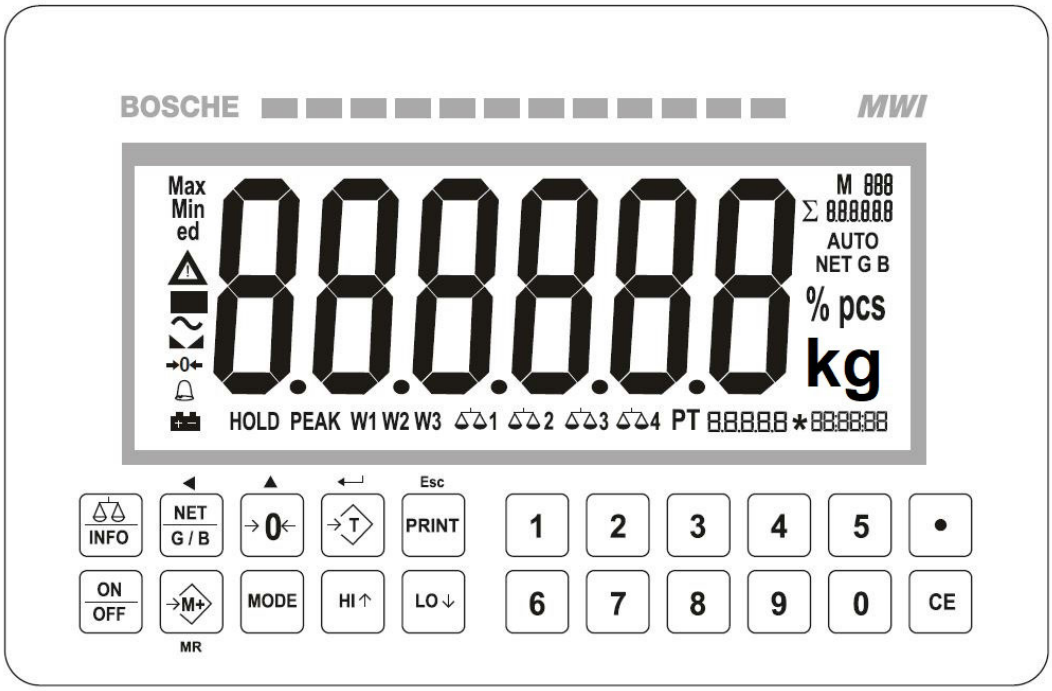
BOSCHE

Weighing Terminal

EWI / MWI



Technical Manual

Advanced functions

- Translation of the original -

(keep for future use)

Version 4.0

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Type key

X-X-X-X-XX-XX-X-X-X-XXXXX

Serial number
1-10000 = consecutive number

Signal light
0 = no signal light
1 = Signal light intern
2 = Signal light extern

Second interface
0 = no second interface
1 = RS232
2 = WLAN
3 = Bluetooth
4 = Ethernet

Scale connection 2
0 = without second scale
1 = with second scale

Year of manufacture
22 = 2022

Power supply
DC = 12 V
AC = 230 V

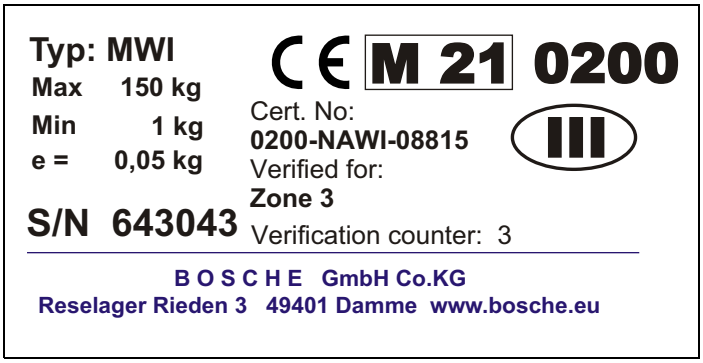
Battery
0 = with battery
1 = without battery

Scale internal / external
5 = internal
4 = external

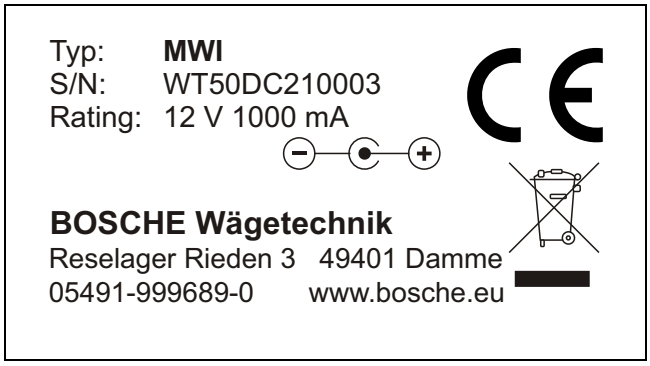
Housing
T = Aluminium cast housing
N = Stainless steel housing
A = Aluminium housing

Display type
E = EWI Basis display
W = MWI Weighing display
C = MCI Counter display
S = MSI Control display

Type plate example with verification data



Type plate example without verification data



FOREWORD

These operating instructions provide you with detailed information about the Weighing Terminal EWI / MWI.

These instructions contain safety instructions to guarantee safe use of the volume and weight measurement system.

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 EWI / MWI, 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 DESCRIPTION

1.1 GENERAL

The weighing terminal has two menu levels for settings.

The function menu serves to create and inquire values, which can be changed easily at any time.

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

Both menus are described in detail in this manual.

1.2 VERIFICATION

The verification of measuring devices is prescribed by law for the following applications:

- Use of the measured values for business usage.
- Use of the measured values for official trading.
- Manufacture of pharmaceuticals in pharmacies.
- Analyses in medical and pharmaceutical laboratories.

If your scales is used for one of the purposes listed above, the responsible verification authority must be informed as follows within 6 weeks after commissioning according to §32 MessEG (German law of measuring and basic calibration):

- Electronically by internet via the central notification platform under: www.eichamt.de or
- In writing to the Arbeitsgemeinschaft Mess- und Eichwesen (German working group for measuring and verification):
  Deutsche Akademie für Metrologie beim Bayrischen Landesamt für Maß und Gewicht (German Academy for metrology in the Bavarian regional authorities for dimension and weight)
  Franz-Schrank-Straße 9
  D-80638 Munich
  Fax:+49 89 17901-386
  Email: dam@lmg.bayern.de

This notification must contain at least the following specifications:

- Device type
- Manufacturer
- Type designation
- Year of the measuring device identification (e.g. M22 = 2022)
- Address of the measuring device user/owner

After receipt of the notification, a confirmation is transmitted (electronically by email or in writing by post). Keep this confirmation safely. It serves as a proof, if the verification authority on site has questions.

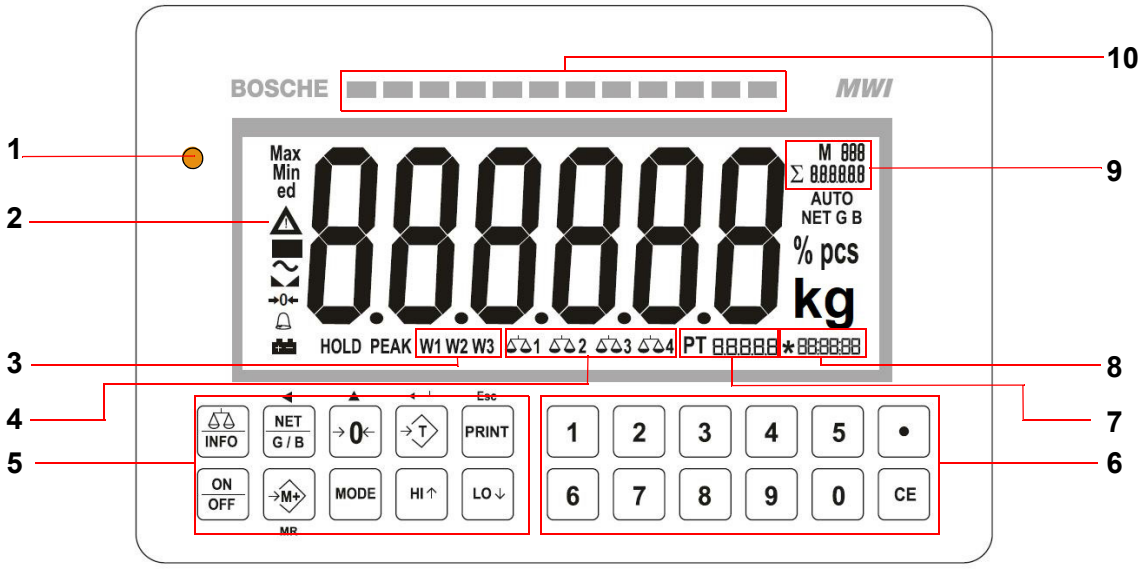
This operating manual refers to German laws and directives. If the special accuracy weighing machine FW is operated abroad, ensure that the local laws and directives on site are adhered to.

Attention
If verification is lost during operation of the scales / the weighing terminal, for example, if parameters are changed, the verification counter is increased. Verification will become null and void immediately.

This is the symbol used in this manual for “Verification invalid”.

Note
The owner/user of the scales must request verification from the responsible verification authorities in time (10 weeks before the expiry date).

