7.4.8 Menu Selection [CAL.ADJ]

Default settings are identified by an "*"

CAL.ADJ	
CAL	Initiates a span calibration procedure (zero and span)
WP 1	Initiates a span calibration procedure for WP1 This procedure is interruptable by the M+ Menu (Exit) Button The span weight is freely selectable by input the value
WP 2	**Only visible if there is a second scale defined in menu [OP.FUNC] - [WP2]** : Initiates a span calibration procedure for WP2 This procedure is interruptable by the M+ Menu (Exit) Button The span weight is freely selectable by input the value
LIN	Initiates a linearity calibration procedure (zero, mid-point and span)
WP 1	Initiates a linearization procedure for WP1

	This procedure is interruptable by the M+ Menu (Exit) Button The weight values are fix
WP 2	**Only visible if there is a second scale defined in menu [OP.FUNC] - [WP2]** : Initiates a linearization procedure for WP2 This procedure is interruptable by the M+ Menu (Exit) Button The weight values are fix
GEO	Geographical Adjustment Factor (GEO) is used to adjust the calibration based on the current location
12	selectable area from 0 to 31 in single steps*
END	Leave menu level

7.4.9 Menu Selection [AD.CON2]

Enter this menu to ADC configuration for scale 2

AD.CON2	
D	Step with of the scale (1 digit) changeable via Print Unit or Target Button only!
CAL.WGT	Calibration weight, which is used in [CAL.ADJ] - [CAL] - [WP2] and which is free selectable within 30% Max-Load and Max-Load
MAX.CAP	Maximum capacity of the scale "H" is displayed if this entered value is reached.
END	Leave menu level

7.4.10 Menu Selection [INFO]

INFO	
SER.NUM	show serial number (if two scales selected, then show two serial numbers)
W1.471	With Print Unit (No) or Target Button next six digits or first six digits again are displayed.
W2.471	With Print Unit (No) or Target Button next six digits or first six digits again are displayed.
END	
TYPE	Show scale type name
SFT.VER	Show software version
SR 2.64	
GEO.DAT	Show selected GEO area which is valid for both scales
12	selected GEO area
WP1	Info Wp1
D	Accuracy
MAX	Max.-Load
END	
WP2	Info Wp2 when selected in menu
D	Accuracy

├ **MAX**	Max.-Load
├ **END**	
├ **LFT.MOD**	Show state of the legal for trade mode: ON or OFF for **both** scales
├ **OFF**	standard mode
├ **ON**	Legal for trade mode is activated
├ **LOCK.SW**	Show state of the lock switch for both scales
├ **OPEN**	switch is open
├ **CLOSED**	switch is closed
├ **END**	Leave menu level

7.4.11 Menu Selection [SECURE]

Enter this menu to define Security setting (Lock) on menu option to prevent tampering.

Default settings are identified by an "*"

SECURE

├ **S.METRO**	Metrology Menu
├ **OFF**	menu item is changeable*
├ **ON**	lock menu item
├ **S.UNIT**	Unit Menu
├ **OFF**	menu item is changeable*
├ **ON**	lock menu item
├ **S.OP.FUN**	Operation Function Menu
├ **OFF**	menu item is changeable*
├ **ON**	lock menu item
├ **S.PRINT**	Print Menu
├ **OFF**	menu item is changeable*
├ **ON**	lock menu item
├ **S.PR.COM**	Printer Communication Menu
├ **OFF**	menu item is changeable*
├ **ON**	lock menu item
├ **S.PC.OUT**	PC Output Menu
├ **OFF**	menu item is changeable*
├ **ON**	lock menu item
├ **S.PC.COM**	PC Communication Menu
├ **OFF**	menu item is changeable*
├ **ON**	lock menu item
├ **S.CAL.AD**	Calibration Menu
├ **OFF**	menu item is changeable*
├ **ON**	lock menu item
├ **S.ADC.CO**	ADC Menu
├ **OFF**	menu item is changeable*
├ **ON**	lock menu item
├ **RESET**	Restore factory setting of current menu
├ **OFF**	menu item is changeable*
├ **ON**	lock menu item
├ **END**	Leave menu level

8 Calibration and Adjustment

8.1 Calibration

Calibration is executed in the menu after activating item [WP1] or [WP2].

8.1.1 Calibration/Adjustment Procedure

Weights for calibration points are freely selectable when the value is blinking.

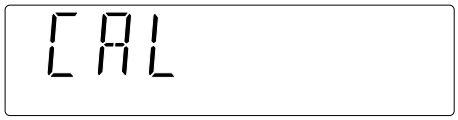
If the unit used for the normal weighing is pound then the calibration unit is also lb = pounds.

If the unit used for the normal weighing is ounce then the calibration unit is also oz = ounce.

If a metric unit (kg or g) is used for the normal weighing then the calibration unit is kg = kilo gram.

1. After WP1 or WP2 (if present) was activated.
   ▷ The Displays show:

Weight



Second menu level = Calibration

Piece Weight

Third menu level = here WP1

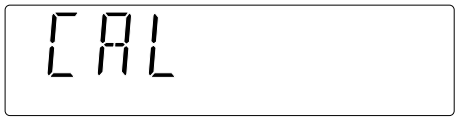
Count

blinking first weight value

2. Remove all weights from the pan and press On/Zero Off (Yes) Button.
   ▷ Now the first calibration point is taken over and internal stored.

