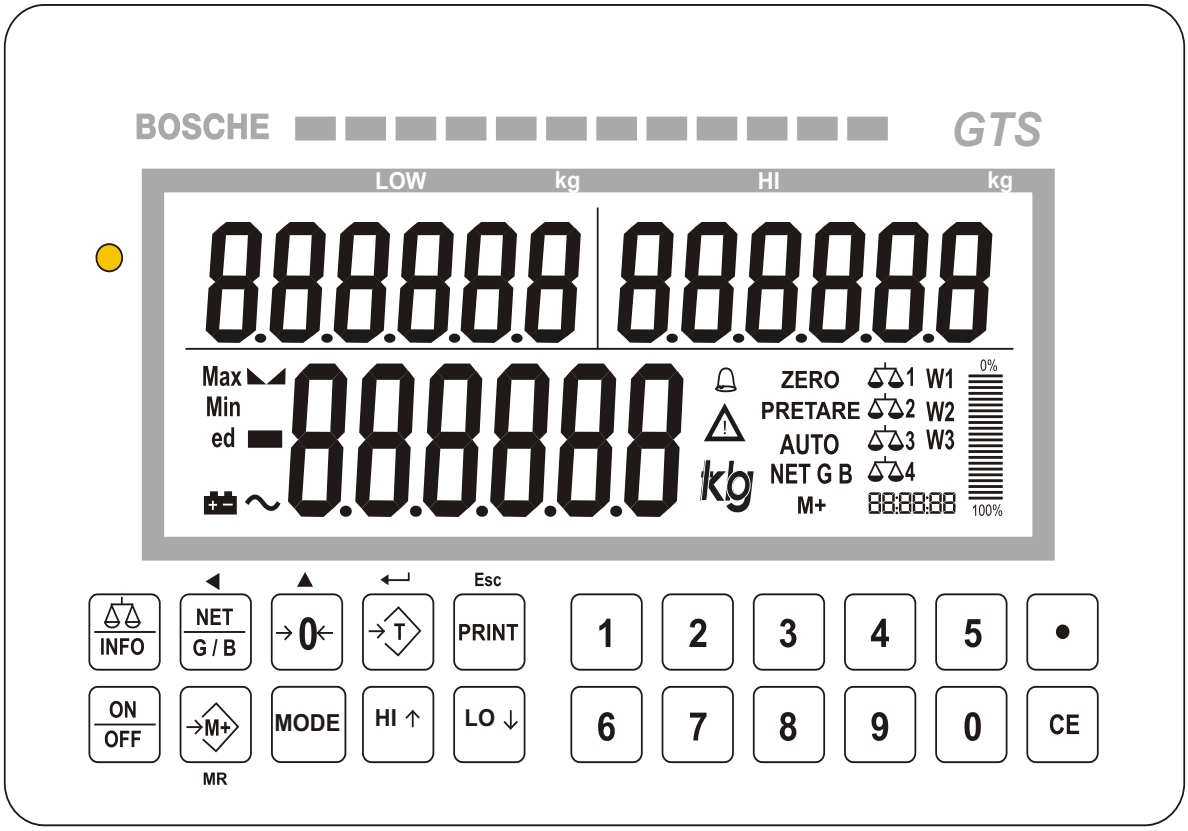
BOSCHE

# Weighing Terminal
# GTS




## Operating manual

### - Translation of the original -

(keep for future use)

**Software-Version 2.5**

Status: 2026-10-06

**Bosche GmbH & Co. KG**

Reselager Rieden 3
D-49401 Damme

Phone +49 5491 999 689 0
Fax +49 5491 999 689 9
Email info@bosche.eu
Web www.bosche.eu

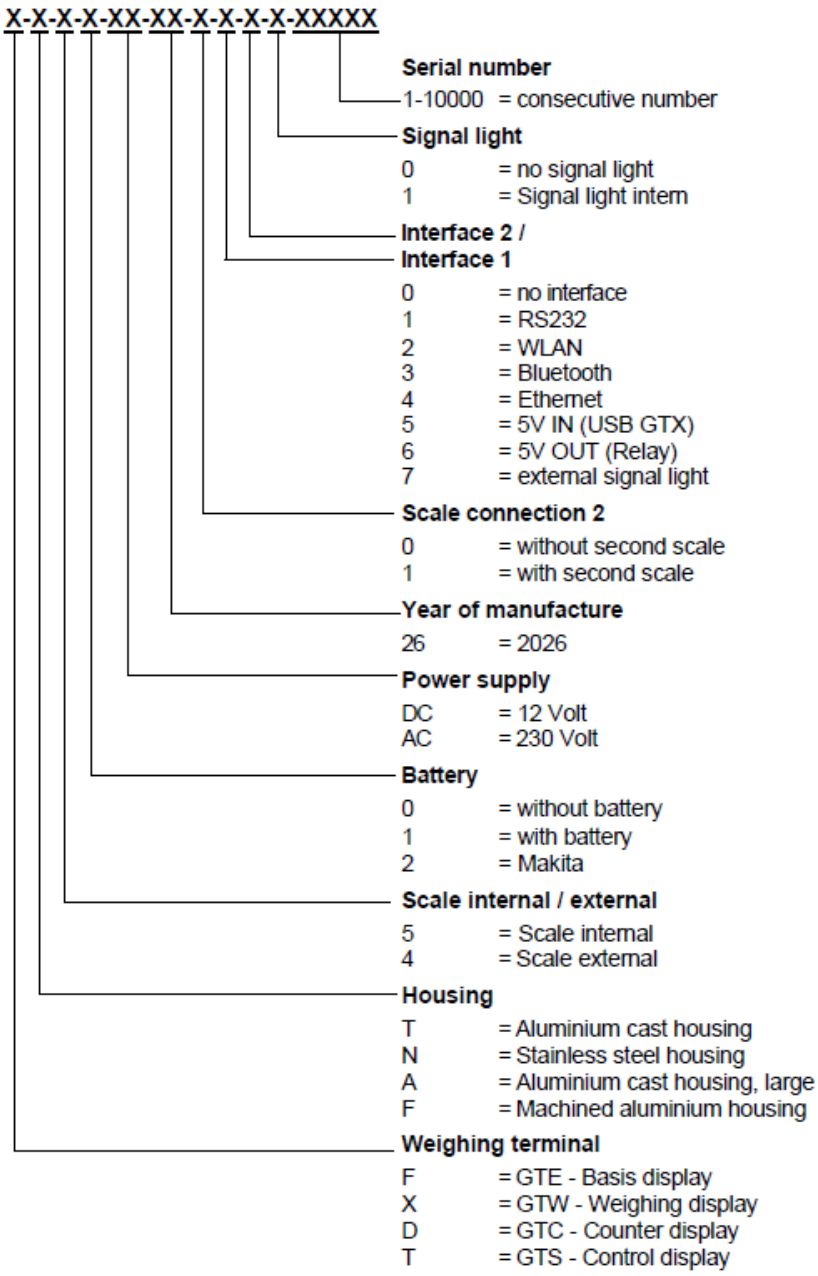
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**Type key**



**Type plate example**

Typ: **GTS**
S/N: TT50DC23000XXXXX
Rating: 12 V 1000 mA



**BOSCHE Wägetechnik**
**GmbH & Co. KG**
Reselager Rieden 3 49401 Damme
05491-999689-0 www.bosche.eu

# Foreword

These operating instructions provide you with detailed information about the Weighing Terminal GTS.

These instructions contain safety instructions to guarantee safe use.

The manufacturer strives to improve their products on an ongoing basis. They reserve the right to carry out any and all modifications and improvements that they consider to be necessary. However, this means that there is no obligation to carry out retrospective modifications in this connection.



**Danger**
**Before using the GTS, you must have read and understood the operating instructions and the safety regulations that they contain.**



**Note**
Errors and omissions in the documentation reserved. If necessary, please inform the Bosche GmbH & Co. KG of any errors in the documentation. We would also be grateful for any suggestions for improvements that you may have.

The manufacturer's contact data is listed on the reverse of the title page. If you have any queries or problems, please contact the manufacturer without delay.



**Note**
If you have any questions for Bosche GmbH & Co. KG, please have the serial number to hand.

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# 1 Safety

This chapter warns against possible risks when handling the device. The information for detection of risks contained in this chapter is intended to allow a safe and correct operation.



**It is important to read and adhere to this operating manual and particularly this chapter prior to operating this device.**

## 1.1 For your safety

### 1.1.1 General

In addition to safety information, the operating manual includes:

- A general product description
- Information about installation and connection of the device
- Instructions to operate the device
- Maintenance and care instructions
- Troubleshooting and remedy instructions
- Technical data

Always keep this operating manual and additional documents for your personnel at hand in the direct vicinity of the device.

Always adhere to all information, notes, instructions and explanations contained in this manual! Avoid accidents caused by incorrect operations! Also adhere strictly to the valid legal regulations in addition to the safety instructions specified in this manual.

Prior to commissioning/start-up read the safety information/instructions and familiarise yourself with dangerous areas.

The device is constructed according to the current state of art and the valid safety regulations. However, there are risks in the event of incorrect operation or non-observance of the safety regulations:

- Danger to limb and life of operators, third parties and animals staying in the vicinity of the device.
- Danger to the device and other assets of the owner/user
- Danger to the efficient operation of the device.

### 1.1.2 Safety symbols in this manual

The following symbols are used on all important positions in this manual. Particularly observe these notes and treat very carefully.



**Danger**
**This note indicates the danger of injuries and/or danger to life, if specific behaviour rules are not observed.**
**When this symbol appears in the operating manual, please take all required safety measures.**



**Attention**
This note warns against damage to assets as well as financial disadvantages and responsibility under criminal law (e.g. loss of the warranty, cases of third party risks, etc.).



**Note**
Important notes and information about efficient, economic and environmental friendly handling are specified here.

## 1.2 Intended use

The Weighing Terminal GTS in combination with suitable load cells, is only used for checkweighing, i.e. to determine whether the weight of the product is within preset limits (low/high).

The load cells are intended for use as "non-automatic weighing instruments".

Any further use is considered as not in accordance with the intended use. The manufacturer does not assume any liability for resulting damage.

The intended use also includes:

- Observance of all notes, information, instructions contained in the documentation as well as in all manuals supplied by the manufacturer.
- Adherence of the maintenance and service conditions and intervals prescribed by the manufacturer and
- Observance of technical data.

Adhere to the attendant accident prevention regulations as well as other generally approved technical safety rules.



**Note**
Always specify the serial number of your display for all questions, orders or jobs. This will facilitate the communication with the manufacturer and prevents error during editing your request.

## 1.3 Inappropriate use

- Use in explosive environments (ATEX zones).
- Modification or opening of the device.

### 1.4 Obligations of the owner/user

The owner/user obligates himself to only instruct people to work on the device, who:

- Are familiar with the basic rules concerning safety and accident prevention and are trained in the operation of this device and
- have read and understood the operating manual, the safety chapter as well as the warning notes.

### 1.5 Obligations of the operator

All people instructed to operate the device obligate themselves:

- to always ensure the safety of other people,
- to read the operating manual, the safety chapter and the warning notes and
- to only operate the device when they are familiarised with its functions.

### 1.6 Description of the dangers

#### 1.6.1 Danger of injury

- Always switch off the device for care and maintenance work.
- Never insert any pointed objects into the electric contacts.
- Do not change the contacts.
- Stop device operation if the device or the connection line is damaged or malfunctions.

### 1.6.2 Danger of damage

- Only connect the device to suitable load cells (see chapter 3.7 “Interface”).
- Never use pointed objects to actuate the device keys.
- Observe the ESD precautions (see "Electrostatic discharge").

**Electrostatic discharge**

**Attention**
ESD poses a danger to electronics. Their function can be disturbed, damaged or completely destroyed by electrical discharges.




ESD = **E**lectro **S**tatic **D**ischarge

**General**

Electrostatic discharge is not a danger to humans themselves, but to very sensitive electronic components. Humans can cause dangerous voltages through friction or contact charging.

Therefore, the following precautions should be taken.

- All materials used must be conductive and earthed at the same potential. This is how existing electrical charges are discharged into the ground in a targeted manner.
- Access only in ESD protective clothing, i.e. safety shoes, work smock, etc..

## 1.7 Liability and warranty

The BOSCHE company offers a restricted warranty for components, which became faulty due to strain or material faults. The warranty starts with the date of delivery. The BOSCHE company retains the right to repair or replace components. Repair work executed during the warranty period will not extend the period of warranty. The warranty becomes null and void:

- In the event of incorrect use / use other than the intended use or incorrect installation
- Incorrect electric connection
- Use of an incorrect or non-licensed analogue / digital converter
- Non-observance of the specifications in the operating manual
- Conversion, modification or opening of the device
- Unintentional or mechanical damage and damage caused by media, liquids, natural wear.

## 1.8 Testing equipment monitoring

Quality assurance requires regular inspections of the technical measuring features of the scales used in connection with the scales and a possible available test weight.

The owner/user can define a suitable interval as well as the scope of these inspections. In this connection, you must take into consideration the frequency of use and the sensitivity of the application. In most cases, a two-year test frequency is appropriate.

# 2 Description

## 2.1 General

The weighing terminal GTS has three menu levels for settings.

The quick menu is used for simplified input of parameters (operator).

The function menu serves to create and retrieve values that can be changed at any time (e.g. operators, setup technicians, or service technicians).

The menu protected by a password contains all adjustable parameters technically relevant for weighing and the possibility to calibrate the scales.

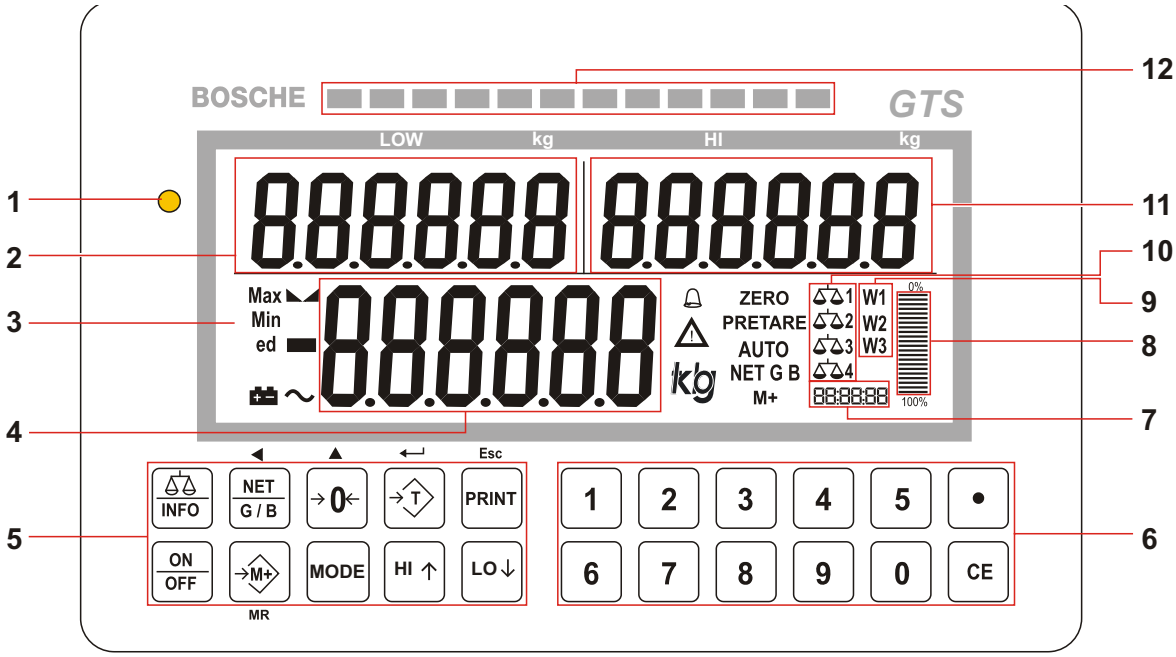
All menus are described in detail in this manual.

## 2.2 Construction of the weighing terminal

**Note**
The LOW and HI limit values configured in the system are always visible on the display.

The Weighing Terminal GTS is a scale display and is used for checkweighing in combination with suitable load cells, i.e. determining whether the weight of the product is within preset limit values (low/high).
In this way, the product can be weighed within the set tolerance range.

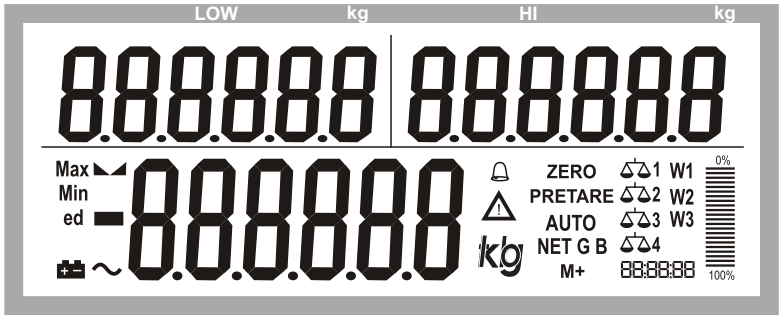
An optionally integrable signal light visually supports the portioning, dosing and sorting of the products.




| Item | Designation |
|---|---|
| 1 | Voltage indicator (lights up during the charging process if a battery is fitted. |
| 2 | Default lower limit value (LOW) |
| 3 | Weighing value display with adjustable backlight. |
| 4 | Current weight |
| 5 | Control panels for the various functions of the unit. |
| 6 | Numeric keys (numeric keypad) for entering tare, target weights, etc. |
| 7 | Date/Time |
| 8 | Progress indicator in per cent (%) |

| Item | Designation |
|---|---|
| **9** | Active weighing range (W2 or W3 for multi-range scales and multi-interval scales). |
| **10** | Active scale (the device can manage 2 scales) |
| **11** | Default upper limit value (HI). |
| **12** | Optional: Signal light (red: Weight too high, green: Admissible weight, yellow: Weight too low) |

### 2.2.1 Display overview




| | | | |
|---|---|---|---|
| **Max** | Status indication: the weight on the scale above the selected limit value. | **AUTO** | Automatic summation is active |
| **Min** | Status indication: the weight on the scale below the selected limit value. | **NET** | Net weighing is displayed. |
| **ed** | e: Verifiable division<br>d: non-verifiable division | **G** | Gross weighing is displayed. (If language ‘English’ has been selected). |
| ⚠ | 10-fold resolution is displayed. | **B** | Bruttowägung is displayed. (If language ‘German’ has been selected). |
| ~ | Unstable value | **TARE** | Weighing with tare value |
| ◣◢ | Stability indicator lights up when a weight is stable. | **PRETARE** | Hand tare weighing (Pretara) |
| **ZERO** | Zero message | 0%<br>100% | Percent weighing |
| 🔔 | Acoustic signal for checkweighing is active. | **kg** | Active weight unit<br>[kg, g, t, lb (Libs)] |
| + − | Battery charging status. | W1 W2 W3 | Active weighing range (W2 or W3 for multi-range scales / multi-interval scales). |
| **M+** | Accumulation memory active | ⚖1 | Active scale |
| | | 00.00.00 | Date or time |

### 2.2.2 Legend for the weighing value display

| A | B | C | D | E | F | G | H | I | J | K | L | M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | b | C | d | E | F | G | | I | J | H | L | n |
| | | c | | | | | h | i | | | | |

| N | O | P | Q | R | S | T | U | V | W | X | Y | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| n | O | P | q | r | S | t | U | u | " | H | y | 2 |
| | o | | | | | | | | | | | |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

### 2.2.3 Keyboard overview

| | Operating level | | Functional level |
|---|---|---|---|
| INFO | Opens the "Quick menu" for quick settings | | Opens the function menu when the key is pressed during the self-test of the scale. |
| NET / G / B | Switch between gross and net weight. | ◀ | Move the activated digit to the left when setting the parameter values or move from other features. |
| →0← | Zeroing. Sets the zero point for all subsequent weighing operations. Zero is displayed. | ▲ | Increases the activated digit when setting the parameter values or other functions. |
| →T← | Tares the scale and stores the weight as a tare value, which is subtracted from the total weight at net display. | ↵ | ENTER<br>Accepts input when setting parameters or other functions. |
| PRINT | Print the weighing results, via the RS232 interface to a printer or PC. | Esc | Leaving the functional level. |
| ON / OFF | Switch the device ON / OFF. | | |
| →M+ | Summing: The key adds the displayed weight into the summation memory. | MR | Retrieval of the sum of the saved individual weighings and the total weight. |
| MODE | Press short: Display of the scale parameters (division=e, minimum load, capacity).<br>Press and hold for two seconds: Display of increased resolution for approx. 10 seconds. | | |
| HI↑ | Setting of the maximum weight for checkweighing. | | |
| LO↓ | Setting of the minimum weight for checkweighing. | | |

**Value inputs**

| | |
|---|---|
| 0 … 9 | Numeric keys for enter parameters (tare weights, etc.) |
| • | Decimal point / decimal separator |
| CE | Clear input value. It‘s used as a clear key when setting values for parameters or other functions. |

## 2.3 Operating

**Note**
The operation of the weighing terminal (weighing, parameter settings, menu explanations, etc.) is described in chapter 4 "Operation".

## 2.4 Equipment

**Note**
All equipment features are described in chapter 8 "Technical data".

# 3 Transport, installation, connection

## 3.1 Control

When the display is delivered, check the packaging, the device and possible accessories for visible damage.

## 3.2 Packaging and disposal

Keep all parts of the original packaging for a possible return.



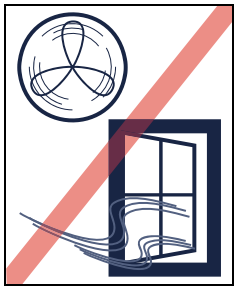
**Note**
Only use the original packaging if the display is returned.
Prior to the transport, disconnect/fasten all loose/moving parts of the device. Secure the parts against slipping/damage.

Dispose of the packaging and the display according to the national and/or local regulations by law valid on the installation site. Separately dispose of a defective battery according to the national and local regulations on environmental protection and recycling.

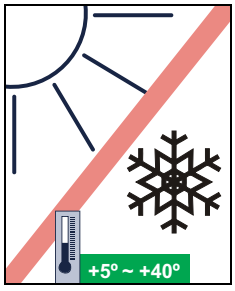
Do not treat this product as standard waste. Please dispose of via a waste management company.

### 3.3 Installation and connection

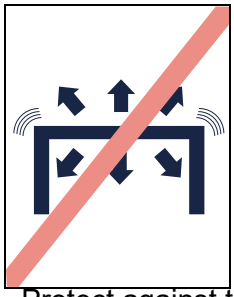
Keep the device clean and do not expose it to an environment influencing the display accuracy.



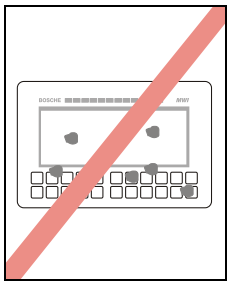
Protect against draught!



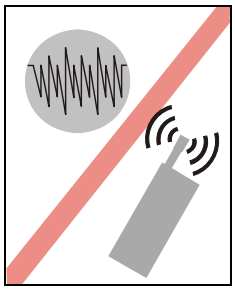

Protect against heat, sun and frost!



Protect against tilting a and vibration!



Keep the unit clean



Avoid unstable voltage sources!



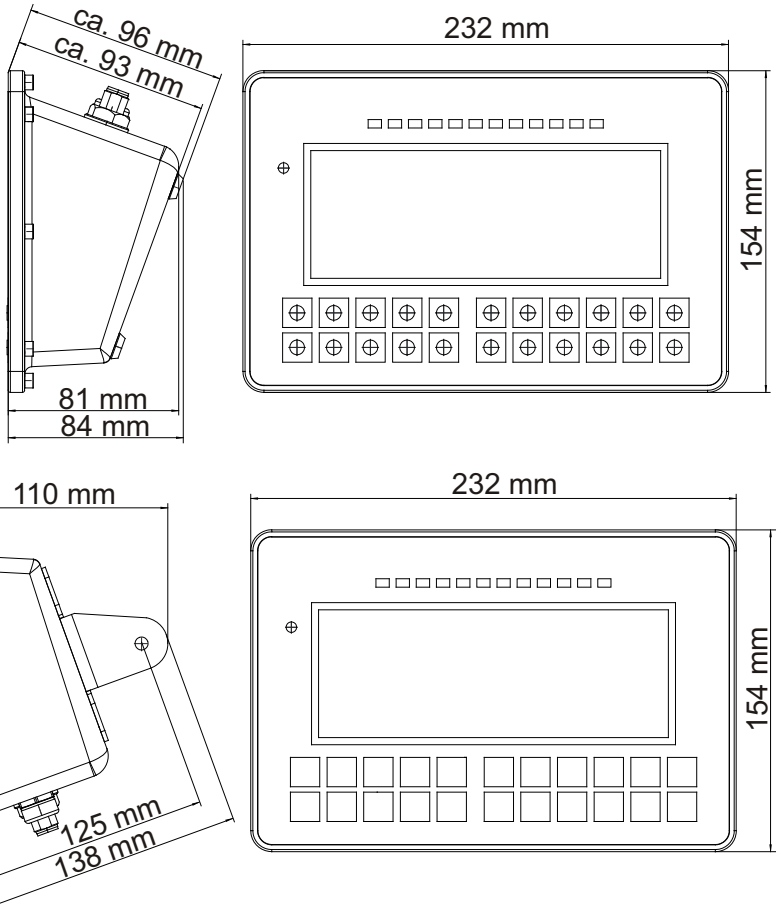
Avoid humidity!

Install the unit using the table/wall bracket included in the scope of delivery according to the installation instructions.

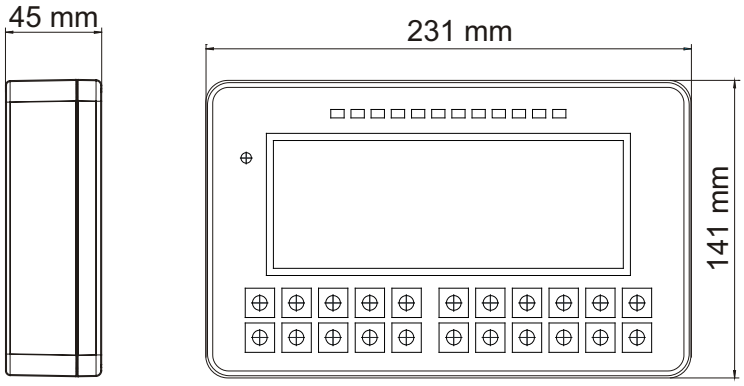
**Note**
Ensure that a 230 V AC voltage supply is available on the installation site (unless operation with rechargeable batteries is intended).

## 3.4 Device variants

### 3.4.1 GTS-N in stainless steel housing

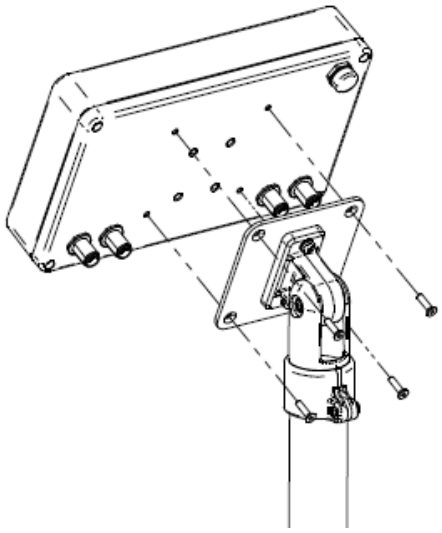



### 3.4.2 GTS-T in aluminium housing

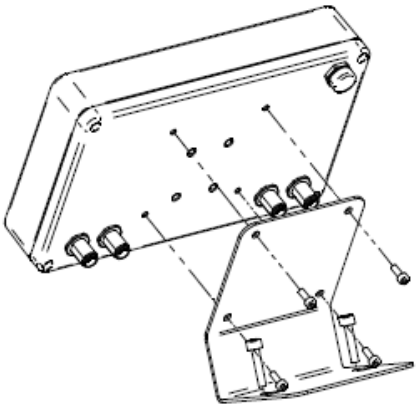


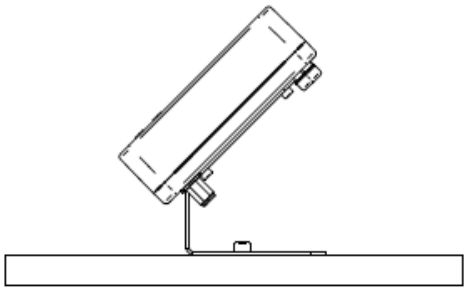
## 3.5 Mounting options

Indicator stand

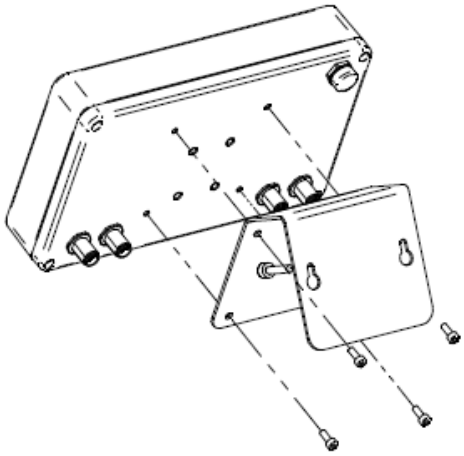


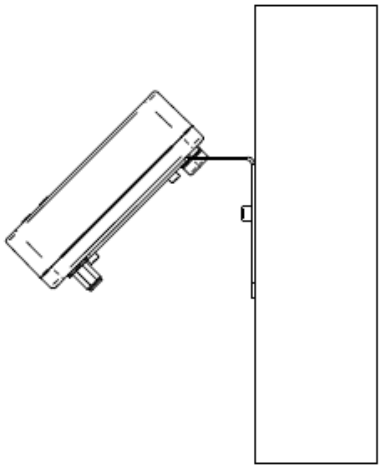
Desk mounting





Wall mounting



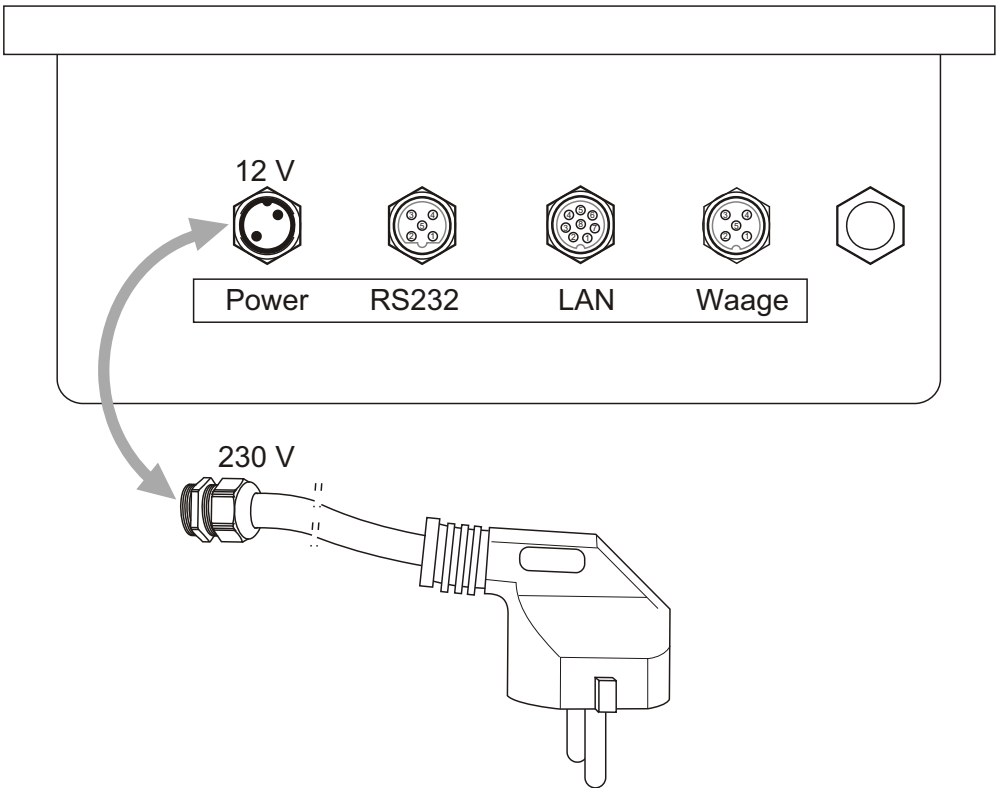


## 3.6 System configuration

In weighing systems, one or more load cells are connected for evaluating the measuring signal. Several load cells of a scale are connected in parallel in a junction box to deliver a common output signal.

Load cells can be connected in parallel only if they have the same characteristic value, the same nominal load and the same internal resistance.

**Attention**
A maximum of 8 load cells at 350 Ohm can be connected to the weighing terminal.




**Note**
The illustration above shows an exemplary configuration.

**Attention**
A warm-up time of 15 minutes stabilises the measured values after switching on.
Place the products in the middle of the scale and should not exceed the platform surface
Remove the products from the platform after weighing.
Don‘t exceed the maximum load of the scale.

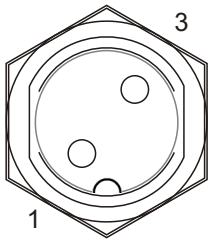
## 3.7 Connections

### 3.7.1 Power supply

**Pin assignment socket (A-coded):**

1. +V
3. GND

Voltage range: 12 - 24 VDC

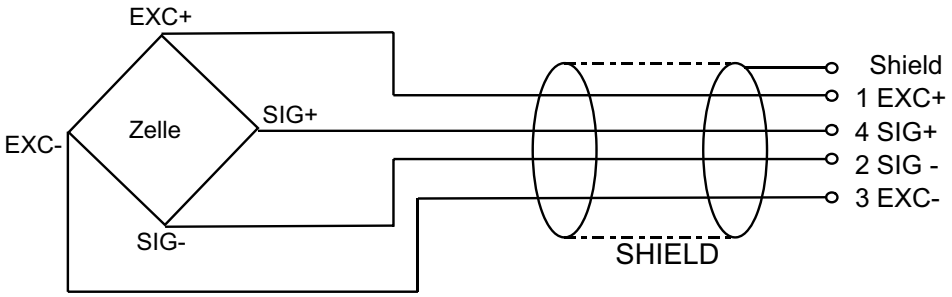



### 3.7.2 Load cell

The weighing terminals of the GTS series offer different options to connect load cells / weighing platforms (weighing bridges) to the transmitter.

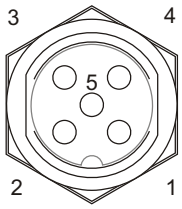
**Connecting a 4-wire load cell**

5-pin socket connection of 4-wire load cells




**Pin assignment socket (A-coded):**

1. EXC +
2. SIG –
3. EXC -
4. SIG +



## 3.8 Interfaces

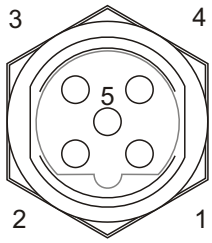
### 3.8.1 RS 232

The weighing terminal is connected via this interface (COM 1) to a PC or a printer, it prints the weighing results along with the selected weighing unit.

5-pin socket connection for interface RS232

**Pin assignment socket (B-coded):**

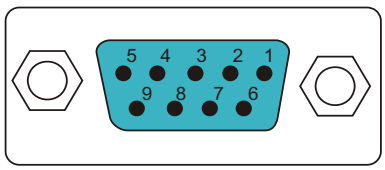
1. NX
2. TxD (Transmitted Data from PC)
3. NC
4. RxD (Received Data from PC)
5. GND (Ground)




9-pin Sub-D plug for serial interface RS 232

**Pin assignment:**

2. RXD (Data input)
3. TXD (Data output)
5. GND (Ground)




### 3.8.2 LAN- interface

The LAN interface is used to exchange and query data in a network.

**Pin assignment:**

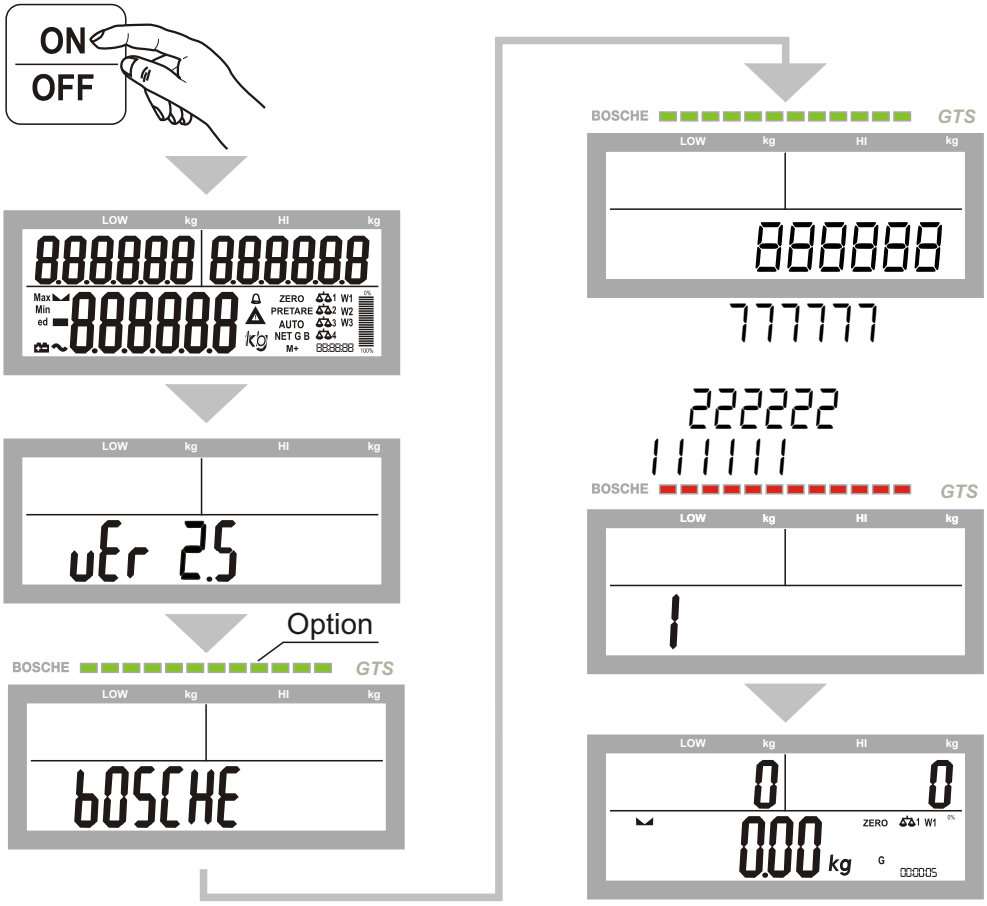
1. NC
2. NC
3. NC
4. TX -
5. RX+
6. TX+
7. NC
8. RX-



# 4 Operation

**Note**
The basic functions of the weighing terminal are similar or identical used for all applications.
The signal light shown in some pictures can be integrated as an option. The standard version of this weighing terminal does not have a signal light.