1.3 CONSTRUCTION



Item	Designation
1	Voltage indicator (lights up when an external power supply (230 V / 12 V mains adapter) is connected).
2	Weighing value display with adjustable backlight.
3	Active weighing range (W2 or W3 at multiple range scales).
4	Active scale (the display can manage up to two uncalibrated scales).
5	Control panels for the various functions of the unit.
6	**MWI only:** Numeric keys (numeric keypad) for entering tare, target weights, etc.
7	Tare-/Pretare display
8	Date/Time
9	Sum memory (display with number of weighings)
10	Optional: Signal light (red: Weight too high, green: Admissible weight, yellow: Weight too low)

1.3.1 DISPLAY OVERVIEW

Max	Status indication: the weight on the scale above the selected limit value.	**PT** 8.8.8.8.8.	Hand tare weighing (Pretara)
Min	Status indication: the weight on the scale below the selected limit value.	**T** 8.8.8.8.8.	TARE Weighing with tare value
ed	e: Verifiable division d: non-verifiable division	88:88:88	Date/Time
⚠	10-fold resolution is displayed.	**kg**	Active weight unit: [kg, g, t, lb]
~	Unstable value	**% pcs**	Counting mode / Percent weighing
◣◢	Stability indicator lights up when a weight is stable.	**NET**	Net weighing is displayed.
→0←	Zero message	**G**	Gross weighing is displayed.
🔔	Acoustic signal for check weighing is active.	**B**	Not used in version 4.0.
+ −	Battery charging status.	**Auto**	Automatic summation is active.
W1 W2 W3	Active weighing range (W2 or W3 at multiple range scales).	**Σ** 8.8.8.8.8.8.	Total of the summed weights.
1	Active scale (the display can manage up to two uncalibrated scales).	**M** 888	Number of summations

1.3.2 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	0	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

1.3.3 KEYBOARD OVERVIEW

	Operating level		Functional level
INFO	Opens the "Quick menu" for quick settings. Switch button between multiple scales, if connected.		Opens the function menu when the button is pressed during the self-test of the scale.
NET / G / B	Switch between gross and net weight.	◀	Moves 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 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	Switches the indicator on and off.		
→M+	Summing: The button adds the displayed weight in the sum memory.	MR	Retrieval of the sum of the stored individual weighings and the total weight.
MODE	Press short: Display of the scale parameters (division=e, minimum load, capacity). Press and hold for two seconds: Display of increased resolution for approx. 10 seconds.		
HI ↑	Setting of the maximum weight for check weighing (only **MWI**).		
LO ↓	Setting of the minimum weight for check weighing (only **MWI**).		

Value inputs

Note
The numeric keypad is not available in the EWI version.

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

1.4 OPERATING

Note
The operation of the weighing terminal (weighing, parameter settings, menu explanations, etc.) is described in the separate Operating Manual.

1.5 EQUIPMENT

Note
All equipment features are described in the separate Operating Manual.

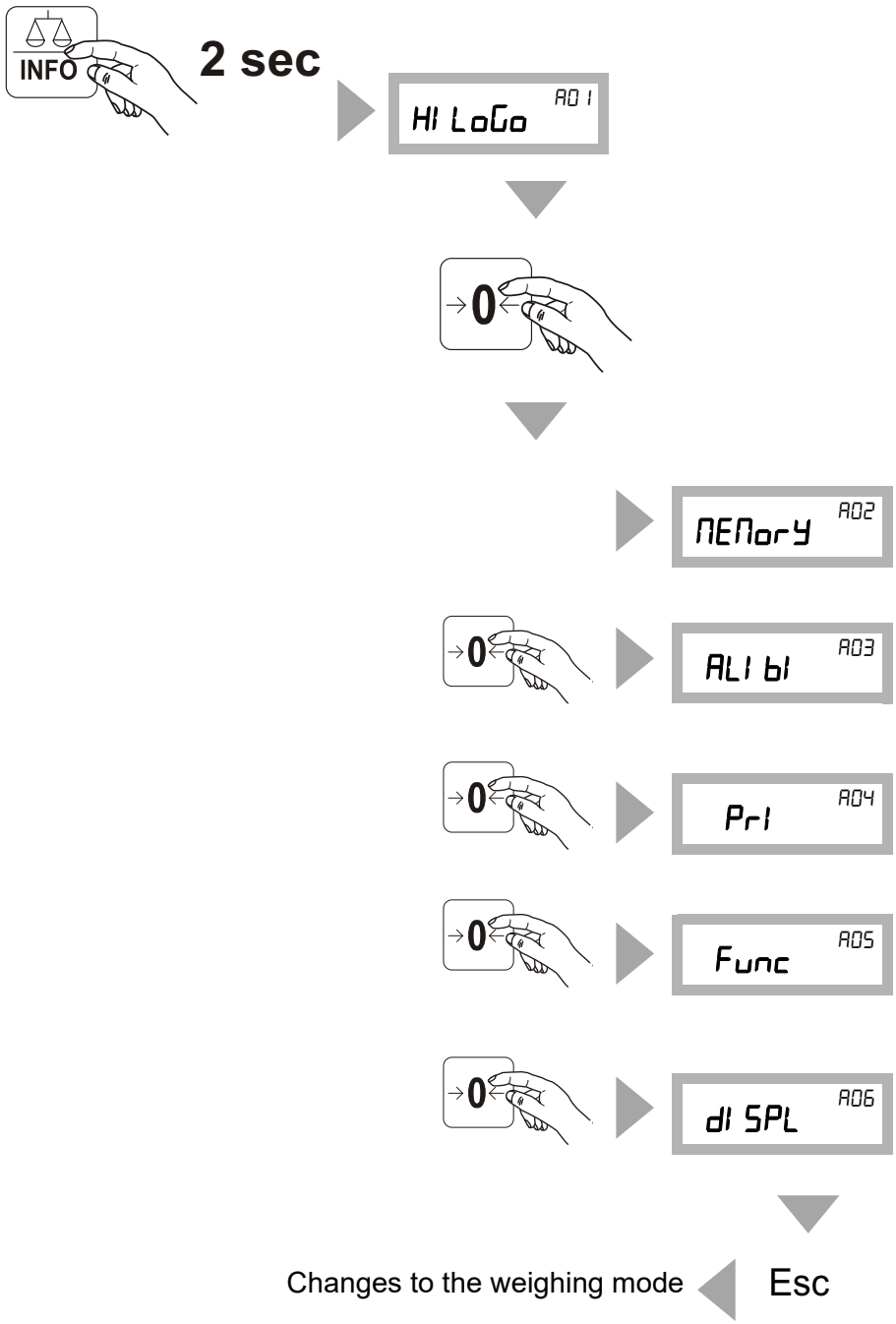
2 QUICK MENU

2.1 NAVIGATION IN THE QUICK MENU

Navigierung		
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)

2.2 QUICK MENU - OVERVIEW

Press the ON/OFF button (2 seconds) to switch on the weighing terminal. Then proceed as follows:



Quick menu - short description

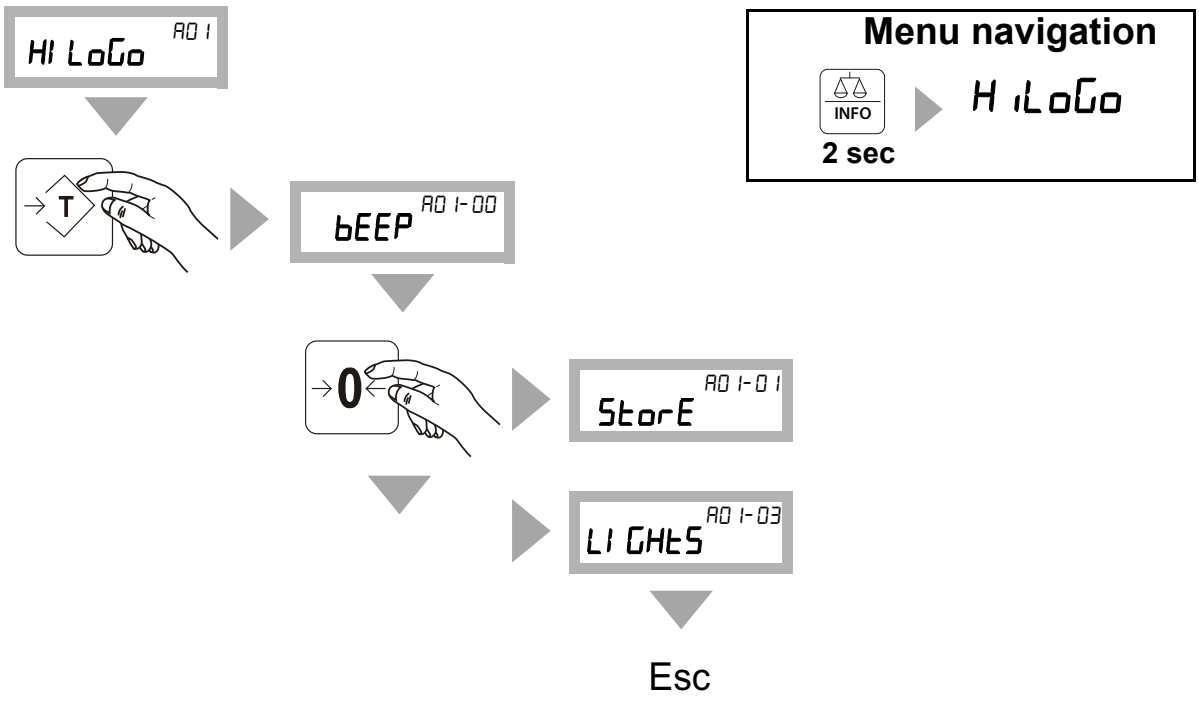
Note
The Quick menu is used for simplified input or reading out of parameters and parameterization of the display. In the Quick Menu parameters to operate at check-weighing, the alibi memory, the printer and backlight and automatic shutdown can be set.