   During this time the Displays show:

Weight

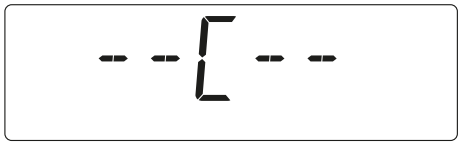


Second menu level = Calibration

Piece Weight

Third menu level = here WP1

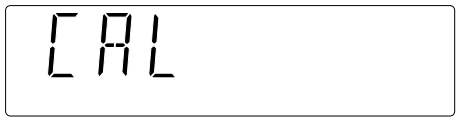
Count



waiting message until the weight is taken over

Second weighing point is shown blinking

Weight



Second menu level = Calibration

Piece Weight

Third menu level = here WP1

Count

blinking weight which can be changed via key pad

3. If the right second weighing point is selected press On/Zero Off (Yes) Button.

   Take over the second weighing point. During internal calculations the same display view is shown as under step 2.

   If everything was OK the displays show for about 2 seconds:

   Weight

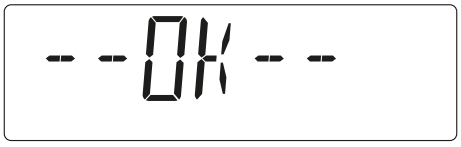
   Second menu level = Calibration

   Piece Weight

   Third menu level = here WP1

   Count

   OK-Message = Calibration is finished

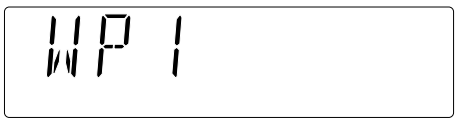
   Then device leaves menu and returns to normal application usage.

   If there was an error during calibration the displays show for about 2 seconds:

Weight

Second menu level = Calibration

Piece Weight



Third menu level = here WP1

Count

Error message = calibration is aborted

Then device leaves menu and returns to normal application usage.

Same procedure is done for WP2. Then Display-PW shows WP2 and the Device changes automatically to scale 2.

8.1.2 Menu Settings

CAL.ADJ	
CAL	Selects the scale which is to be calibrated and starts calibration.
WP 1	Initiates a span calibration procedure (zero and span) for WP1 This procedure is interruptable by the "Exit" Button. The span weight is freely selectable by input the value
WP 2	**Only visible if there is a second scale defined in menu**: Initiates a span calibration procedure (zero and span) for WP2 This procedure is interruptable by the "Exit" Button. The span weight is freely selectable by input the value
LIN	
GEO	
END	Leave menu level

8.2 Linearization

Linearization is executed in the menu after activating item [WP1] or [WP2] .

8.2.1 Linearization Procedure

If the unit used for the normal weighing is pounds then the calibration unit is also lb = pounds.

If the unit used for the normal weighing is ounces then the calibration unit is also oz = ounce.

If a metric unit (kg or g) is used for the normal weighing then the calibration unit is kg = kilo gram.

Linearization weights are fix. There are three points: zero, 0.5 * MaxLoad, Maxload.

Procedure is nearly the same as for Calibration. Only Display-Weight shows [LIN]

▶ After WP1 or WP2 (if present) was activated

▷ The Displays show:

Weight

Second menu level = Calibration

Piece Weight

Third menu level = here WP1

Count

blinking first weight value

8.2.2 Menu Settings

CAL.ADJ

- **CAL**
- **LIN** — Selects the scale which is to be linearized and starts linearization. Initiates a linearization procedure for WP1
  - **WP 1** — Initiates a linearization procedure for WP1. This procedure is interruptable by the M+ Menu (Exit) Button. The weight values are fix.
  - **WP 2** — **Only visible if there is a second scale defined in menu** Initiates a linearization procedure for WP2. This procedure is interruptable by the M+ Menu (Exit) Button. The weight values are fix.
- **GEO**
- **END** — Leave menu level

8.3 Geographical Factor Adjustment Procedure

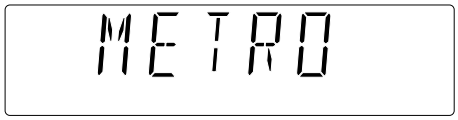
The Geographical Adjustment Factor [GEO] is used to adjust the calibration based on the current location. (Settings from 0 ... 31 are available). Refer to table 8.4 to determine the GEO factor that corresponds to your location.

Enter into Menu Mode:

1. Press and hold the M+ Menu button long.

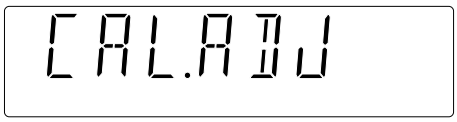
▷ The 1st menu item [METRO] shown on Display-Weight.

Weight



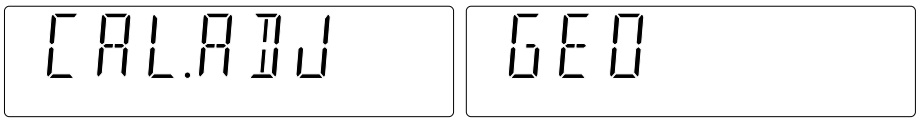
2. Press Print Unit (No) button to change the menu item until [CAL.ADJ] show on Display-Weight.

Weight



3. Press On/Zero Off (Yes) button enter into sub-menu item.
4. Press Print Unit (No) button to change the menu item until [GEO] show on Display-PW.