## 4.1 Turn on



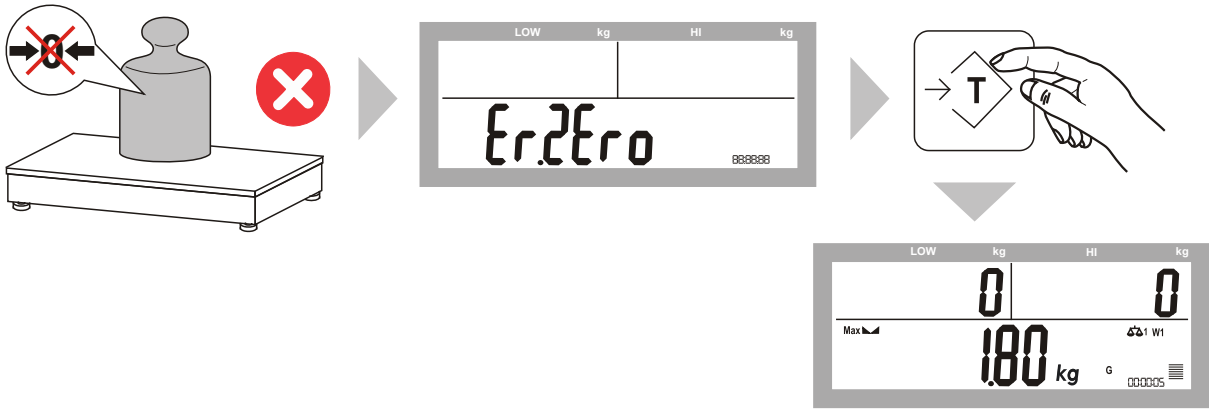
## 4.2 Power zero limits

Legal for trade: Initial zero setting 20 % of the weighing range.

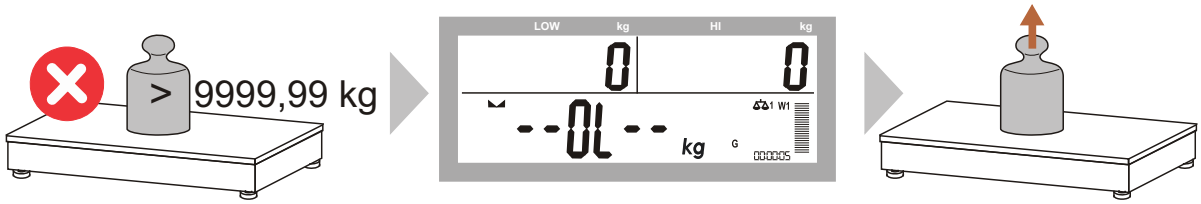
Not legal for trade: Initial zero setting +/- 100 % of the weighing range.

**Note**
At noncertified scales the initial zero can be set later in the menu.

If the scale is switched on outside the zero limits, the weight value actually contained on the scale is displayed after you have confirmed with the Tare key the error message.




If the load is on the scale exceeds the weighing range, the following message appears on the display.



## 4.3 Turn off




If you are in the menu, the scale is turned off without that any changes made are saved.

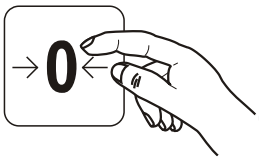
In addition, a voltage tester is connected to indicate a low battery voltage by the battery symbol. At too low battery voltage, the voltage tester ensures that the display turns off itself to protect the battery.

## 4.4 Auto off

The indicator has an automatic shut off. The time of shutdown can be set between 1 to 99 minutes. The automatic shut-off is active if no change in weight on the platform or weighing bridge is registered by the indicator during the specified period. By default, the auto power is off and must first be activated in the Quick Menu. An overview and detailed explanations of the Quick Menu see chapter 4 “Operation“.

## 4.5 Resetting the scale to zero

Press the Zeroing key to correct small deviations from the zero point, e.g. due to contamination of the scale.



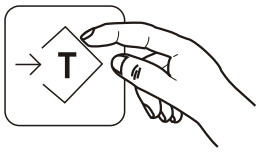

Zero range (legal for trade) + / - 2% of the weighing range

Zero range (not legal for trade): selectable + / - 0, 2, 4, 10, 20, 50, 100% of the weighing range. If zeroing is not possible, appears in the display:




If the scale cannot be reset to "zero" with an applied weight, this range has been exceeded or the scale is unstable.

Then the scale can be set by Tare key to "zero" and continues to work in the net mode.




## 4.6 Zero tracking

The zero point correction automatically corrects minor deviations of the Zero indicator. The zero range can be adjusted between:

0.25d / 0.5d / 1d / 2d / 3d / 4d

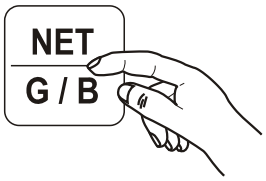
The zero tracking must be turned on in the menu.

The zero tracking:

- is active only after the initial zero.
- is both positive and negative active.
- works up to the set limit additively.
- function will be deactivated when the set limit is exceeded.
- is activated again after the load has been removed.

## 4.7 Gross - / net change

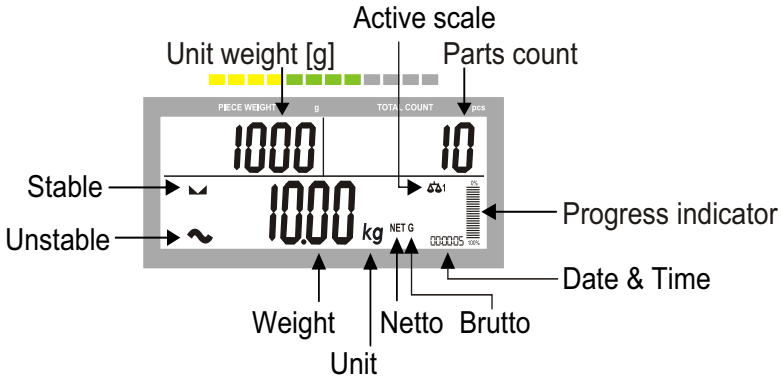
Press this key to change at tared scale between the gross / net weight.




In addition, a "G" (English language) for gross or a “B“ (German language) or "NET" for net will appear on the screen after the selected unit.

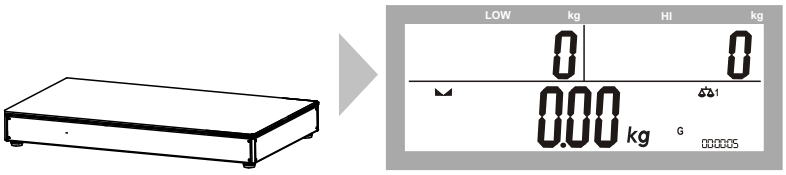
## 4.8 Weighing

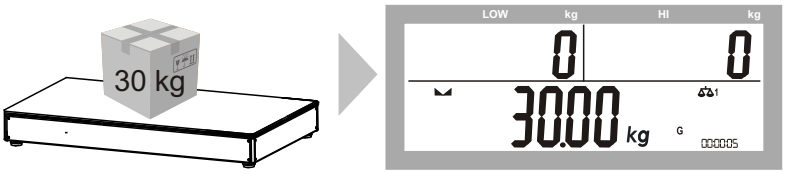
### Display weighing



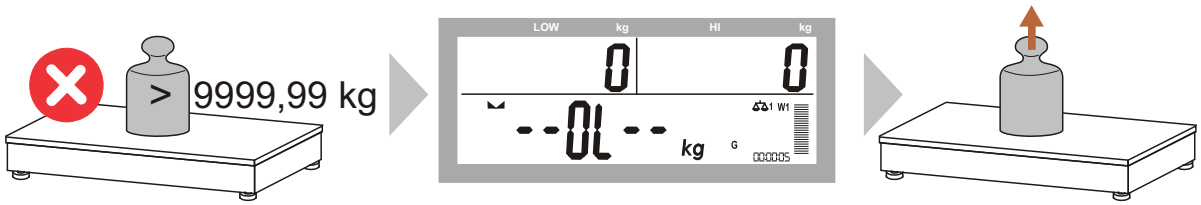

### 4.8.1 Simple weighing

After switching on, the self-test and initialization of the scale, "zero" is shown.




If the weight of the weighing sample will exceed the set weighing range the following message is displayed:




Please remove the load from the platform / weighing bridge immediately to avoid damage.

### 4.8.2 Weighing in multi- Range / multi- interval mode

To use the weighing terminal as multirange or multi-interval scale, the appropriate settings must be made in the password protected menu.

**Attention**
Changes in the password-protected menu of a calibrated scale lead to the expiry of the verification.

For multi-range scales each area is treated as a single range.

**Attention**
Switching between the division steps during the load of the scale is permitted only with increasing weight value.

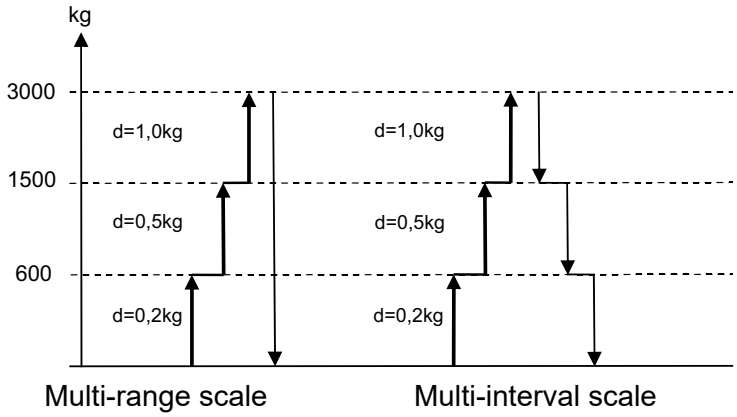
When unloading the scale, the last reached division step is retained until the zero point is reached.

**Attention**
Inadmissible is also changing to a lower range after tare.

A multi-interval scale has a measuring range, which is sub-divided into several sections with different division steps. The measuring range is automatically determined at decreasing and increasing load by the load.

A multi-interval scale features due to their division measuring ranges higher flexibility in comparison with multi-range scales. Switching to a lower division range by Tare or by using a predetermined preload value is possible.

The diagram below illustrates the principle of multi-range and multi-interval scales.



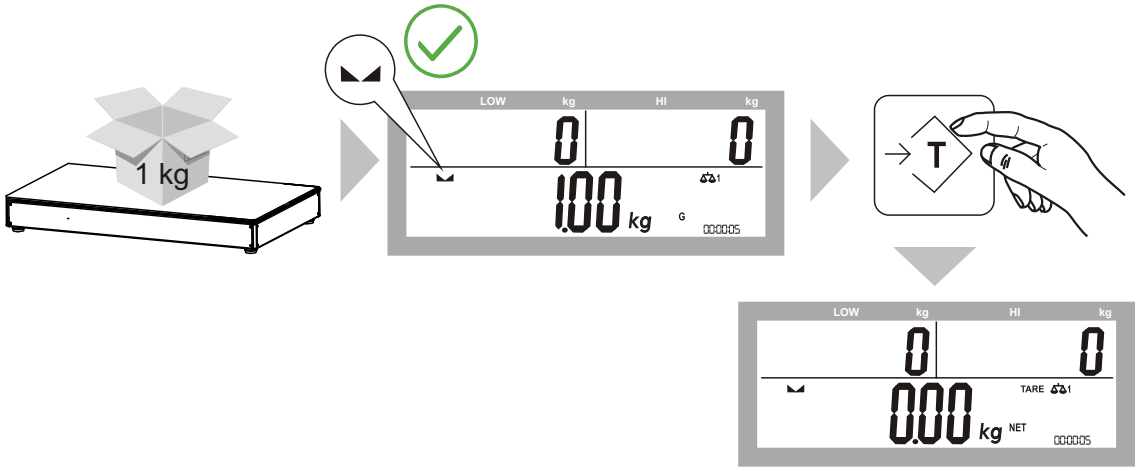

**Note**
The information is identical to those of simple weighing (see chap.4.8.1).

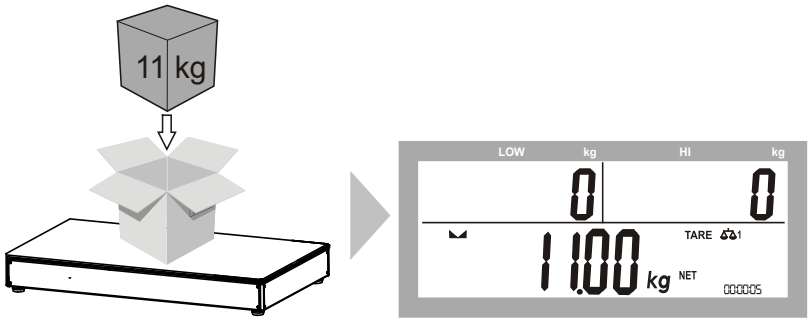
## 4.9 Tare weighing

### 4.9.1 Determination of tare by weighing

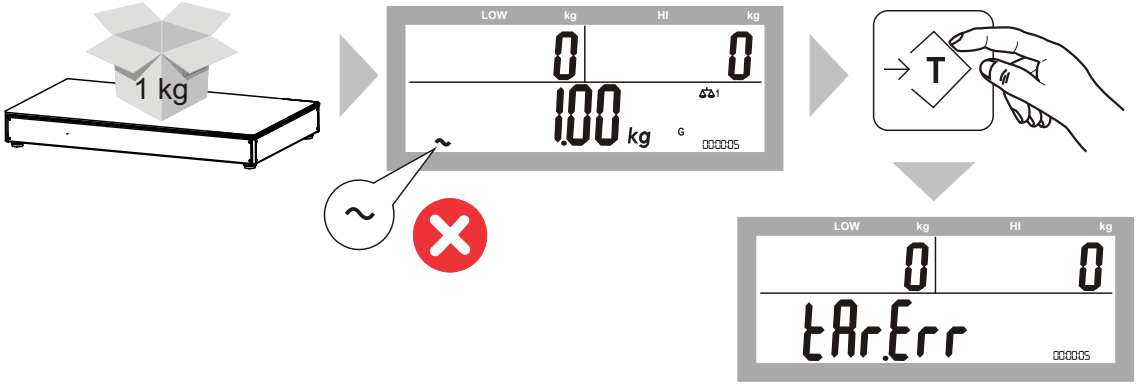
The weight of each weighing container can be removed by pressing, so that the net weight is displayed.

**Tare (with stable weight):**

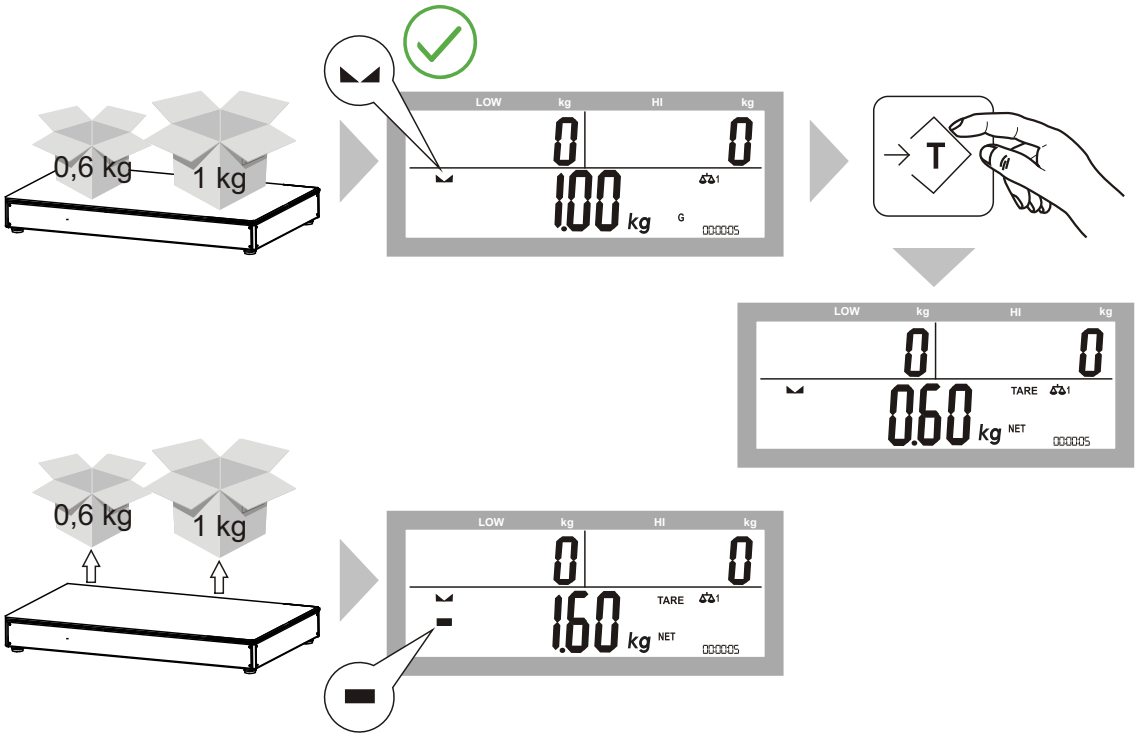


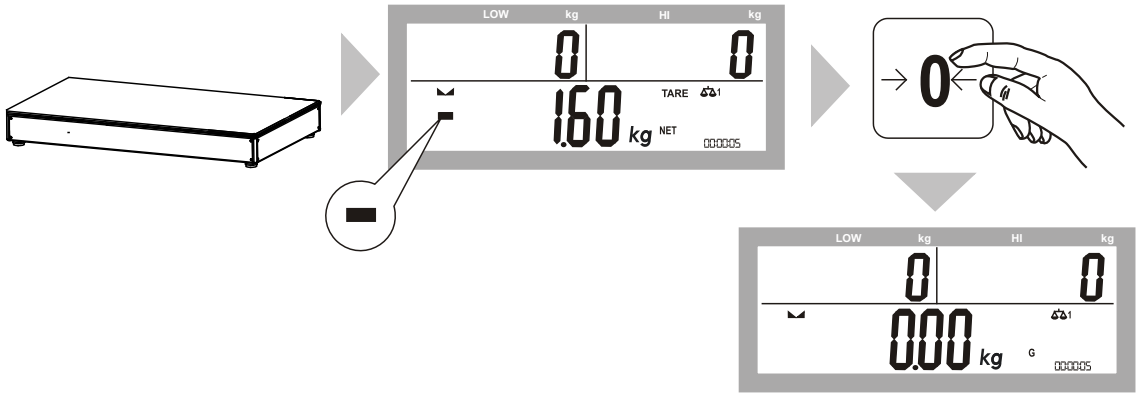

**Incorrect taring (with unstable weight):**



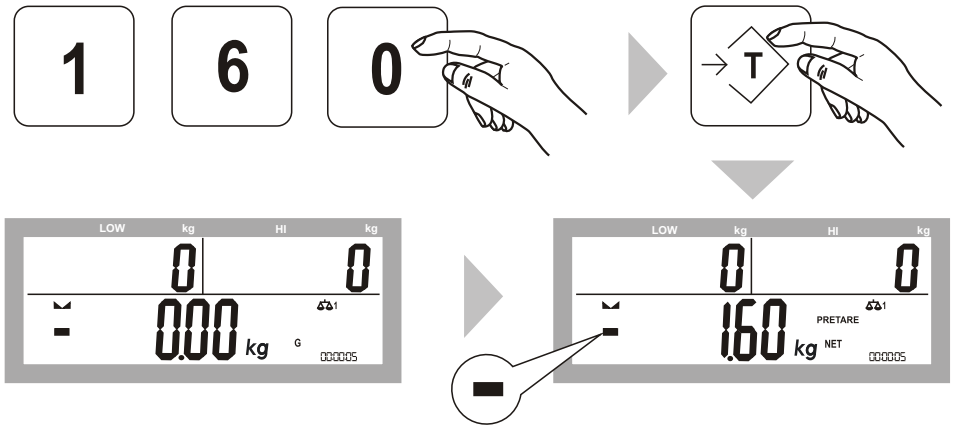
**Second tare (e.g. when weighing in several components):**




**Clear tare**



### 4.9.2 Numeric input of tare




## 4.10 Total memory

The display provides several weight accumulation functions. The saved weights are not deleted when the scale is switched off.

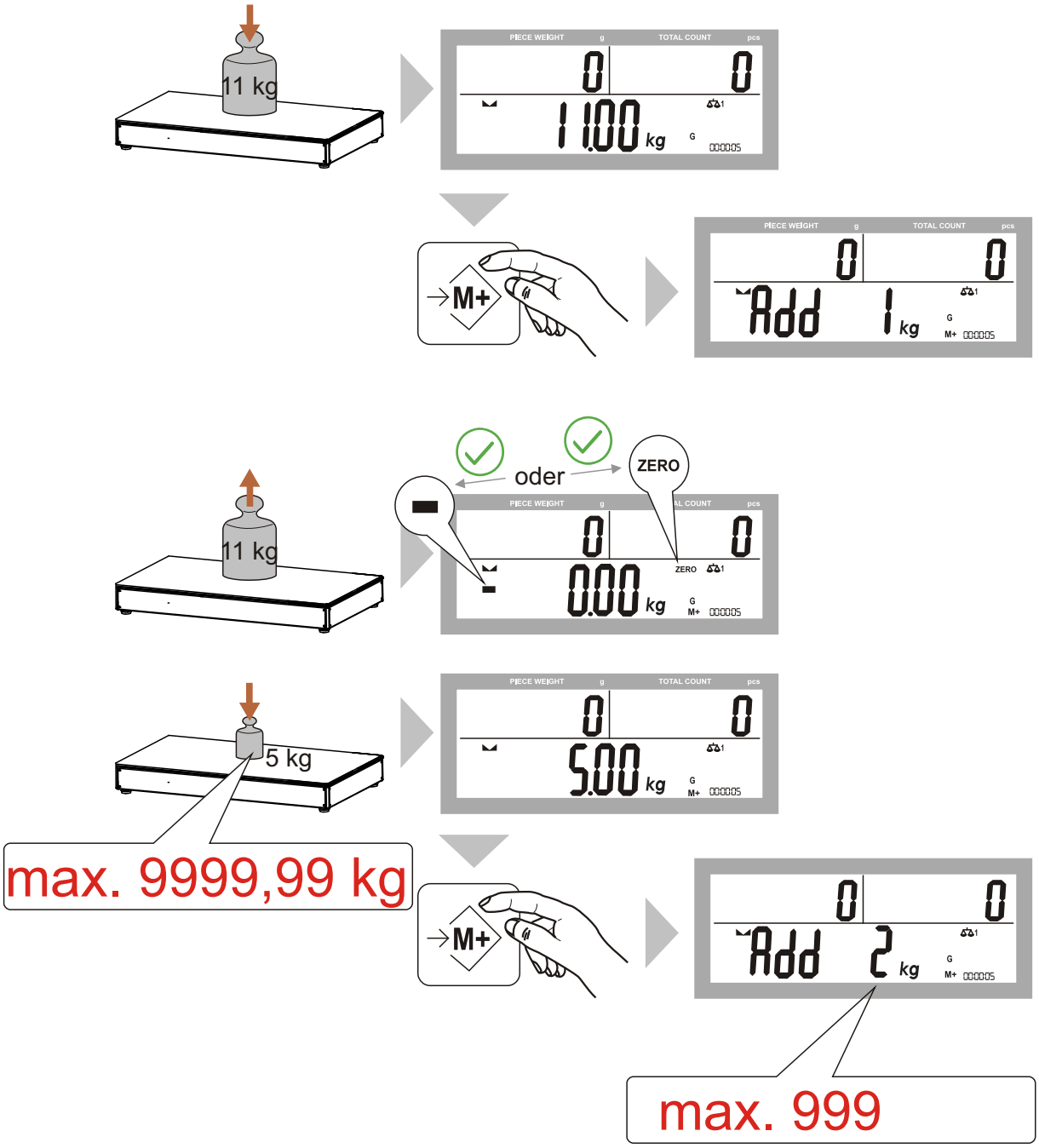
**Note**
Up to 999 values (counts) or a total weight of up to 999,999 can be saved in the total memory.

**Note**
The scale must return to zero (0) or to a negative value before another weight can be added to the memory.

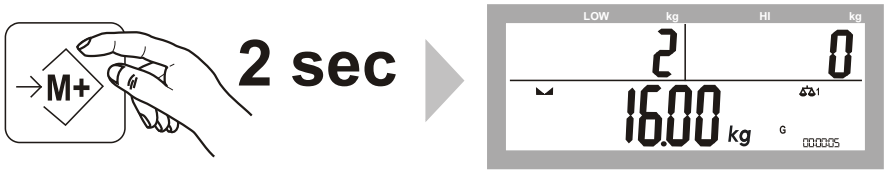
Exception: If COM mode = PR4, a zero crossing is not required

### 4.10.1 Manual summation

**Note**
For manual accumulation to function, COM mode PR2 (or PR4) must be selected.

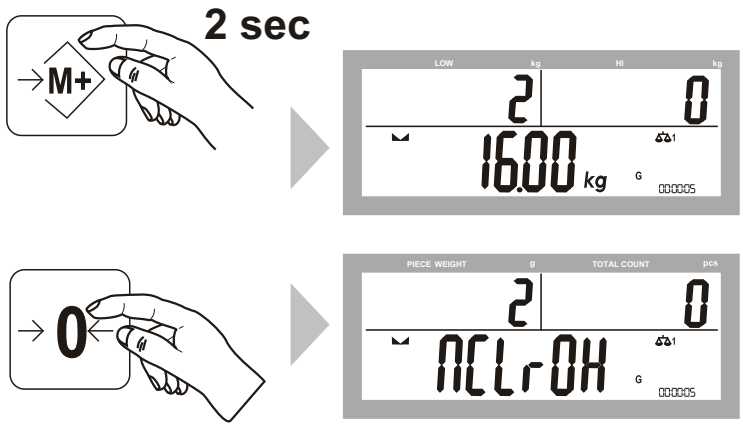


### 4.10.2 Show total memory




**Note**
Pressing the 'Print' key prints the results and automatically clears the total memory.

### 4.10.3 Clear total memory




„Memory Clear“

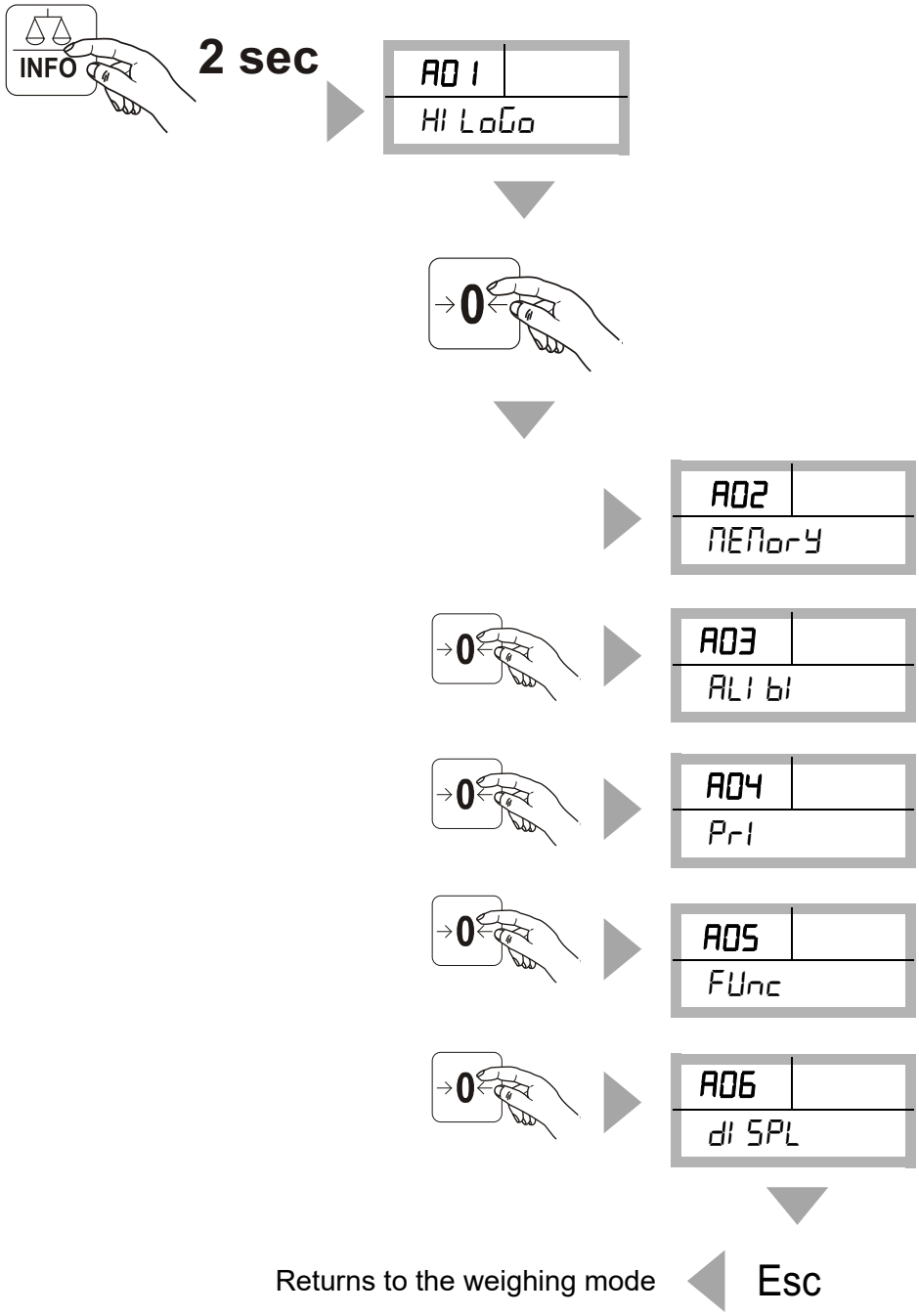
## 4.11 Quick menu

### 4.11.1 Navigation in the quick menu

| Navigation | |
|---|---|
| NET / G / B | ◀ | Move the active number to the left <LEFT> |
| →0← | ▲ | Change of the parameter <UP> |
| →T◇ | ↵ | Saving the settings <ENTER> |
| PRINT | Esc | Leaving the functional level (ESCAPE) |

### 4.11.2 Quick menu - overview (HiLoGo)

**Note**
The scale must be in weighing mode.



### 4.11.3 Quick menu - short description



**Note**
The Quick menu is used for simplified input or reading out of parameters and parameterization of the display. In the Quick Menu parameters to operate at checkweighing, the alibi memory, the printer and backlight and automatic shutdown can be set.

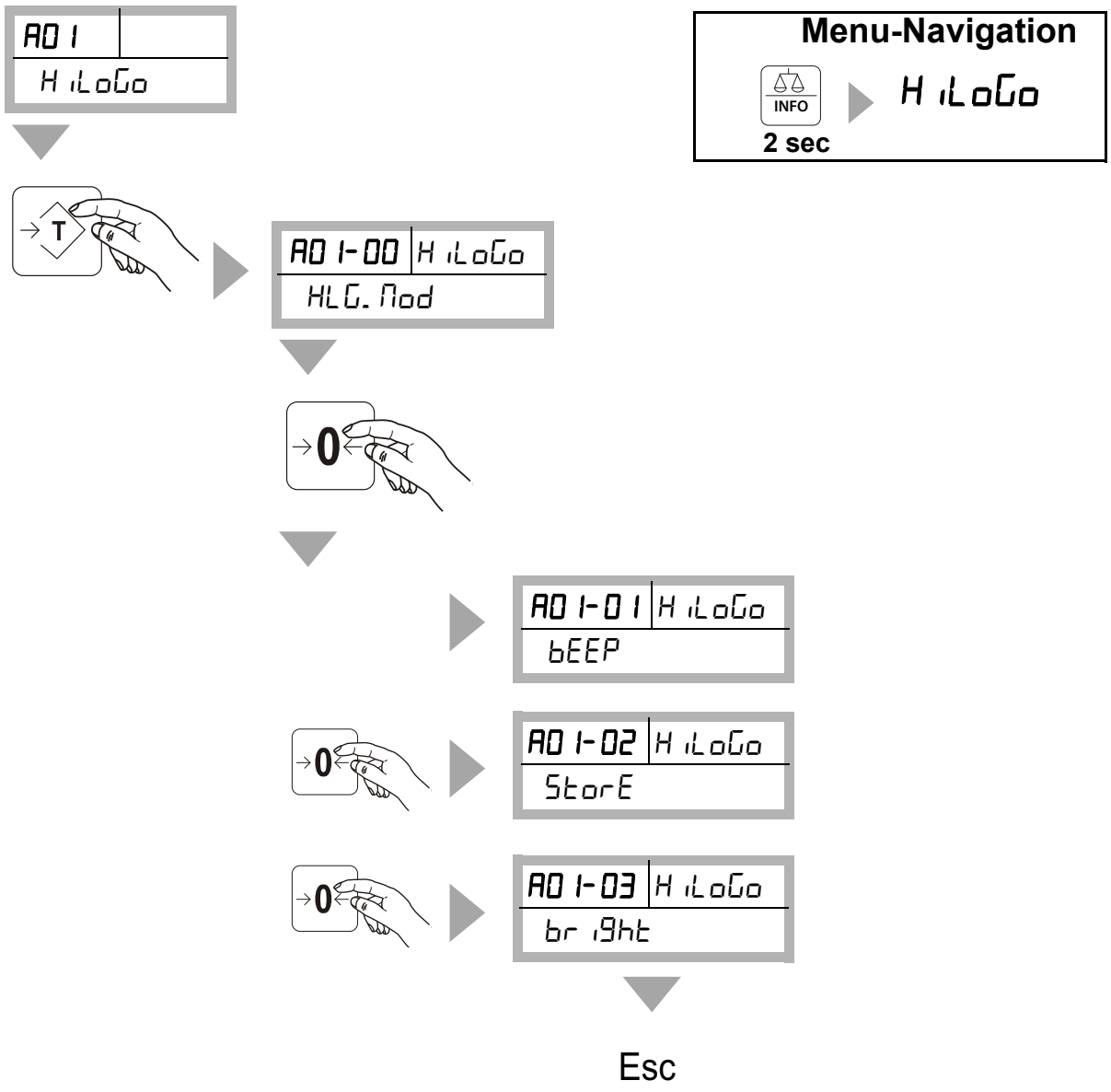
| Menu | Submenu | Option | Function |
|---|---|---|---|
| A01<br>H iLoGo<br><br>Set limit values | A01-00<br>HLG. Mod<br><br>(High-Low-Go-Mode) | | Settings for the signal light. |
| | | 3. Color | 3-colour mode |
| | | 4. Color | 4-colour mode |
| | | oFF | Signal light is deactivated. |
| | A01-01<br>bEEP<br><br>(Setting the acoustic signal for checkweigh-ing.) | oFF | Acoustic signal is deactivated. |
| | | bE OH | Acoustic signal: Weigh within the selected limits. |
| | | bE Lo | Acoustic signal: Weigh below the selected limits. |
| | | bE Hi | Acoustic signal: Weigh above selected limits. |
| | | bEH iLo | Acoustic signal: Weigh below / above the selected limits. |
| | | bE OuL | Acoustic signal for overload or underload. |
| | A01-02<br>StorE<br>Saving the limit values (HLG-Mode) | oFF | „HI“ and „Lo“- limit values must be set again after a power reset. |
| | | on | „HI“ und „Lo“- limit values are saved. |
| | A01-03<br>br ight<br>(Brightness setting of the signal light (optional) | „br i. 000" flashes--><br>Enter the value using the <UP> and <LEFT> keys.<br>Brightness 0 - 100 % | Settings for the brightness of the signal light LEDs.<br><br>The brightness is subdivided in 32 stages and<br>a change is visible each 3-4 %. |

| Menu | Submenu | Option | Function |
|---|---|---|---|
| A02<br>MEMory<br>Accumulation memory | A02-00<br>CLr.ALb<br>(Clear Alibi Memory) | CLr.no | Not delete the alibi memory. |
| | | CLr.YES | Delete the alibi memory. |
| A03<br>ALI bI | A03-00<br>Ed it.Ab<br>(Edit Alibi Number) | „000000“ flashes --> Enter the value using the <UP> and <LEFT> keys. | Display of a specific entry from the accumulation memory. Enter the alibi number to request saved alibi values for calibrated scales. |
| | A03-01<br>GEt.LSt<br>(Get Last Alibi Number) | „0“ | The number of values saved in the accumulation memory. |
| A04<br>Pr I | A04-00<br>I nFo<br>Set the print parameters (print protocol, print output). | nUMbEr | on oFF<br>Consecutive ticket number (for totals weighing in Pr2 or STC mode). |
| | | AL ib i | on oFF<br>If the alibi memory is switched on, the alibi number is also printed. |
| | | dAtE | on oFF<br>Date |
| | | t iME | on oFF<br>Time |
| | | Gro55 | on oFF<br>Gross |
| | | nEt | on oFF<br>Net |
| | | tArE | on oFF<br>Tare |
| | | t.Gro55 | on oFF<br>Total gross (Mode Pr2 or STC) |
| | | t.nEt | on oFF<br>Total net (Mode Pr2 or STC) |
| | | t.tArE | on oFF<br>Total tare (Mode Pr2 or STC). |