Menu	Submenu	Option	Function
A01 HiLoGo Set limit values	A01-00 bEEP Setting the acoustic signal for tare weighing.	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.
	A01-01 StorE 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 stored.
	A01-03 LIGHtS Brightness	„10" --> Enter the value using the keys <UP> and <LEFT> Brightness 0 - 100 %	Settings for the brightness of the signal light LEDs. Brightness controll in 5 steps. 5 = dim 100 = brightest level
A02 MEMorY Sum memory			No function in version 4.0.
A03 ALI bI Query alibi number		Ed “0“ flashing --> Enter the value using the keys <UP> and <LEFT>	Enter the Alibi number to query the stored alibi values

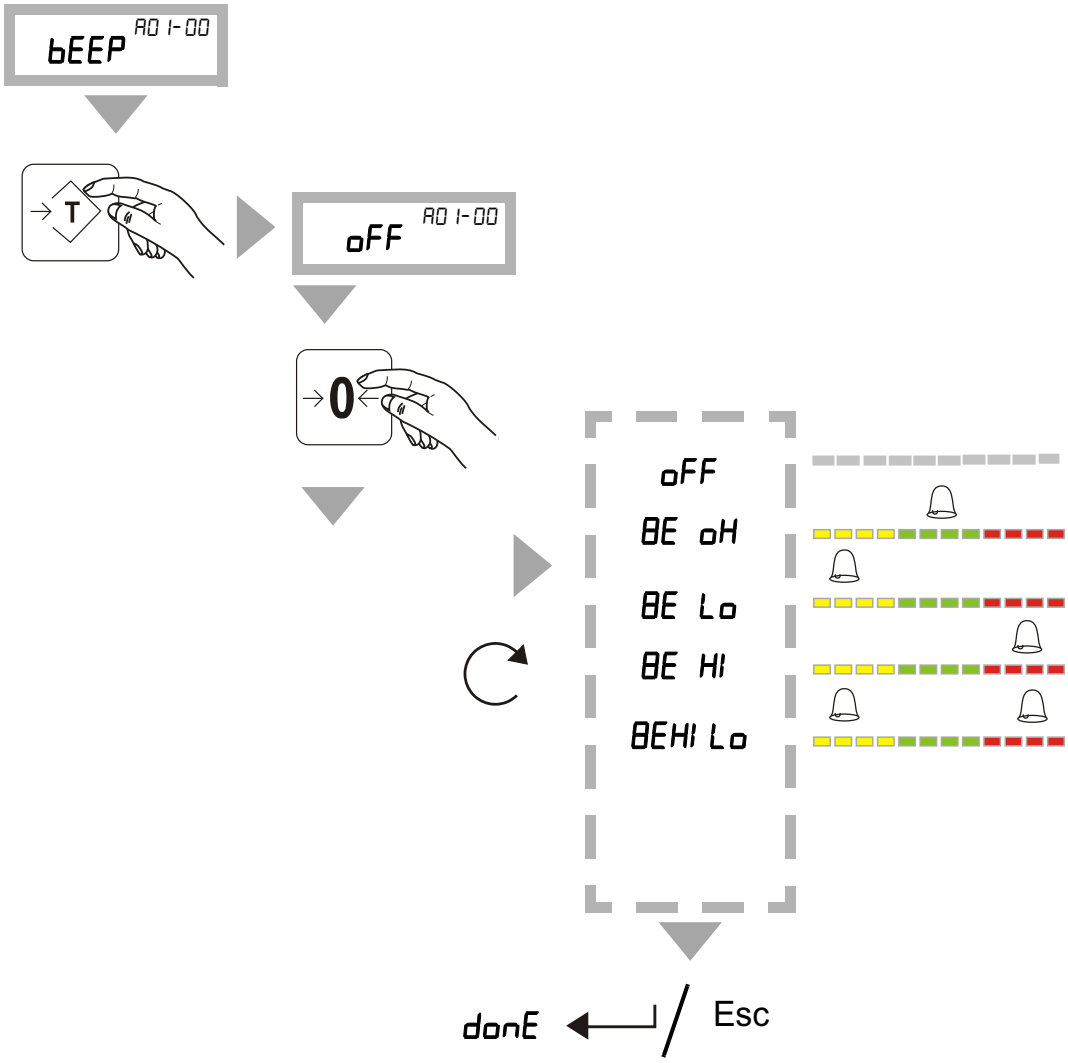
Menu	Submenu	Option		Function
A04 Pr 1	A04-00 InFo Set the print parameters (print protocol, print output).	nUMbEr	on off	Consecutive ticket number (for totals weighing in Pr2 or STC mode).
		ALIbi	on/off	If the alibi memory is switched on, the alibi number is also printed.
		dAtE	on/off	Date
		tIME	on/off	Time
		Gross	on/off	Gross
		NEttO	on/off	Net
		tArE	on/off	Tare
		t. Gross	on/off	Total gross (Mode Pr2 oder STC)
		t. NEttO	on/off	Total net (Mode Pr2 oder STC)
		t. tArE	on/off	Total tare (Mode Pr2 oder STC).
	A04-01 CoPy (Number of prints)	Value 0 - 4		Number of the print tickets to be printed.
A05 FUnc Functions				No function in version 4.0.

Menu	Submenu	Option	Function
A06 dI SPL	A06-00 LI GHt Backlight	bL AU 10/20/30/40/50 --> Set the value with <UP>	Automatic activation / switch-off of the backlight after N seconds. The backlight is automatically activated when the weight changes or a key is pressed.
		bL on	Backlight always on.
		bL oFF	Backlight always off.
	A06-01 AU OFF (Automatic shut-off)	„000000“ flashing --> Time (minutes) using <UP> and <LEFT> and confirm with <ENTER>. 0 - 99 Value „00“ = no shut-off	Automatic shut-off of the scales, if no key is actuated and the weight does not change.

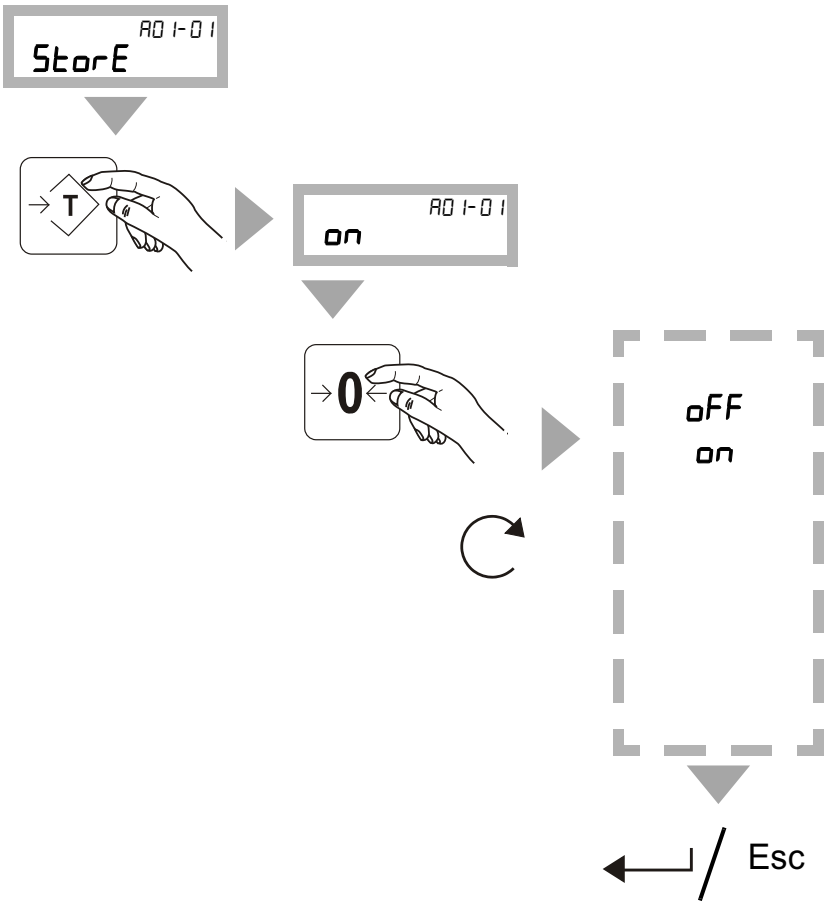
2.2.1 QUICK MENU A01 - OVERVIEW HILOGO (SET LIMIT VALUES)



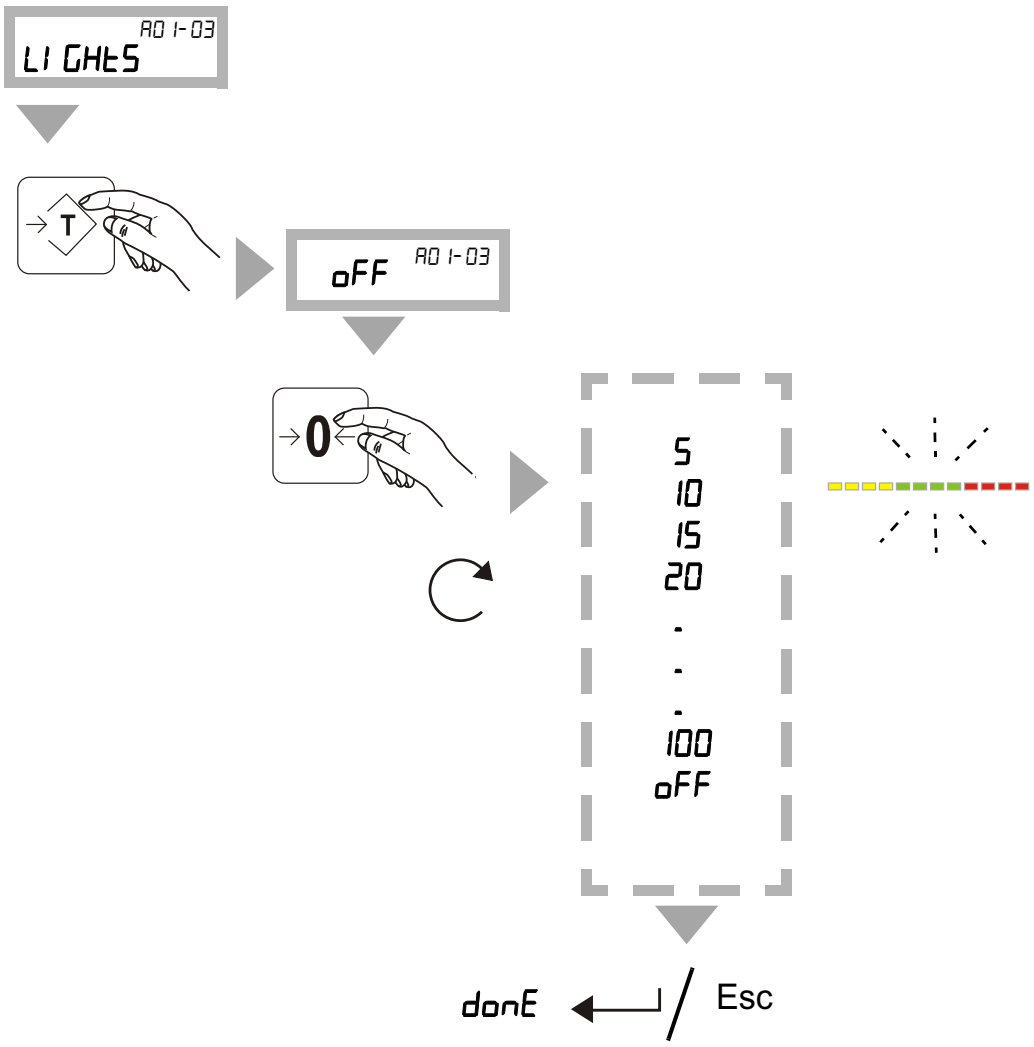
Quick menu A01-01 - BEEP (set acoustic signal)