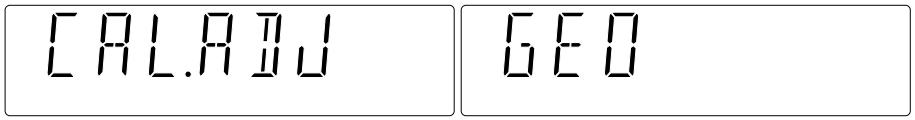
Weight Piece Weight



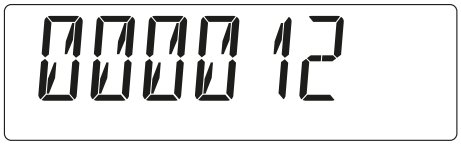
5. Press On/Zero Off (Yes) button to start GEO Factor selection.

▷ The default GEO factor [12] is indicated and blinking.

Weight Piece Weight



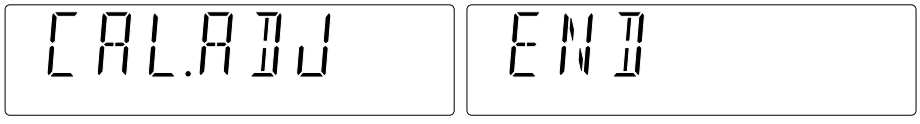
Count



6. If changing the value is needed, input values from 0 ... 31 via the key pad.
7. Press On/Zero Off (Yes) button to confirm GEO Factor value.

▷ The GEO factor has been stored, when [END] show on Display-PW.

Weight Piece Weight



8. Press On/Zero Off (Yes) button.

▷ The menu item [INFO] shown on Display-Weight.

9. Press M+ Menu (Exit) button to exit the menu.

8.4 GEO Code Table

		Elevation in meters										
		0	325	650	975	1300	1625	1950	2275	2600	2925	3250
		325	650	975	1300	1625	1950	2275	2600	2925	3250	3575
		Elevation in feet										
		0	1016	2130	3200	4260	5330	6400	7460	8530	9600	10660
		1060	2130	3200	4260	5330	6400	7460	8530	9600	10660	11730
Latitude		GEO value										
0°00'	5°46'	5	4	4	3	3	2	2	1	1	0	0
5°46'	9°52'	5	5	4	4	3	3	2	2	1	1	0
9°52'	12°44'	6	5	5	4	4	3	3	2	2	1	1
12°44'	15°06'	6	6	5	5	4	4	3	3	2	2	1
15°06'	17°10'	7	6	6	5	5	4	4	3	3	2	2
17°10'	19°02'	7	7	6	6	5	5	4	4	3	3	2
19°02'	20°45'	8	7	7	6	6	5	5	4	4	3	3
20°45'	22°22'	8	8	7	7	6	6	5	5	4	4	3
22°22'	23°54'	9	8	8	7	7	6	6	5	5	4	4
23°54'	25°21'	9	9	8	8	7	7	6	6	5	5	4
25°21'	26°45'	10	9	9	8	8	7	7	6	6	5	5
26°45'	28°06'	10	10	9	9	8	8	7	7	6	6	5
28°06'	29°25'	11	10	10	9	9	8	8	7	7	6	6
29°25'	30°41'	11	11	10	10	9	9	8	8	7	7	6
30°41'	31°56'	12	11	11	10	10	9	9	8	8	7	7
31°56'	33°09'	12	12	11	11	10	10	9	9	8	8	7
33°09'	34°21'	13	12	12	11	11	10	10	9	9	8	8
34°21'	35°31'	13	13	12	12	11	11	10	10	9	9	8
35°31'	36°41'	14	13	13	12	12	11	11	10	10	9	9
36°41'	37°50'	14	14	13	13	12	12	11	11	10	10	9
37°50'	38°58'	15	14	14	13	13	12	12	11	11	10	10
38°58'	40°05'	15	15	14	14	13	13	12	12	11	11	10
40°05'	41°12'	16	15	15	14	14	13	13	12	12	11	11
41°12'	42°19'	16	16	15	15	14	14	13	13	12	12	11
42°19'	43°26'	17	16	16	15	15	14	14	13	13	12	12
43°26'	44°32'	17	17	16	16	15	15	14	14	13	13	12
44°32'	45°38'	18	17	17	16	16	15	15	14	14	13	13

		Elevation in meters										
		0	325	650	975	1300	1625	1950	2275	2600	2925	3250
		325	650	975	1300	1625	1950	2275	2600	2925	3250	3575
		Elevation in feet										
		0	1016	2130	3200	4260	5330	6400	7460	8530	9600	10660
		1060	2130	3200	4260	5330	6400	7460	8530	9600	10660	11730
Latitude		GEO value										
45°38'	46°45'	18	18	17	17	16	16	15	15	14	14	13
46°45'	47°51'	19	18	18	17	17	16	16	15	15	14	14
47°51'	48°58'	19	19	18	18	17	17	16	16	15	15	14
48°58'	50°16'	20	19	19	18	18	17	17	16	16	15	15
50°16'	51°13'	20	20	19	19	18	18	17	17	16	16	15
51°13'	52°22'	21	20	20	19	19	18	18	17	17	16	16
52°22'	53°31'	21	21	20	20	19	19	18	18	17	17	16
53°31'	54°41'	22	21	21	20	20	19	19	18	18	17	17
54°41'	55°52'	22	22	21	21	20	20	19	19	18	18	17
55°52'	57°04'	23	22	22	21	21	20	20	19	19	18	18
57°04'	58°17'	23	23	22	22	21	21	20	20	19	19	18
58°17'	59°32'	24	23	23	22	22	21	21	20	20	19	19
58°17'	59°32'	24	23	23	22	22	21	21	20	20	19	19
60°49'	62°90'	25	24	24	23	23	22	22	21	21	20	20
62°90'	63°30'	25	25	24	24	23	23	22	22	21	21	20
63°30'	64°55'	26	25	25	24	24	23	23	22	22	21	21
64°55'	66°24'	26	26	25	25	24	24	23	23	22	22	21
66°24'	67°57'	27	26	26	25	25	24	24	23	23	22	22
67°57'	69°35'	27	27	26	26	25	25	24	24	23	23	22
69°35'	71°21'	28	27	27	26	26	25	25	24	24	23	23
71°21'	73°16'	28	28	27	27	26	26	25	25	24	24	23
73°16'	75°24'	29	28	28	27	27	26	26	25	25	24	24
75°24'	77°55'	29	29	28	28	27	27	26	26	25	25	24
77°55'	80°56'	30	29	29	28	28	27	27	26	26	25	25
80°56'	85°45'	30	30	29	29	28	28	27	27	26	26	25
85°45'	90°00'	31	30	30	29	29	28	28	27	27	26	26