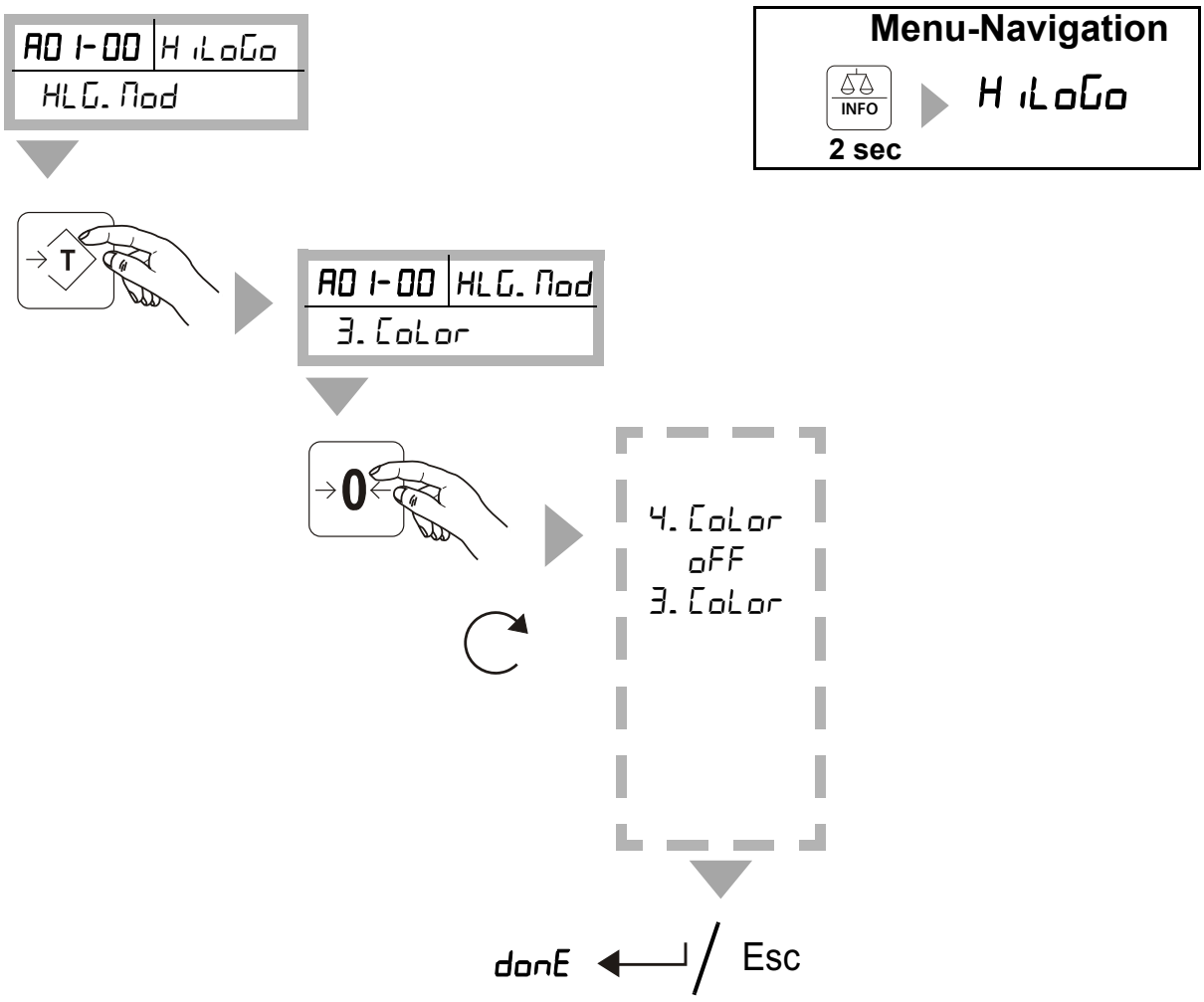
| Menu | Submenu | Option | Function |
|---|---|---|---|
| A04<br>Pr 1 | A04-00<br>InFo | uoLt.bt | on oFF<br>Battery voltage (mV) |
| | | uoLt.In | on oFF<br>Power supply voltage (mV) |
| | A04-01<br>CoPY<br>(Number of prints) | Value 0 - 4 | Number of (print) copies to be printed. |
| A05<br>FUnc | A05-00<br>APPS<br>(Selection of the active application) | 'WEIGH | Weight measuring |
| | | PEr | Percentage<br>PEr.'WEI Weight |
| | | AnIMAL | Animal weighing function. |
| | | PEAH | PEAK value storage. |
| | | HOLd | HOLD freezes the currently indicated measured value. |
| | A05-01<br>'WEI.Cor<br>(Weight correction) | „000000“ flashes --> Enter the value using the <UP> and <LEFT> keys. | Weight correction and (subsequent) zero-point calibration. |
| A06<br>diSPL | A06-00<br>b.LIGHt<br>(Backlight) | bL AU | 10/20/30/40/50/60/70/80/90/100/110/120 --> Set the value with <UP>.<br><br>Automatic activation / switch-off of the background lighting after N seconds. The background lighting is automatically activated when the weight changes or a key is pressed. |
| | | bL oFF | Background lighting always on. |
| | | bL on | Background lighting always off. |

| Menu | Submenu | Option | Function |
|---|---|---|---|
| A06<br>dI SPL | A06-01<br>AU oFF<br>(Automatic shut-off) | „000000“ flashes --> Time (minutes) using <UP> and <LEFT> and confirm with <ENTER>.<br><br>0 - 99<br>Value „00“ = no shut-off | Automatic shut-off of the scales, if no key is actuated and the weight does not change. |
| | A06-02<br>br ıght<br>brightness | br ı. 10<br>br ı. 20<br>br ı. 30<br>br ı. 40<br>br ı. 50<br>br ı. 60<br>br ı. 70<br>br ı. 80<br>br ı. 90<br>br ı. 100<br>br ı. OFF | Settings for the backlight brightness. |
| | A06-02<br>LnG<br>Language | EnG | Symbol for Gross appears as "G" on the display. |
| | | GEr | Symbol for „Brutto“ appears as "B" on the display. |

### 4.11.4 Quick menu A01 - overview HiLoGo (set limit values)

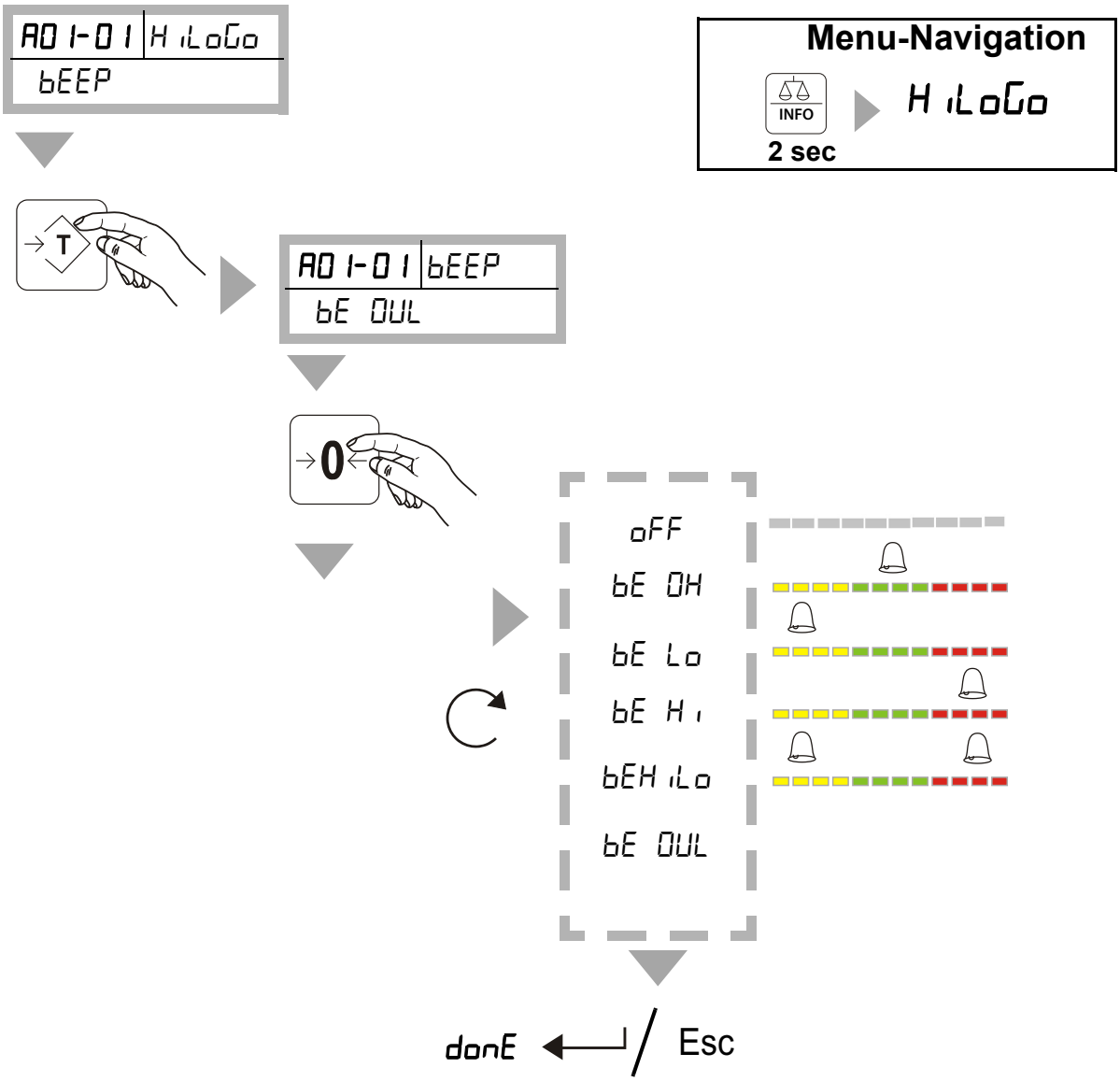


**Quick menu A01-00 - HLG.MOD (High-Low-Go-Mode)**

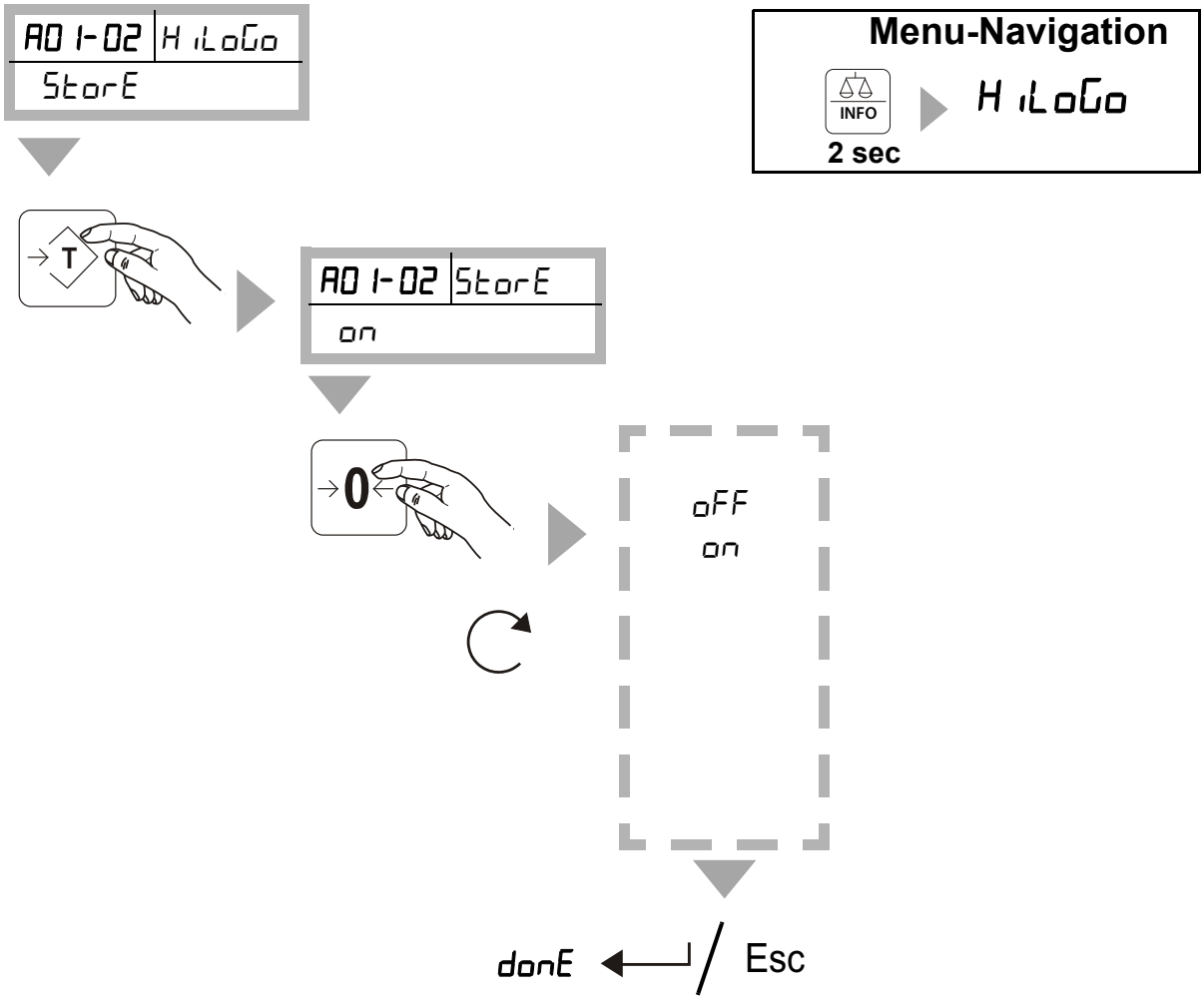



**Note**
The signal light can also be activated or deactivated by pressing the Enter key for approx. 2 seconds.

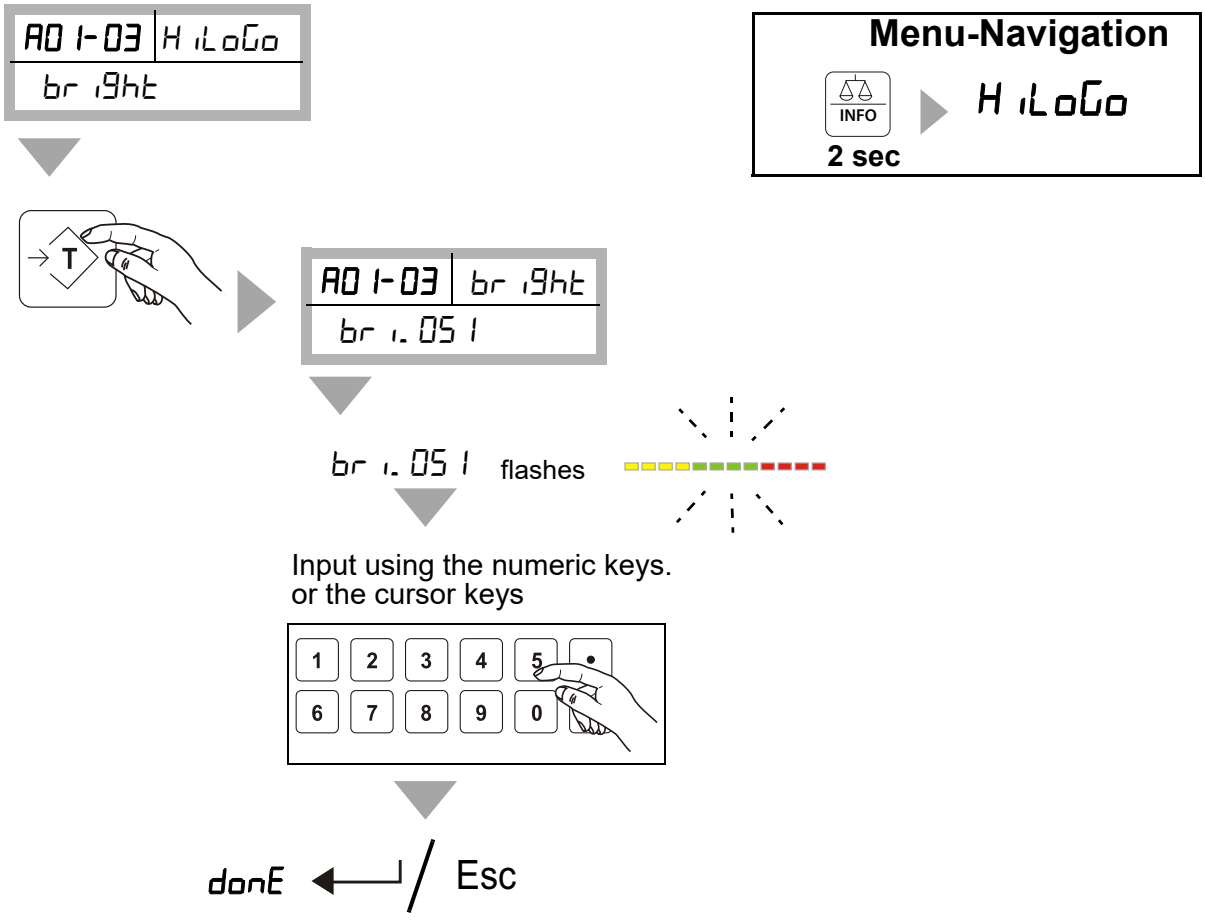
**Quick menu A01-01 - BEEP (set acoustic signal)**



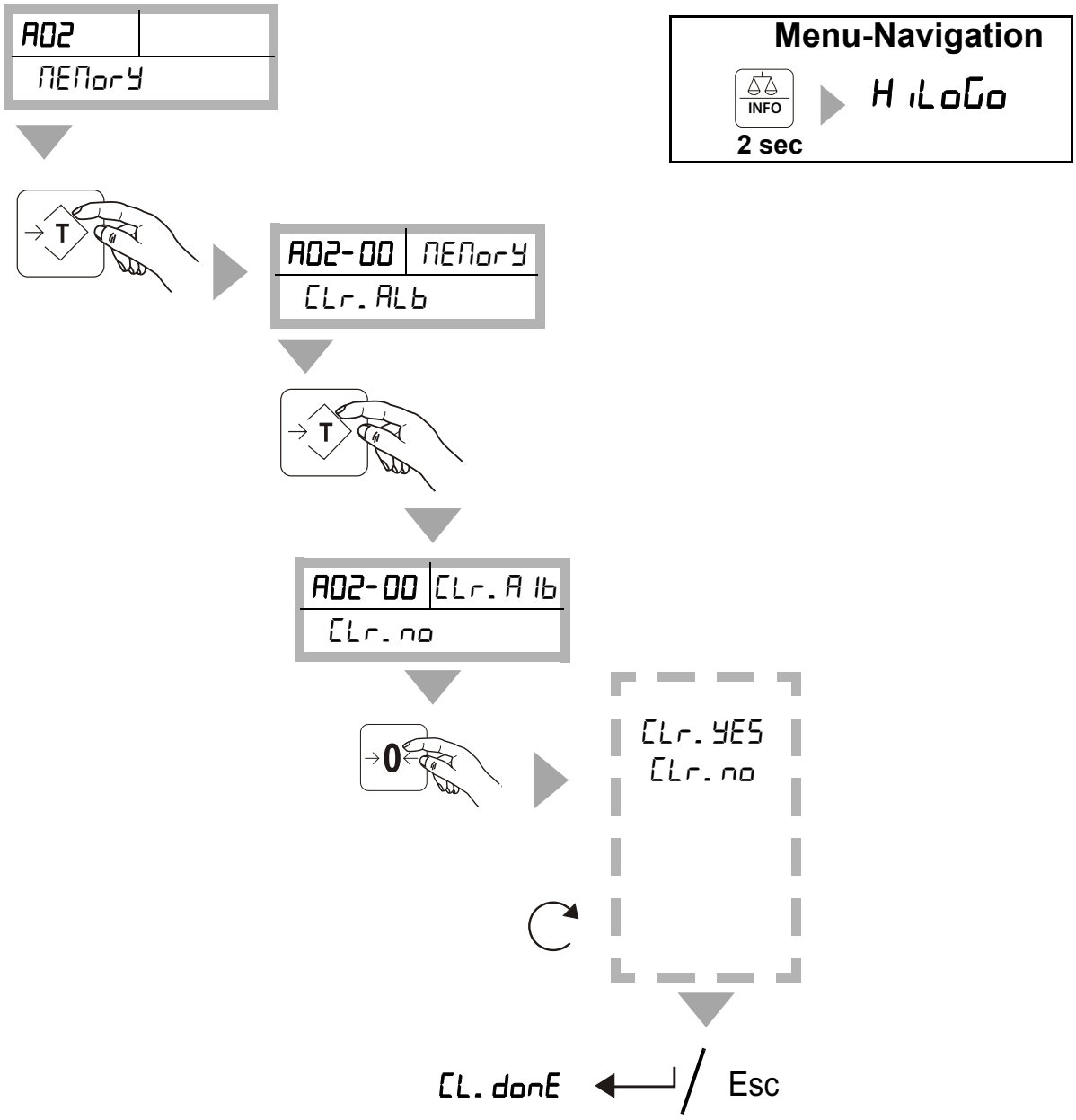
**Quick menu A01-02 - STORE (storage of limit values))**



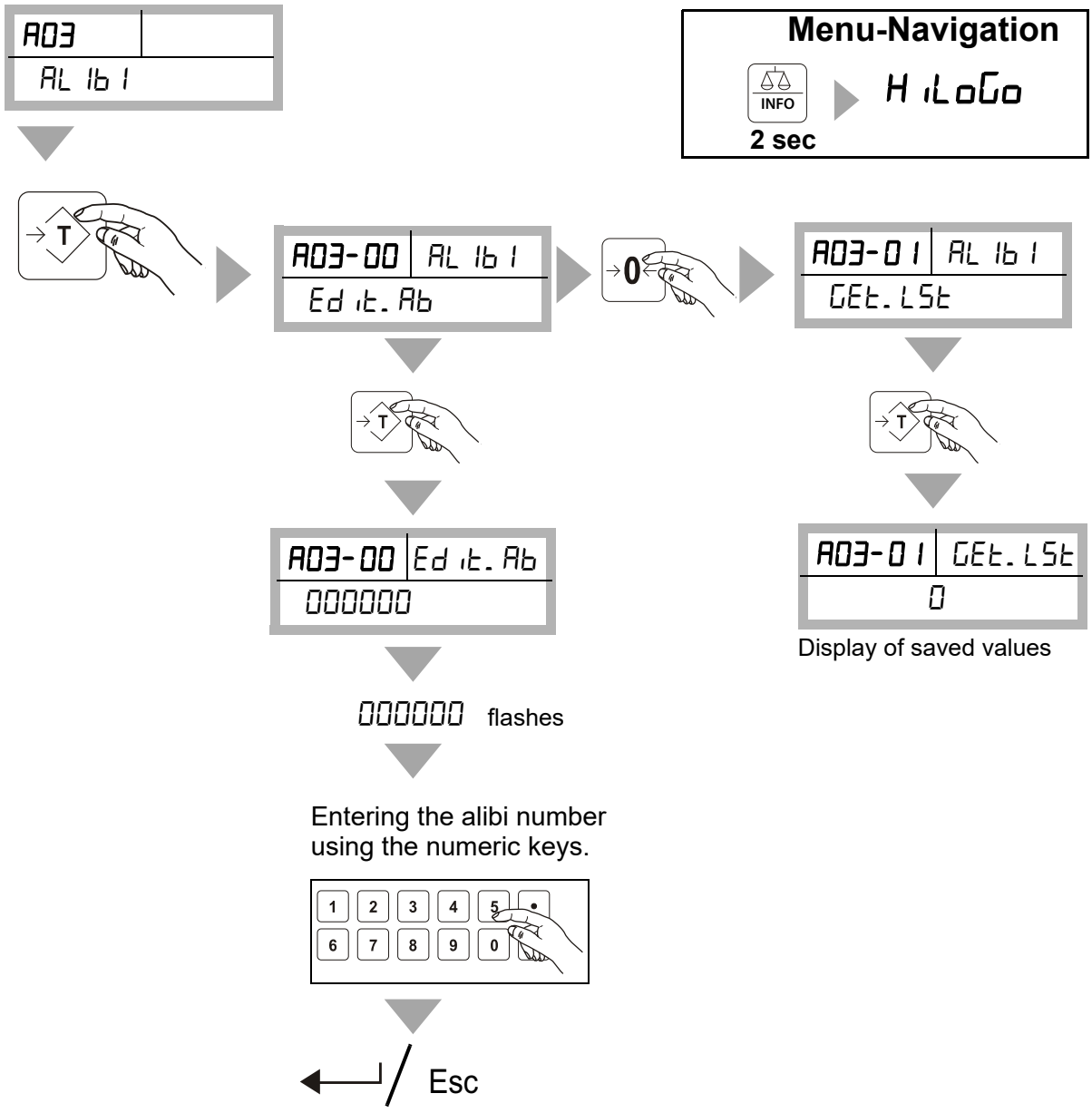
**Quick menu A01-03 - BRIGHT (settings for the brightness)**



### 4.11.5 Quick menu A02 - MEMORY (alibi memory)

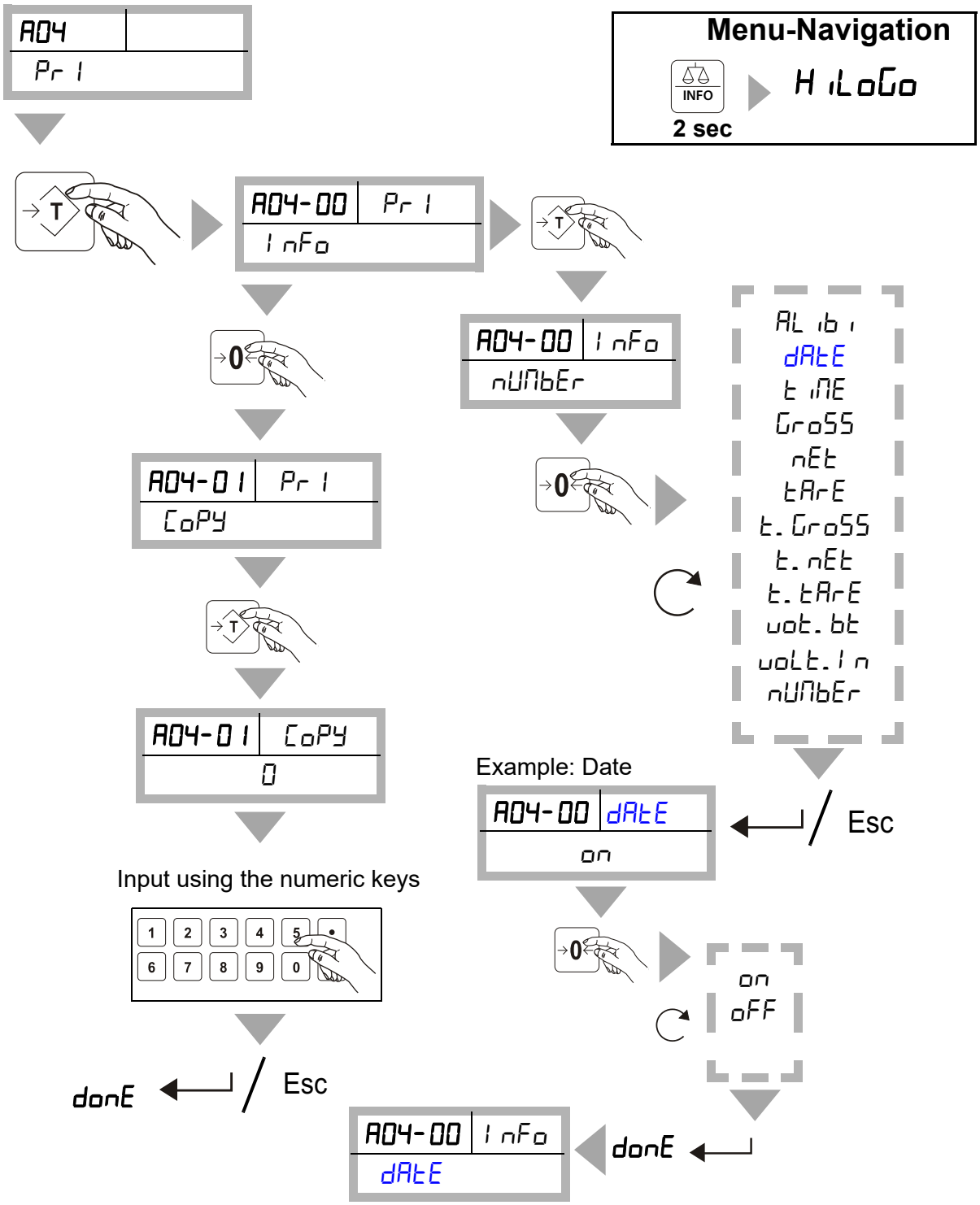


### 4.11.6 Quick menu A03 - Alibi (request the alibi number)

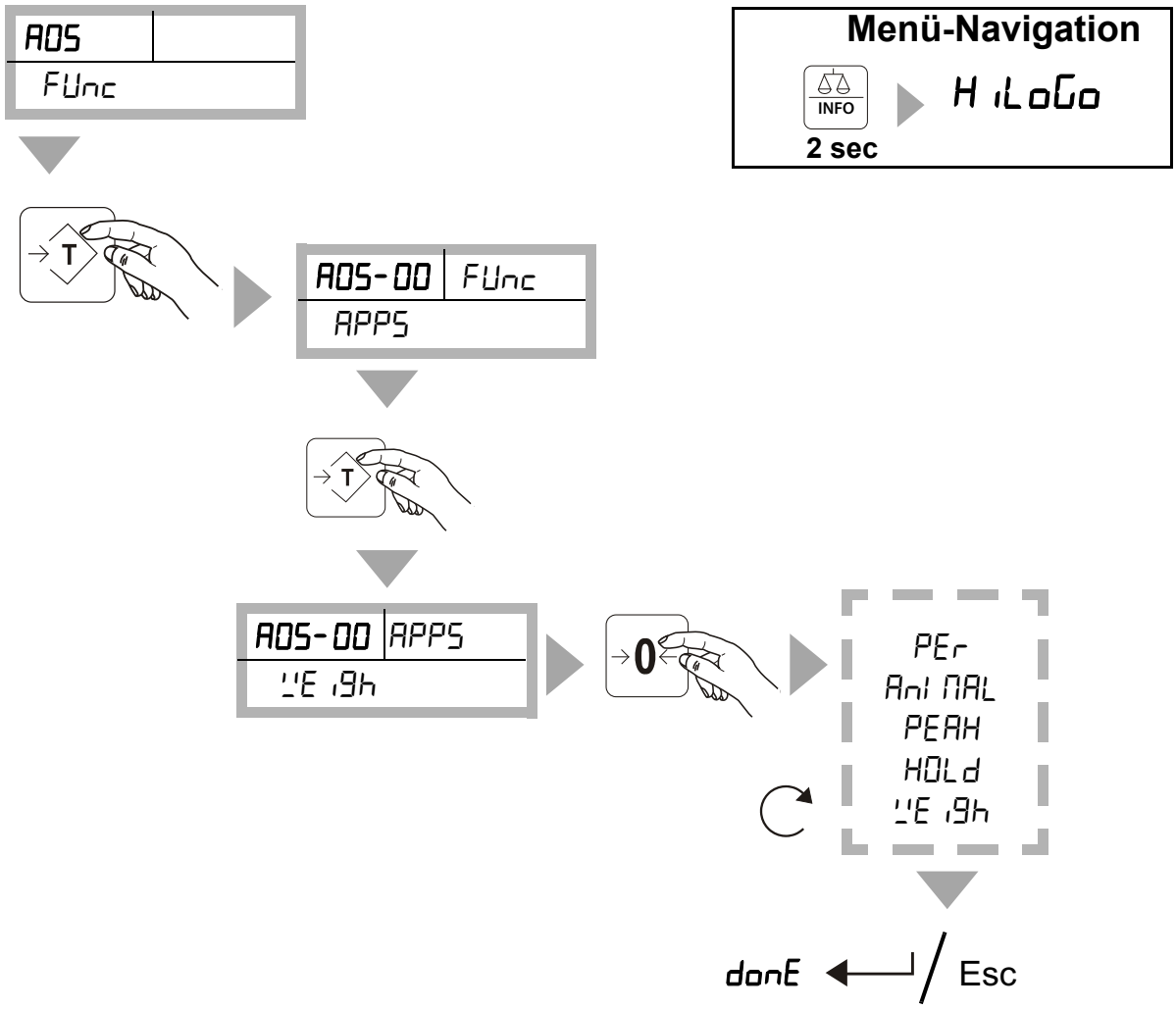


### 4.11.7 Quick menu A04 - Pri (print settings)

**Note**
If parameters such as the date and time have been turned off on the menu, this cannot be printed, even then, if the parameters for date and time have been set to ON.



### 4.11.8 Quick menu A05 - Func (functions)



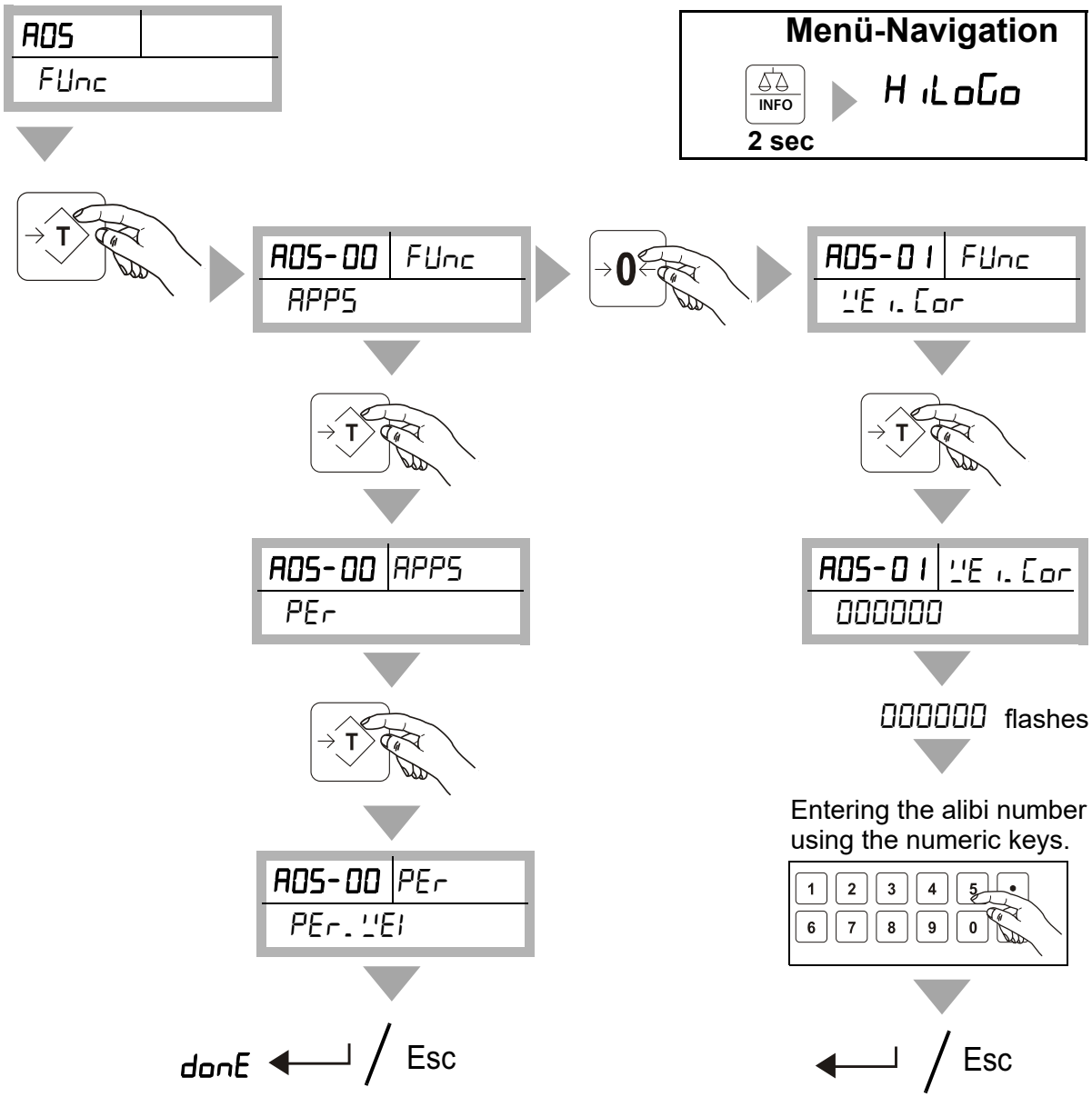

**HOLD:** The Hold function freezes the currently indicated measured value, to allow you to read it. After pressing the →0← key the display returns to "0".

**PEAK:** Highest measured value

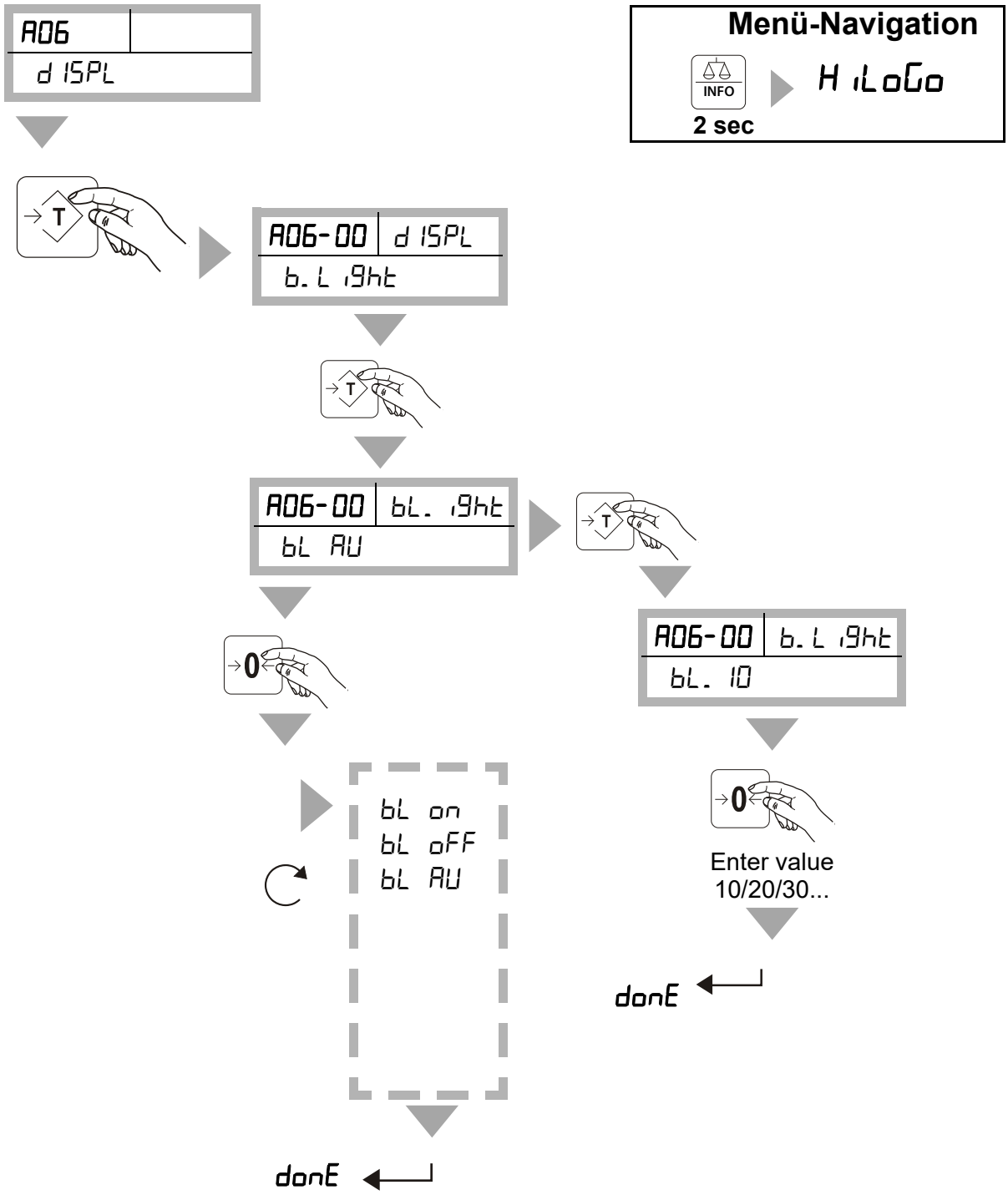
This function displays the highest load value (peak value) of an increasing load. The peak value remains in the display until the →0← key is pressed.