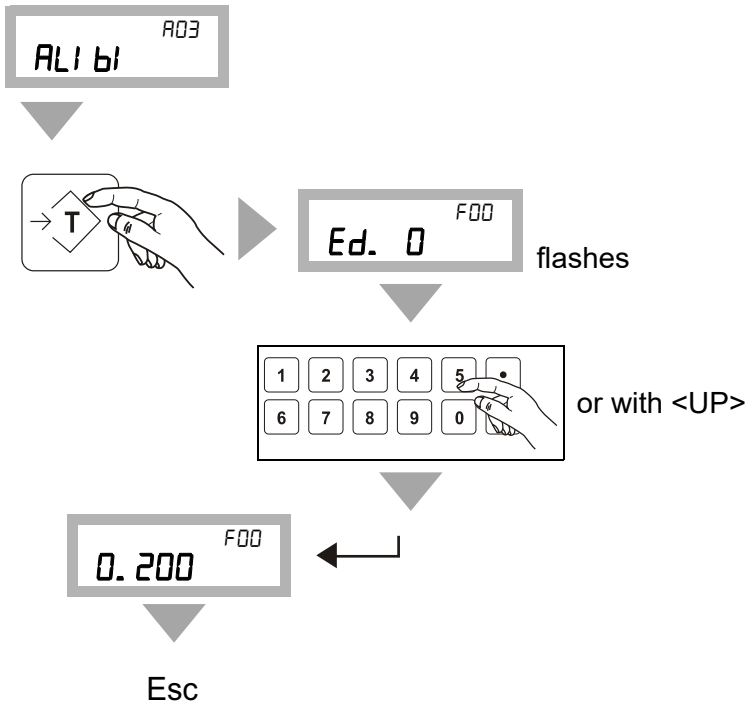
Quick menu A01-02 - STORE (storage of limit values))



Quick menu A01-03 - LIGHTS (settings for the brightness)