9 Printing

Every time a print is done, [PRINT] is displayed on Display-Weight for about 1 second, no longer.

9.1 Output Format

General Definitions:

- Space = 0x20 hex as ASCII character.
- CRLF = 0x0D0A hex as ASCII character.
- The sign is set directly beside the MSB of a value with a space between these.

  Example: `- 14.112`
- Values shall be written among themselves:

  Example:

```
- 10.075 oz OVERCRLF
   0.015 oz TCRLF
- 10.060 oz G#CRLF
```

- A stable weight value is printed with unit. `10.25 kg`

  An unstable weight value is printed without unit: `10.25`
- A stable negative gross weight value has a "!" instead of a unit: `- 0.25 !`

  An unstable negative gross weight value has no unit symbol: `- 0.25`
- Error format is generated when there is no valid weighing value or an error message is displayed. The error number of the display is also printed as: [Err 8.1] for example.

9.2 Product Storages

Printing all product storages see menu item [PRINT] - [PROD.LI] :

Printout	Description
`PROD-ID: 2`	Product Storage, here 2. Storage 1 is empty
`PROD-NAME: Metal4712123`	Product Name
`5.23 g PT`	Preset Tare
`WREF 0.43245 g`	Piece Weight
`UNDER LIMIT 580.0 g`	Low Limit
`OVER LIMIT 681.0 g`	High Limit
`MODE: CHECK WEIGHT`	Check Mode
	Line feed
`PROD-ID: 3`	Product Storage, here 3. Only Counting without Preset Tare
`PROD-NANE: Metal458ab`	Product Name
`0.0 g PT`	Preset Tare
`WREF 0.83241 g`	Piece Weight
`UNDER LIMIT 0.0 g`	Low Limit
`OVER LIMIT 0.0 g`	High Limit
`MODE: CHECK OFF`	Check Mode
	Line feed
`PROD-ID: 8`	Product Storage, here 8. Storages 4,5,6,7 are empty
`PROD-NANE: Metal471`	Product Name
`0.0 g PT`	Preset Tare
`WREF 0.0 g`	Piece Weight
`UNDER LIMIT 580.0 g`	Low Limit
`OVER LIMIT 681.0 g`	High Limit
`MODE: CHECK WEIGHT`	Check Mode
	Line feed

9.3 Menu settings Print

Menu point [PRINT] has the following submenus:

PRINT

STABLE	Printing criteria
A.PRINT	Automatic Print
CONTNT	Content of a protocol print
LI.SET	Frame Format
PROD.LI	Print whole product storage
RESET	set menu point [PRINT] to factory defaults
END	Leave menu level

Print conditions

Set conditions in menu point [PRINT] (see Chapter 7.4.4)

Printout content

- The content of a print protocol is set in menu point [PRINT] - [CONTNT] (see Chapter 7.4.4).

  Each parameter which is selected here shall be printed at **every** printout even its content is zero.

For Example: if there is no Tara value it is printed `0.000 kg T`.

This does not apply to TOTALIZATION and PRESET-TARE. The TOTALIZATION parameters shall be printed only if TOTALIZATION is activated in menu!

And the Preset-Tare is only printed when it is occupied!

- If there is a stable weighing value, the Unit is always printed. It is not selectable!

Frame Format

The frame format is to be configured in menu point [PRINT] - [LI.SET] (see Chapter 7.4.4).

Print-Interface settings

Interface parameter selection for printing [PRN.COM] (see Chapter 7.4.5).

10 PC-OUT

This is an additional interface based on USB-C standard.

10.1 Output Format

This output format is the response to the interface commands which requests a weighing value like "ESCP".

Also this format is used for automatically generated telegrams which are generated regarded the menu settings: [INT.OUT] , [AUT.OUT] , [AUT.STA] please look above.

This format is specified in the SBI-Specification by Uwe Anlauf.