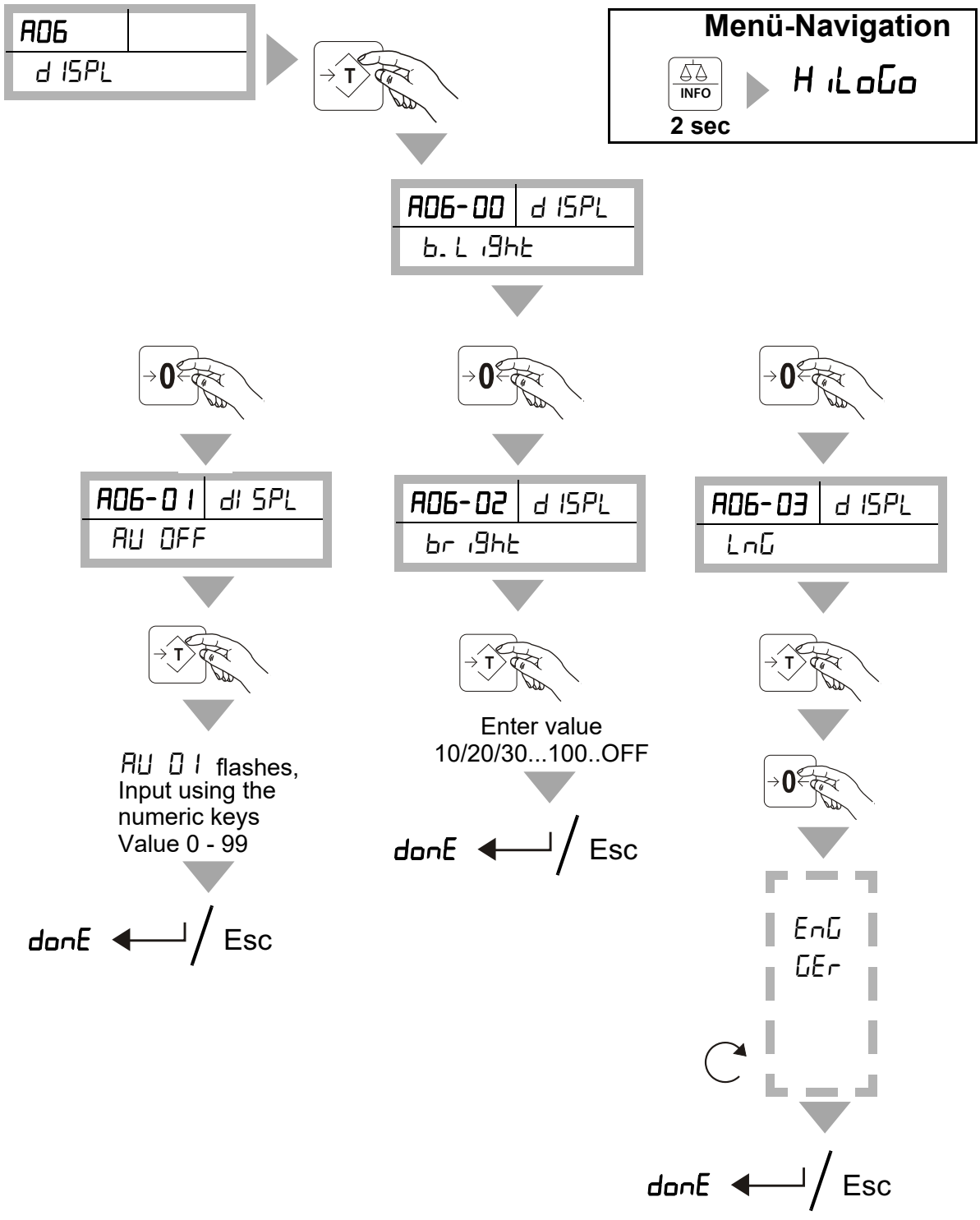
**ANIMAL:** Animal weighing function, this is suitable for weighing unstable loads. The weighing system calculates a stable average value from several weighing values and displays it.

**PER:** Percentage weighing mode, after a reference weight has been defined, the scale calculates and displays the current weight as a percentage of that reference weight.


AOS
FUnc
Menü-Navigation
INFO
2 sec
HiLoGo
AOS-00 FUnc
APPS
AOS-00 APPS
PEr
AOS-00 PEr
PEr.WEI
donE
Esc
AOS-01 FUnc
WE1.Cor
AOS-01 WE1.Cor
000000
000000 flashes
Entering the alibi number
using the numeric keys.
1 2 3 4 5 .
6 7 8 9 0
Esc

### 4.11.9 Quick menu A06 - Displ (display)



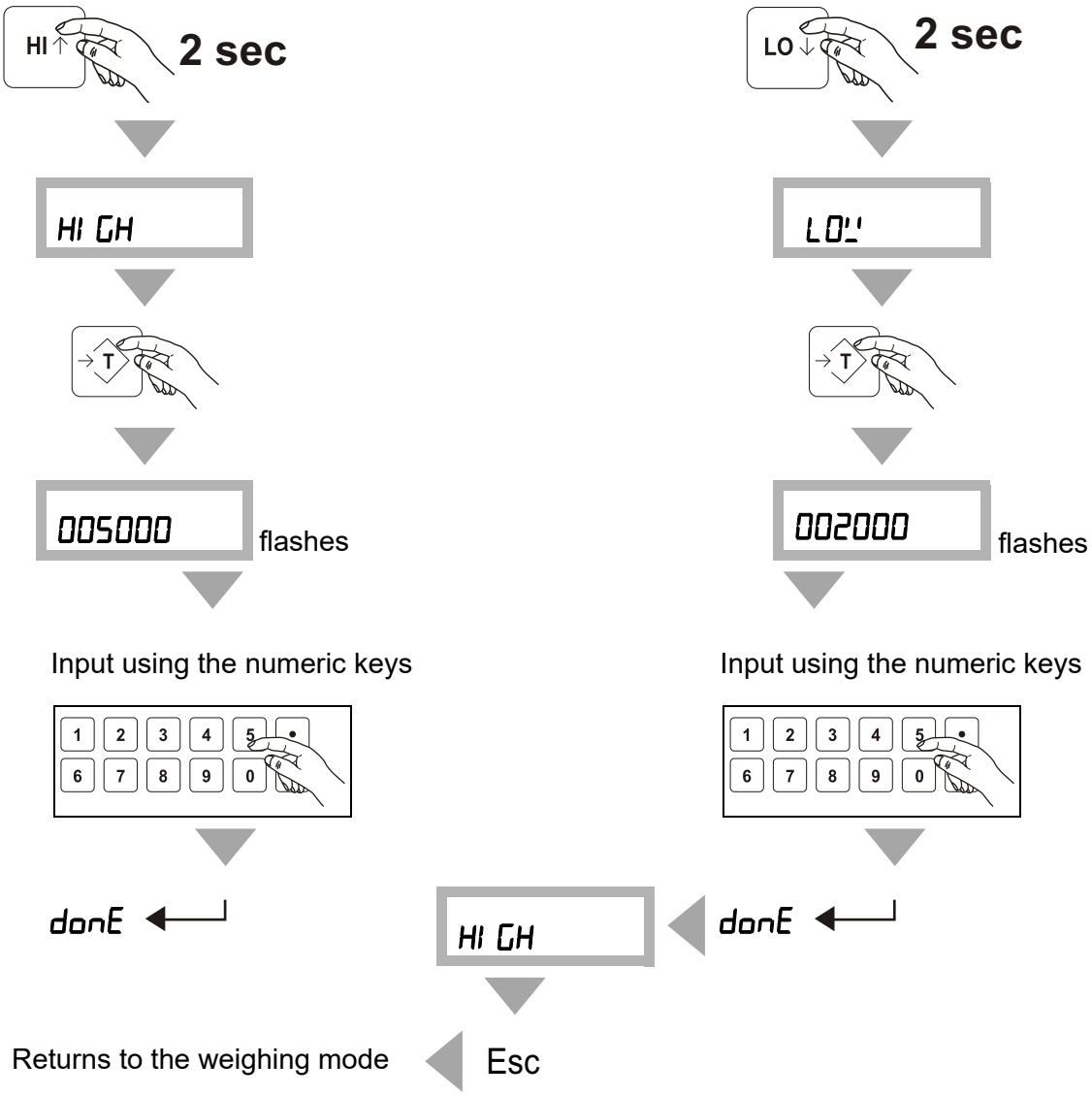

A06
d ISPL
Menü-Navigation
INFO
2 sec
H iLoGo
A06-00 d ISPL
b. L ight
A06-01 di SPL
AU OFF
A06-02 d ISPL
br ight
A06-03 d ISPL
LnG
Enter value
10/20/30...100..OFF
AU 01 flashes,
Input using the
numeric keys
Value 0 - 99
donE
Esc
donE
Esc
EnG
GEr
donE
Esc

## 4.12 Checkweighing

With the checkweighing you can specifically check weights. At the checkweighing a beep sounds (adjustable) when the weight on the scale reaches or exceeds a saved limit.

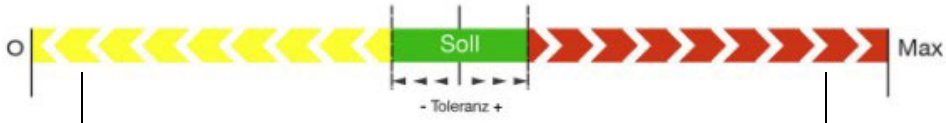
### 4.12.1 Setting limit values (max./min.)

**Note**
The set limits (max. / min.) are saved permanently and are also available after a power failure, if the storage of the limit values is set to "on" in menu A01-02.



### 4.12.2 Checkweighing (signal light)

Reaching the target value is indicated by an acoustic or visual signal if the acoustic signal setting and the signal light are activated in the quick menu.

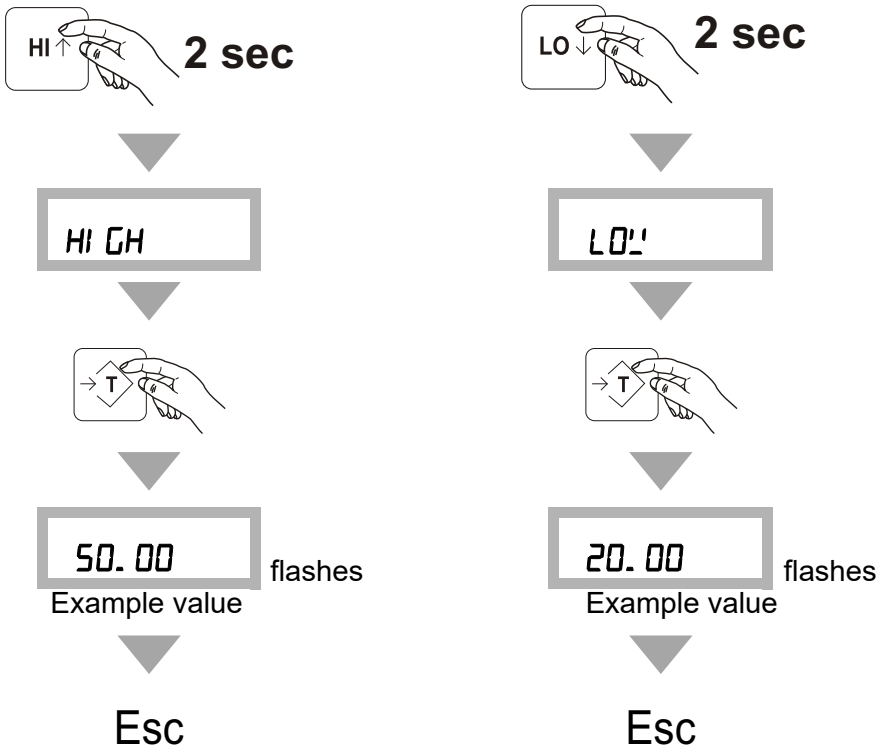



Target weight value is within the tolerance range

Target weight value is below the tolerance limit

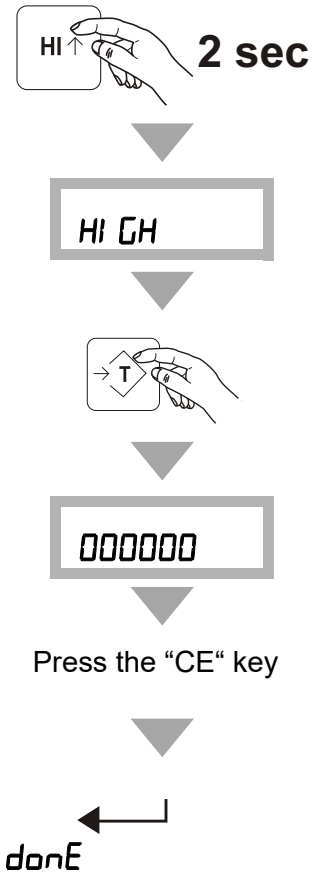
Target weight value is above the tolerance limit

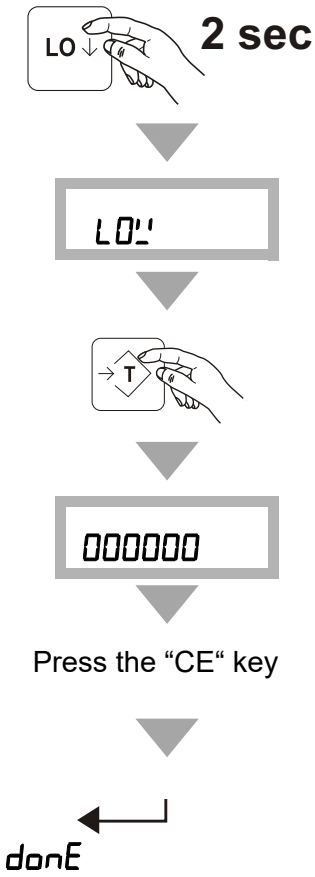
### 4.12.3 Request of the limit values




returns to the main menu

### 4.12.4 Clear the limit values



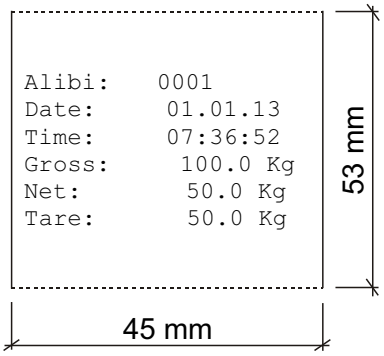



## 4.13 Printout

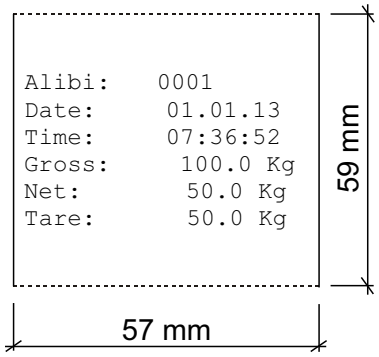
Before a printer can be put into operation, the appropriate parameter settings in the function menu ( see chapter 5.2.2 COM-Mode) and in the quick menu (see chapter 4.11.7 “Quick Menu A04 - Pri “) must be made.

### 4.13.1 Standard printout for “Printer 1“ – “Printer 6“

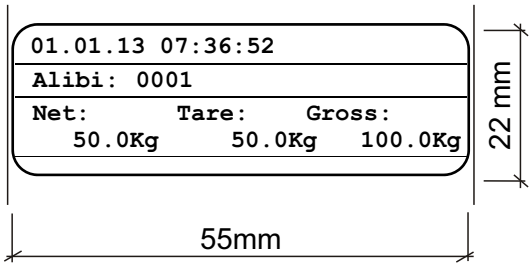
Printer 1



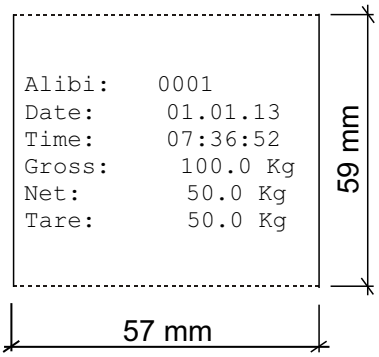

Printer 2



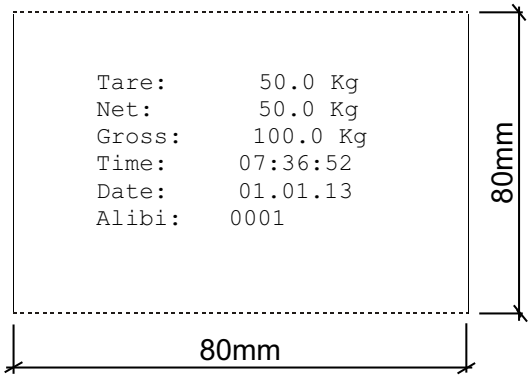

Printer 3




Printer 4




Printer 5




Printer 6 (same as Printer 3)

# 5 Function menu (advanced functions)

## 5.1 Navigation in the function menu

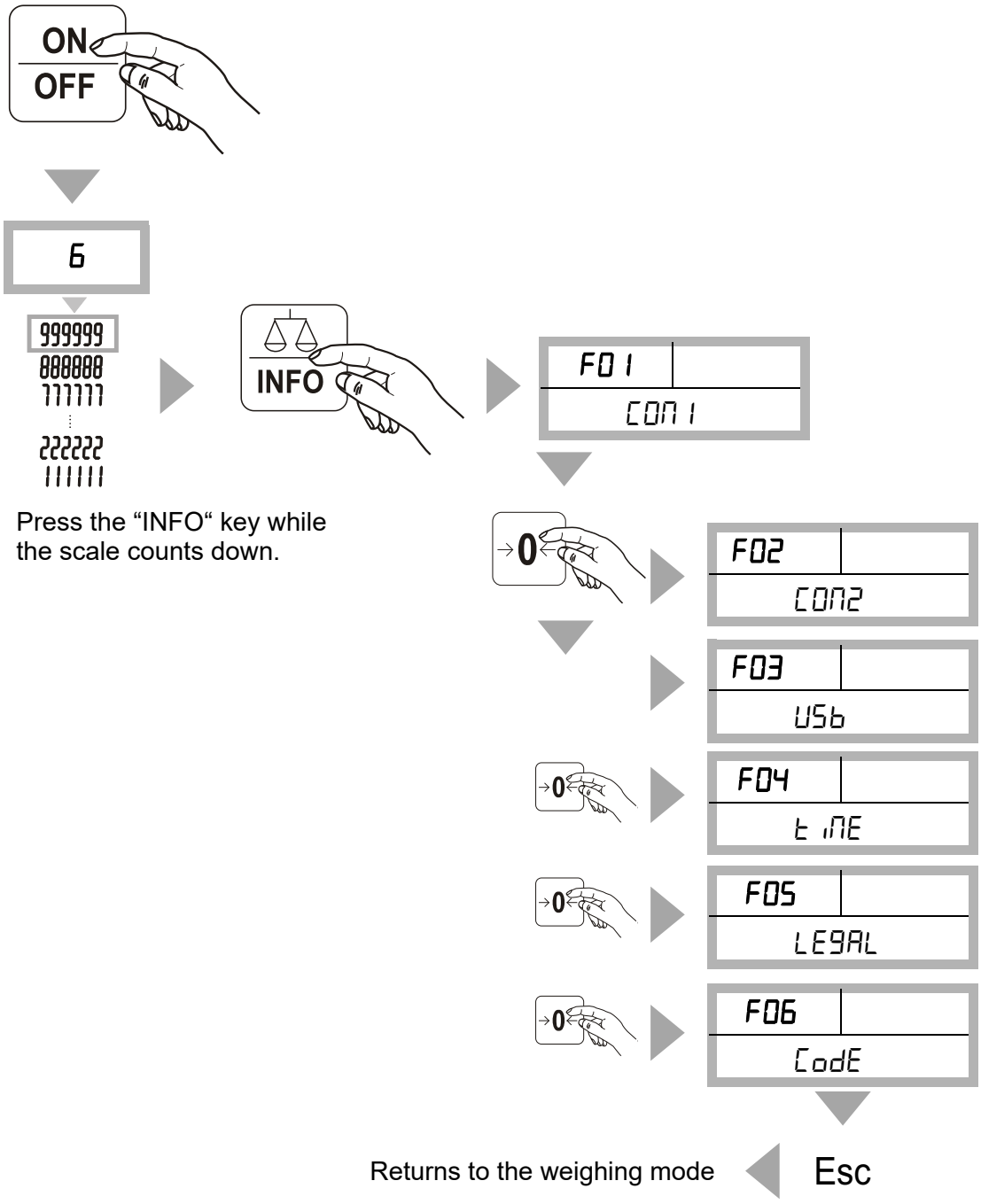
| Navigation | |
|---|---|
| NET / G / B ◀ | Move the active number to the left <LEFT> |
| →0← ▲ | Change of the parameter <UP> |
| →T ↵ | Saving the settings <ENTER> |
| PRINT Esc | Leaving the functional level (ESCAPE) |

**Note**
For parameter changes to take effect, they must be saved by pressing the **Enter** key.

**Note**
If you do not wish to save the modified parameters, press the **Esc** (PRINT) key repeatedly to exit the menu. The weighing terminal will switch off.

## 5.2 Function menu - overview

To access the function menu, proceed as follows:



### 5.2.1 Function menu - short description

| Menu | Submenu | Option | Function |
|---|---|---|---|
| F01<br>CON 1<br><br>F02<br>CON 2<br><br>Setting the specifications of the interfaces. | F01-01<br>ModE 1<br><br>F02-01<br>ModE 2<br><br>Transmission mode selection | oFF | No data are transmitted |
| | | CONt | Continous transmission.<br>Do not use for connected printer! |
| | | St 1 | Automatic printout when the weight is stable. Scale zero required, i.e. the weight must be removed from the scale. |
| | | St2 | Automatic printout when the weight is stable. Zero crossing not required. |
| | | StC | Automatic printout when the weight is stable and store in the total- and alibi memory. Zero crossing required. |
| | | Pr 1 | Transmission by Print key (the weight is stable). Zero crossing required. |
| | | Pr2 | Transmission by M+ key (the weight is stable) and store in the total- and alibi memory. Zero crossing required. |
| | | Pr3 | Transmission by Print key (the weight is stable). Zero crossing not required. |
| | | Pr4 | Transmission by M+ key (the weight is stable) and store in the total- and alibi memory. Zero crossing not required. |
| | | ASH | Ask-Mode, bi-direction, more details in the communication protocol (please request if required).<br>Do not use for connected printer! |
| | | HEArtb | Sends data cyclically (T1) via the COM port. |

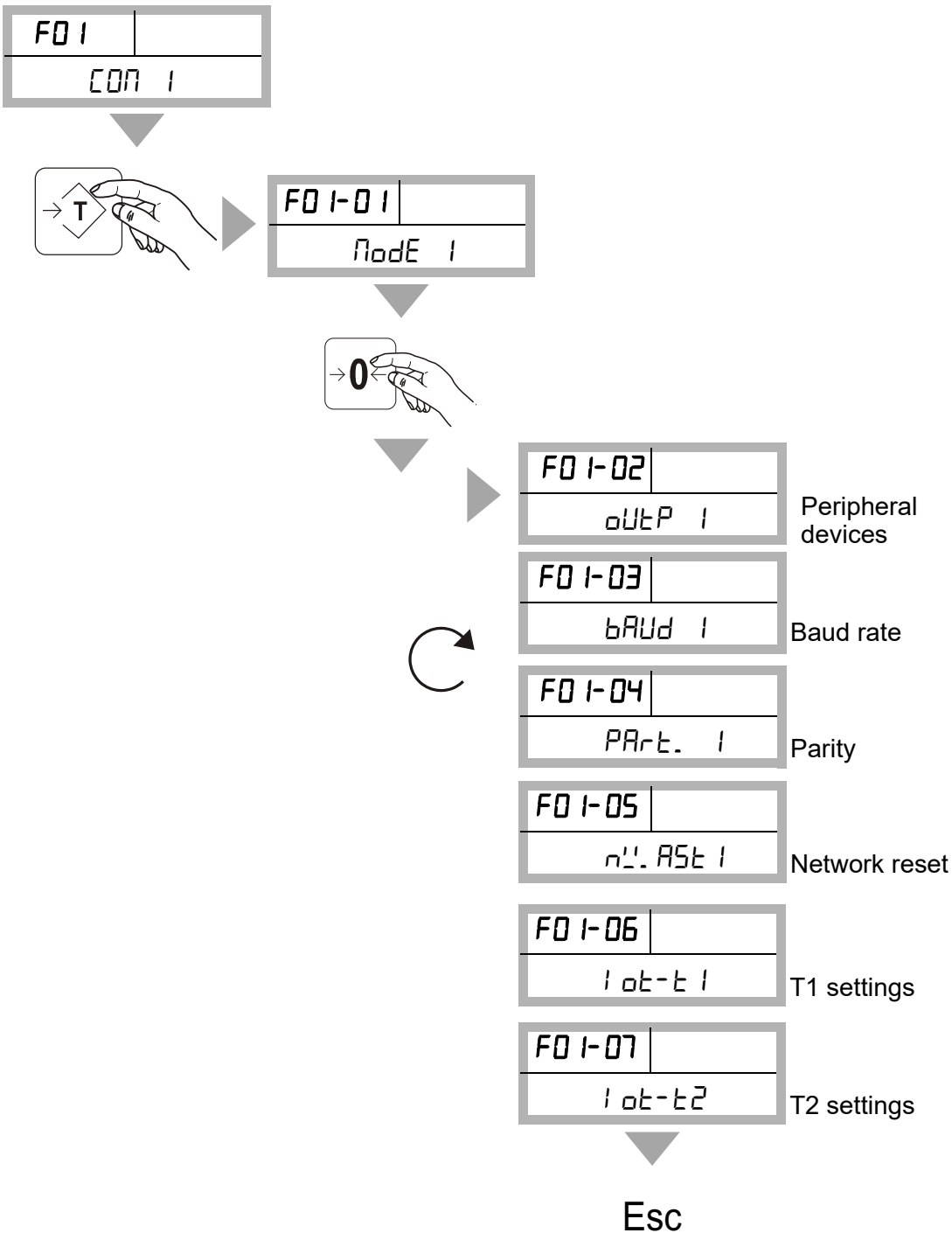
| Menu | Submenu | Option | Function |
|---|---|---|---|
| F01<br>CON 1<br><br>F02<br>CON 2 | F01-01<br>ModE 1<br><br>F02-01<br>ModE 2 | 1 ot | Data is transmitted via the COM port once the scale has remained stable for the configured time (T2). |
| | F01-02<br>oUtP 1<br><br>F02-02<br>oUtP 2<br><br>Peripheral devices (Selection of the attached printer or device) | PC | PC |
| | | Print 1 | Citizen CBM |
| | | Print 2 | HPP-250 |
| | | Print 3 | LP-50 |
| | | Print 4 | HPP-250 for pallet trucks HLS. |
| | | Print 5 | TPS 143 (HP083) |
| | | Print 6 | LP-50 for HLS pallet truck |
| | | rMtdSP | Remote display: RD50, RD100 and RD150. |
| | | LIghtS | Status lamp SL 3 |
| | | Prt.uAr | User-configurable protocol. |
| | F01-03<br>bAUd 1<br><br>F02-03<br>bAUd 2<br><br>Baud rate | 1200<br>2400<br>4800<br>9600<br>14400<br>19200<br>28800<br>38400<br>56000<br>57600<br>115200 | Data transmission speed (Baud rate). |
| | F01-04<br>PArt 1<br><br>F02-04<br>PArt 2<br>Parity | 8n1 | 8 data bits, no parity (default) |

| Menu | Submenu | Option | Function |
|---|---|---|---|
| F01<br>COM 1<br><br>F02<br>COM 2 | F01-04<br>PArt 1<br><br>F02-04<br>PArt 2 | 7E 1 | 7 data bits, even-parity |
| | | 7o 1 | 7 data bits, odd-parity |
| | F01-05<br>n_1ASt 1<br>F02-05<br>n_1ASt2<br><br>Network reset | no<br>YES | Network reset<br>no/yes |
| | F01-06<br>Int-t1 | Time setting (T1) for COM mode = HEArtb (oder COM-Mode = Int) | |
| | | h | 00 flashes, enter the value. |
| | | Min | 00 flashes, enter the value. |
| | | SEc | 00 flashes, enter the value. |
| | F01-07<br>Int-t2 | Time setting (T1) for COM mode = Int | |
| | | Min | 00 flashes, enter the value. |
| F03<br>USb | F03-01<br>SinGLE | Alibi data blocks: An individual file is created for each measuring day during saving on the USB stick. | Setting of the saving method of measured data on the USB stick. |
| | MULtPL | Alibi data blocks: The data blocks of all days are written in one file during saving on the USB stick. | |

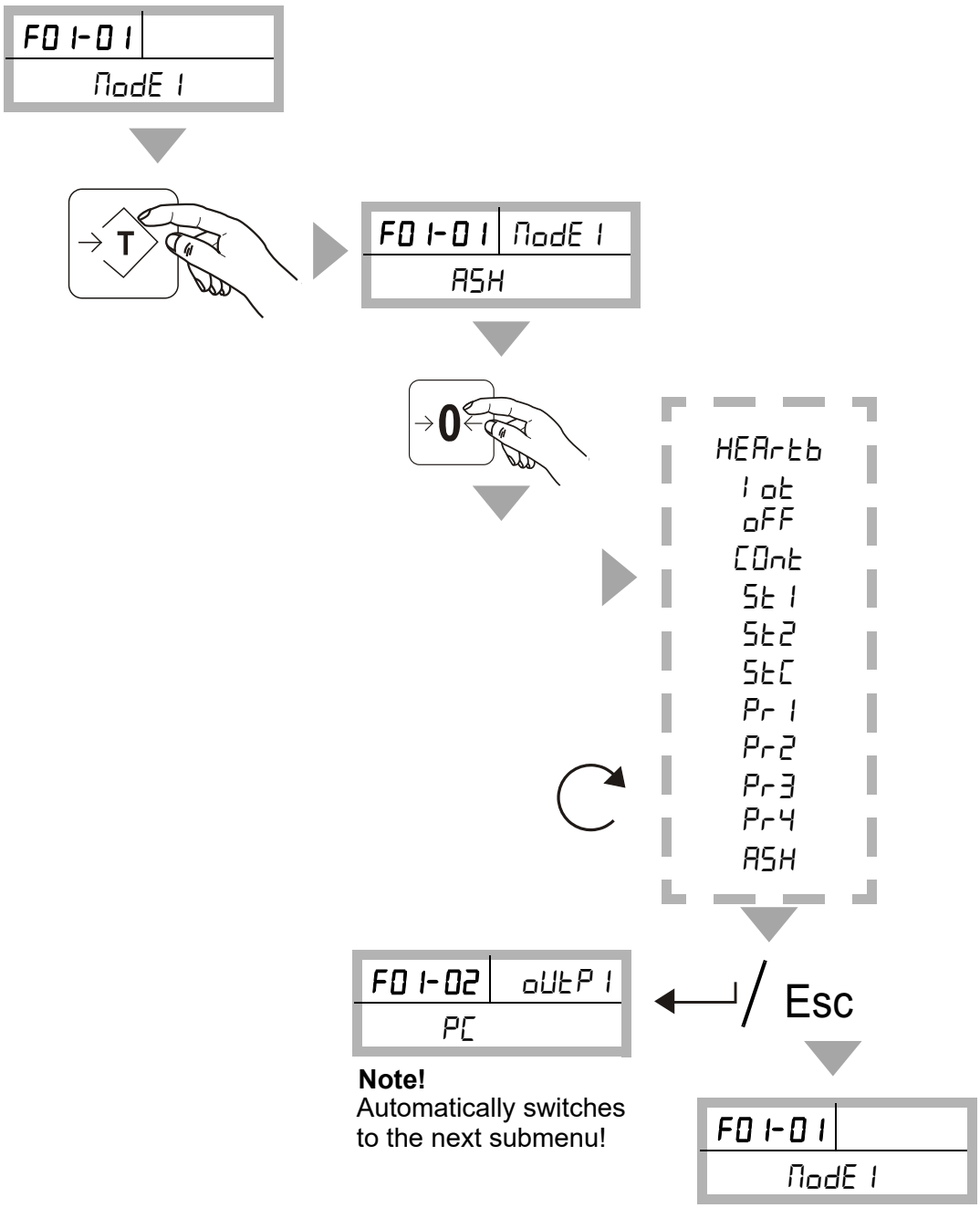
| Menu | Submenu | Option | Function |
|---|---|---|---|
| F04<br>t iME | F04-01<br>HoUr<br>F04-02<br>n in<br>F04-03<br>SEc<br>F04-04<br>dAY<br>F04-05<br>Month<br>F04-06<br>YEAr | 00 flashes | Setting the time and date<br><br>HH:MM:SS (time)<br>No automatic changing of winter and summer time!<br><br>DD:MM:YYYY (Date) |
| | F04-07<br>SHo'' Display | Sh. ALL | Display date and time changes (interval: 30 seconds). |
| | | Sh. oFF | Display is switched off. |
| | | Sh. tI nE | Display of the time |
| | | Sh. dAtE | Display of the date. |
| F05<br>LEGAL | F05-01<br>ALb. S'' | ALb. on<br>ALb. oFF | Alibi memory on oFF.<br>Saving weight data in the internal memory. |
| | F05-02<br>ALb. SH'' (Alibi Show) | Ed it. Ab (Edit Alibi Number) | 000000 flashes<br>Entry of the alibi number.<br>Displays a specific weight value from the total memory. |
| | | GEtLSt (Get Last Alibi Number) | „0“<br>Number of values saved in the total memory |
| | F05-03<br>tAc Verification TAC counter | | (Verification) counter status is displayed. |
| F06<br>CodE | - - - - | Password entry (Password 0000) | Change-over to the “Menu protected by a password”. |

### 5.2.2 Function menu F01 - overview COM1

**Note**
This manual only describes the settings of interface COM1.
The settings for the COM2 interface must be carried out identically.

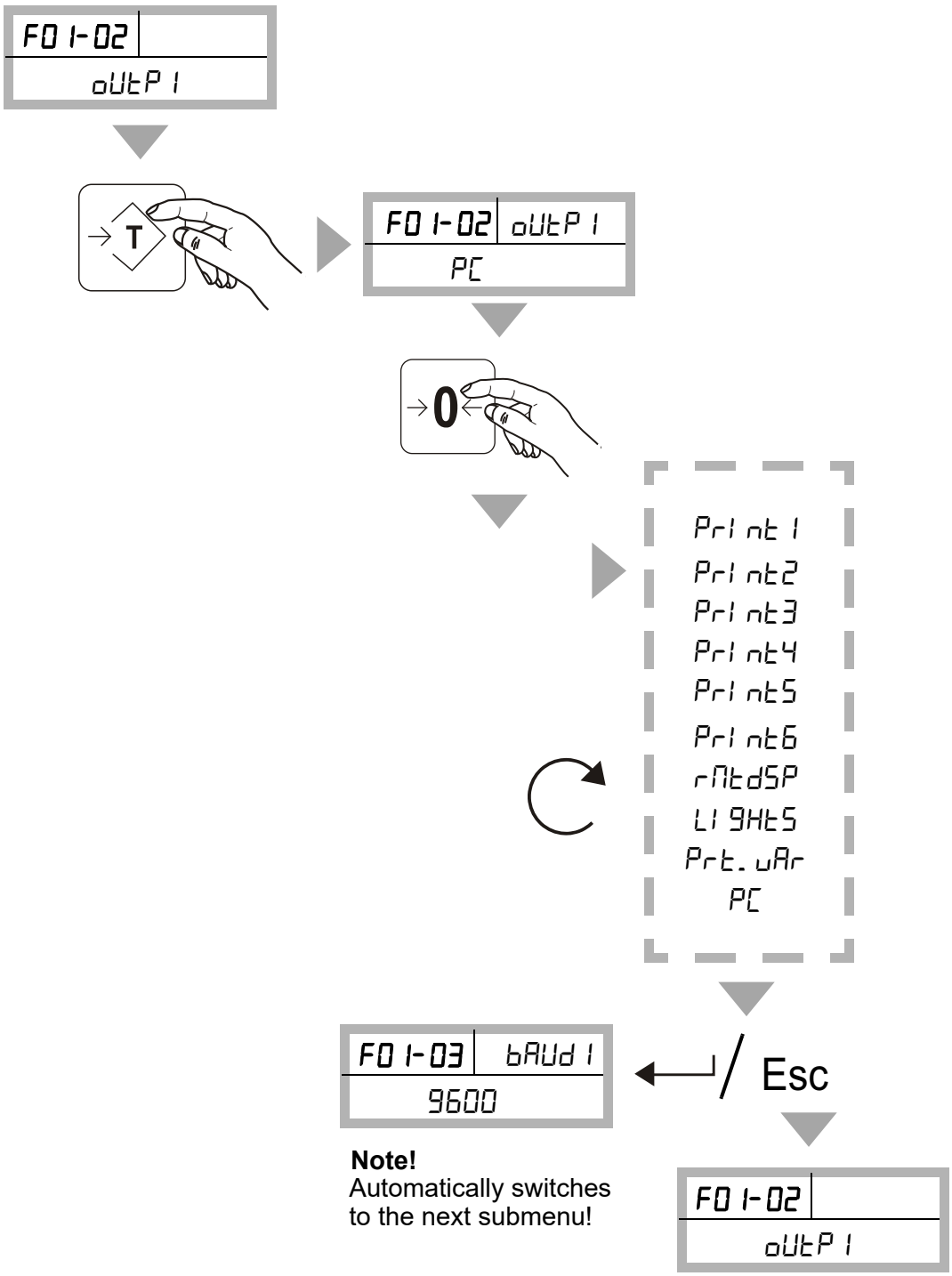


**Function menu F01-01 - MODE 1 (selection of the transmission mode)**




**Note!**
Automatically switches to the next submenu!

**Function menu F01-02 - OUTP 1 (peripheral devices)**




**Note!**
Automatically switches to the next submenu!

### Selection of the attached printer or device

The indicator transmits the data to different peripheral devices. The peripheral devices must be addressed with specific data formats to interpret or print the received data (from the display) correctly.