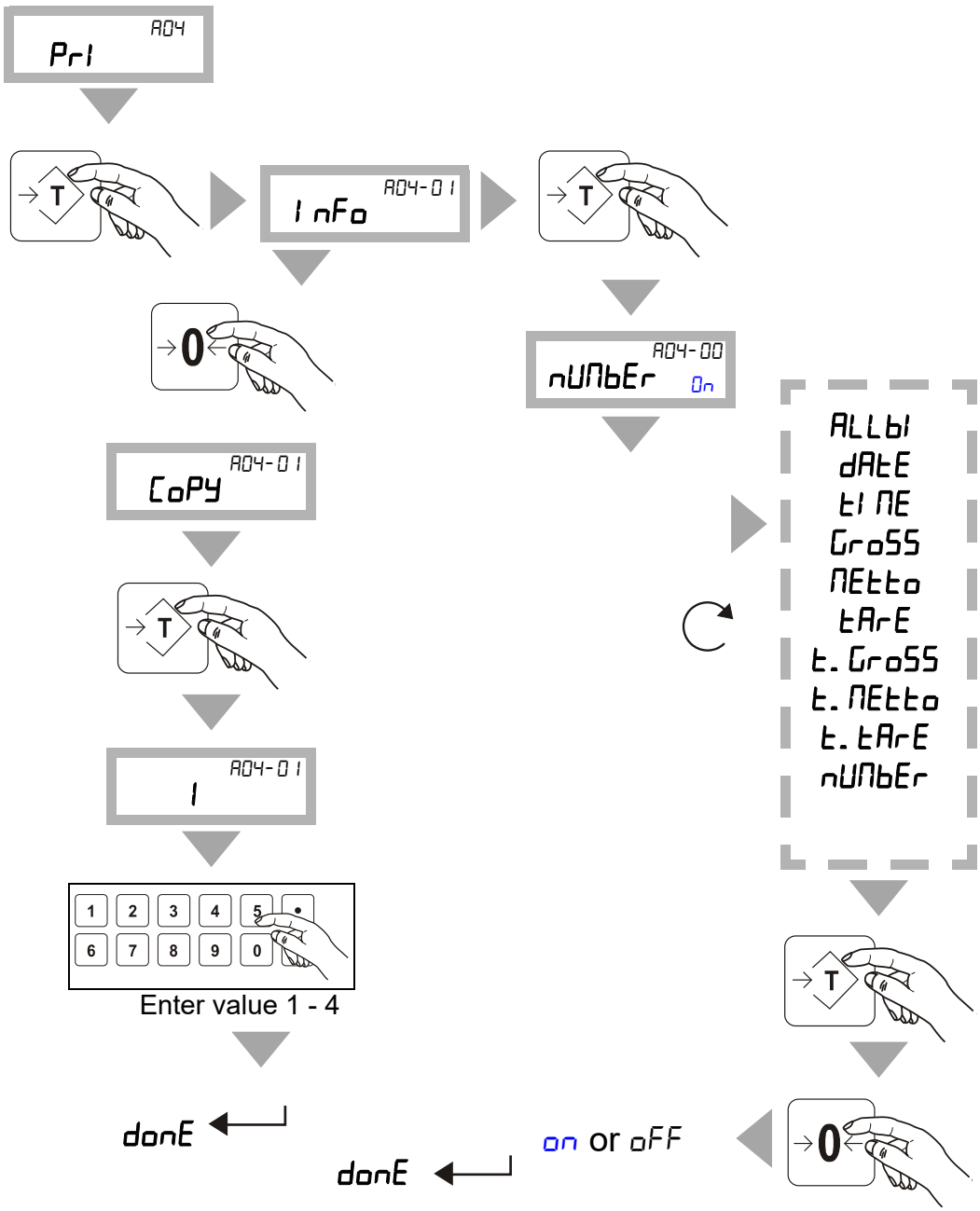


2.2.2 QUICK MENU A03 - ALIBI (QUERY THE ALIBI NUMBER)

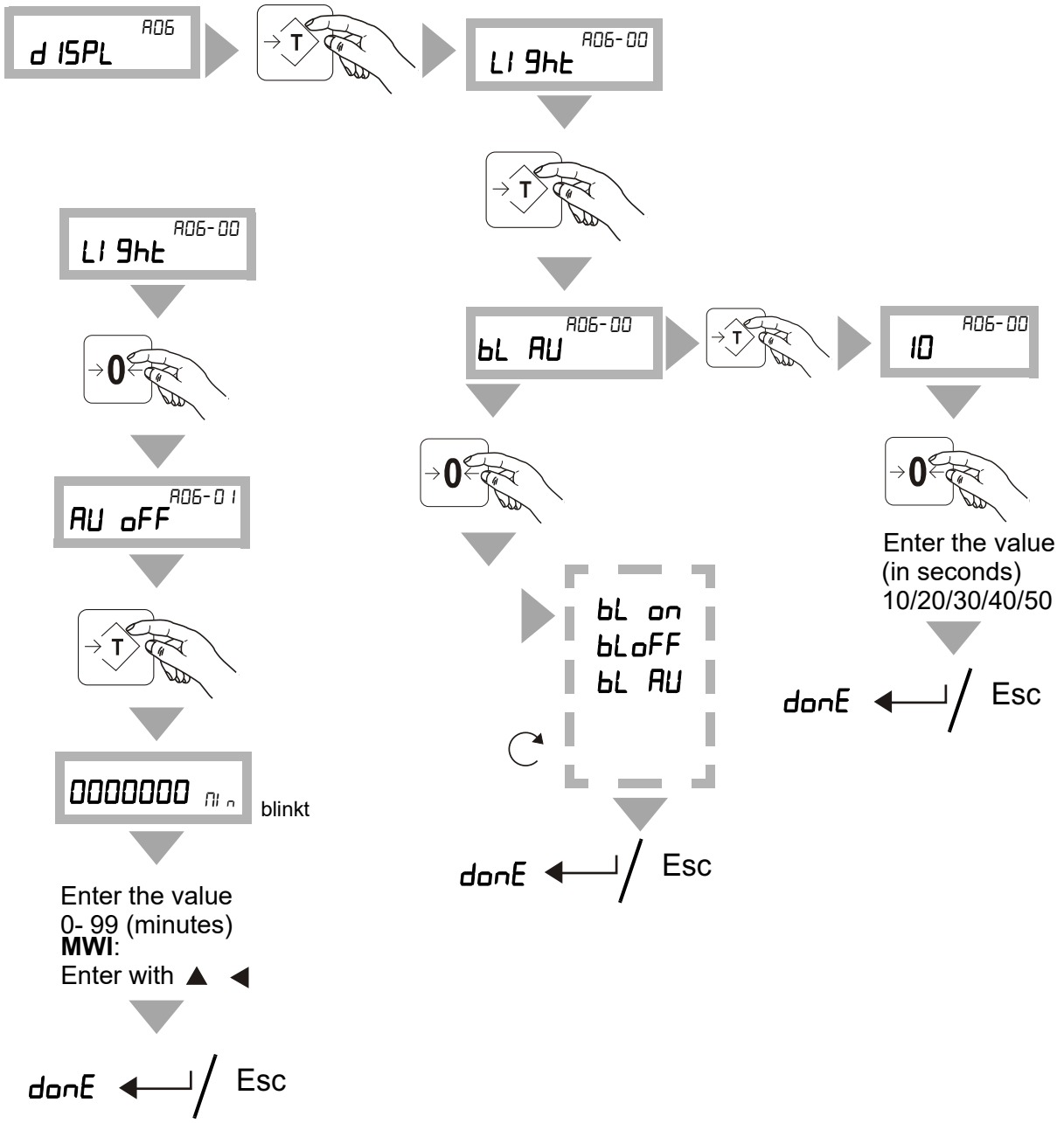


2.2.3 QUICK MENU A04 - PRI (PRINT SETTINGS)

Note
If parameters such as the date and time have been turned off on the menu, this can not be printed, even then, if the parameters for date and time have been set to ON.
The printout of subtotals is not possible.



2.2.4 QUICK MENU A06 - DISPL (DISPLAY)

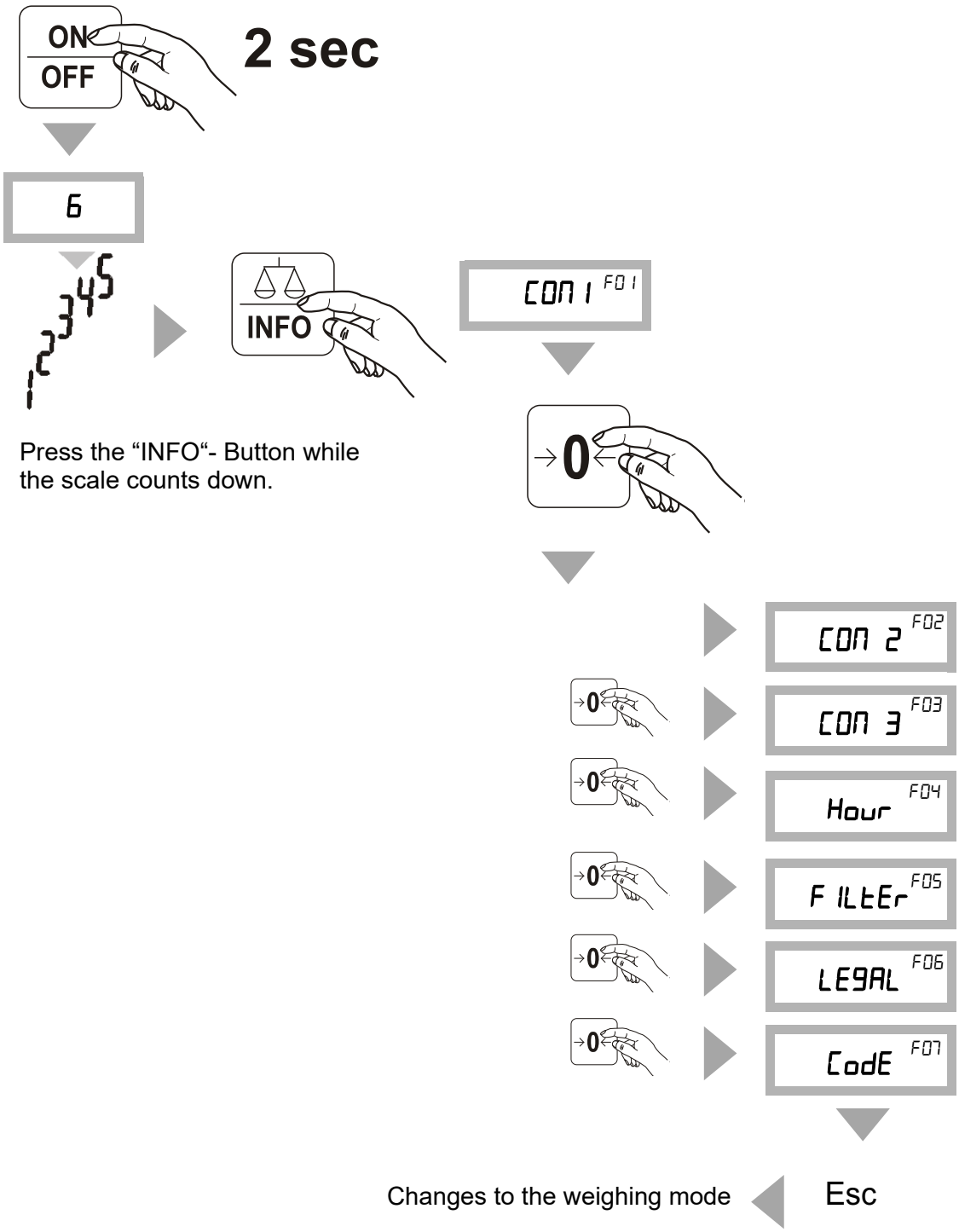


3 FUNCTION MENU

3.1 NAVIGATION IN THE FUNCTION MENU

Navigierung		
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)

3.2 FUNCTION MENU - OVERVIEW



Press the “INFO“- Button while the scale counts down.

Changes to the weighing mode

3.2.1 FUNCTION MENU - short description

Menu	Submenu	Option	Function
F01 CON 1 CON 2 CON 3 Setting the specifications of the interfaces.	F01-01 ModE 1 ModE 2 ModE 3 Transmission mode selection	oFF	No data are transmitted
		Cont	Continous transmission. Do not use for connected printer!
		St 1	Automatic printout when the weight is stable. Zero required,i.e. the weight must be removed from the scale.
		St C	Automatic printout when the scale is stable and store in the sum memory. Zero required.
		Pr 1	Transmission by Print button (the weight is stable). Zero required.
		Pr 2	Transmission by Print button (the weight is stable) and store in the sum memory. Zero required.
		ASH	Ask-Mode, bi-direction, more details in the communication protocol (please request if required). Do not use for connected printer!

Menu	Submenu	Option	Function
F01 CON 1 CON 2 CON 3	F01-02 oUtP 1 oUtP 2 oUtP 3 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	HP083
		Print 6	LP-50 for pallet trucks HLS.
		rMtdSP	Remote display: RD50, RD100 and RD150.
		LIGHtS	Signal lamp SL 3
	F01-03 BAUd 1 BAUd 2 BAUd 3 Baud rate	1200 2400 4800 9600 14400 19200 28800 38400 56000 57600 115200	Data transfer speed.
	F01-04 PArt 1 PArt 2 PArt 3 Parity	8n1	8 data bits, no parity (default)
		7E1	7 data bits, even-parity
		7o1	7 data bits, odd-parity

Menu	Submenu	Option	Function
F01 CON 1 CON 2	F01-05 n.RSt 1 Network reset	no YES	Network reset no /yes
	F01-06 ScAn Scanner	rEF tArE Id 1 HEAd	Data entry via scanner.
F03 CON 3	F03-05 HBEE Adapter-Modul (WLAN-/ Ethernet- or Bluetooth-Modul)	POuuER	On OFF Ein / Aus
		RESEt	HArd SOFt Network reset
F04 Hour	F04-01 tI ME Time	00 flashes	HH:MM:SS (timet) No automatic changing of winter and summer time.
	F04-02 dAtE Date	00 flashes	DD:MM:YYYY (Date)
	F04-03 SHOW Display	SH. ALL	Display date and time changes (interval: 30 seconds).
		SH. oFF	Date and time off
		SH. tI ME	Time
		SH. dAtE	Date