Output (16 characters):

V	W	W	W	W	W	W	W	W	W	E	E	E	CR	LF

V:	Sign (possible characters: "+", "–", " ")
W:	Weight Value (possible characters: "0" ... "9", ".", " ")
E:	Unit (possible characters: "a" ... "z", "A" ... "Z", " ")
CR:	Carriage Return (ASCII 0x0D)
LF:	Line Feed (ASCII 0x0A)

Possible Commands are:

P	Read displayed value
Z	Zero the weighing platform
T	Tare the weighing platform

10.2 Menu settings PC-OUT

Menu point [PC.OUT] has the following submenus:

PC.OUT

├ **MODE**	PC Output Mode
├ **INTERV**	Set the output interval (when [INT.OUT] is selected in MODE)
├ **RESET**	Set menu point [PC.OUT] to factory defaults
├ **END**	Leave menu level

The PC-Output Mode is to be configured in menu point [PC.OUT] - [MODE] (see Chapter 7.4.6)

The PC-Output Interval is to be configured in menu point [PC.OUT] - [INTERV] (see Chapter 7.4.6)

11 SBI Interface

You can enter certain commands to control weighing platform functions through the SBI interface. Each command starts with an escape sequence. The command is always closed with an end of command (EOC). The end of command can be any combination of CR and LF. Every data after EOC and before ESC will be ignored by the scale.

Read displayed value:

ESC	P	EOC

Answer (16 Byte):

V	W	W	W	W	W	W	W	W	W	E	E	E	CR	LF

V	Sign	possible characters: "+", "–", " "
W	Weight Value	possible characters: "0"..."9", ".", " "
E	Unit	possible characters: "a"..."z", "A"..."Z", " "
CR	Carriage Return	ASCII 0x0D
LF	Line Feed	ASCII 0x0A

Zero the weighing platform:

ESC	Z	EOC

Answer: see special Response Commands

Tare the weighing platform:

ESC	T	EOC

Answer: see special Response Commands

Special Response commands:

There are some special response commands. These commands are used as standard responses. For example, error or confirmation. Special Response Commands always have the same size of 5 Bytes!

OK

1	2	3	4	5
O	K	!	CR	LF

The Scale confirmed the command execution without any errors.

ERROR

1	2	3	4	5
E	R	R	CR	LF

The Scale has reported an Error during command execution.

LOCKED

1	2	3	4	5
L	O	C	CR	LF

The command can not be executed because the parameter is currently locked.

12 Maintenance/repairs/cleaning

12.1 Repairs

Immediately disconnect a defective device from the power supply.

Defective or damaged cables or screw connections must be replaced as a complete unit.

The seals placed on the device indicate that the device may only be opened and serviced by authorized specialists to ensure trouble-free and safe operation of the device, and to ensure that the warranty remains valid.

⚠ WARNING

Improper repairs can pose considerable risks to the user.

- Repairs should only be performed by Minebea Intec authorized dealers using original spare parts.

12.2 Cleaning

12.2.1 Cleaning instructions

The device should be cleaned at regular intervals.

Disconnect the device from the supply voltage before cleaning.

Remove all traces of corrosive substances on a regular basis.

If the scale is located in a dry environment, then wipe the weighing platform using a damp cloth.

Do not allow liquid to enter devices with an IP43 degree of protection.

The device may not be cleaned using a high-pressure or steam cleaner. Consider the IP rating.

Condensation may form in the device if it is cleaned with water that is too hot or too cold, due to temperature differences. Condensation may cause the device to malfunction.

12.2.2 Cleaning agents

NOTICE

Some cleaning agents may not be compatible with the device material.

- Do not use cleaning agents for stainless steel parts that contain chlorine, alkalines, acetic acid, hydrochloric acid, sulfuric acid, or citric acid.
- The use of cleaning sponges made of steel wool is prohibited (e.g. S.O.S pads).
- Use a damp cloth or sponge to clean stainless steel parts on the scale (if present). You can use any commercially available household cleaning agent that is suitable for use on stainless steel.

13 Disposal

If the packaging is no longer required, please take it to your local waste disposal facility and/or a reputable disposal company or collection point. The packaging largely consists of environmentally friendly materials which can be used as secondary raw materials.

It is not permitted—even for small businesses—to dispose of this product with the regular household waste or at collection points run by local public waste disposal companies.

EU legislation requires its Member States to collect electrical and electronic equipment and dispose of it separately from other unsorted municipal waste so that it can then be recycled.

Before disposing of or scrapping the product, any batteries should be removed and taken to a suitable collection point.

Please see our T&Cs for further information.

We reserve the right not to accept products that are contaminated with hazardous substances (ABC contamination) for repair.

14 Troubleshooting

The Table lists common problems and possible causes and remedies.
If the problem persists, contact Minebea Intec or your authorized dealer.

Symptom	Possible Cause	Remedy
Cannot turn on	No power to scale	Verify connections and voltage
Poor accuracy	Improper adjustment Unstable environment	Perform adjustment Move scale to suitable location
Cannot access mode	Mode not enabled	Enter menu and enable mode
Cannot access unit	Unit not enabled	Enter menu and enable unit
Battery icon flashing	Low Battery error	Connect the scale to AC power and charge the battery
[Err 8.1]	Power On Error	Weight reading exceeds Power On Zero limit
[Err 8.2]	Power On Error	Weight reading below Power On Zero limit
[Err 8.3]	Over Range Error	Weight reading exceeds Overload limit
[Err 8.4]	Under Range Error	Weight reading below Underload limit
[Err 8.5]	Tare out of range	Adjust tare value to be within range
[Err 8.6]	Display overflow	Weight exceeds 6 digits
[Err 9.5]	Calibration data error	Calibration data not present
	Busy	Displayed during tare setting, zero setting, printing
[--NO--]	Action not allowed	Function not executed
[CAL.ERR]	Calibration error Unstable environment Incorrect calibration weight	Calibration value outside allowed limits Move the scale to suitable location Use correct calibration weight
[LIM.ERR]	Entered value out of range	Enter a suitable value
[REF.ERR]	Unacceptable reference weight	Reference weight too small. Weight on the pan is too small to define a valid reference weight. Increase reference weight
Battery fails to charge fully	Battery is defective	Have battery replaced by Minebea Intec authorized service dealer.