**Note**
The transferred protocols are described only briefly. For further information on communication and design of data format, refer to the communication protocol for the indicator. The protocol must be ordered separately and is not part of this manual.

The following peripherals can be selected (see also overview of function menu *OUtP 1* on the previous page).

*PC* **PC: Data transmitted to computer**

Data format:

```
CHN:A;RAW:+0; ;US;GS;GRO:+100.0;NET:+ 0.0;
TAR:+0.0;UW:+0;CNT:+0;<CR><LF>
```

*Print 1* **Print 1: Data transmitted to printer favourite**

Data format:

```
Date:01.04.22<CR><LF>
Time:14:28:05<CR><LF>
Gross:11.5 Kg<CR><LF>
Net:11.5 Kg<CR><LF>
Tara: 0.0 Kg<CR><LF>
<CR><LF>
<CR><LF>
<CR><LF>
<CR><LF>
<CR><LF>
<CR><LF>
<CR><LF>
```

*Print2* **Print 2: Data transmitted to printer HPP- 250**

Data format:

```
<ESC>_@<ESC>_{1<ESC>_R<STX>_<ESC>_32<LF>
<ESC>_ <STX>_<ESC>_!1Tare: 0.0 Kg<CR><LF>
Net:0.0 Kg<CR><LF>
Gross:0.5 Kg<CR><LF>
Time:14.29:27<CR><LF>
Date:01.04.22<CR><LF>
<CR><LF>
<CR><LF>
<CR><LF>
```

### Print3 Print 2: Data transmitted to printer LP- 50

Data format:

```
N<CR><LF>
A0,1,0,0,1,1,B,"01.04.22 14:39:04"<CR><LF>
LO0,26,380,3<CR><LF>
A0,33,0,0,1,1,B,"Net: Tare: Gross:"<CR><LF>
A0,58,0,0,1,1,B," 0.0Kg 0.0Kg 0.5Kg "<CR><LF>
LO0,83,380,3<CR><LF>
P1<CR><LF>
```

### Print4 Print 4: Data transmitted to printer HLS

Data format:

```
<CAN>_<CAN>_<CAN>_<CAN>_<CAN>_<CAN>_<CAN>_<CAN>_<CAN>_<CA
N>_<CAN>_<CAN>_<CAN>_<CAN>_<CAN>_<CAN>_<CAN>_<CAN>_<CAN>_
<CAN>_<ESC>_@<ESC>_{1<ESC>_R<STX>_<ESC>_32<LF>
<ESC>_ <STX>_<ESC>_!1Tare: 0.0 Kg<CR><LF>
Net:0.0 Kg<CR><LF>
Gross:0.5 Kg<CR><LF>
Time:14.41:17<CR><LF>
Date:01.04.22<CR><LF>
<CR><LF>
<CR><LF>
<CR><LF>
```

### Print5 Print 5: Data transmitted to printer TPS 143

Data format:

```
<ESC>_@<ESC>_{0<ESC>_R<STX>_<ESC>_32<LF>
<ESC>_ <STX>_<ESC>_!1Tare: 0.0 Kg<CR><LF>
Net:0.0 Kg<CR><LF>
Gross:0.5 Kg<CR><LF>
Time:14.42:58<CR><LF>
Date:01.04.22<CR><LF>
<CR><LF>
<CR><LF>
<CR><LF>
<CR><LF>
<CR><LF>
<CR><LF>
<CR><LF>
<CR><LF>
<CR><LF>
<CR><LF>
<CR><LF>
<CR><LF>
<CR><LF>
<CR><LF>
```

PrInt6 **Print 6: Data transmitted to printer HLS**

Data format:
<CAN>_<CAN>_<CAN>_<CAN>_<CAN>_<CAN>_<CAN>_<CAN>_<CAN>_
<CAN>_<CAN>_<CAN>_<CAN>_<CAN>_<CAN>_<CAN>_<CAN>_<CAN>_
<CAN>_<CAN>_j1<CR><LF>
N<CR><LF>
A0,1,0,0,1,1,B,"Nr.: 000000 01.00.00 01:47:22"<CR><LF>
LO0,26,380,3<CR><LF>
A0,1,0,0,1,1,B,"Alibi: 000000"<CR><LF>
LO0,26,380,3A0,33,0,0,1,1,B,"Net: Tare: Gross:"<CR><LF>
A0,58,0,0,1,1,B," 1952kg 0kg 1952kg"<CR><LF>
LO0,83,380,3<CR><LF>
P1<CR><LF>

rMtdSP **rmtdsp: Data transmitted to large display**

Data format:
ST,GS,+ 0.0Kg<CR><LF>

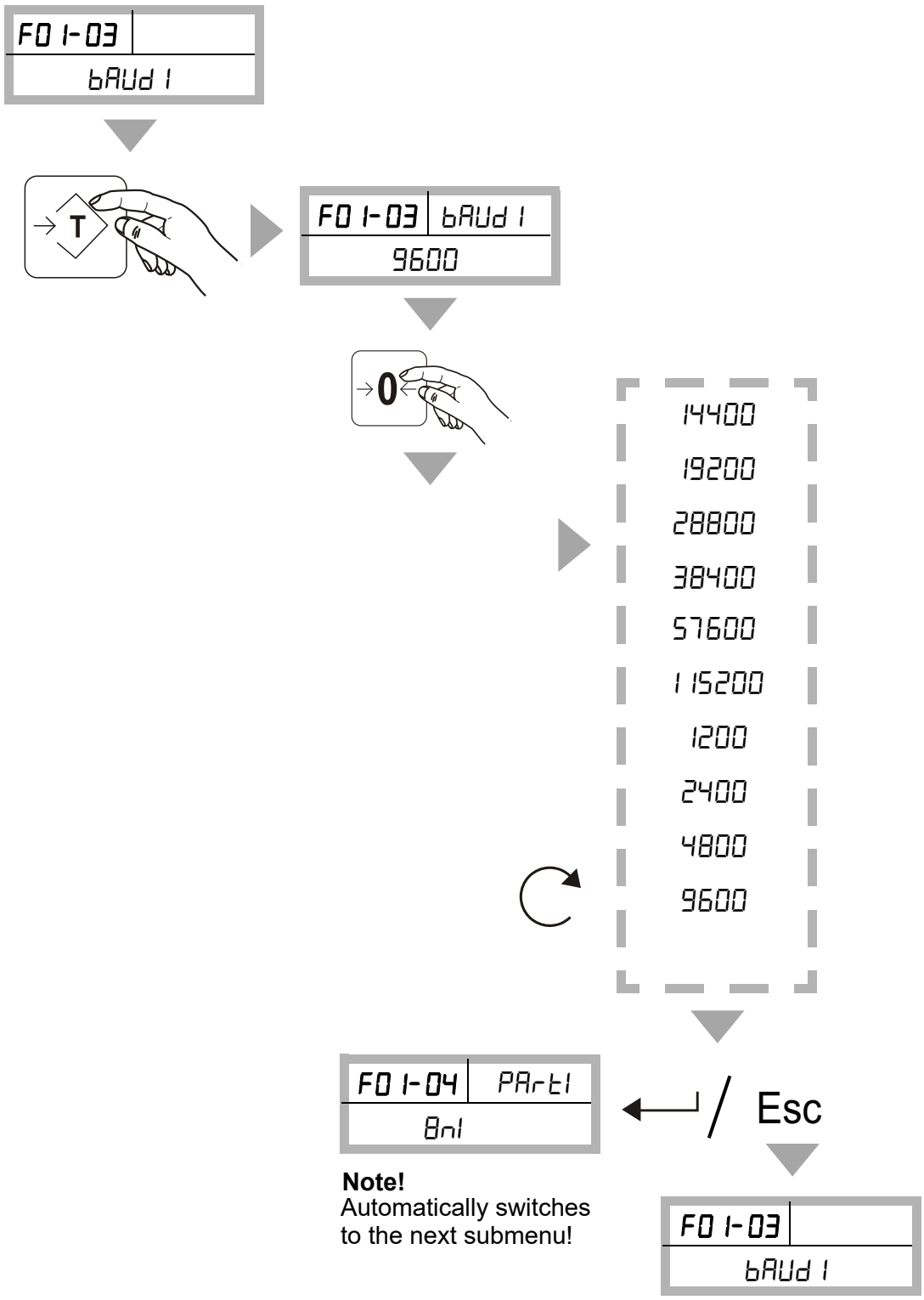
LIGHtS **Lights: Data transmitted to status lamp SL 3**

Data format:
Signal lamp Off: PC <CR><LF
Signal lamp Yellow: PCL <CR><LF
Signal lamp Green: PCG <CR><LF
Signal lamp Red: PCH <CR><LF>

Data format:
ST, GS,+ 0.0Kg<CR><LF>

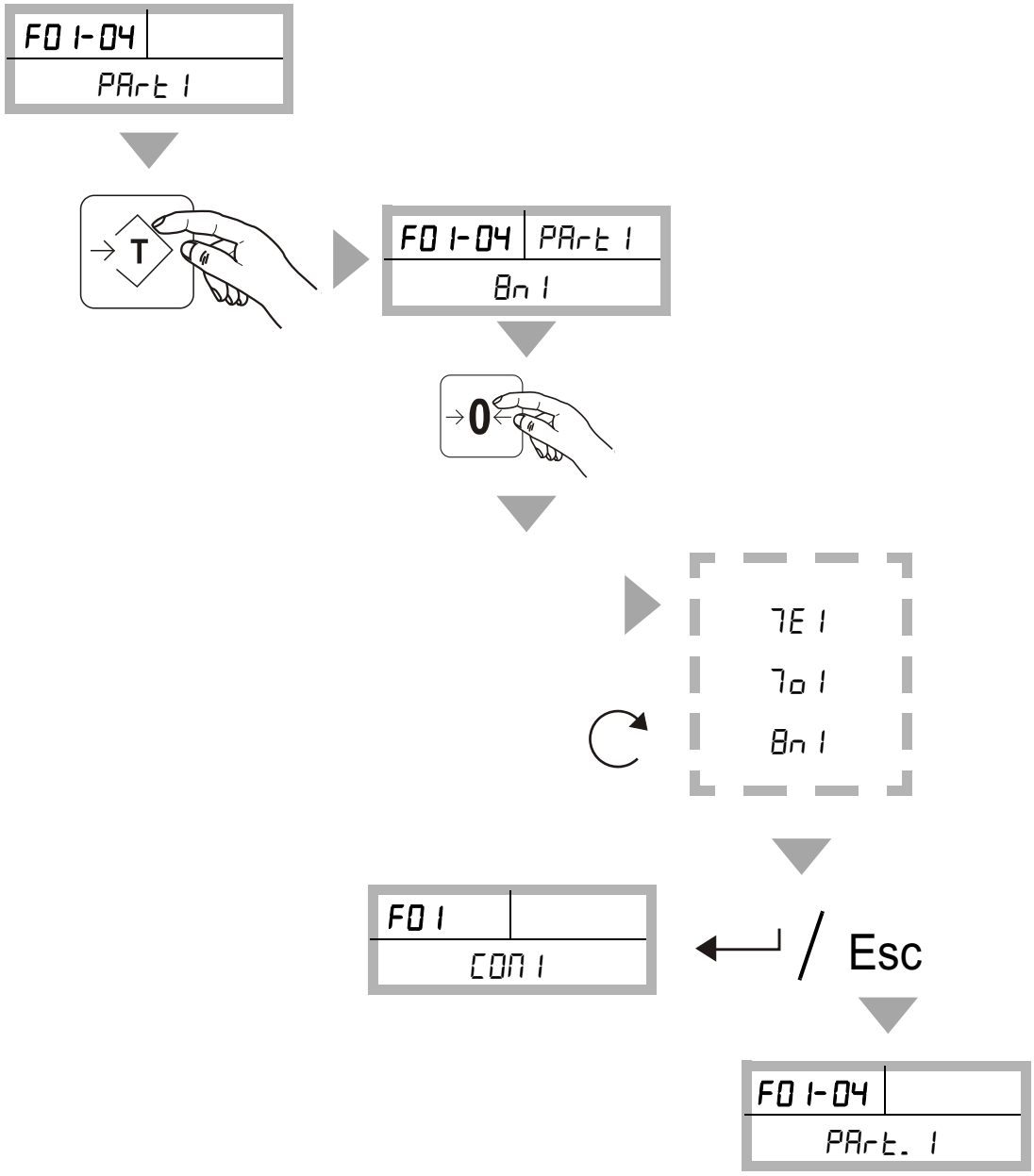
Prt.uAr **Data transmission to a configurable user protocol**

**Function menu F01-03 - BAUD 1 (baud rate)**

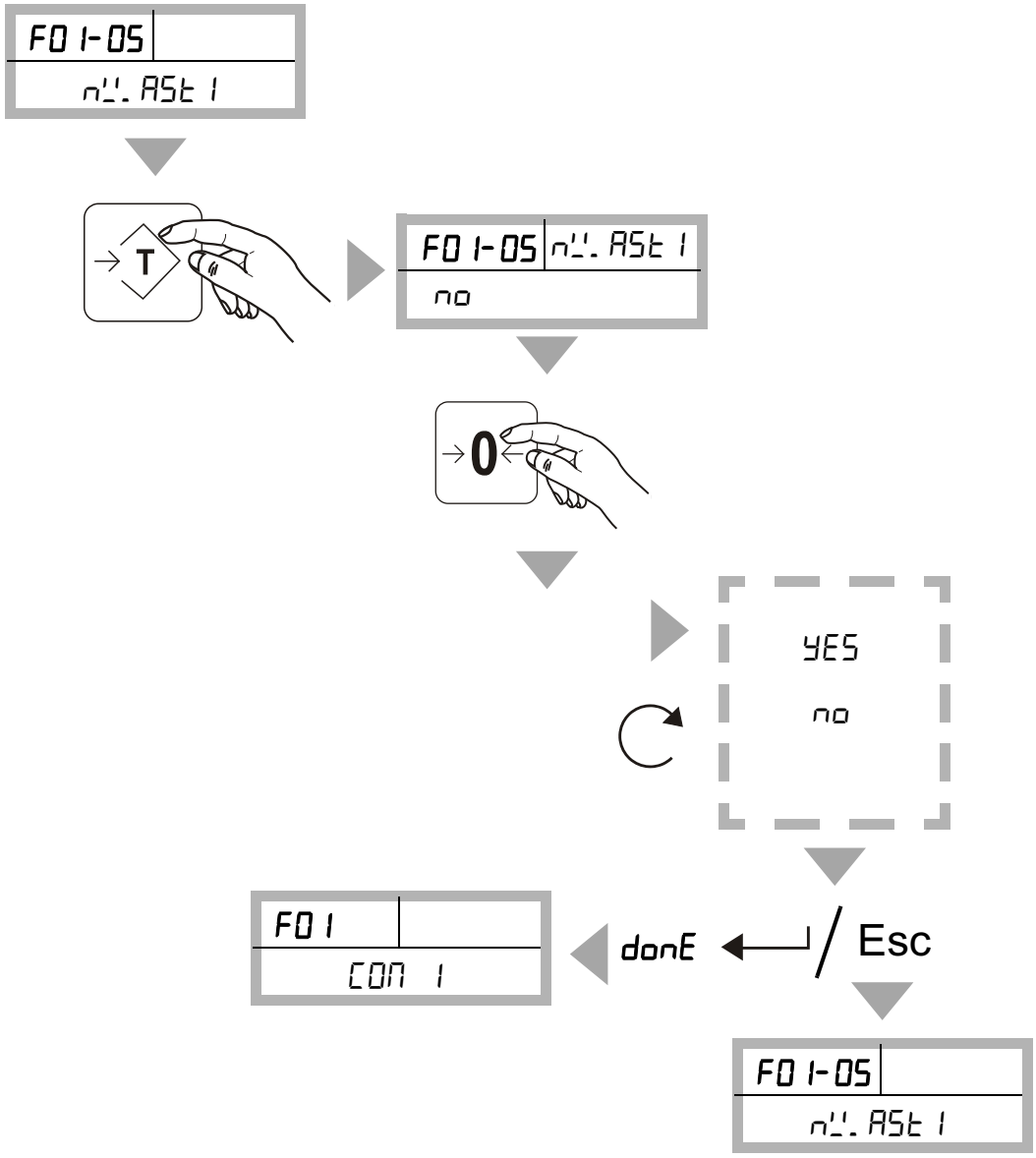



**Note!**
Automatically switches to the next submenu!

**Function menu F01-04 - PART 1 (parity)**

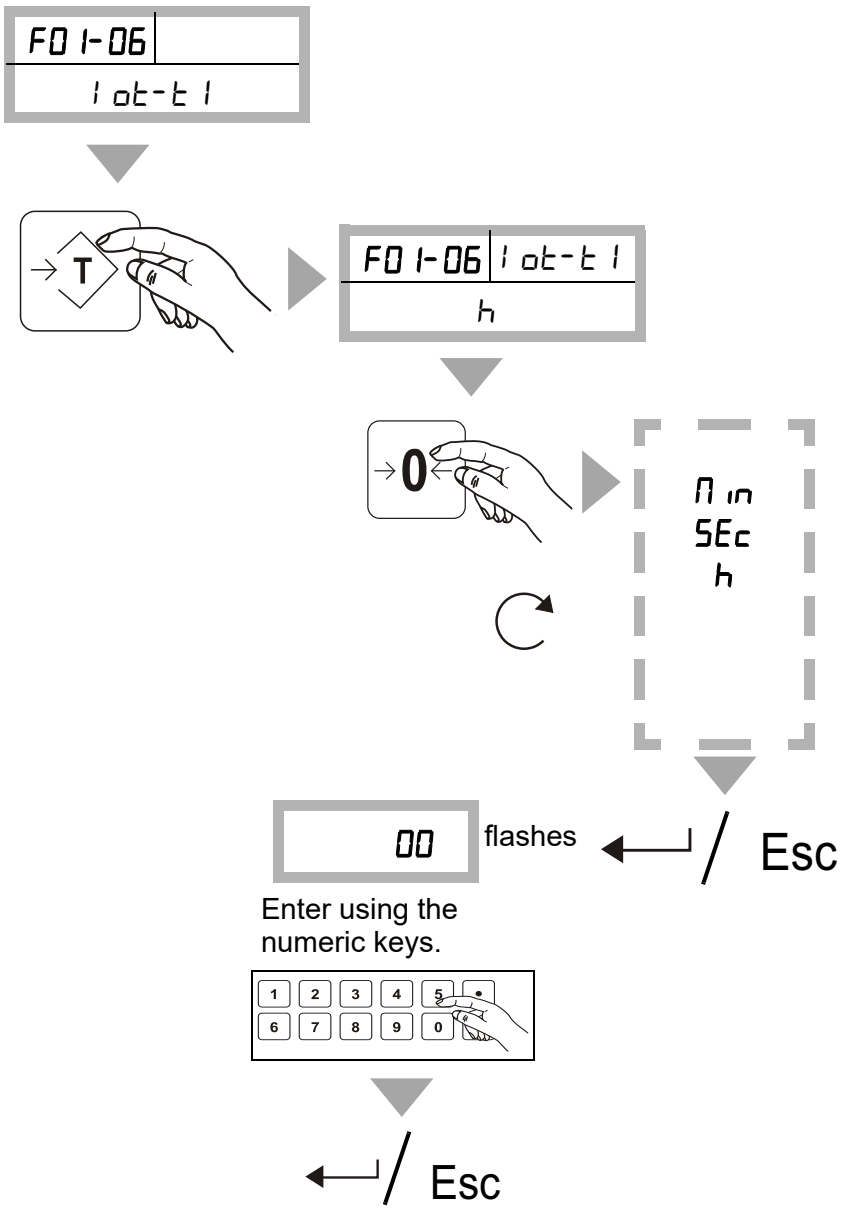


**Function menu F01-05 - NWRST (network reset)**



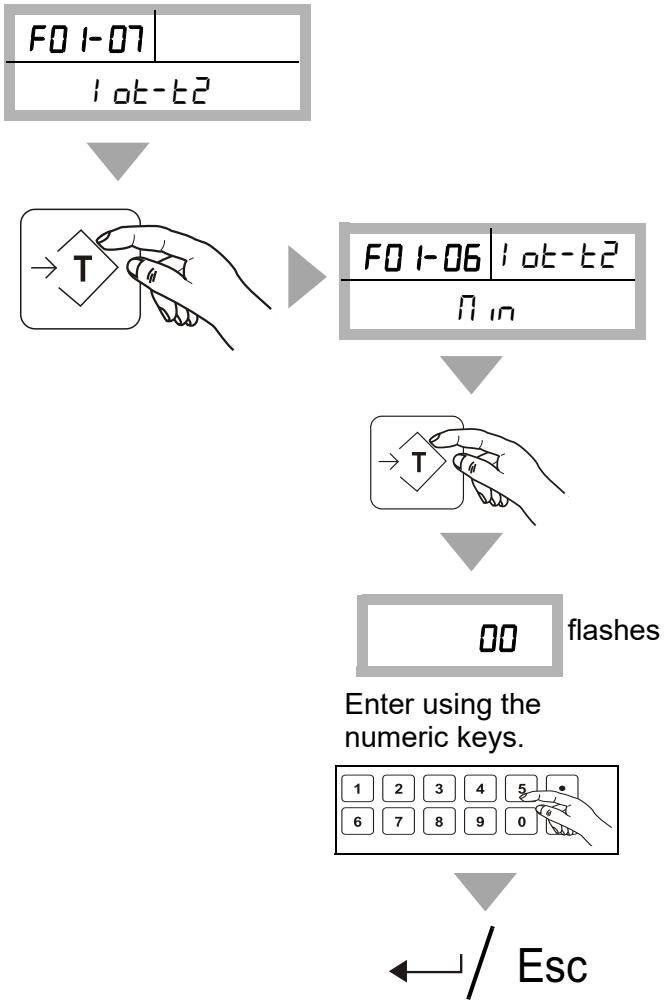
### Function menu F01-06 - Time settings (T1)

**Note**
Time setting (T1) for COM mode = HEArtb (oder COM-Mode = Iot). The scale transmits data cyclically via the COM port at the configured time interval T1.

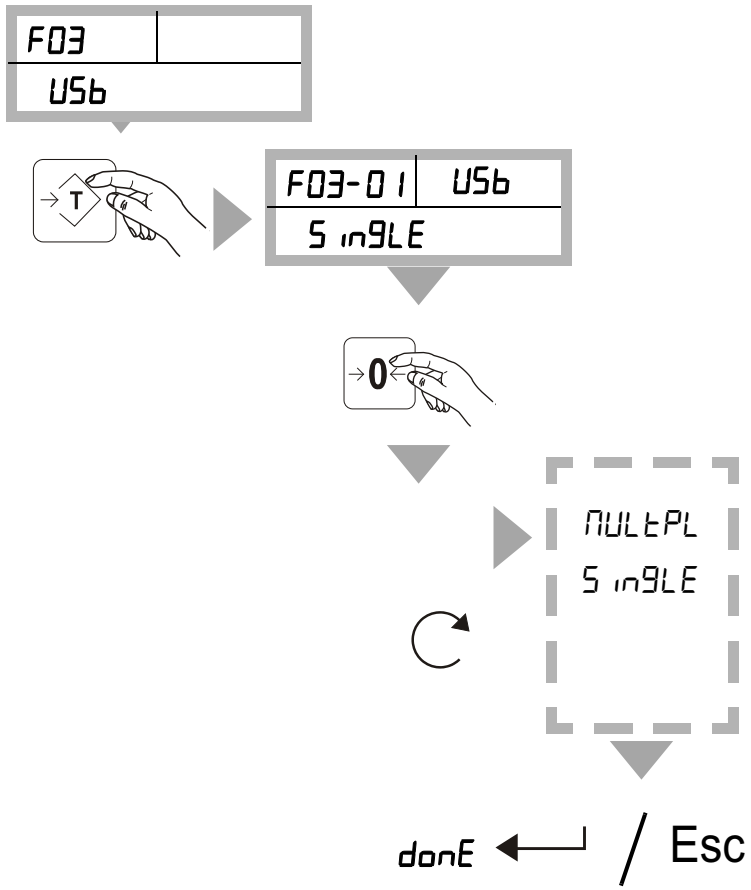


### Funktionsmenü F01-07 - Time settings (T2)

**Note**
Time setting (T2) for COM mode = `Int`.
A new weight must remain stable on the scale for at least X minutes (T2). The data is then transmitted via the COM port.

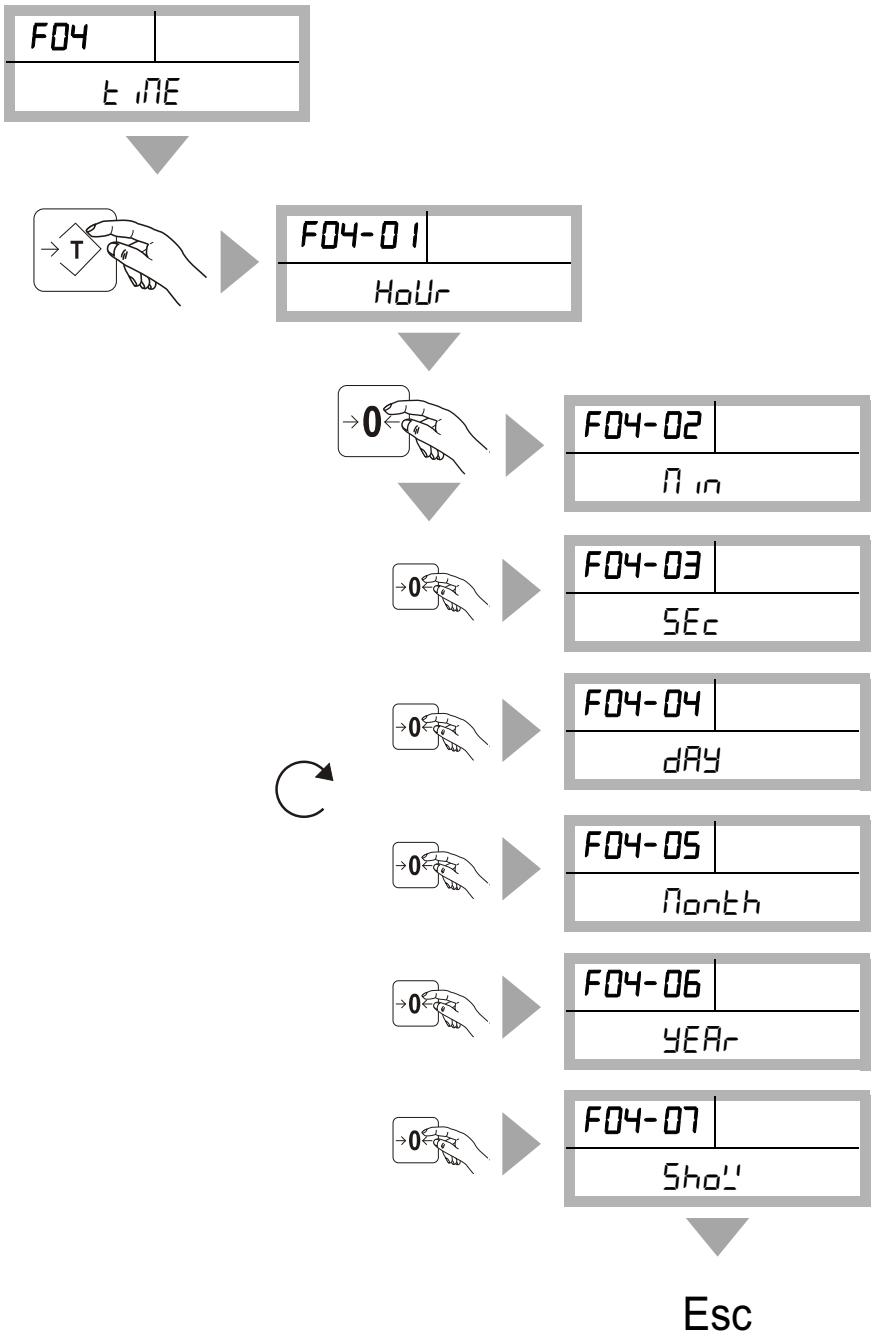


### 5.2.3 Function menu F03- overview USB

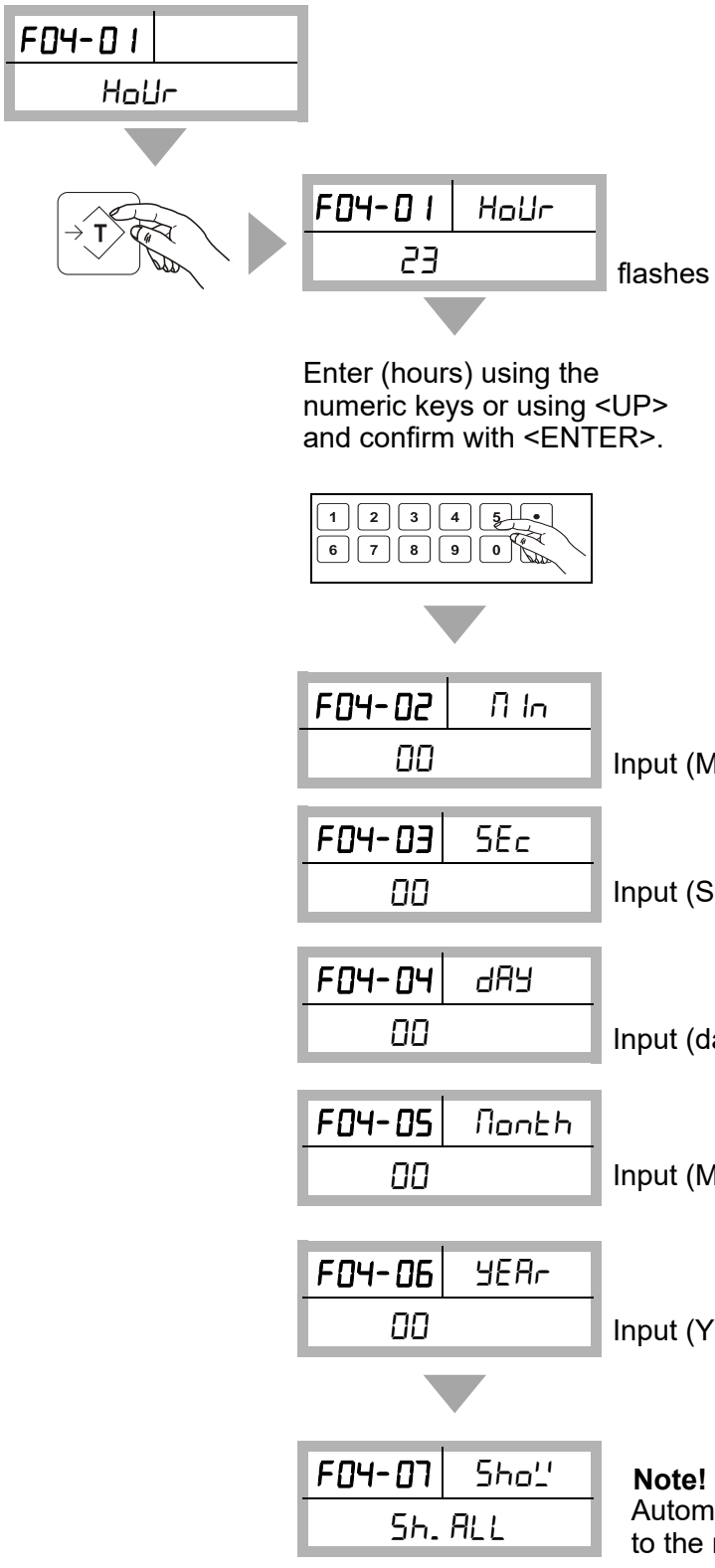


### 5.2.4 Function menu F04 - overview TIME (date /time)

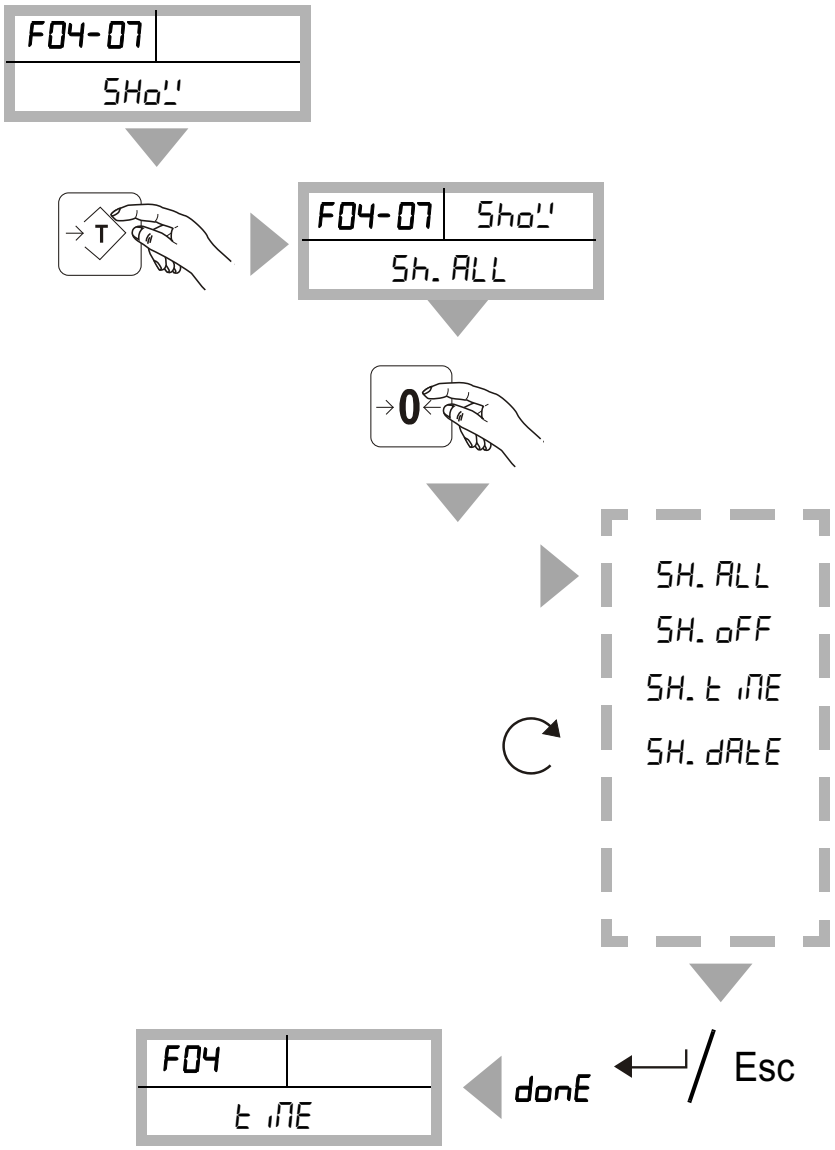
**Note**
No automatic changing of winter and summer time.