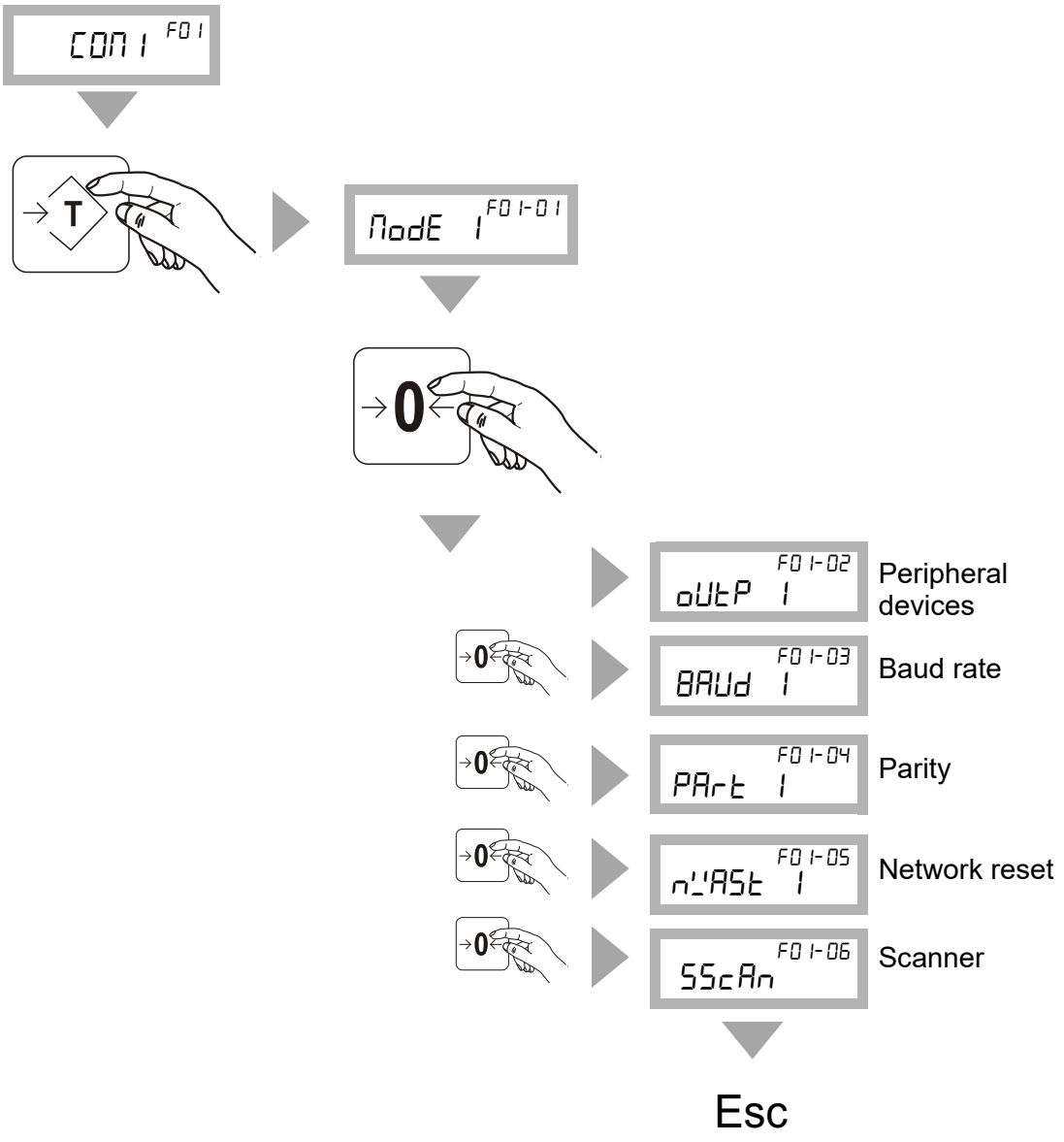
Menu	Submenu	Option	Function
F05 FILtEr Filter	F05-01 PRoFIL Profil	0 1 2	Profil 0 (default) Profil 1 (animal weighing function) Profil2 (quikly weighing)
	F05-02 SPS Sampling rate	6 12 25 50 100 200	Sampling rate-values
	F05-03 'Ind Delay	0.....99	Delay values for filling the filter (default 0).
	F05-04 Att Attenuation	0..... 10	Attenuation values (default 2).
F06 LEGAL Legal	F06-01 ALI bI Alibis memory	ALb. S''	AL. OFF AL. On Alibi memory on / off
		ALb. SH''	Ed. 0 flashes Enter the alibi number.
	F06-02 tAc Verification TAC counter		
F07 CodE	----	Password entry (Passwort 0000)	Entry into calibration menu.

Attention
Once the verification counter is increased, the verification becomes null and void.

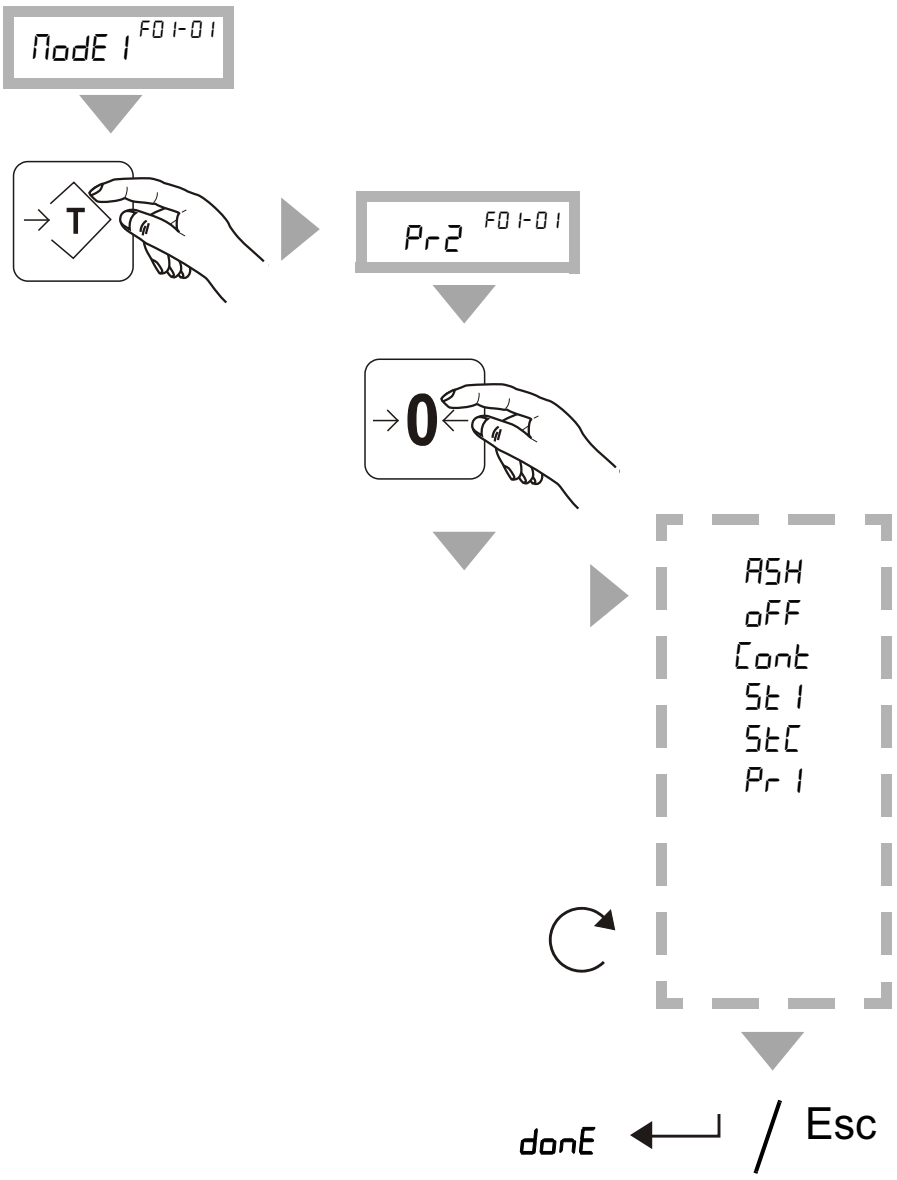
This is the symbol used in this manual for “Verification invalid”

3.2.2 FUNKTION MENU F01 - OVERVIEW COM1

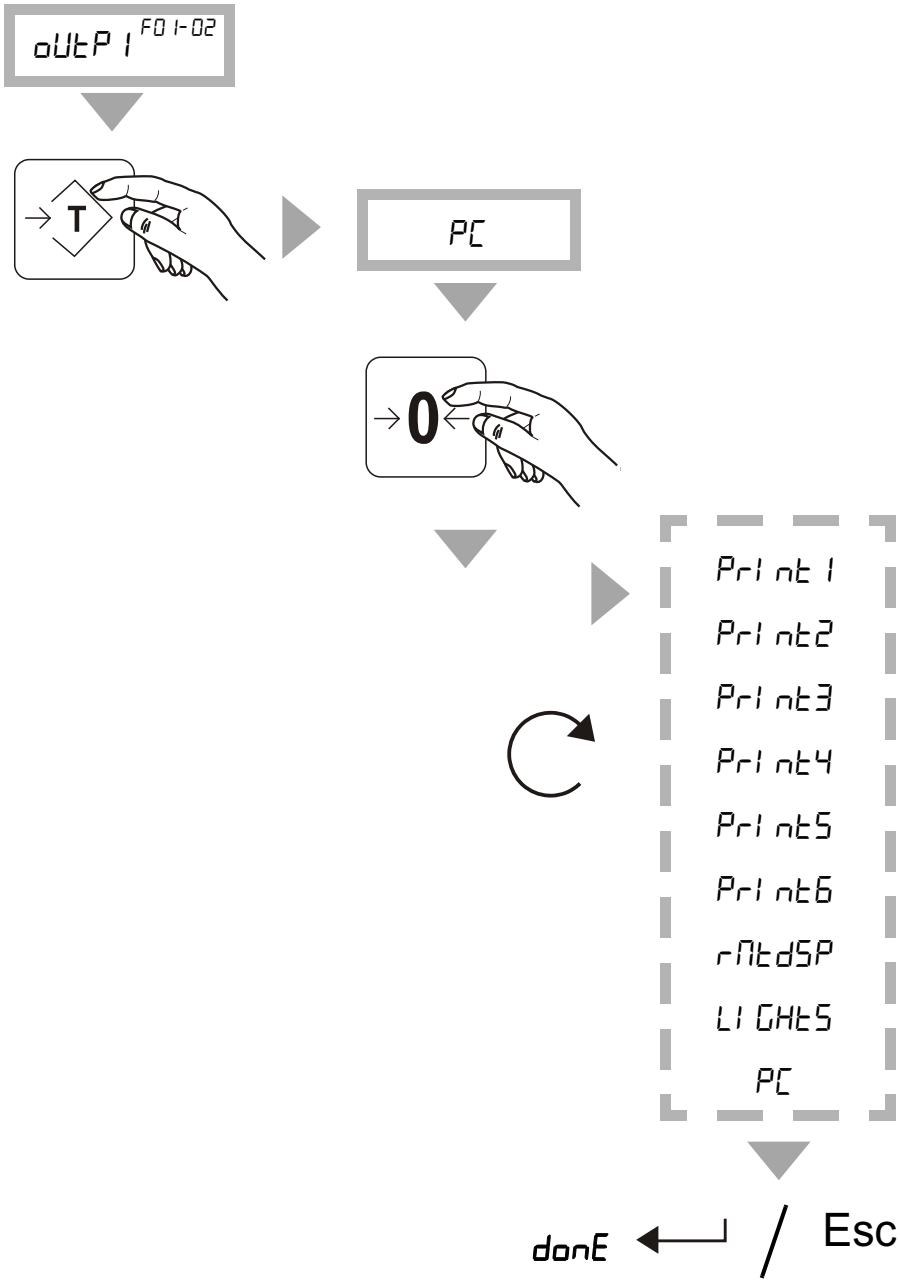
Note
This manual only describes the settings of interface COM1. The interfaces COM2 and COM3 are to be set identically.