14.1 Service Information

If the troubleshooting chapter does not resolve or describe your problem, contact your authorized service agent. Please visit our website http://www.puroscales.com to locate the office nearest you.

15 Technical data

15.1 Ambient Conditions

- Indoor use only
- Operating temperature: -10°C to +40°C
- Storage temperature: -10°C to +50°C
- Relative humidity: 20 % to 85 % relative humidity, non-condensing
- Altitude: up to 3575 m

15.2 Specifications

Model number	EF - LT	P1	P3	P6	P15	P30
Max. Capacity (g)		1,500	3,000	6,000	15,000	30,000
Readability d (g)	- 30 d	0.05	0.1	0.2	0.5	1
Max. resolution		30,000	30,000	30,000	30,000	30,000
Readability d (g)	- 6 d	0.2	0.5	1	2	5
Max. resolution		7,500	6,000	6,000	7,500	6,000
Application Package Count Professional		Weighing, Automatic tare, Count professional				
Minimum recommended sample weight (g)		1	2	4	10	20
Minimum recommended APW (g)		0.005	0.01	0.02	0.05	0.1
Maximum internal counting resolution		1:1,500,000 internal / 1:300,000 external				
Weighing units		kg, g, lb, oz, lb:oz				
Construction/material		ABS plastic housing, stainless steel 304 weighing platform				
Ingress protection rating		IP43				
Display		3 windows LCD display with white backlight, 1.1 in / 28 mm height digits				
Checkweighing indicators		3 LED (yellow, green, red) with configurable operation and alert beeper				
Memory		30 item library				
Keypad		8 function, 12 numeric mechanical keys				
Zero range		2 % or 10 % of full scale capacity				
Tare range		Full capacity by subtraction				
Stabilization time		1 second				
Auto-zero tracking		Off, 0.5, 1 or 3 divisions				
Safe overload capacity		150 % of rated scale capacity				
Levelling components		Externally visible level indicator and adjustable, non-slip levelling feet				

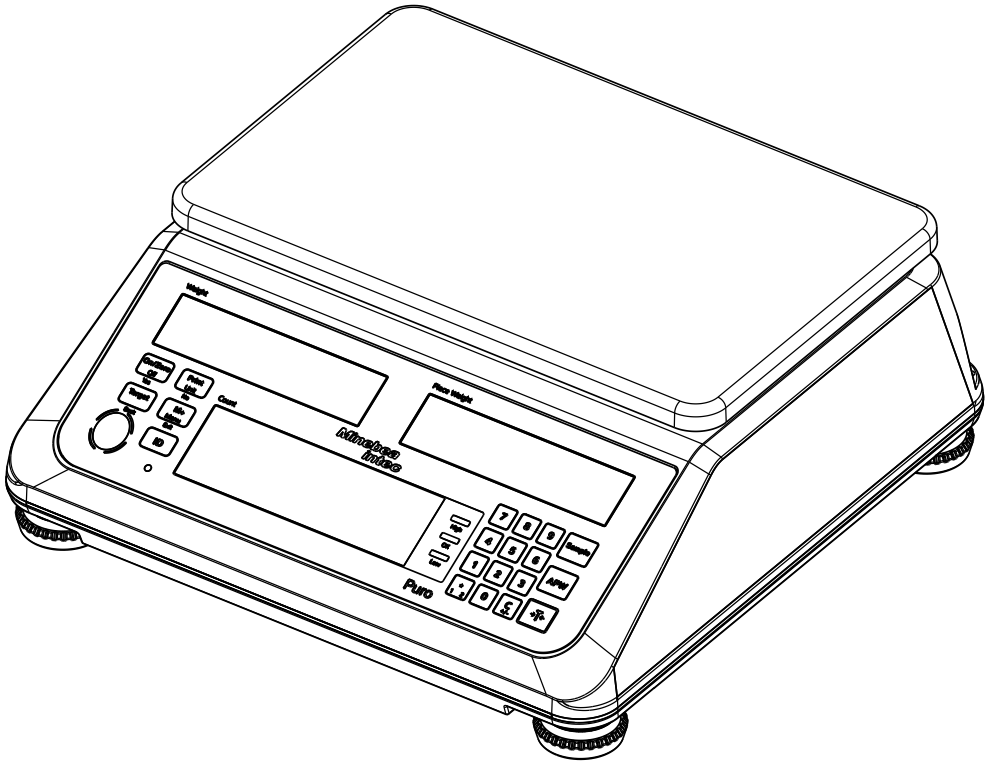
Model number	EF - LT	P1	P3	P6	P15	P30
Power		U_{DC} = 5 V, 100 – 240 V – 50/60 Hz AC adapter or internal rechargeable lithium battery				
Battery operation		Up to 210 hours operation time (with standard battery) between recharges with 12 hour recharge time				
Calibration		External, with freely selectable calibration weights				
Interface		Built-in USB-C, Printer port, RS232, optional Bluetooth or WiFi				
Operating temperature (°C)		-10 ... +40				
Storage temperature (°C)		-10 ...+50				
Product dimension (w x d x h)		310 x 302 x 115 mm				
Platform size (w × l)		280 x 180 mm				
Shipment dimension(w x d x h)		370 x 370 x 220 mm				
Net weight		2.9 kg				
Shipping weight		4.5 kg				