### Function menu F04 - HOUR (Time)

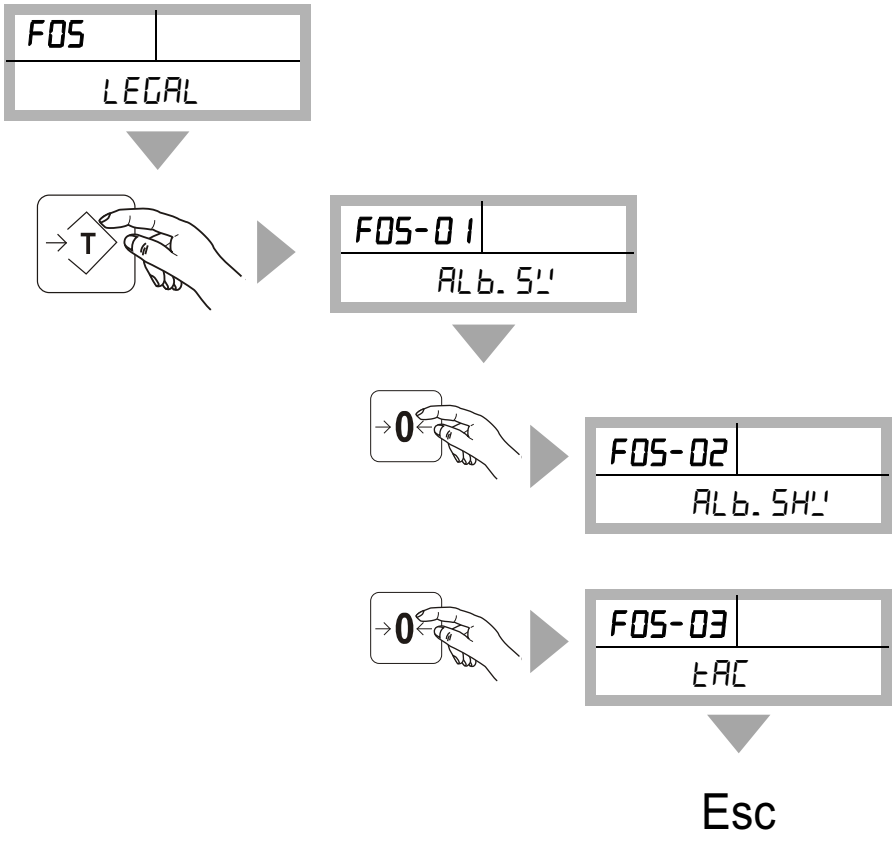


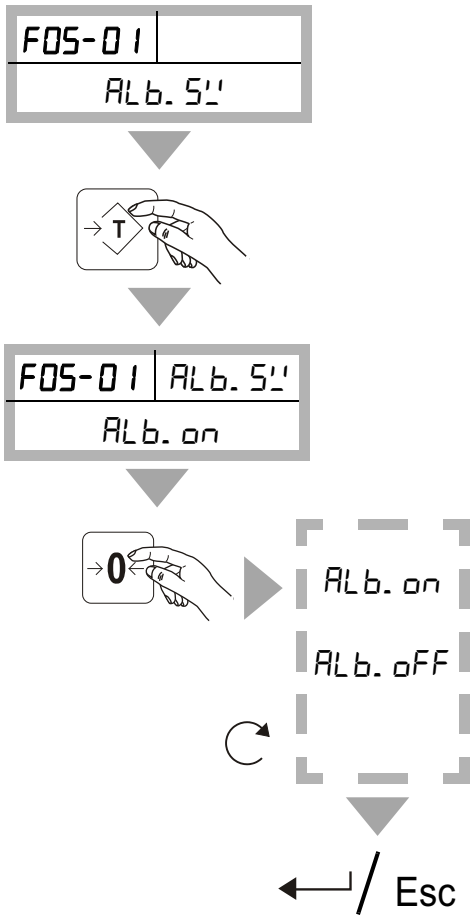
**Function menu F04 - 06 SHOW (show date/time on the display)**

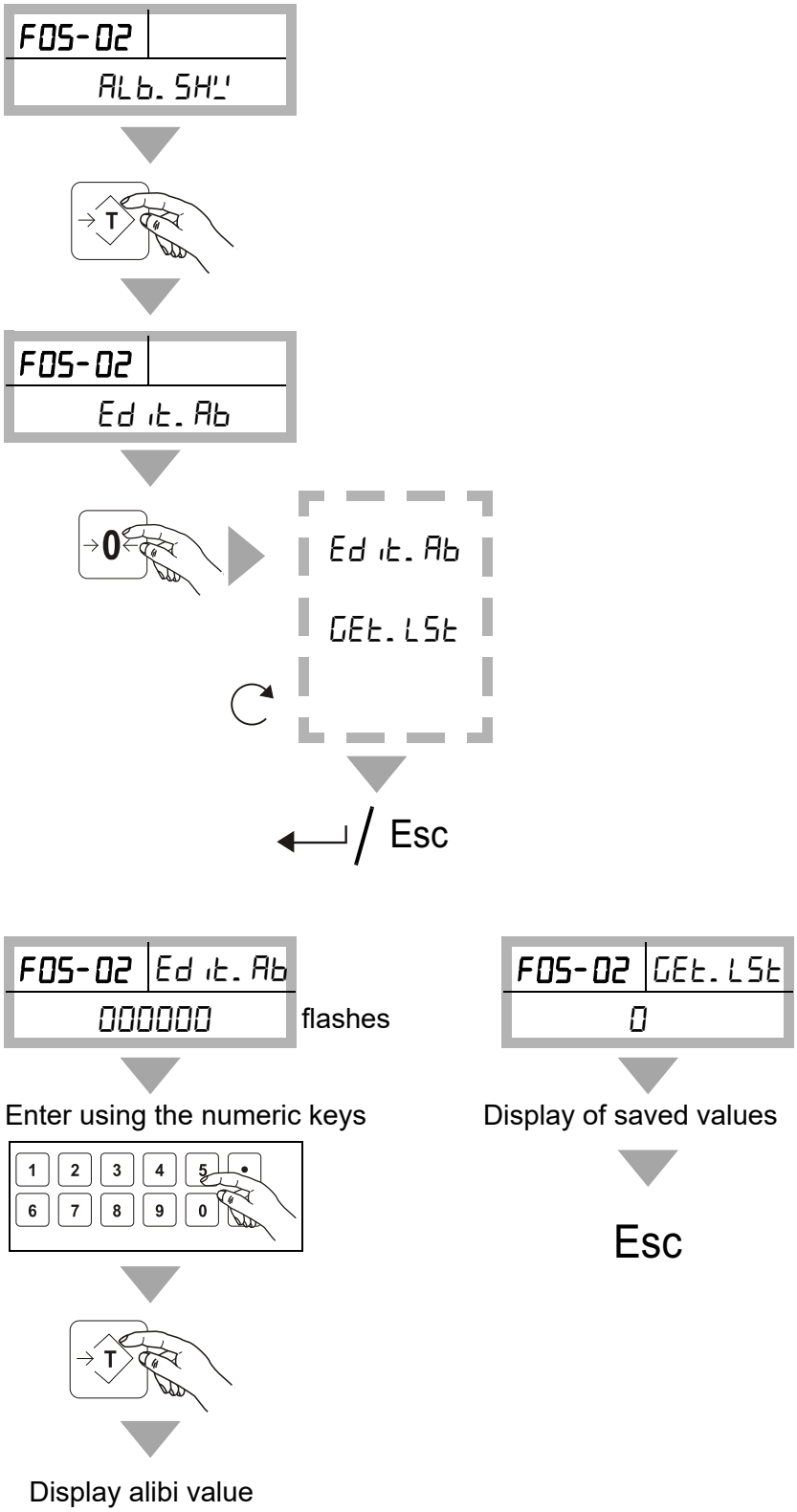


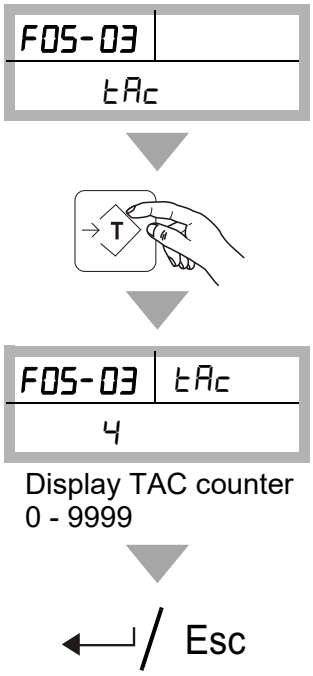
### 5.2.5 Function menu F05 - overview Legal

**Note**
In the menu item "Legal" the alibi memory can be activated or deactivated, when needed.
On legal-for-trade scales, the alibi memory is by default always active and cannot be disabled. The query of the saved alibi values for market surveillance (Bureau of Standards) is located in this menu item. Another way to display saved alibi values is located in the Quick Menu.




FOS-01
ALb. 5'
T
FOS-01
ALb. 5'
ALb. on
0
ALb. on
ALb. oFF
Esc


F05-02
ALb. SHI
T
F05-02
Edit. Ab
0
Edit. Ab
GEt. LSt
Esc
F05-02 Edit. Ab
000000
flashes
Enter using the numeric keys
1 2 3 4 5 .
6 7 8 9 0
T
Display alibi value
F05-02 GEt. LSt
0
Display of saved values
Esc




Display TAC counter
0 - 9999

Esc

# 6 Password protected menu (advanced functions)

## 6.1 Navigation in the protected menu

| Navigation | |
|---|---|
| NET / G / B ◀ | Move the active number to the left <LEFT> |
| →0← ▲ | Change of the parameter <UP> |
| →T← ↵ | Saving the settings <ENTER> |
| PRINT Esc | Leaving the functional level (ESCAPE) |

In the password-protected menu all verification relevant and technical parameters of the scale are adjusted. When exiting the menu, storing the modifications must be done to change parameters altered effectively.

- Press the <ESC> key repeatedly to leave the menu.
  - The message (Save ?) appears on the display:



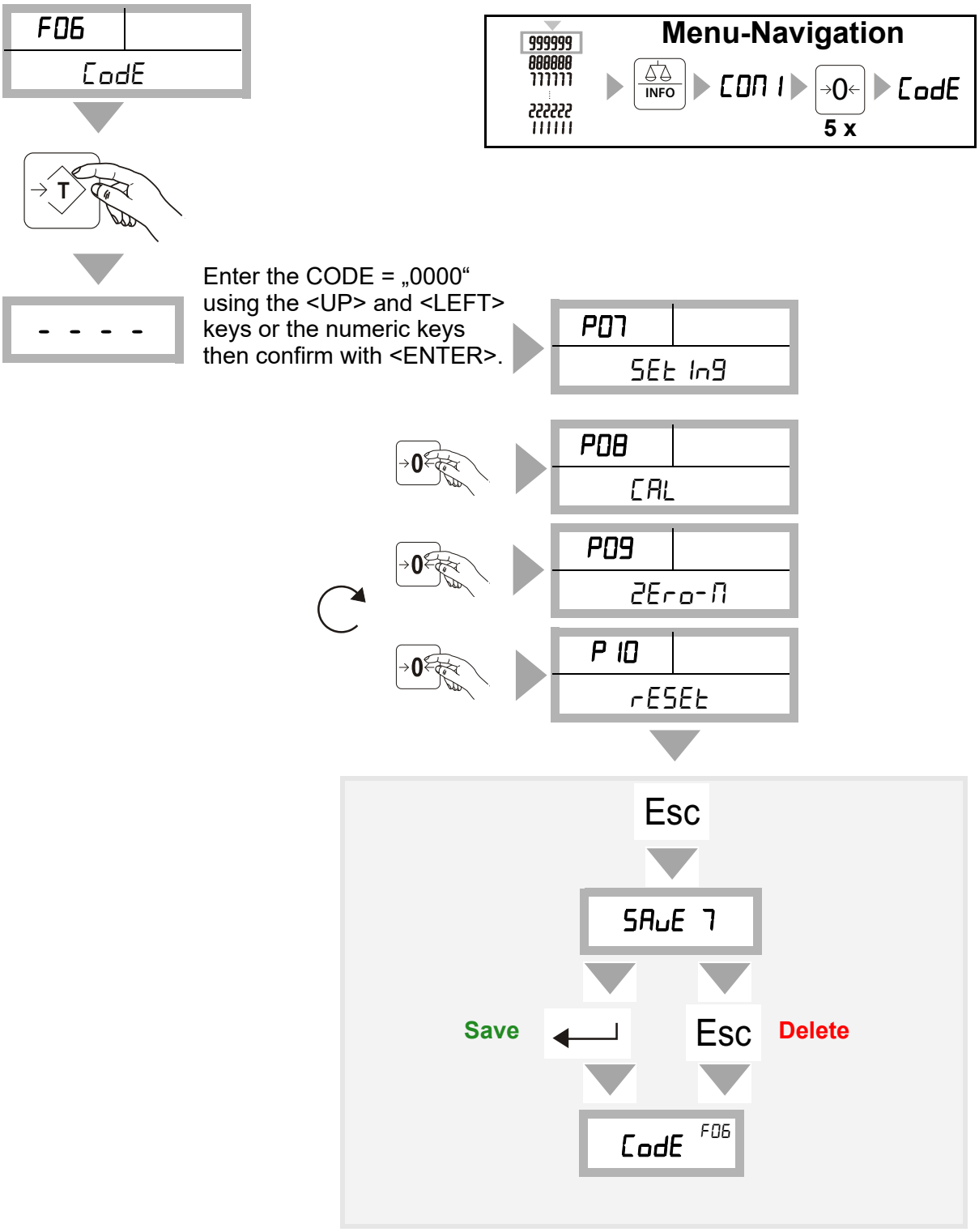

**Note**
Press the <ENTER> key to save the value.

**Note**
Press the <ESC> key if the value should not be saved.

  - The message appears on the display:



## 6.2 Password protected menu - overview



### 6.2.1 Password protected menu - short description

| Menü | Untermenü | Optionen | Funktion |
|---|---|---|---|
| P07<br>SEtInG | P07-01<br>dEc I<br>Decimal place | 0; 0.0; 0.00; 0.000; 0.0000; 0.00000 | Setting of the desired number of digits after the decimal point. |
| | P07-02<br>InC<br>Increment size | InCSt I<br>1; 2; 5; 10; 20; 50; 100; 200 | Increments for the displayed weight (resolution). |
| | P07-03<br>CAP<br>Setting the capacity | CAPMAH<br>„00.0000“ flashes -->Enter the value using the <UP> and <LEFT> keys.<br><br>CAP. rn I (is not displayed if rnIn = oFF P07-06)<br>„00.0000“ flashes--> Enter the value using the <UP> and <LEFT> keys.<br><br>CAP. rn2 (is not displayed if rnIn = oFF P06-07)<br>„00.0000“ flashes --> Enter the value using the <UP> and <LEFT> keys. | Setting of the maximum capacity.<br><br>Capacity weighing range1<br><br>Capacity weighing range2 |
| | P07-04<br>OLP<br>Overload control | on<br>oFF | On/Off |
| | P07-05<br>ULP<br>Underload control | on<br>oFF | On/Off |
| | P07-06<br>rnIn<br>Multi-range/ Multi-interval | oFF<br>Int2<br>Int3<br>rn92<br>rn93 | Normal weighing<br><br>Multi-interval scale<br><br>Multi-range scale |
| | P07-07<br>PAIr | on<br>oFF | On/Off<br>Enable LEGAL mode (verified/non-verified) |

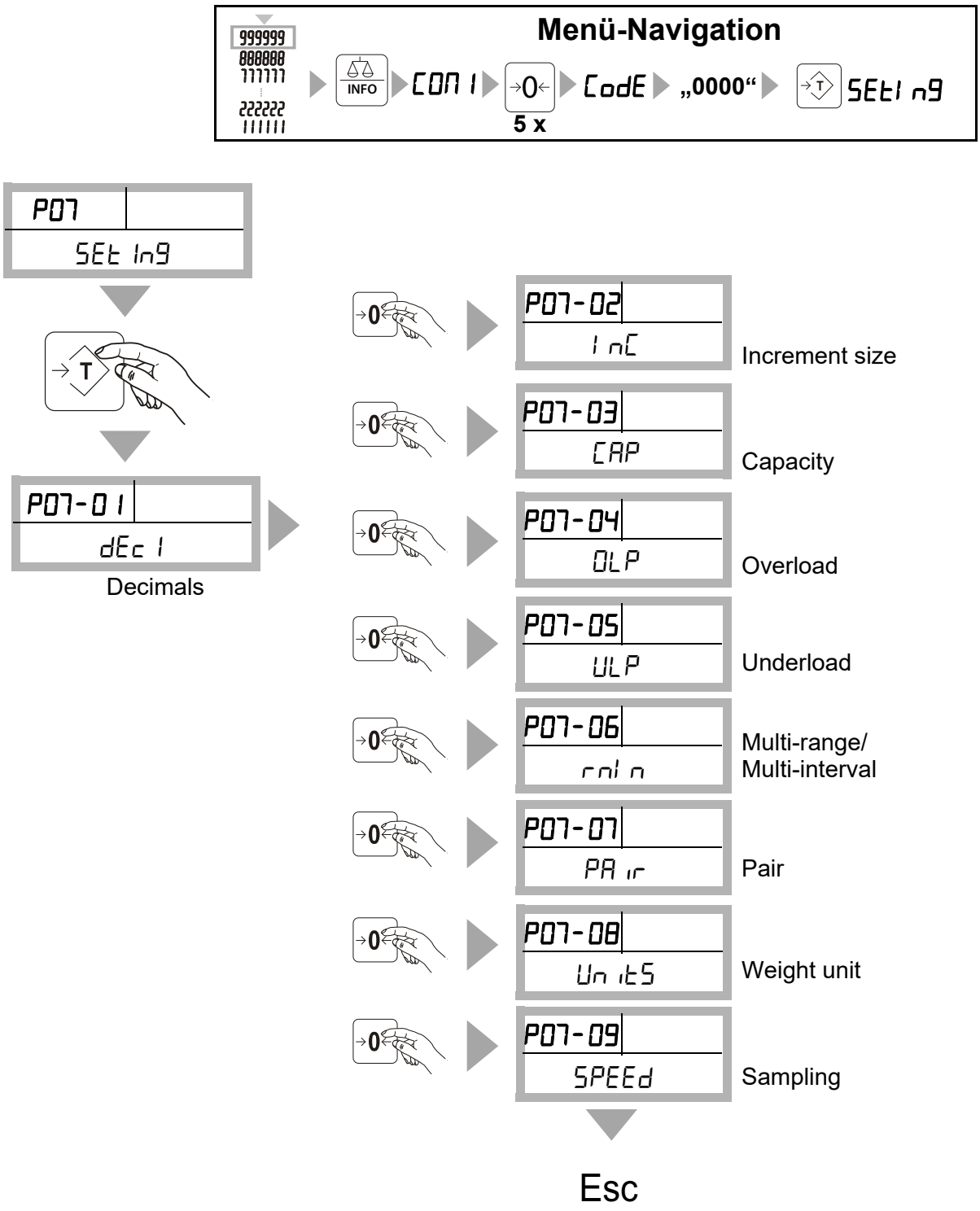
| Menü | Untermenü | Optionen | Funktion |
|---|---|---|---|
| P07<br>SEtinG | P07-08<br>Units<br>Weight unit | SEL 0 | No weight unit. |
| | | SEL 1 | g (gram) |
| | | SEL 2 | kg (kilogram) |
| | | SEL 3 | t (ton) |
| | | SEL 4 | lb (pound) |
| | P07-09<br>SPEEd | SMPLnG | 6 12 25 50 100 200<br>ADC sampling rate<br>Sampling rate of the external ADC (Attention: The setting does usually not require any changes! Effect on the weight calculation!). |
| P08<br>CAL | P08-01<br>SPAn<br>Two-point calibration (zero point, load point). | rA'_ | “67442“ (example)<br>Display of the current raw measured value of the A/D converter. |
| | | 2Ero | "72 18 1"<br>(example)<br>Zero-point calibration<br>Press <Enter> to set the zero point.<br>(Displays the current ADC value.) |
| | | LoAd | 000000 flashes<br>Calibration of the load. |
| | P08-02<br>L inEAr<br>Linear Calibration | StEPS | 0 flashes<br>Enter the number of steps. |
| | | rA'_ | “67442“ (example)<br>Display of the current raw measured value of the A/D converter. |
| | | 2Ero | "72 18 1"<br>(example)<br>Zero-point calibration<br>Press <Enter> to set the zero point.<br>(Displays the current ADC value.) |

| Menü | Untermenü | Optionen | Funktion |
|---|---|---|---|
| P08<br>CAL | P08-02<br>L inEAr | LoAd | 000000 flashes<br>Calibration of the load. |
| | P08-03<br>Au-u<br>Theoretical calibration | FI ELd | SEnS<br>"3.0000" mV/V flashes --> Enter the value. (Setting the sensitivity of the load cells used). If there are several load cells, the average value must be entered.<br><br>tCAP<br>" 1000.0" kg flashes --> Enter the value. (Setting the maximum load of the load cells used). Enter the sum of all connected load cells, considering the decimal places "dEcI " (P07-01).<br>Example:<br>4 load cells á 1000 kg = 4000 kg (dEcI = 0.0) --> 4000.0<br><br>2Ero<br>"72 18 1" set the zero point with <ENTER> (The current ADC value appears). |

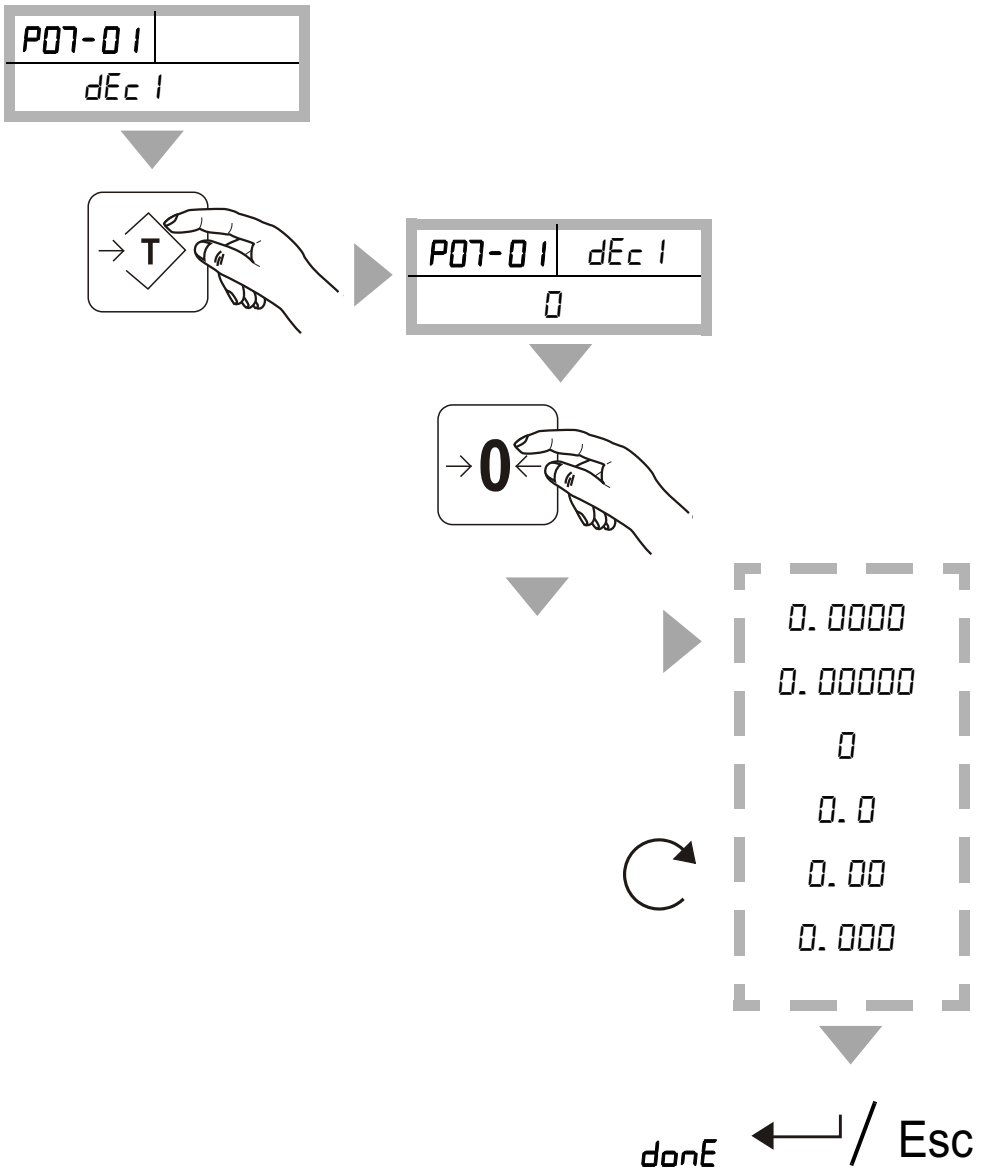
| Menü | Untermenü | Optionen | Funktion |
|---|---|---|---|
| P08<br>CAL | P08-03<br>Mu-u | FCtOrY | SEnS<br>“3.0000“ mV/V flashes --> Enter the value. (Setting the sensitivity of the load cells used). If there are several load cells, the average value must be entered.<br><br>tCAP<br>“ 1000.0“ kg flashes --> Enter the value. (Setting the maximum load of the load cells used). Enter the sum of all connected load cells, considering the decimal places "dEc1 " (P07-01).<br>Example:<br>4 load cells á 1000 kg = 4000 kg (dEc1 = 0.0) --> 4000.0<br><br>2Ero<br>“72 18 1“ set the zero point with <ENTER> (The current ADC value appears).<br>LoAd<br>Setting the load point for factory calibration. |
| | P08-04<br>GrAUtY | G.FiELd | “9.81300“ flashes --> Set the gravity value. Adjustment of the gravity factor to correct the weight value on the site of scales use. |
| | | G.FctrY | “9.81300“ flashes --> Set the gravity value. Adjustment of the gravity factor to correct the weight value at the scale calibration site. (Default: 9.8130) |

| Menü | Untermenü | Optionen | Funktion |
|---|---|---|---|
| P08<br>CAL | P08-05<br>CAL.SEL<br>Selection of the active calibration method. | SPAn | Two-point calibration |
| | | L inEAr | Linear calibration |
| | | FI ELD | Calibration using adjusted load cell values (mV/V). |
| | | FActry | Reference calibration for mV/V calibration. |
| P09<br>2Ero-n | P09-01<br>AU.2Ero<br>Automatic zero-setting range | OFF; 0,25d; 0,5d; 1d; 2d; 3d; 4d | Off (default) |
| | P09-02<br>rn.2Ero<br>Manual zero-setting range | 0; 2; 4; 10; 20; 50; 100 | Percentage of the capacity (default 2%).<br>Zero of the scale by pressing the →0← key. |
| | P09-03<br>on.2Ero<br>Power-on zero-setting range | 0; 2; 4; 10; 20; 50; 100 | Percentage of the capacity (default 20%) at power-on. |
| P10<br>rESEt | P10-01<br>rES.CAL | no<br>YES | Reset to factory-settings. |

### 6.2.2 Password protected menu P07 - overview settings

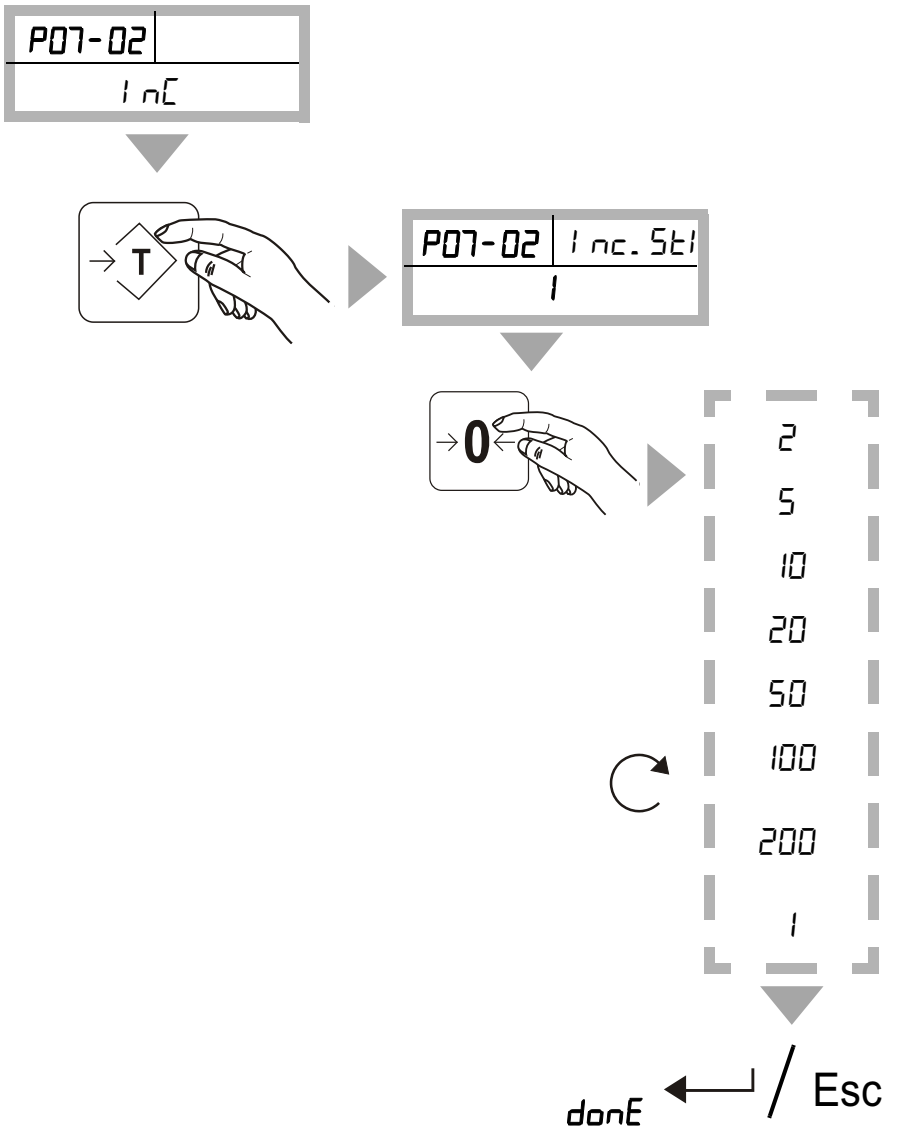


Password protected menu P07-01 - DECI (decimal places)



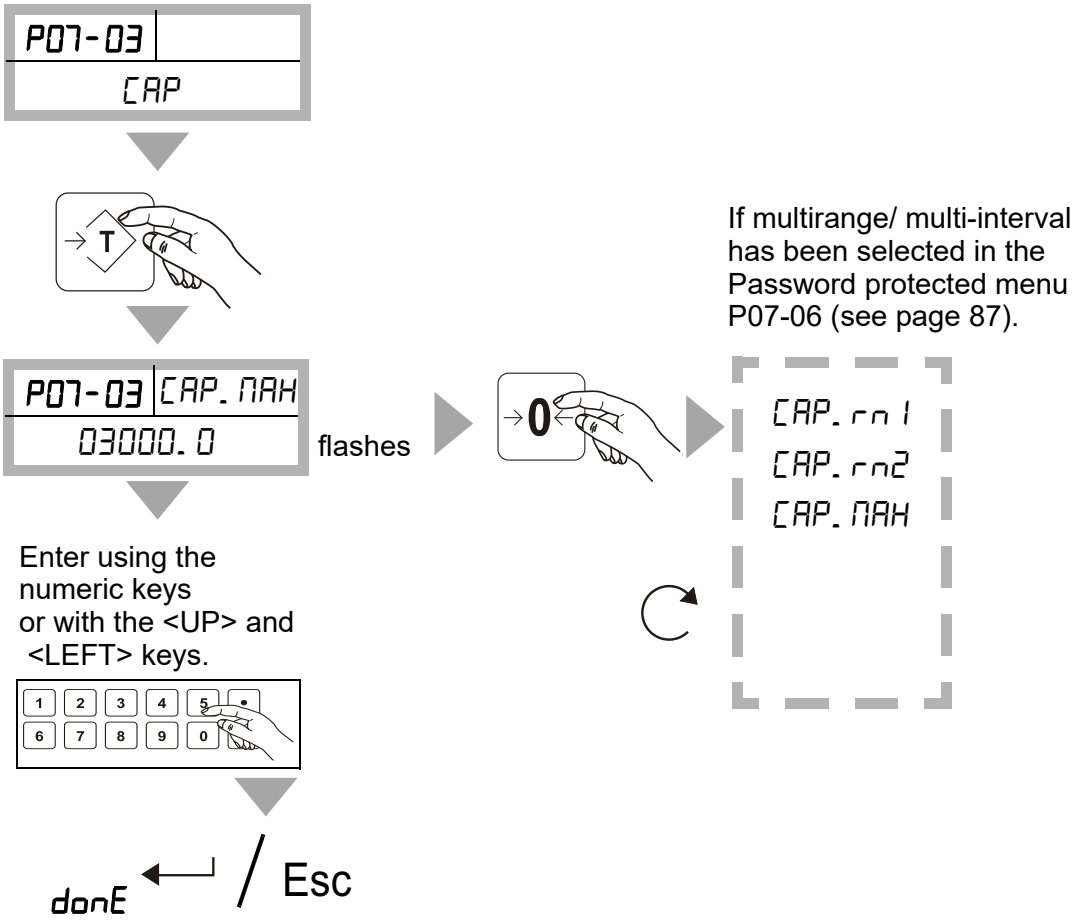

Save/delete see Sektion 6.2

Password protected menu P07-02 - INC (increment size)




Save/delete see Sektion 6.2

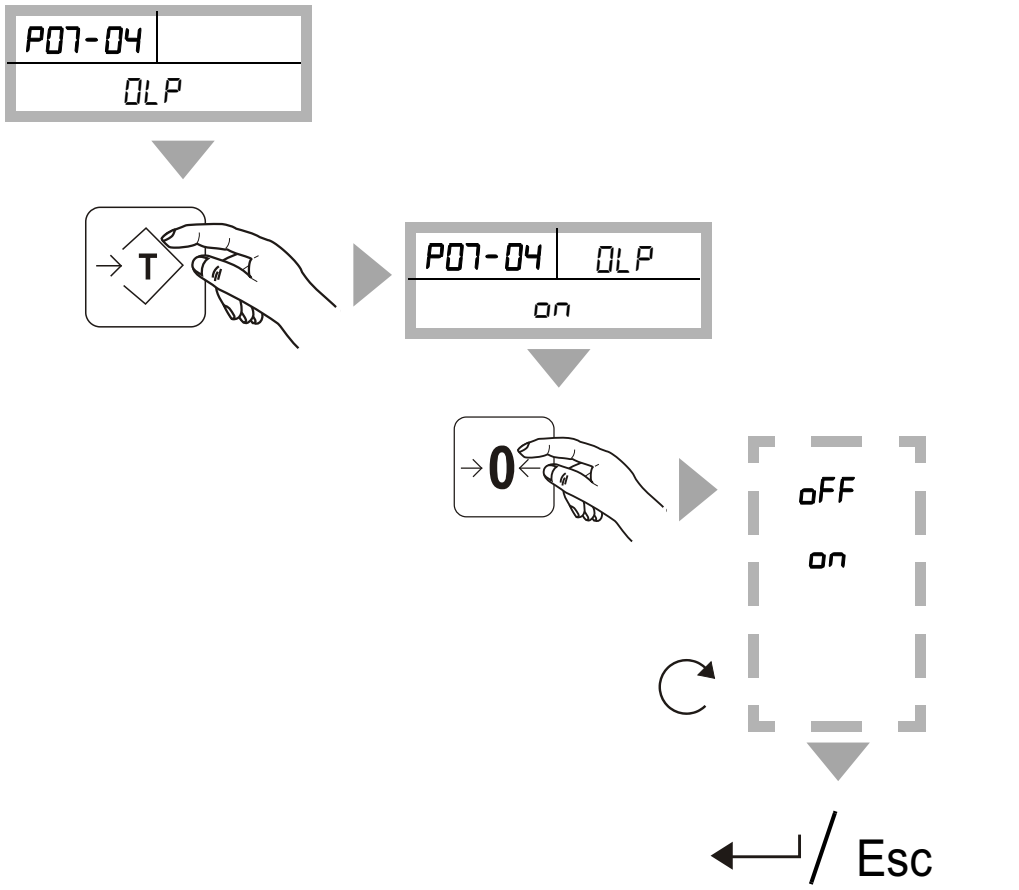
Password protected menu P07-03 - CAP (capacity)




Save/delete see Sektion 6.2

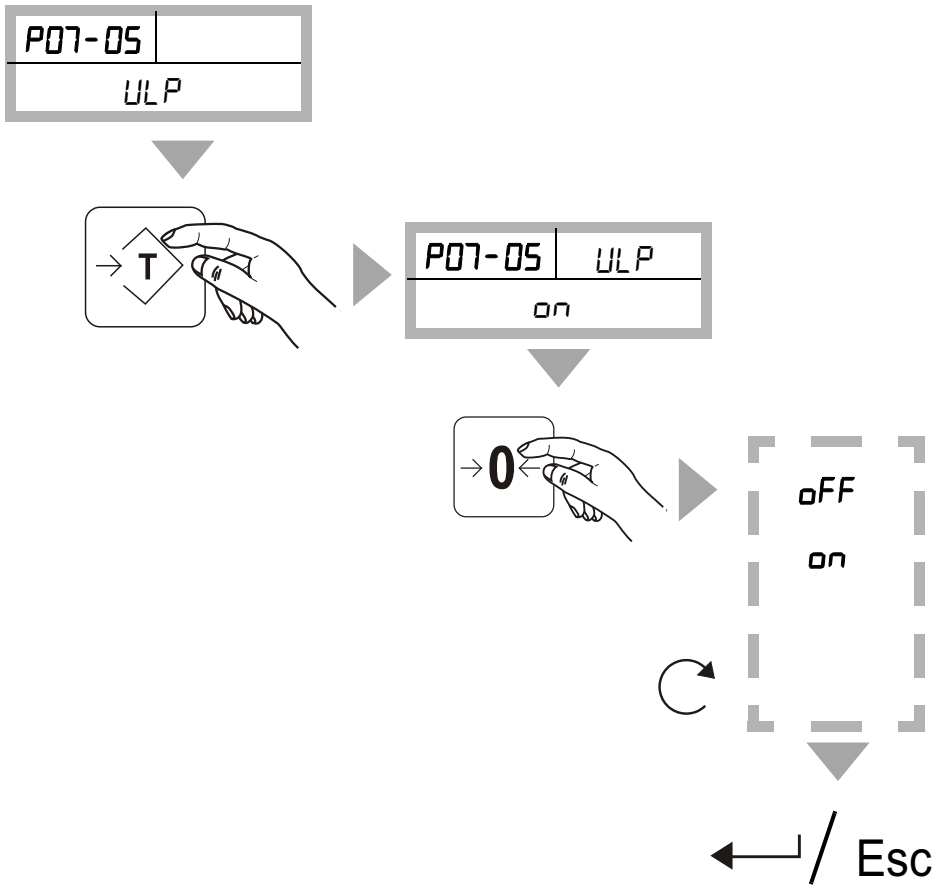
Password protected menu P07-04 - OLP (overload control on/off)

**Note**
This parameter cannot be changed for verified systems.




Save/delete see Sektion 6.2

Password protected menu P07-05 - ULP (underload control on/off)

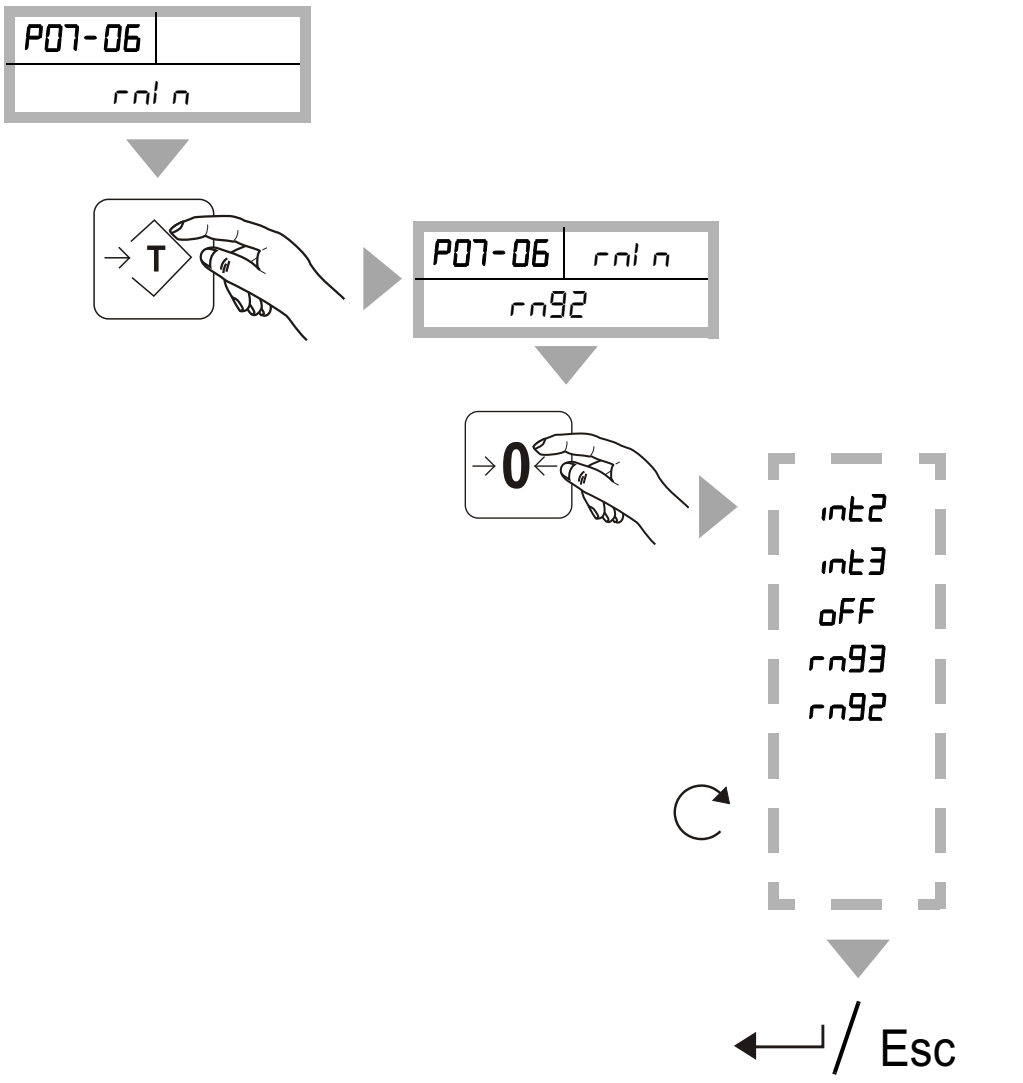



Save/delete see Sektion 6.2

Password protected menu P07-06 - RNIN (setting multi-range / multi-interval)

A multi-range scale consists of several distinct weighing ranges (e.g. 0–3 kg, 3–6 kg, 6–15 kg). Each range is assigned its own verification scale interval (e).