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



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



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>
```

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

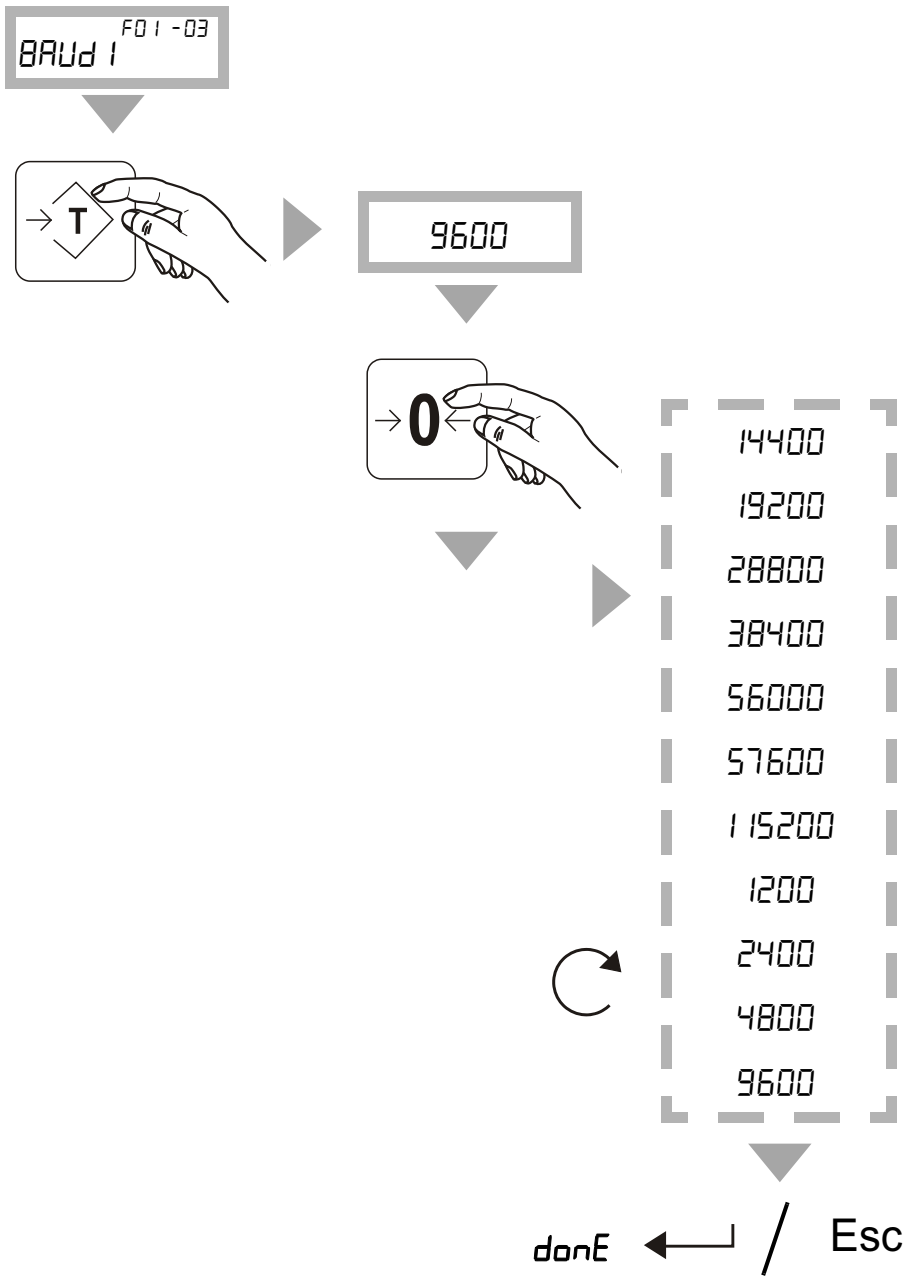
Data format:
`ST,GS,+ 0.0Kg<CR><LF>`

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

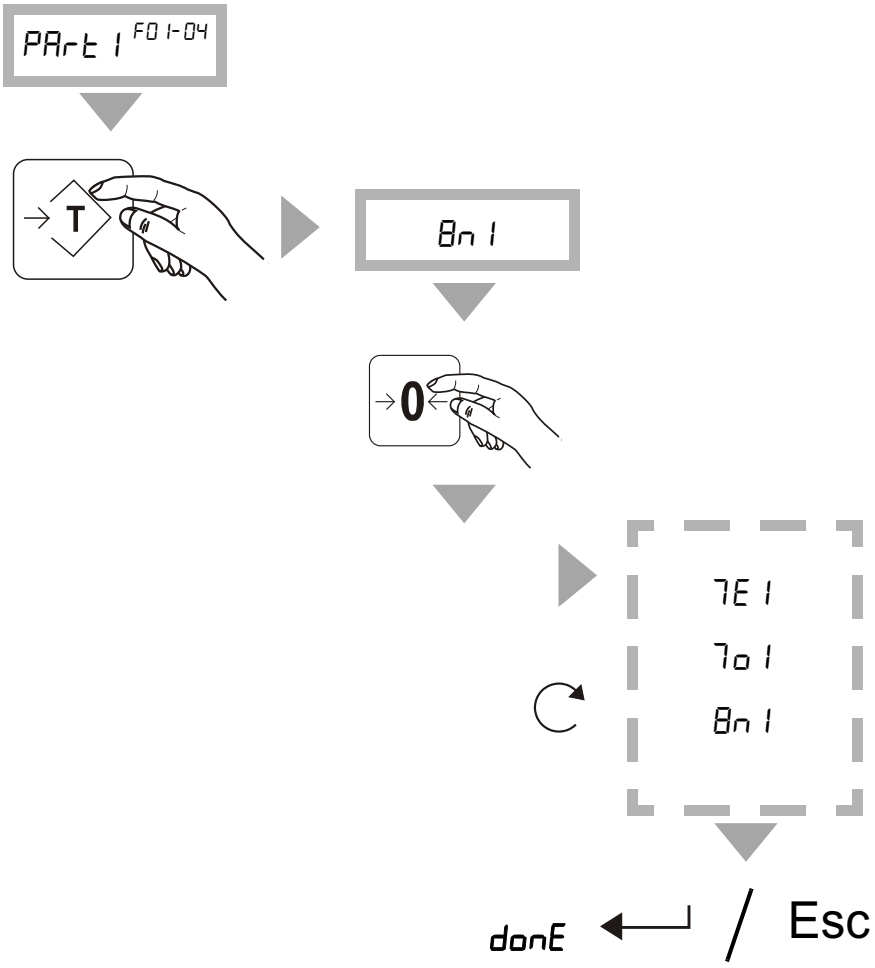
Data format:

Signal lamo Off:	`PC <CR><LF>`
Signal lamp Yellow:	`PC <CR><LF>`