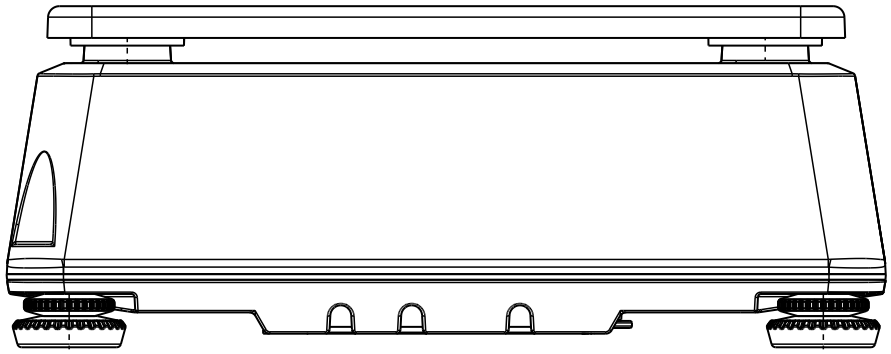
15.3 Accessories

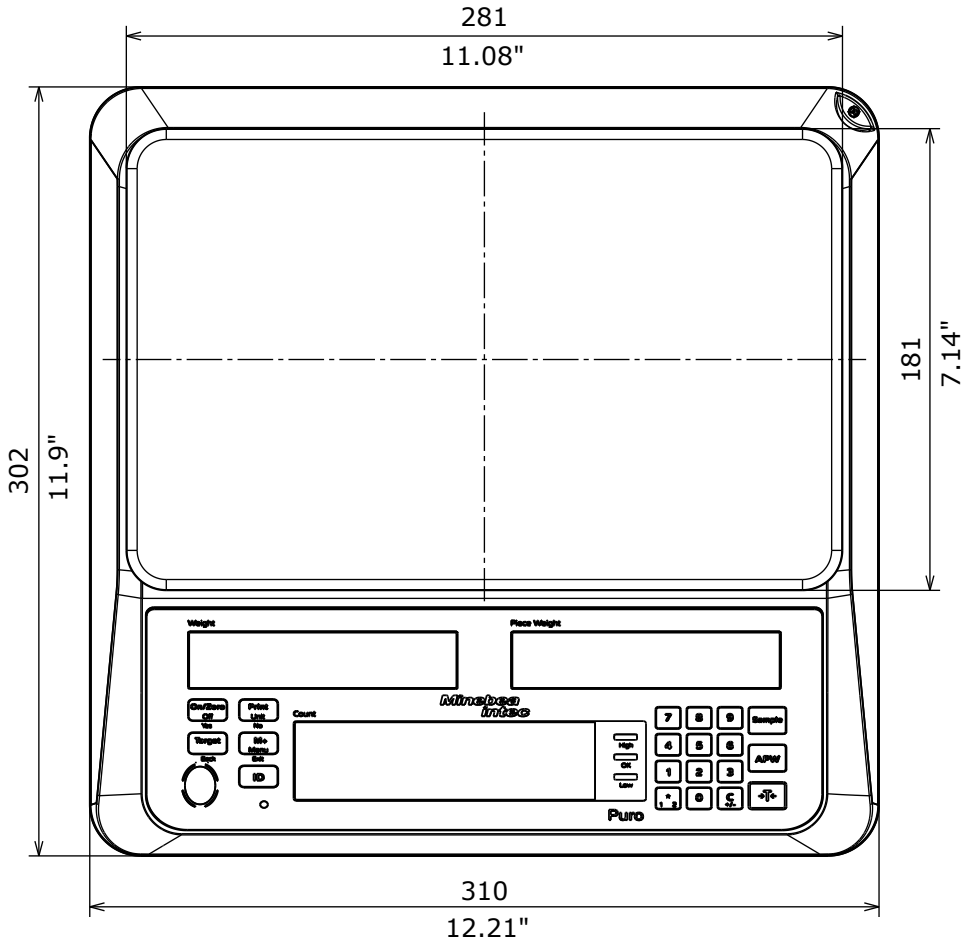
Option	Order-No.
Data Printer	YP-DP1
Paper for Data Printer	YP-P1
Printer cable	YP-CAS1
USB-C cable	YP-CAC1
Handheld Laser Barcode Scanner	MD2000
Scanner cable	YP-CYSSR1
USB Charger	YP-PS1
Weighing hook	YP-H1