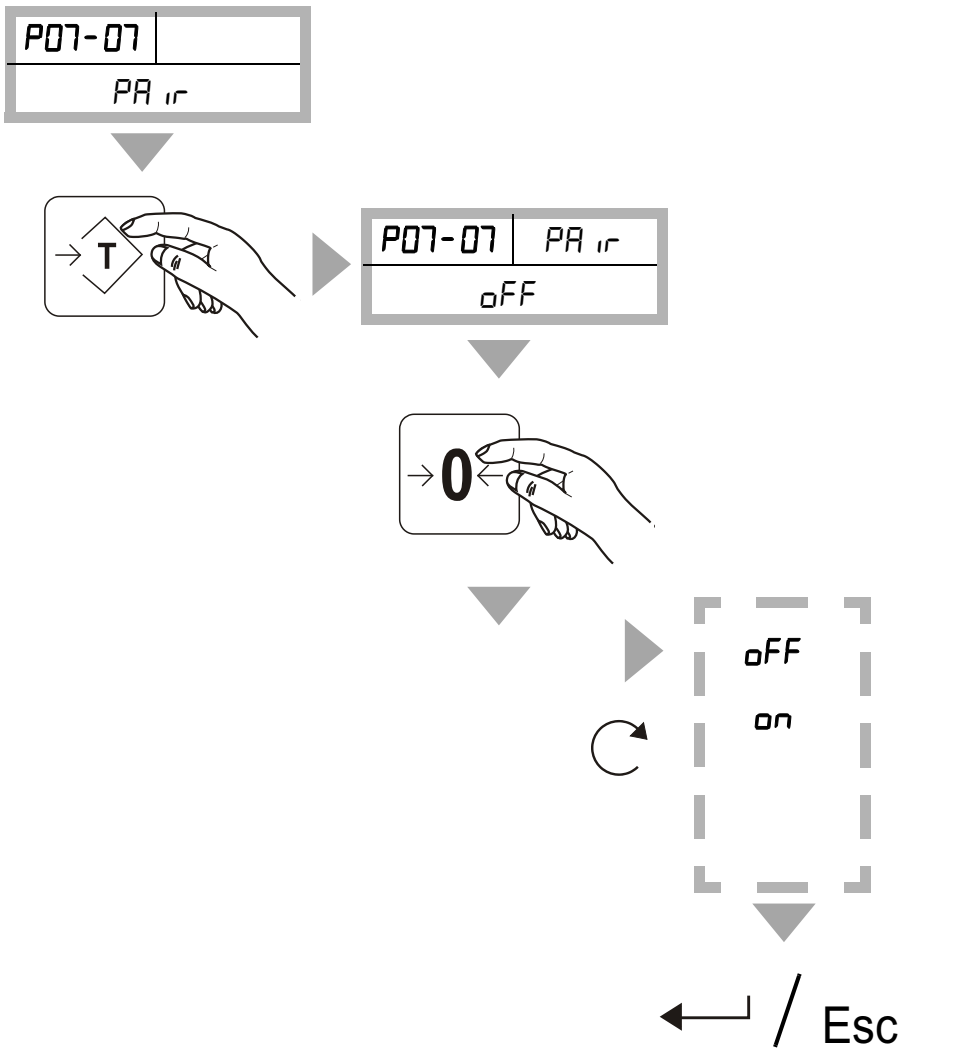
A multi-interval scale has one continuous weighing range, while the scale interval changes automatically. The scale automatically adjusts its resolution.




Save/delete see Sektion 6.2

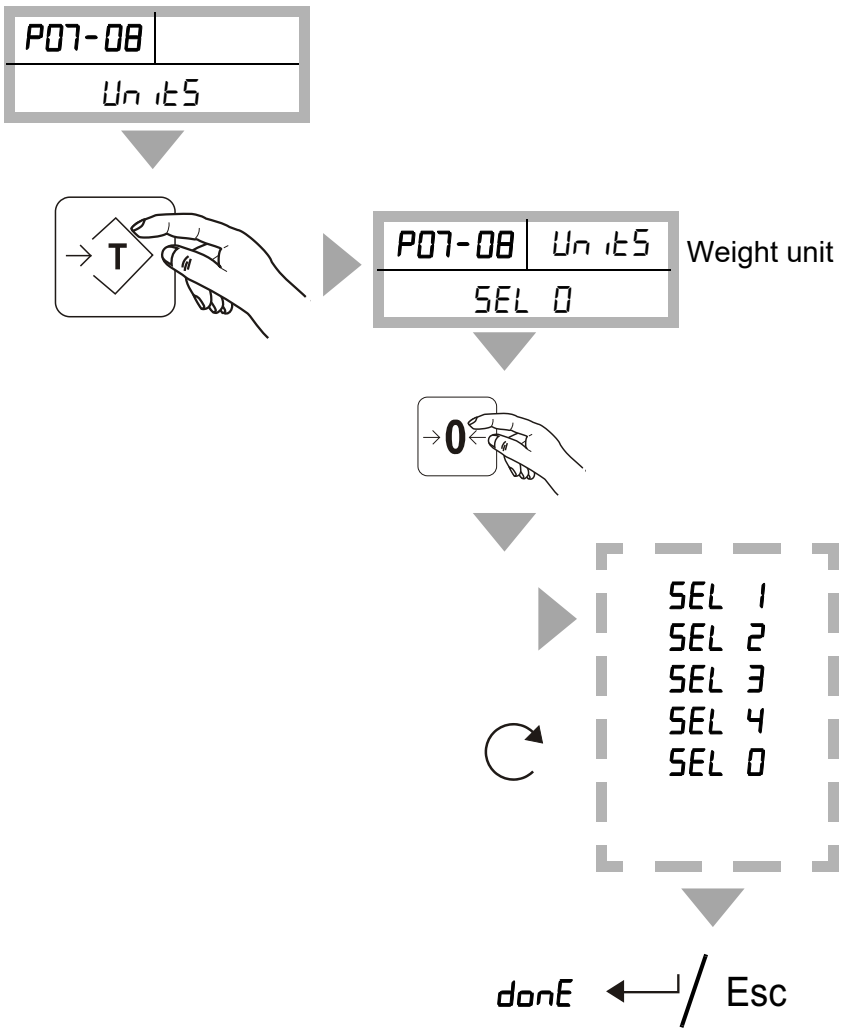
rn92: Multi-Range with two wighing ranges
rn93: Multi-Range with three weighing ranges
int2: Multi-Interval with two intervals
int3: Multi-Intervall with three intervals

Password protected menu P07-07 - PAIR (scale pairing)



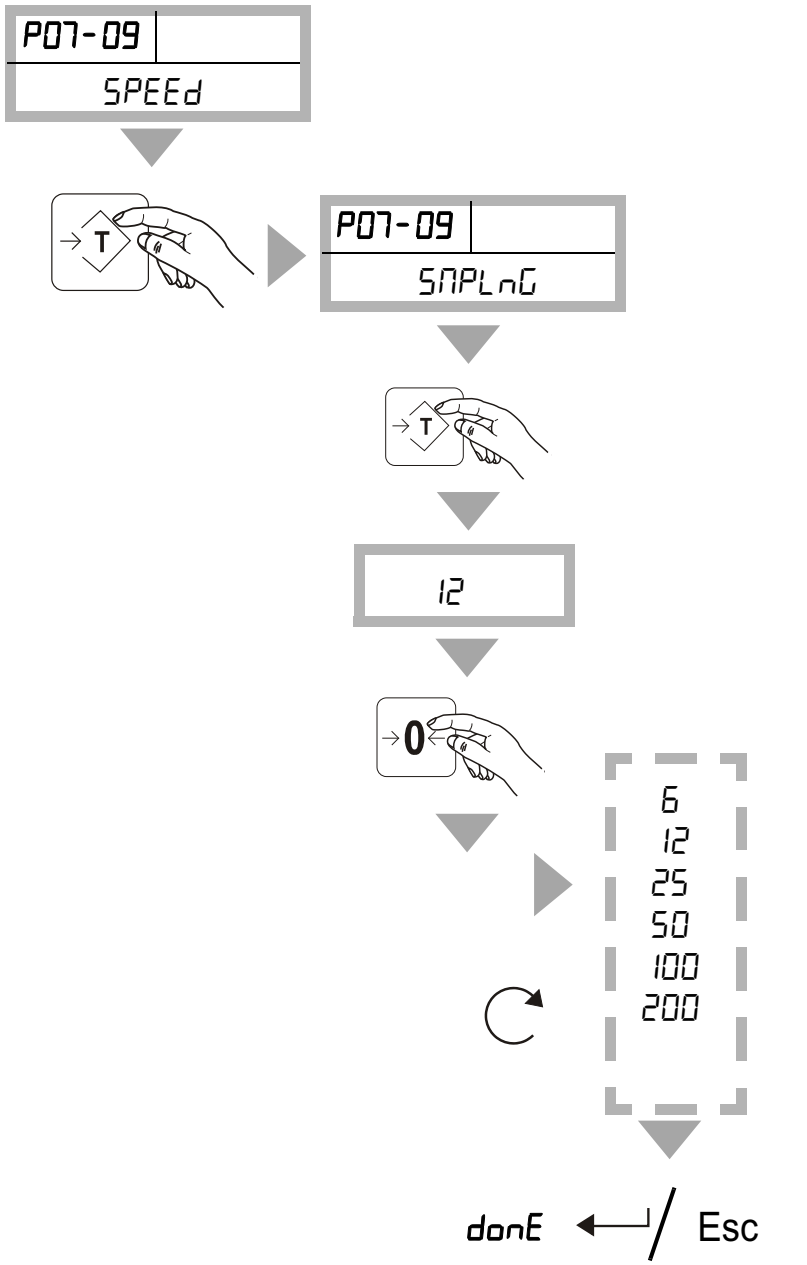

Save/delete see Sektion 6.2

Password protected menu P07-08 - UNITS (weight unit)




Save/delete see Sektion 6.2

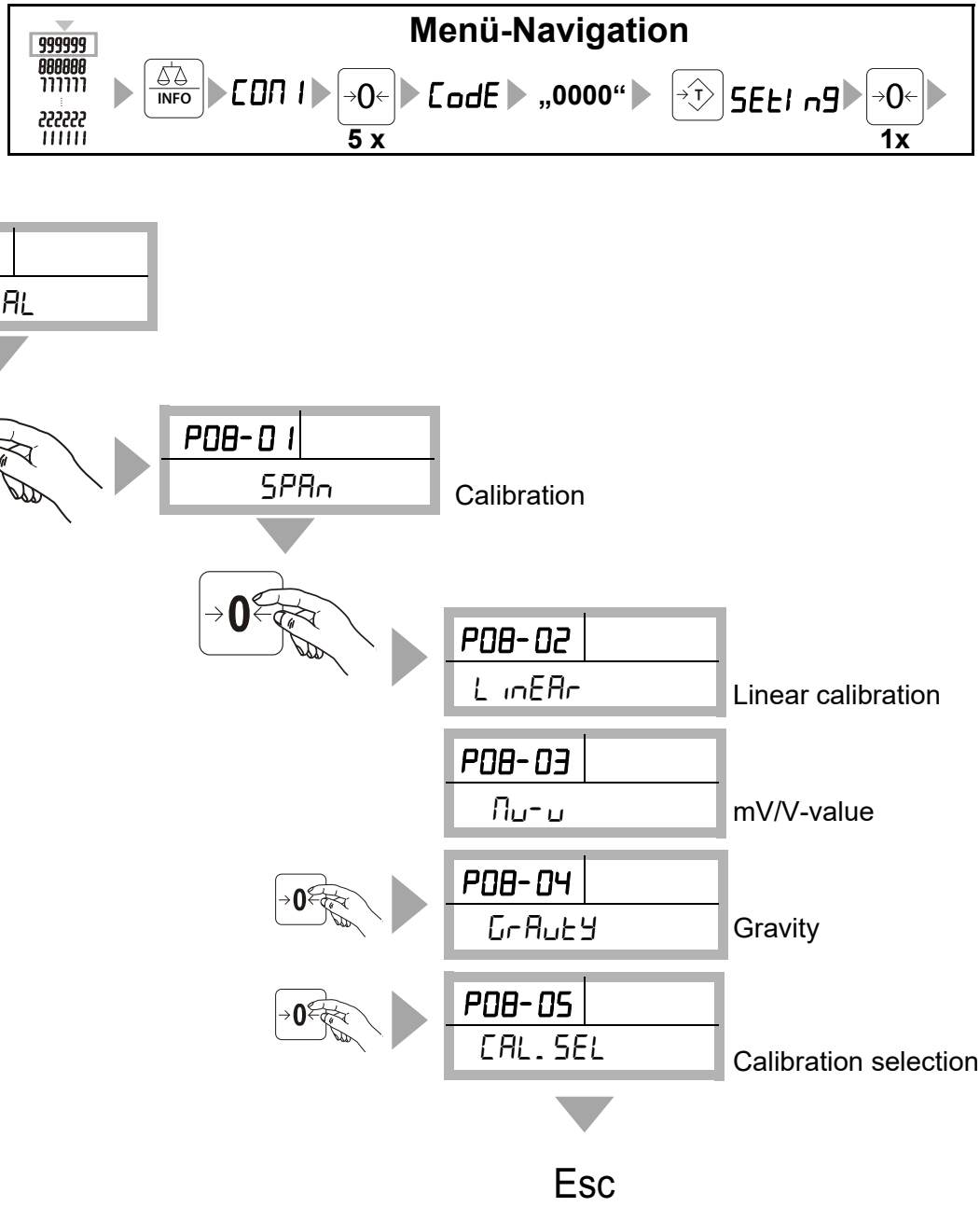
Password protected menu P07-09 - overview SPEED



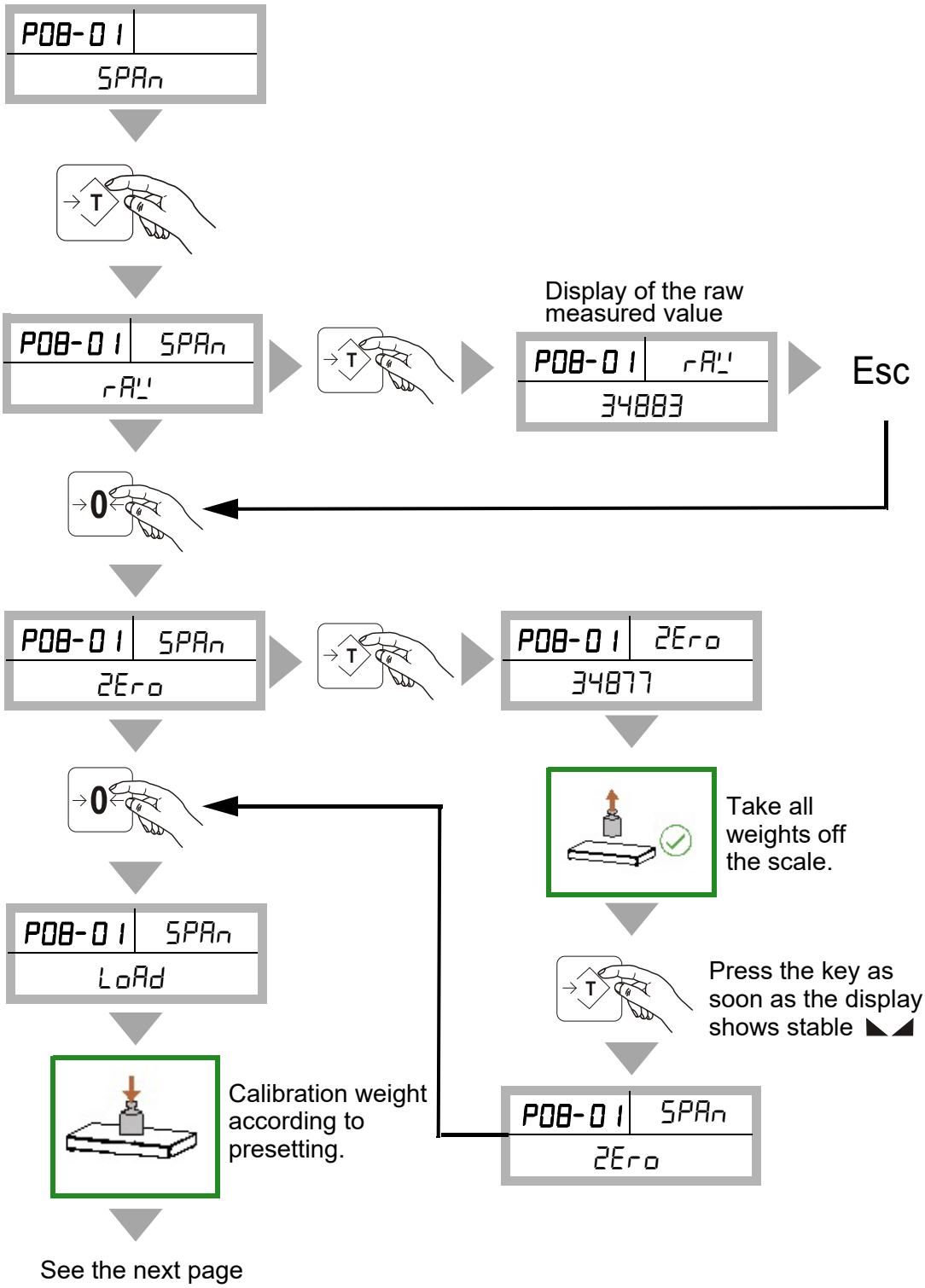

Save/delete see Sektion 6.2

### 6.2.3 Password protected menu P08 - overview CAL

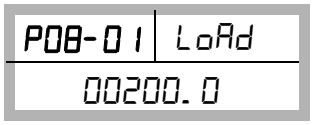
**Note**
Acclimatisation of the weighing system to the environment (min.10 minutes) is necessary for successful calibration. Make sure there are no objects on the weighing plate.



Password protected menu P08-01 - SPAN (calibration with reference weight)

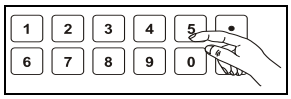






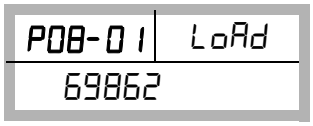

flashes

Enter the calibration weight
(min. 50 % of the max. weight)



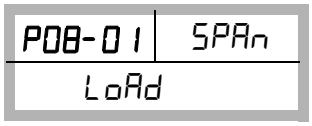

(000000-999999)






Press the key as soon as the displayed value is stable.



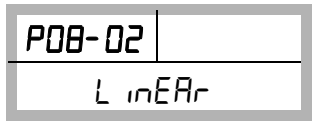



3 x Esc




Save/delete see Sektion 6.2

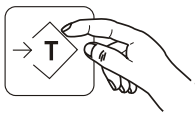
Password protected menu P08-02 - Linear (linear calibration)

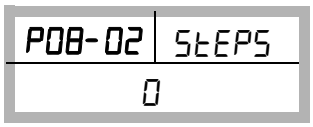






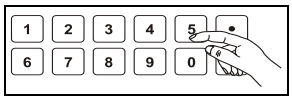



flashes

Enter the number of steps
using the numeric keys.





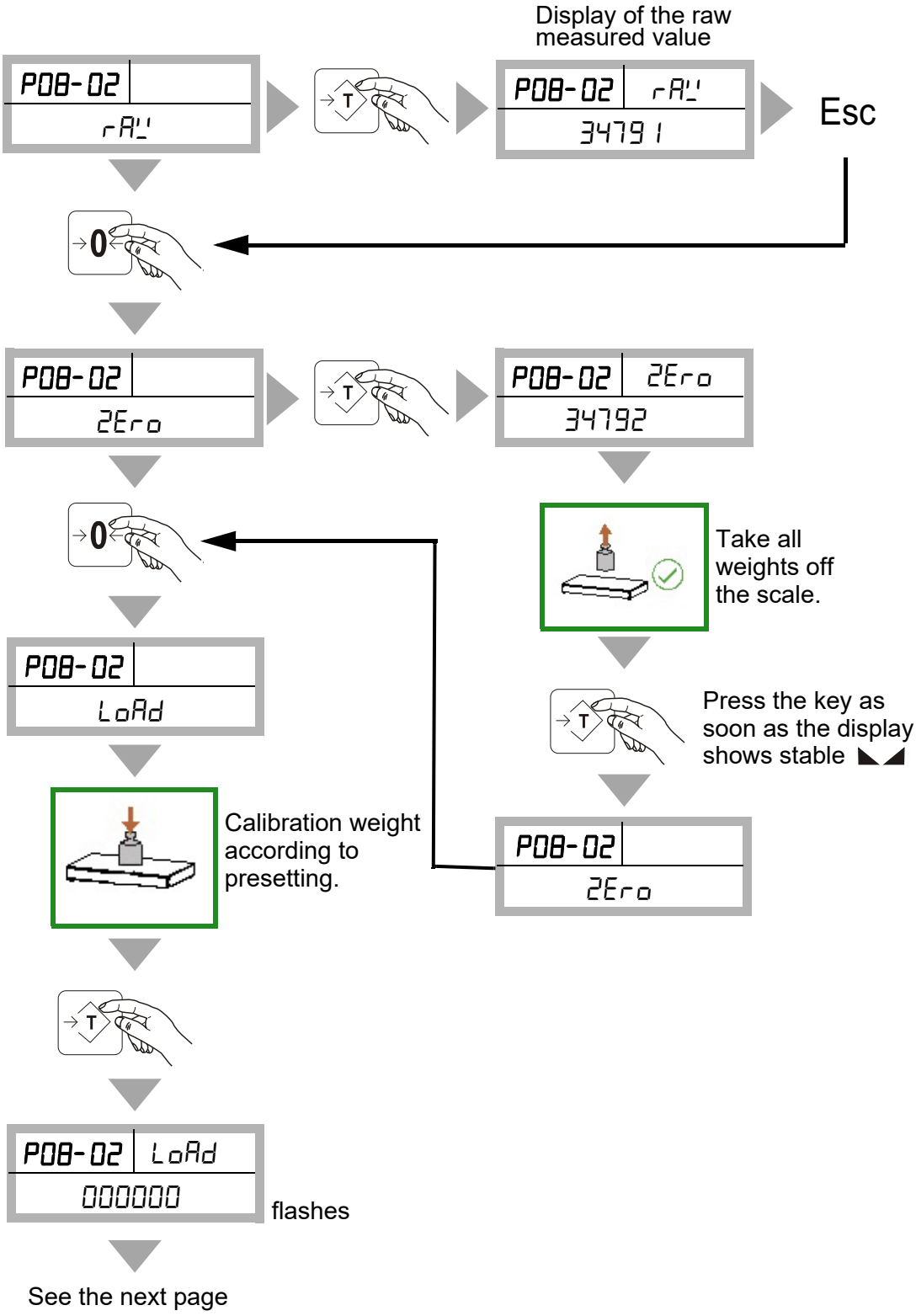




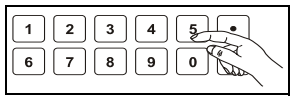




See the next page

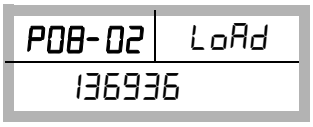

Display of the raw measured value
P08-02
rAW
P08-02 rAW
34791
Esc
P08-02
2Ero
P08-02 2Ero
34792
Take all weights off the scale.
Press the key as soon as the display shows stable
P08-02
LoAd
Calibration weight according to presetting.
P08-02
2Ero
P08-02 LoAd
000000
flashes
See the next page

Enter the calibration weight
(min. 50 % of the max. weight)




(000000-999999)




Press the key as soon as the displayed value is stable.





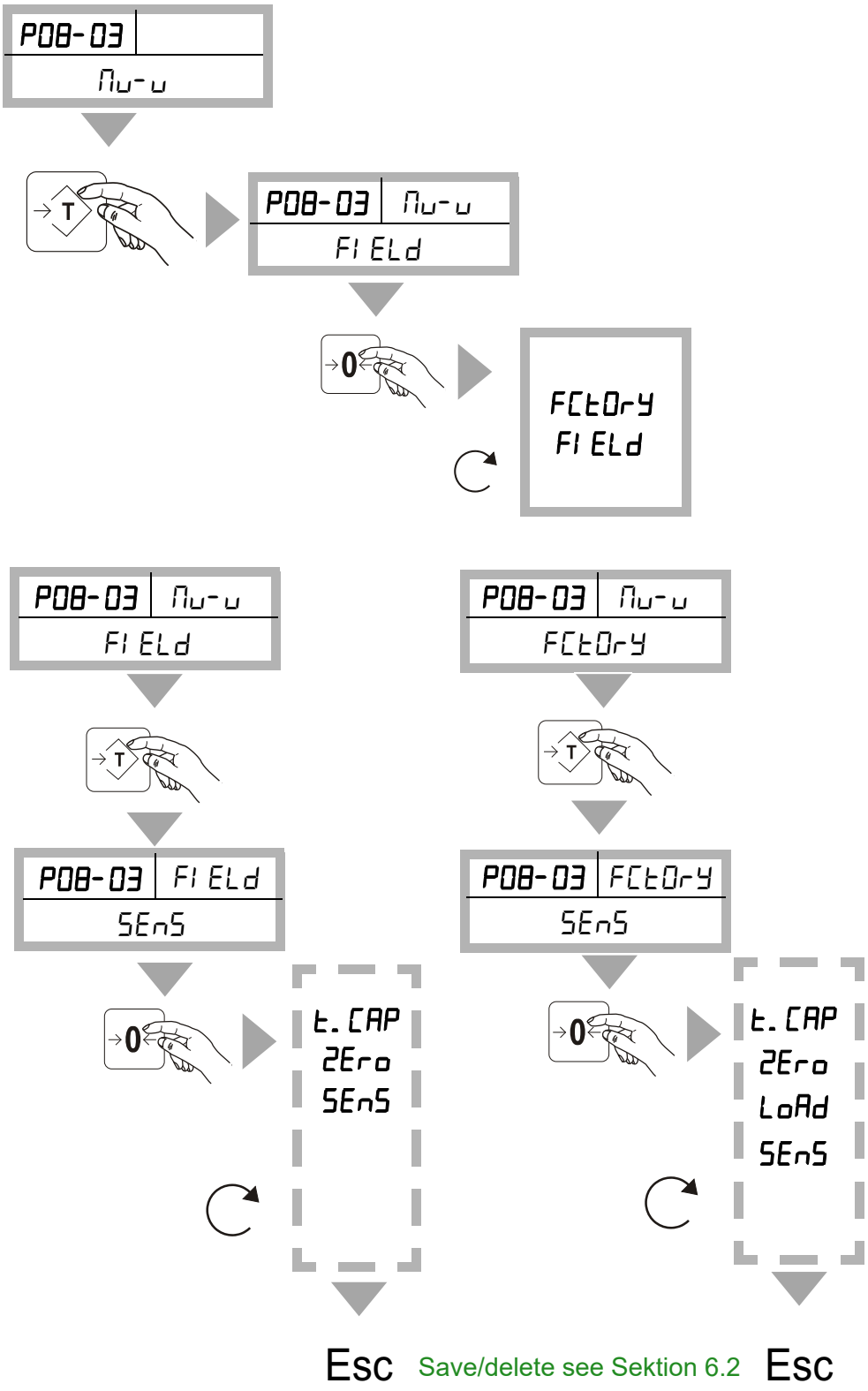


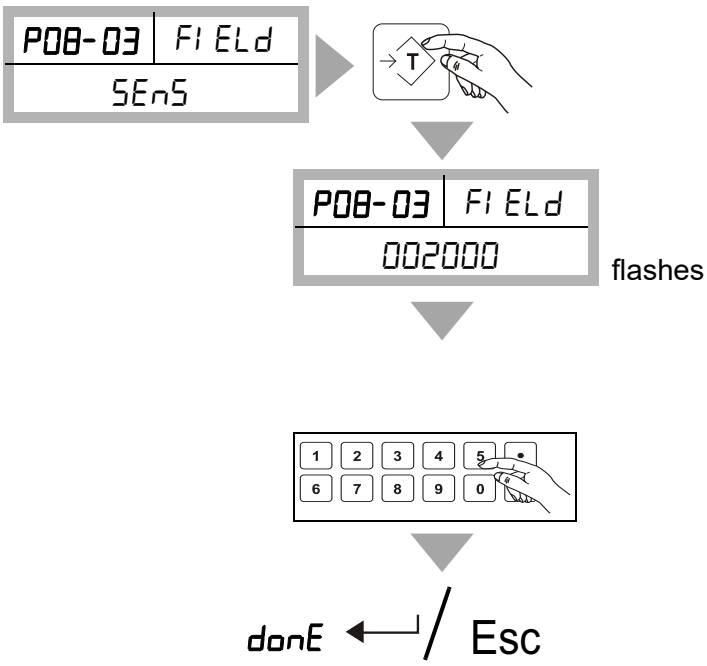
3 x Esc



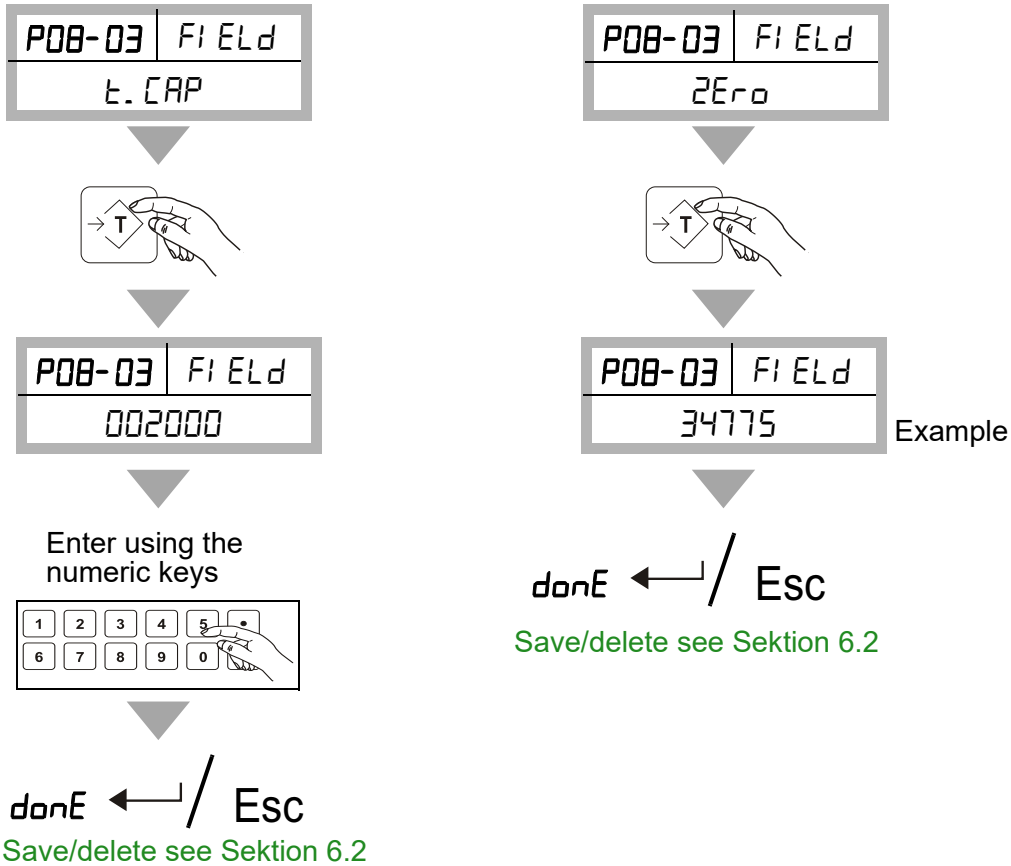

Save/delete see Sektion 6.2

Function menü P08-03 - mV-V (theoretical calibration with mV/V value of the load cells)



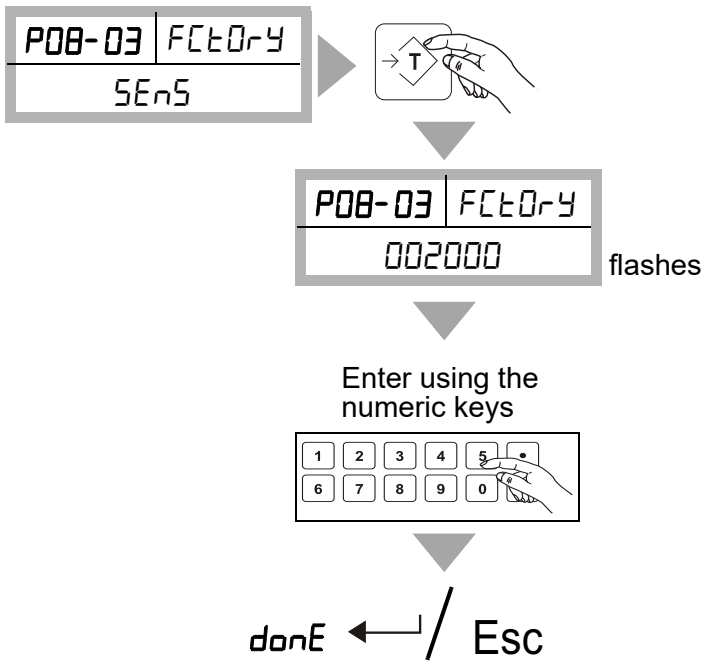



Save/delete see Sektion 6.2

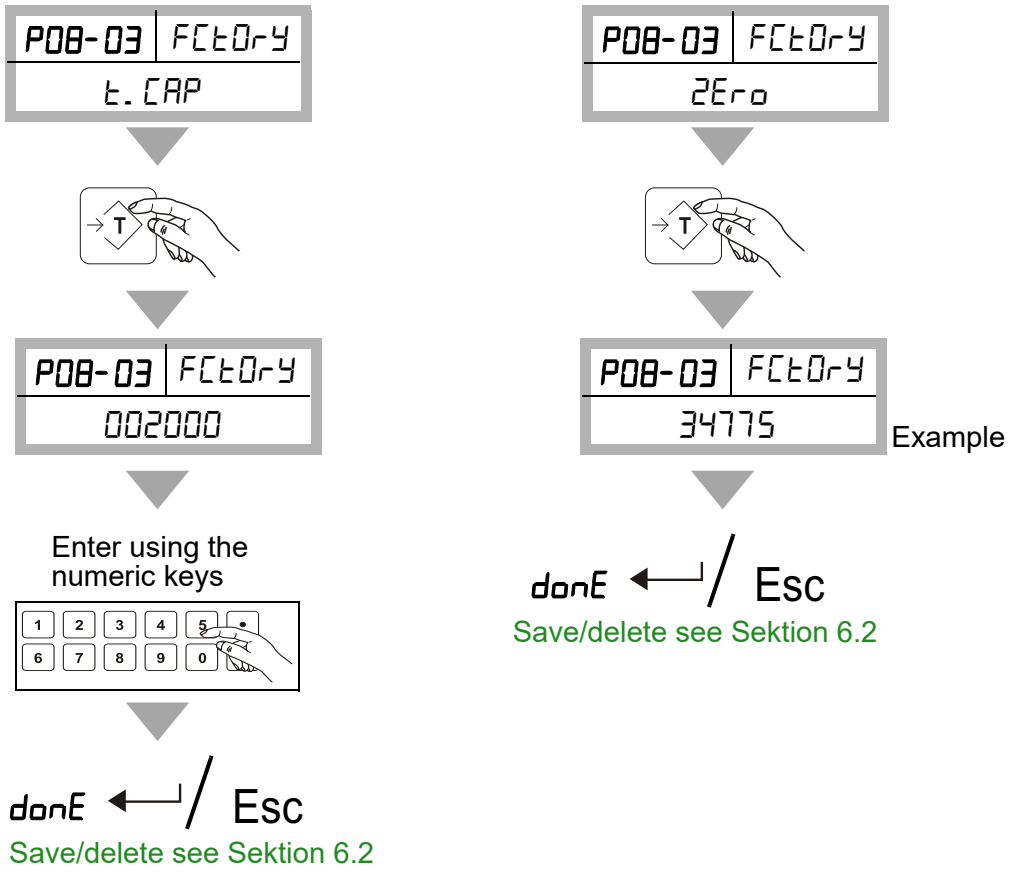



Save/delete see Sektion 6.2

Save/delete see Sektion 6.2

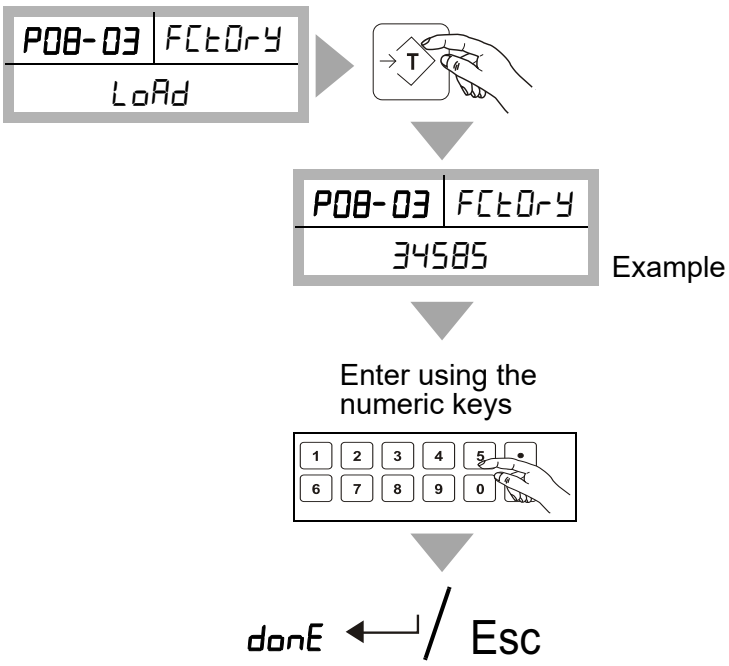



Save/delete see Sektion 6.2



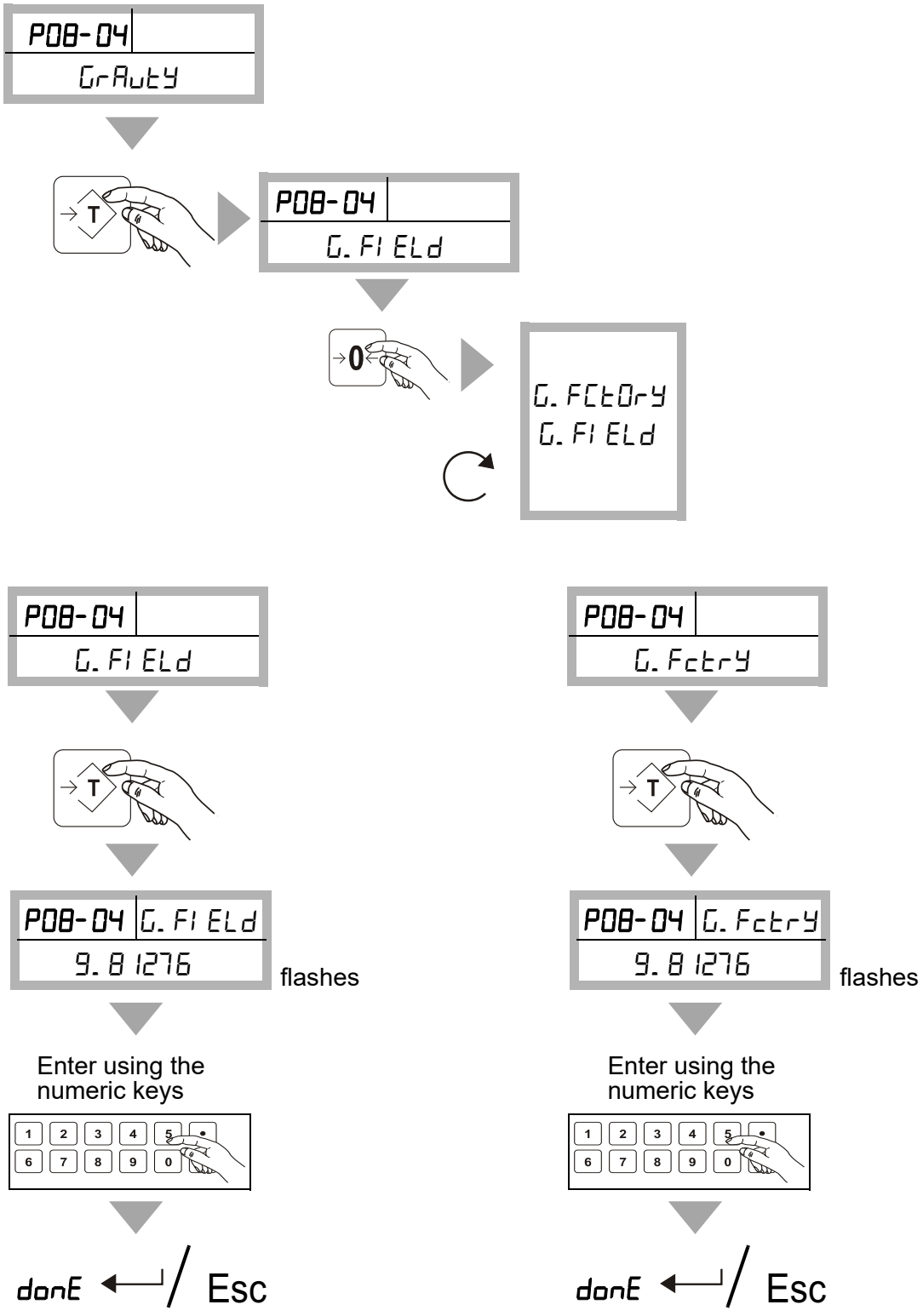

Save/delete see Sektion 6.2

Save/delete see Sektion 6.2



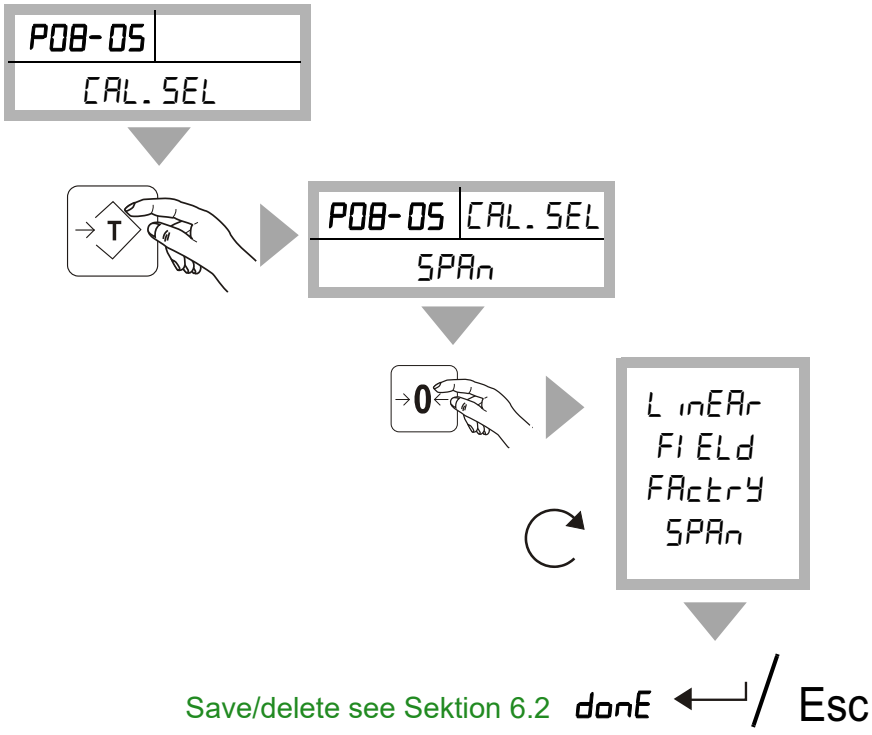

Save/delete see Sektion 6.2

Password protected menu P08-03 - GRAVITY (correction)



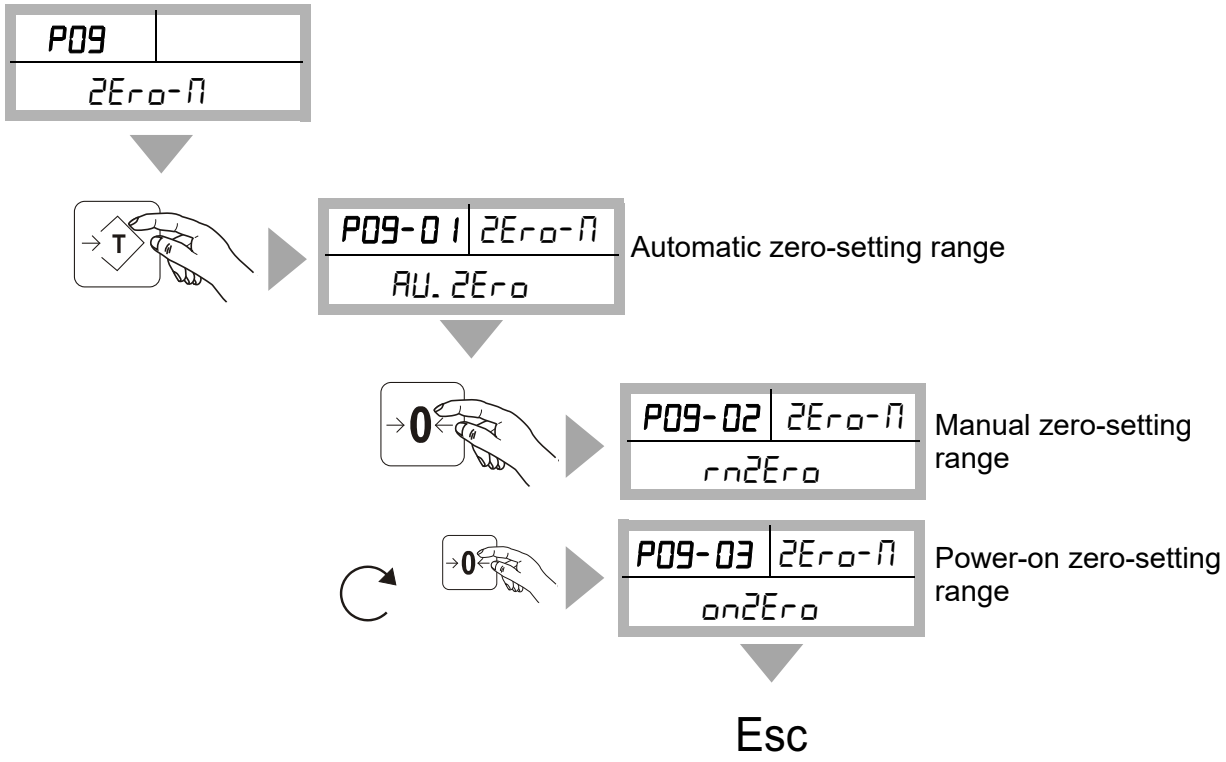

Save/delete see Sektion 6.2

Password protected menu P08-05 - CALSL (calibration method)




Save/delete see Sektion 6.2

### 6.2.4 Password protected menu P09 - overview ZERO (zero menu)

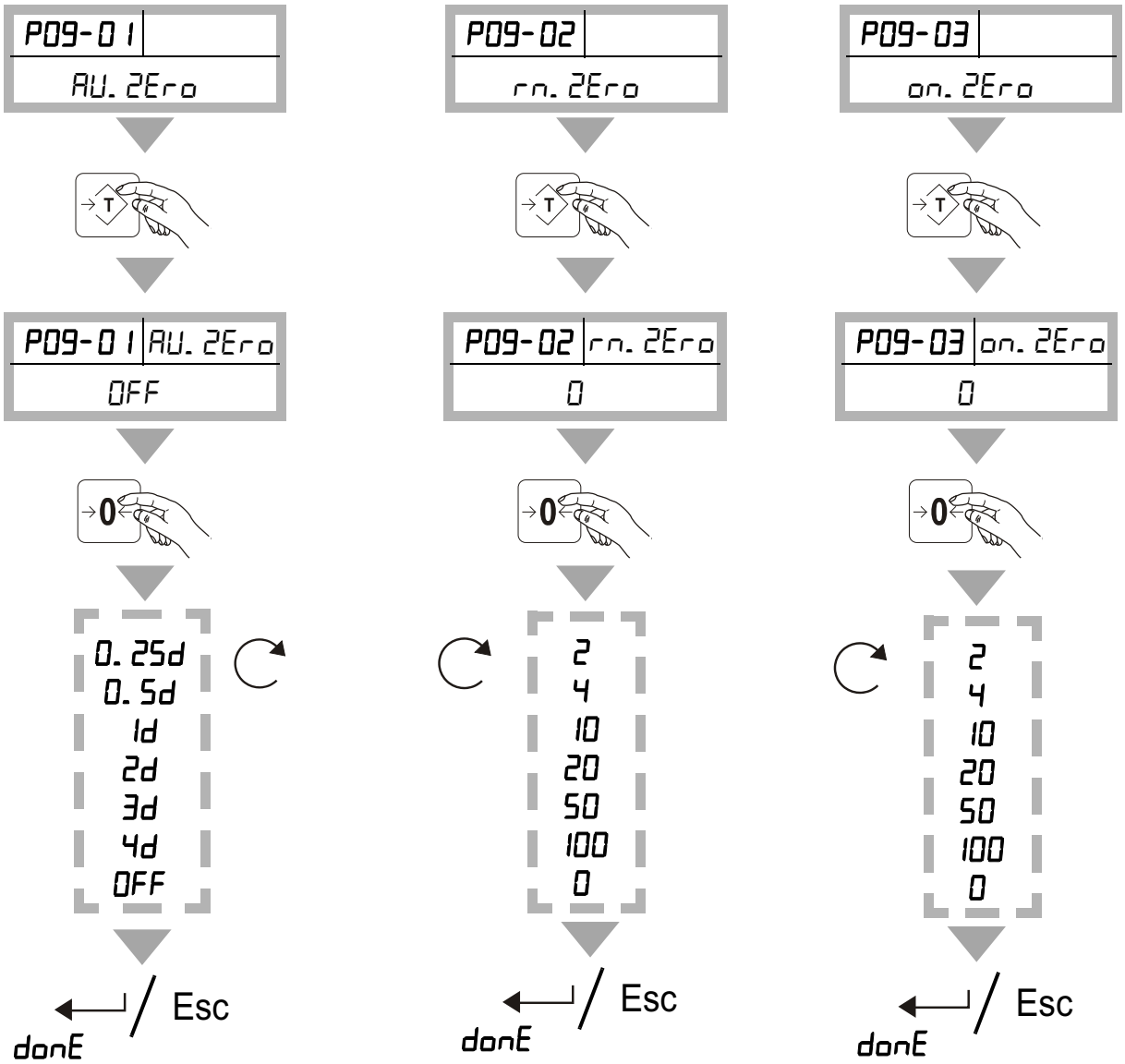



Save/delete see Sektion 6.2

**Automatic zero-setting range**: The scale automatically compensates for small deviations from zero.

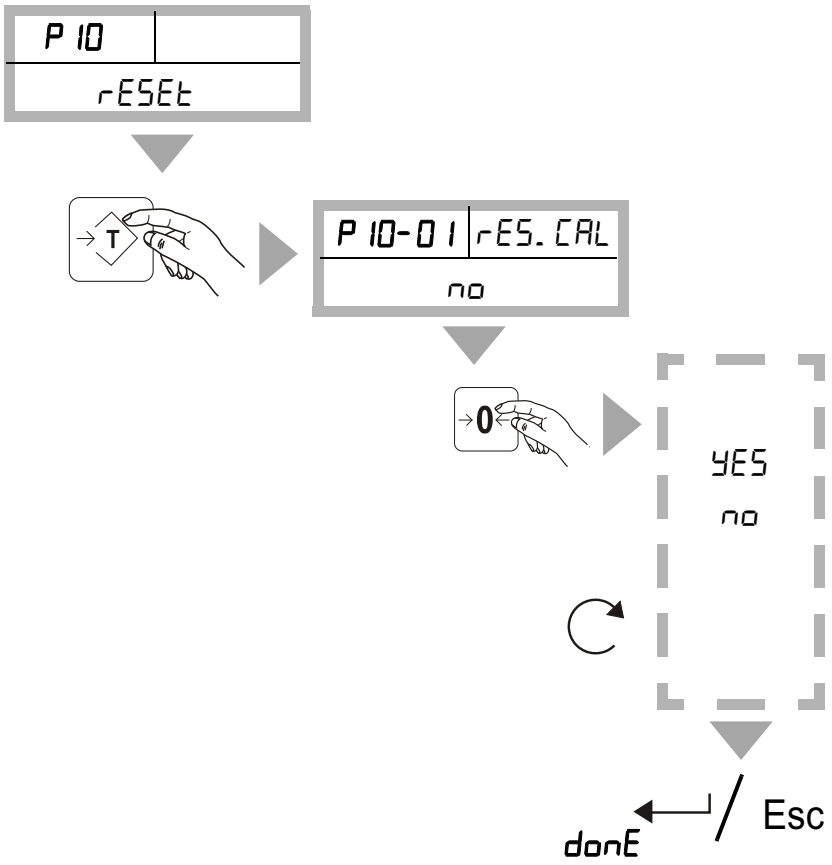
**Manual zero-setting range**: Activated by the operator by pressing the "Zero" key (±2% of the weighing range).

**Power-on zero-setting range**: The scale automatically zeros itself when powered on.




Save/delete see Sektion 6.2

### 6.2.5 Password protected menu P10 - RESET (reset to factory settings)




Save/delete see Sektion 6.2

## 6.3 Application example for a calibration

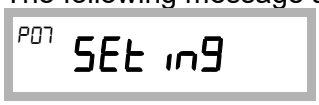
- Ensure that no load is on the scales.
- Switch on the scales using the “<ON/OFF>” key.
- Press the INFO key while the scales counts down.
  - The message appears on the display:



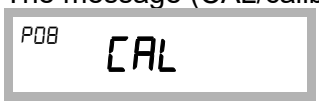

- Press the →0← key 5 x.
  - The following message appears on the display:




- Press the →T← key.
  - The following message appears on the display „- - - - “.
- Enter the code “0000” using the numeric keypad.
- Confirm the code using the →T← key.
  - The following message appears on the display:



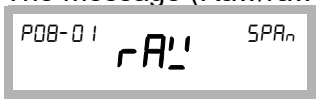

- Press the →0← key.
  - The message (CAL/calibration) appears on the display:




- Press the →T← key.
  - You enter the submenu.
  - The message (SPAN/two-point calibration) appears on the display:



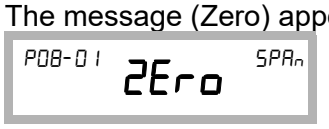

- Press the →T← key.
  - The message (Raw/raw measured value) appears on the display:




- Press the →T← key.

- The current raw measured value of the A/D converter appears on the display.

- Press the PRINT key.
  - Returns to the rAL' menu.
- Press the →0← key.
  - You enter the next submenu.
  - The message (Zero) appears on the display:




- Press the →T← key.
  - The message appears on the display (example):




- Press the →T← key when the displayed value is stable.
  - The zero point is calibrated, the value is accepted.
  - The message "L'A it" and "donE" briefly appears on the display.
  - Returns to the 2Ero menu.
- Press the →0← key.
  - You enter the next submenu.
- The following message appears on the display:




- Press the →T← key.
  - 00. 200 --> flashes
- Enter a value for the calibration weight using the numeric keypad.
- Press the →T← key.
- Set the calibration weight (according presetting) on the scale.
- Press the →T← key when the displayed value is stable.
  - The message "L'A it" and "donE" briefly appears on the display.
  - Returns to the „LoAd" menu.
  - The calibration is completed.

- Press the PRINT key 3 x to exit the calibration.
  - The following message appears on the display:




**Note**
Press the <ENTER> key to save the value.

**Note**
Press the <ESC> key if the value should not be saved.

  - The message appears on the display:



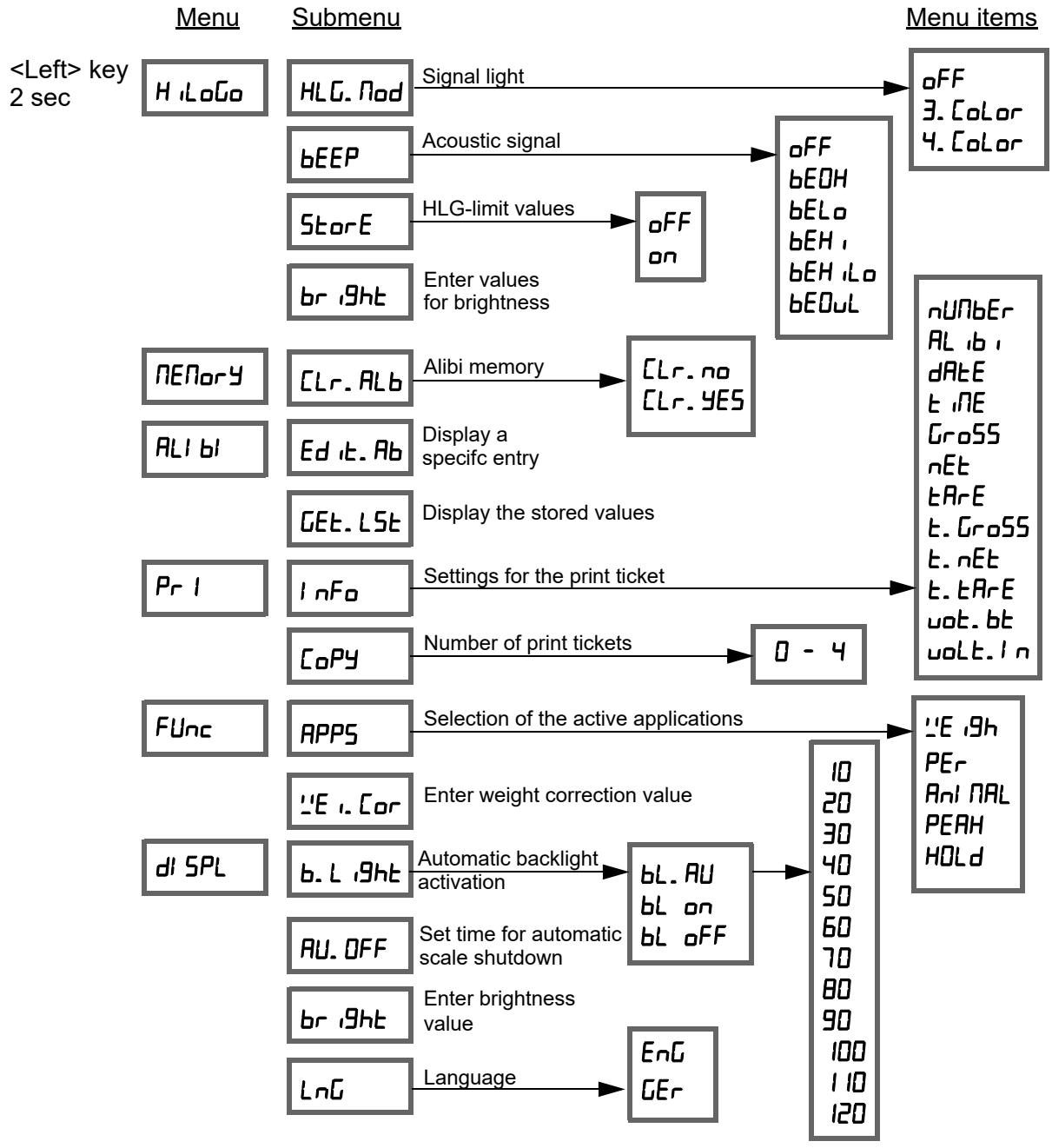
# 7 Menu overview

## 7.1 Navigation in the menu

- A menu or subroutine is left by pressing the key <ESC>.
- The <UP> key is used to navigate between the individual menu points and modify editable numbers.
- The <LEFT> key serves to move the input cursor to the left by one digit.

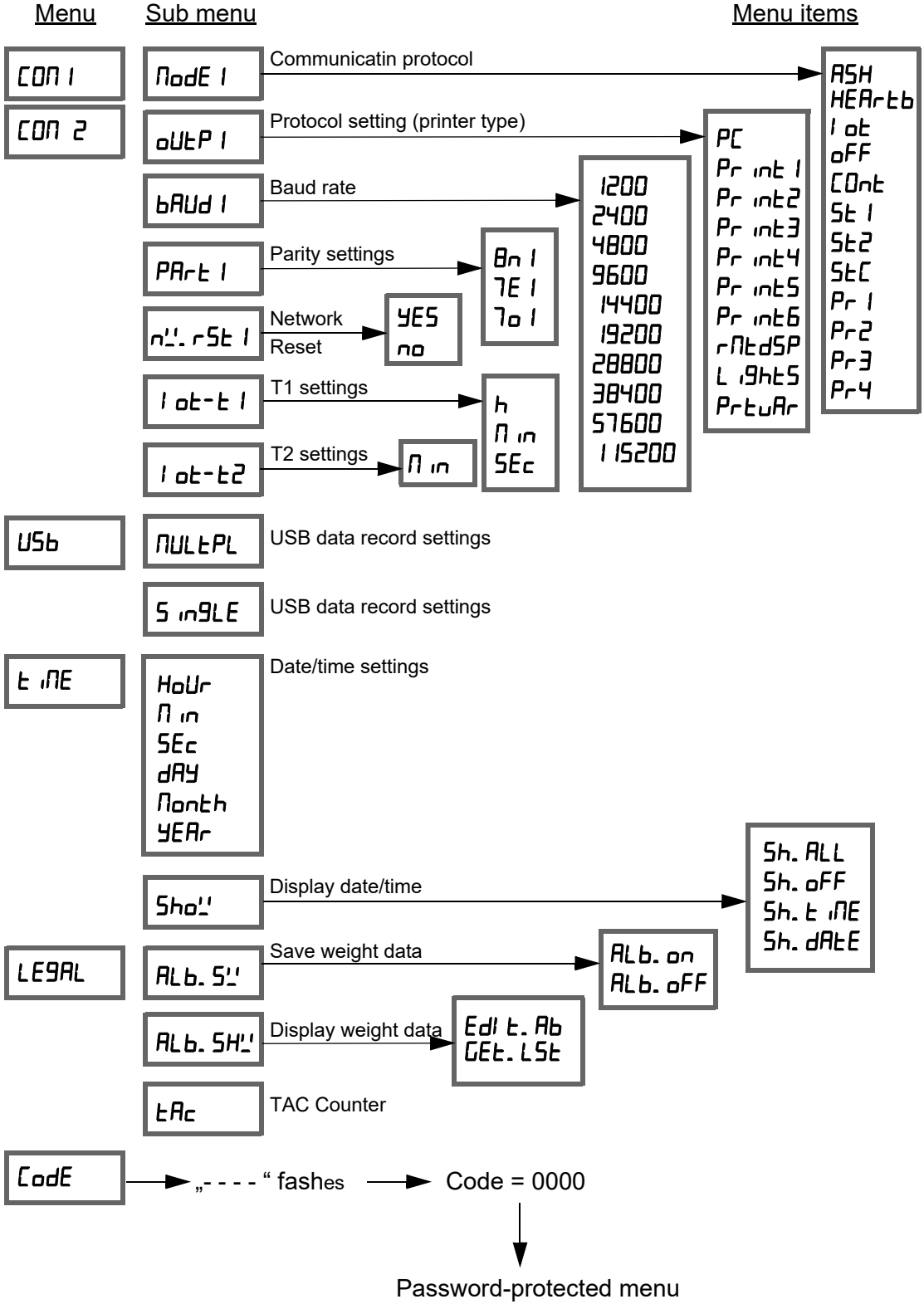
## 7.2 Menu overview (graphical representation)

**Quick selection menu (HiLoGo-menu)**

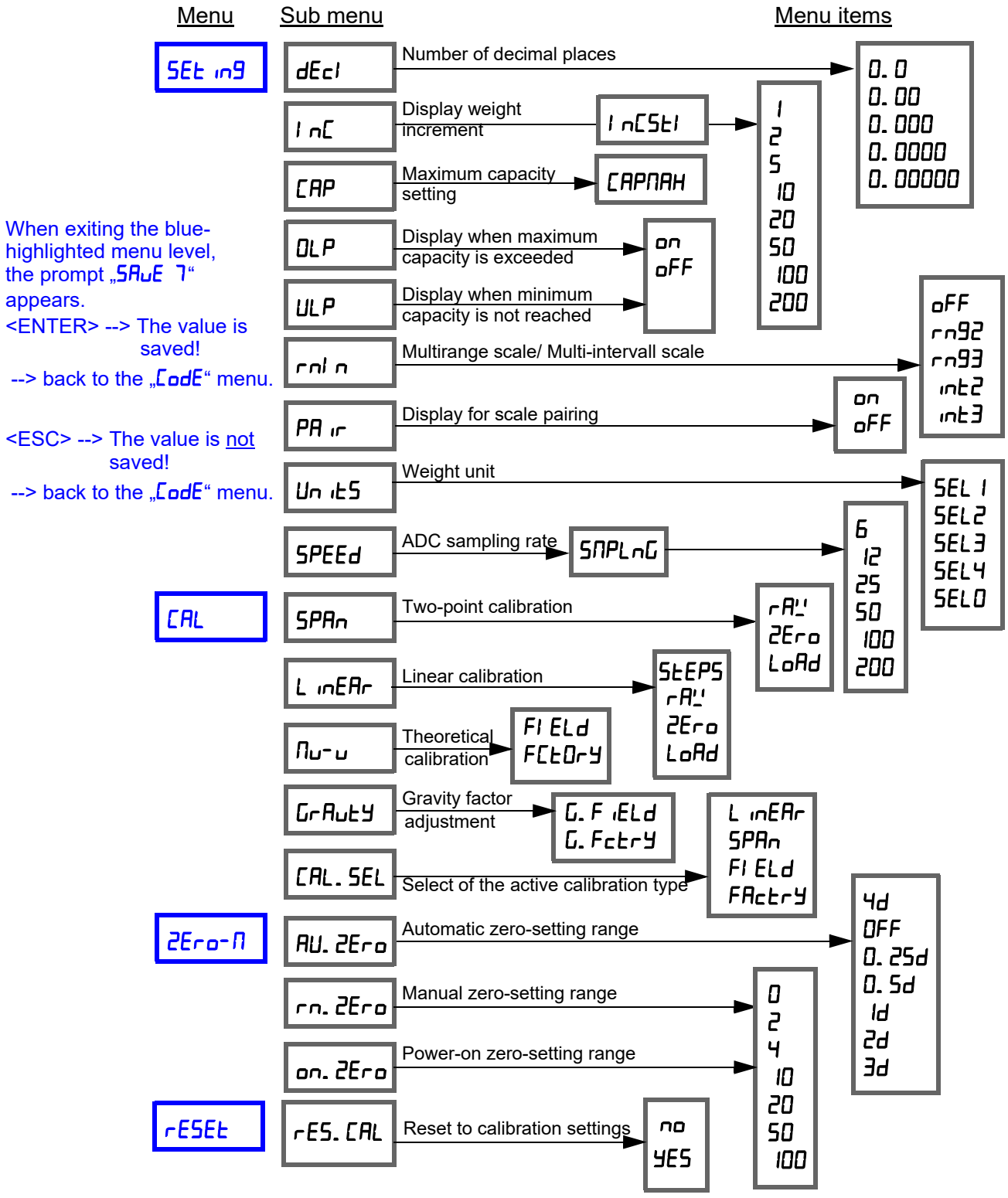


### Function menu

Turn on the scale and press the <Enter> key during the countdown.



### Password-protected menu



# 8 Troubleshooting

## 8.1 In the event of a malfunction

We recommend switching off the scales briefly and disconnecting it from the mains, if a malfunction occurs in the program sequence. Then restart the weighing process.

## 8.2 Error messages

| Error messages | Malfunction | Cause possible | Solution |
|---|---|---|---|
| | No data | Power supply disconnect. | Check power supply. |
| --OL-- | Overload | Scale overloaded. | Take weight from the scale. If the problem persists, please contact your dealer or the company BOSCHE. |
| --LEVEL-- | Tilt sensor active. (only for mobile scales or pallet trucks). | Mobil scale / pallet trucks is more inclined than +/- 2 °. | Align mobile scale / pallet truck. |
| --Error-- | Error while setting the zero calibration or the load. | The scale is unstable. Load cells are not connected properly. | Wait until the scale is stable. Connect load cells correctly. |
| Err. L iN | Checkweighing is activated and the limit values are not plausible. | **Hi**gh-value < **Lo**w-value. | Confirm the error with  |
| ZrP. Err | Fault when setting the new zero. | The scale is unstable. The weight is outside the limits rn. ZEro for setting the zero point. | Wait until the scale is stable. Correct weight. |
| Er. ZEro | Fault when setting the new zero. | The scale is unstable. The weight is outside the limits . ZEro for setting the zero point. | Wait until the scale is stable. Correct weight. Confirm the error with . |
| tAr. Err | Fault when setting the tare. | The scale is unstable. | Wait until the scale is stable. |
| HL9. Err | Faults when setting Hi / Lo limits. | **Lo**w-value exceeds **Hi**gh-value. **Hi**gh-value falls below **Lo**w-value. | Correct the **Hi**gh/**Lo**w-limits. |
| PS'. Err | Password is incorrect. | Incorrect password entry. | Enter the correct password. |

| Error messages | Malfunction | Cause possible | Solution |
|---|---|---|---|
| ALb. Err | The entered Alibi value does not exist. | Incorrect Alibi value entered. | Enter correct Alibi value. |
| Err. LE9 | Pair-function | Display is paired with the transmitter and cannot be paired again. | Please contact your dealer or the company BOSCHE. |
| MEM. Err | Error when storing. | Value has already been saved. | First reset the scale to 0.0, to be able to save further values in the accumulation memory. |
| rn 1. Err | Error when entering the capacity for multi-range and multi-interval instruments. | The specified capacity of range W1 is greater than the capacity of ranges W2 or W3. | Adjust the values of the ranges W1, W2, W3. Values W1<W2<W3. |
| rn2. Err | Error when entering the capacity for multi-range and multi-interval instruments. | The specified capacity of range W2 is greater than the capacity of ange W3. | Adjust the values of the ranges W1, W2, W3. Values W1<W2<W3. |

If any other malfunctions or error messages occur, please switch off the scales and after a short while on again.

If error messages occur again, please contact the Bosche customer service.

### 8.3 Customer Service Contact Data

Bosche GmbH & Co. KG
Reselager Rieden 3
49401 Damme

Fon +49 5491 999 689 0
Fax +49 5491 999 689 9
E-Mail info@bosche.eu

## 8.4 Information for the contact to the customer service

| Owner/user | Specifications |
|---|---|
| Name of your company | |
| Name of a contact person | |
| Contact data<br>Telephone<br>Fax<br>Email | |

| Product | Specifications |
|---|---|
| Model name | |
| Serial number | |
| Type key | |
| Date of purchase | |
| Name and location of the supplier | |

**Information about the problem:**

Examples for required specifications to support troubleshooting:

- Does the display operate fault-free since its delivery?
- Has the display any contact to water?
- Was there any damage due to a fire?
- Was there a thunderstorm before / during the malfunction?

**Note**
Please inform us about the entire history of the display.

# 9 Technical data

## 9.1 Weighing terminal data

| Feature | Value / Unit |
|---|---|
| Dimensions (B x H x T)<br>Stainless steel housing<br>• Table unit<br>• Wall unit<br>Aluminium housing | <br><br>232 x 154 x 90 mm<br>232 x 154 x 110 mm<br>231 x 141 x 45 mm |
| Weight<br>Stainless steel housing<br>Aluminium housing | <br>1,1 kg<br>1,3 kg |
| Power supply (external) | 12 - 24 VDC / 230 VAC, 1000 mA via external mains adapter |
| Battery operating time / Carging time | approx. ca. 15 Std. |
| Adjustment | Automatic, external |
| Max. resolution (depending on the weighing cells used) | External 1/30,000<br>Internal 1/1,000,000 |
| Display | 6 digits, LCD illuminated,<br>Digit height 50 mm |
| Keyboard | 22 pressure point keys (10 Function keys + numeric block) |
| Housing and platform | Stainless steel housing |
| Interface(s) (2 as an option) | LAN, RS232 |
| Functions | Weighing value display, accumulation memory, presettable weighing with alarm, control signal lights (optional) |
| Weighing cell sensitivity | 1mV/V~3mV/V |
| Number of weighing cells | Up to 4 with 350 Ohm each |
| AD converter | 24 bits, 1 channel |
| Zero input range | 0mV~5mV |
| Signal input range | 0mV~15mV |
| Settling time | 2 seconds typical |
| Protection Class | IP 65 |
| Operating temperature | 0°C to +40°C |
| Relative air humidity | max. 80 %, non-condensing |

## 9.2 Scope of delivery

| Component | Note |
|---|---|
| Weighing terminal | |
| Mains adapter | |
| Operating manual | |
| Table/wall holder | Not included for the version with stand |

# 10 Declaration of Conformity

## 10.1 Declaration of Conformity for non-verified scales

Bosche GmbH & Co. KG
Reselager Rieden 3
D-49401 Damme
Telefon: 0 54 91 / 999 689 - 0
Telefax: 0 54 91 / 999 689 - 9
E-Mail: info@bosche.eu
Internet: www.bosche.eu

| | |
|---|---|
| **EU-Konformitätserklärung**<br>Declaration of conformity • Déclaration de conformité<br>Conformiteitsverklaring • Declaración de conformidad | |
| **Typ / Modell**<br>Type /Model • Modèle<br>Model • Tipo / Modelo | **GTW / GTC / GTE / GTS**<br>für nicht selbsttätige, ungeeichte Waagen<br>for non-automatic, non-verfied scales<br>pour balances non automatiques et non étalonnées<br>voor niet-automatische, niet-gekalibreerde weegschalen<br>para básculas no automáticas y sin calibrar |
| **Seriennummer siehe Typenschild.**<br>For the serial number, see the nameplate.• Pour le numéro de série, voir la plaque signalétique.<br>Voor het serienummer, zie het typeplaatje. • Para el número de serie, consulte la placa de identificación. | |
| **Hersteller**<br>Manufacturer • Fabricant<br>Fabrikant • Fabrikante | **Bosche GmbH & Co. KG** |

**Die alleinige Verantwortung für die Ausstellung trägt der Hersteller.**
The sole responsibility for the issue carries the manufacturer. • La seule responsibilité de l'exposition porte le fabricant. • De verantwoordelijkheid voor de uitgifte draagt de fabrikant. • El único responsable de la publicación lleva el fabricante.

**Der oben genannte Gegenstand der Erklärung erfüllt die einschlägigen Harmonisierungsrechtsvorschriften der Union:**
The above-mentioned object of the declaration complies with the relevant harmonization legislation of the Union • L'objet de la déclaration susmentionné est conforme à la législation d'harmonisation pertinente de l'Union • Het bovengenoemde voorwerp van de verklaring voldoet aan de relevante harmonisatiewetgeving van de Unie • El objeto de la declaración mencionado anteriormente cumple con la legislación de armonización pertinente de la Unión

| | |
|---|---|
| **2014/35/EU Niederspannungsrichtlinie**<br>Low voltage Directive | **EN 61010-1:2020**<br>für / for / pour / voor / para 230/115 VAC |
| **2014/30/EU**<br>**EMV-Richtlinie**<br>EMC Directive | **EN 55022:2011**<br>**EN 61000-6-2:2019**<br>**EN 61000-6-4:2019**<br>**EN 61000-4-2:2009**<br>**EN 61000-4-3:2011**<br>**EN 61000-4-4:2012**<br>**EN 61000-4-5:2014**<br>**EN 61000-4-6:2014** |
| **2011/65/EU RoHS** | **EN IEC 63000:2018** |

**Unterzeichnet für und im Namen von Bosche:**

Damme, 25.11.2021

**Dipl. Ing. Jarmila Bosche, PhD.**
**Geschäftsführer** • Managing Director
Directeur général • Directeur • Director general

BOSCHE
WEIGHING SYSTEMS

BOSCHE GmbH & Co. KG
Reselager Rieden 3
49401 Damme
Germany

Tel 05491 999 689 0
Fax 05491 999 689 9
www.bosche.eu
info@bosche.eu