15.4 Dimensions

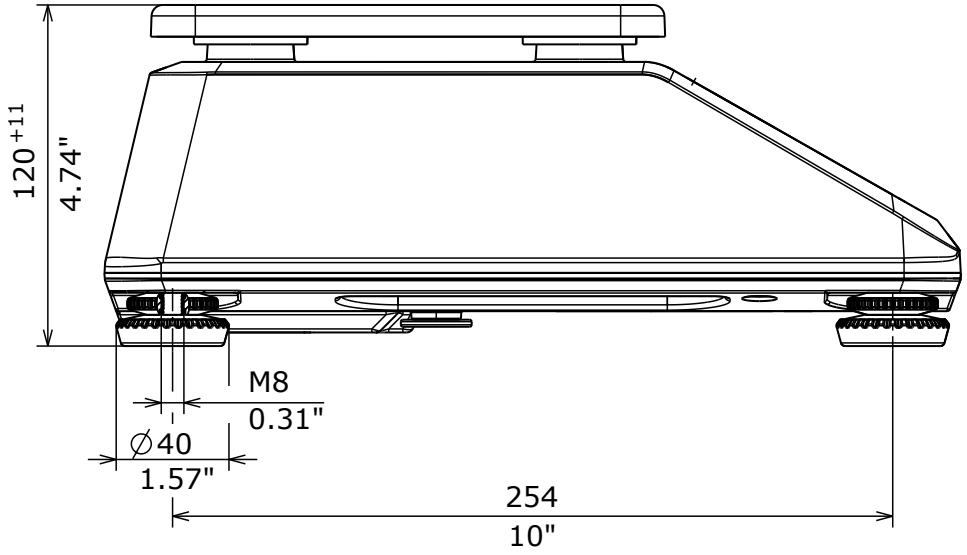
Count



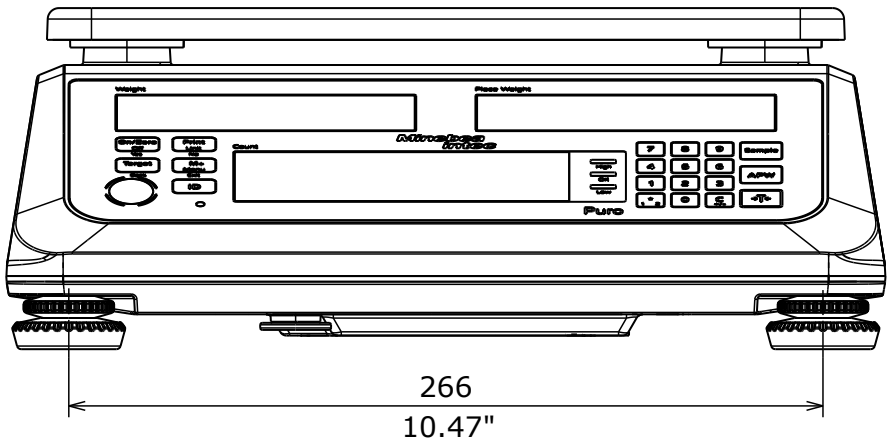




all dimensions in mm / inch



all dimensions in mm / inch



all dimensions in mm / inch

16 Appendix

16.1 Printouts

Printout elements are configured in menu.

Weighing Printout

Printout	Description
`  5.003 g  N`	positive netto weight value
`- 0.003 g  N`	negative netto weight value
`  2.003 g  G`	positive measured gross weight value
`  2.003 g  G#`	positive calculated gross weight value
`  1.003 g  T`	tare weight value (measured value)
`  0.010 g  PT`	preset tare value (entered value)
`- 0.010 !  G`	stable gross weight below zero

Weighing Printout (without Checkweighing) Normal printout

Printout	Description
`  441 pcs  QNT`	positive value
`- 41 pcs  QNT`	negative value
`MODE: COUNT`	activated Application
`WREF  4.15431 oz`	piece weight

Check Weighing Printout (Counting not initialized)

Printout	Description
`  115 g  OVER`	positive netto value > high limit
`- 115 g  OVER`	negative netto value > negative high limit
`  99 g  ACCEPT`	positive netto value in target area
`  75 g  UNDER`	positive netto value < low limit
`MODE: CHECKWEIGH`	activated Application
`UNDER LIMIT  81 g`	Low Limit
`OVER LIMIT  100 g`	High Limit

Check Weighing Printout (Counting initialized)

Printout	Description
`115 g OVER`	positive netto value > high limit
`- 115 g OVER`	negative netto value > negative high limit
`99 g ACCEPT`	positive netto value in target area
`75 g UNDER`	positive netto value < low limit
`115 pcs`	netto count >
`MODE: CHECKWEIGH`	activated Application
`UNDER LIMIT 81 g`	Low Limit
`OVER LIMIT 100 g`	High Limit
`WREF 0.35423 oz`	piece weigh, same as displayed

Check Number of pieces Printout (Counting not initialized)

Printout	Description
`115 g N`	normal netto value as result
`MODE: CHECKWEIGH`	activated Application
`UNDER LIMIT -20 pcs`	Low Limit
`OVER LIMIT -60 pcs`	High Limit

Check Number of pieces Printout (Counting initialized)

Printout	Description
`115 pcs OVER`	positive netto count > high limit
`- 115 pcs OVER`	negative netto count > negative high limit
`30 pcs ACCEPT`	positive netto count in target area
`15 pcs UNDER`	positive netto count < low limit
`MODE: CHECKWEIGH`	activated Application
`UNDER LIMIT -20 pcs`	Low Limit
`OVER LIMIT -60 pcs`	High Limit
`WREF 0.35423 oz`	piece weigh, same as displayed

Totalization Printout: Weights as parameters (= weights are added up)

Printout	Description
`N: 2`	Number of weighing done, here 2
`TOTAL: 1.955 g`	Totalized value
`MAX: 1.485 g`	Maximum value
`MIN: 0.470 g`	Minimum value

Totalization Printout: Weights as parameters (= pieces and weights are added up)

Printout	Description
N: 25	Number of weighing done, here 25
TOTAL: 248 g	Totalized value of weights
124 pcs	Totalized value of pieces
MAX: 22 g	Maximum value as weight
11 pcs	Maximum value as number of pieces
MIN: 4 g	Minimum value as weight
2 pcs	Minimum value as number of pieces

16.2 FCC Note

Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Published by
Minebea Intec Bovenden GmbH & Co. KG | Leinetal 2 | 37120 Bovenden, Germany
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The true measure