Signal lamp Green:	`PC <CR><LF>`
Signal lamp Red:	`PC <CR><LF>`

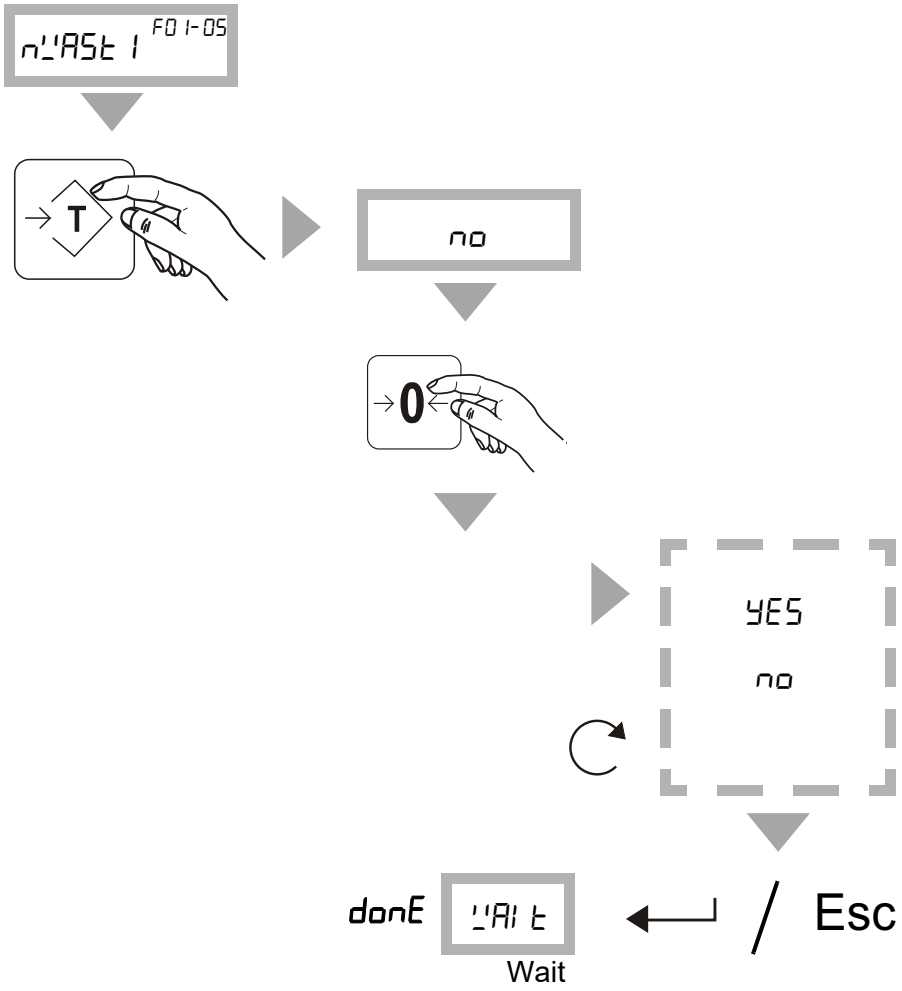
Function menu P01-03 - BAUD 1 (baud rate)



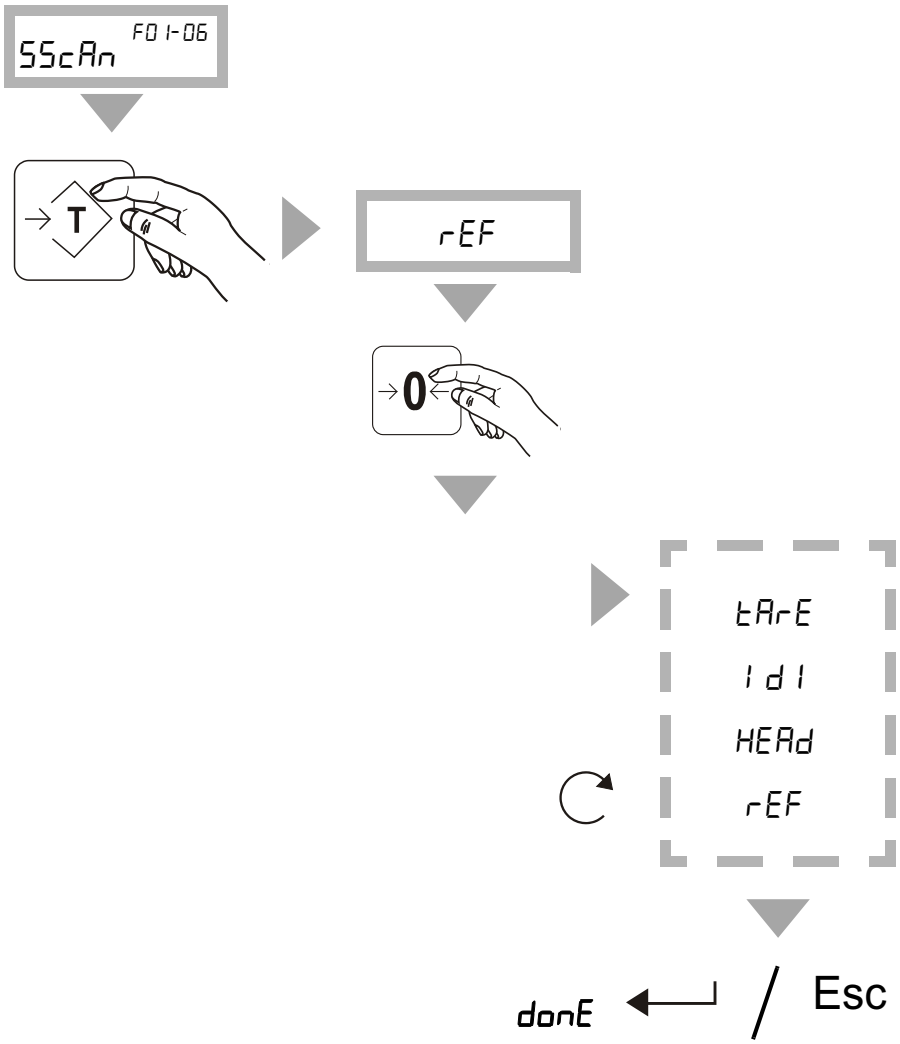
Function menu P01-04 - PART 1 (parity)



Function menu P01-05 - NWRST (network reset)

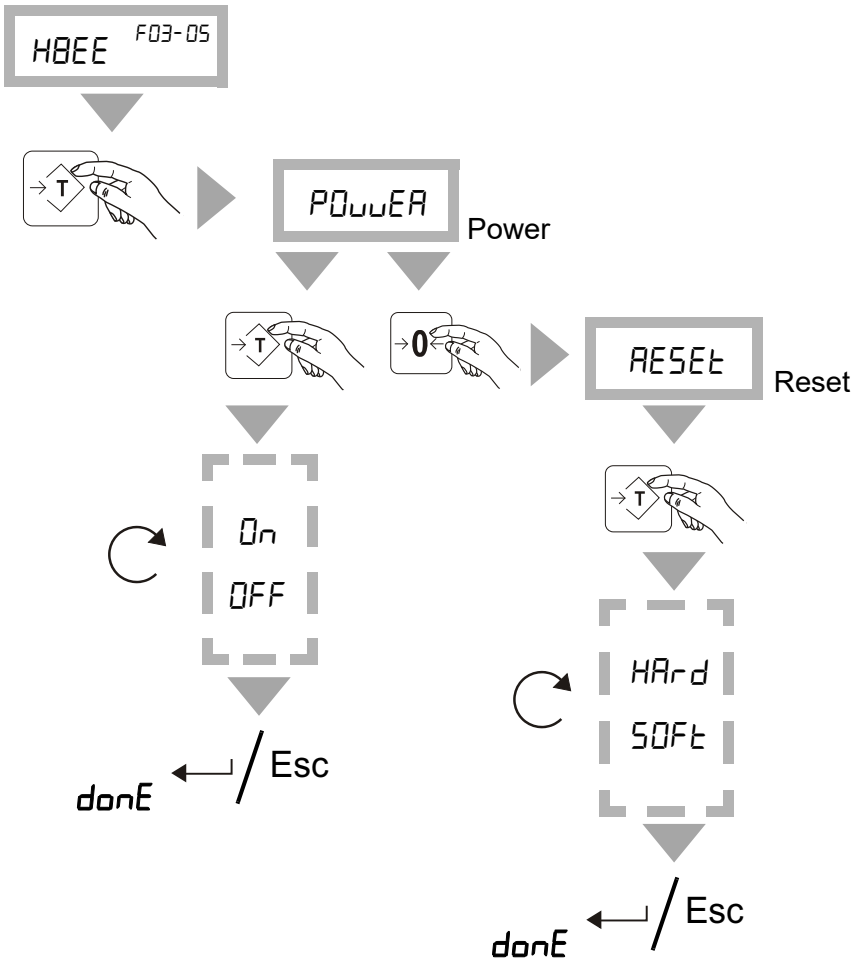


Function menu F01-06 - SScan (scanner)



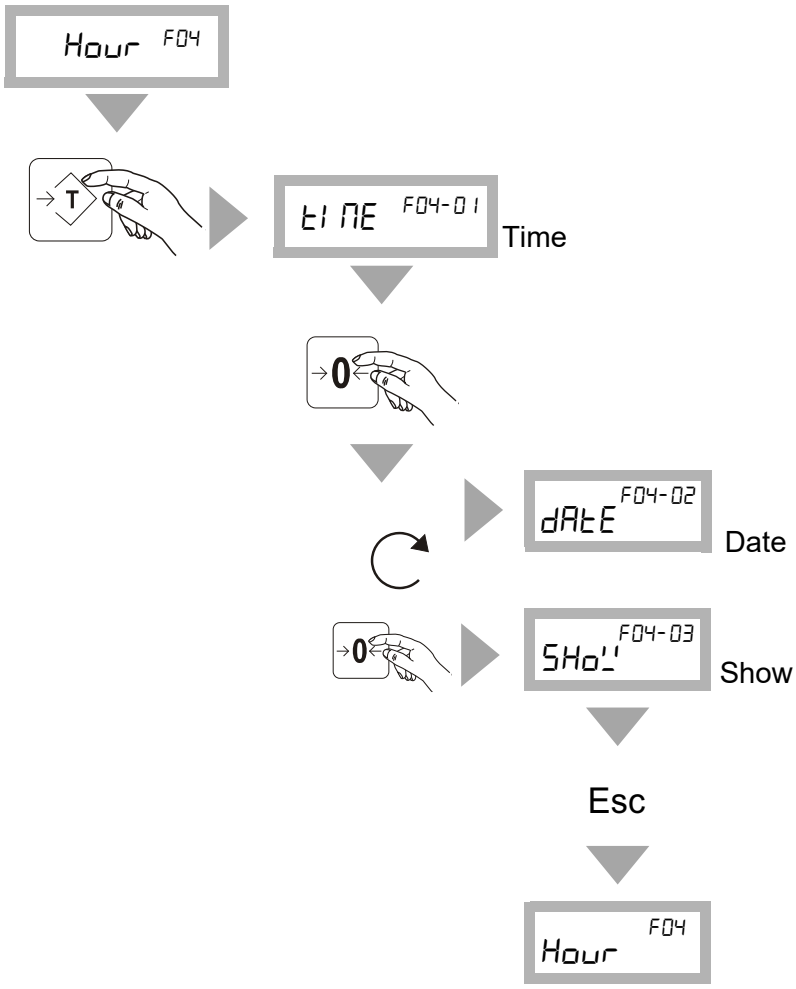
Function menu F03-05 - XBEE (radio transmission)

Note
This menu is only available under COM 3!

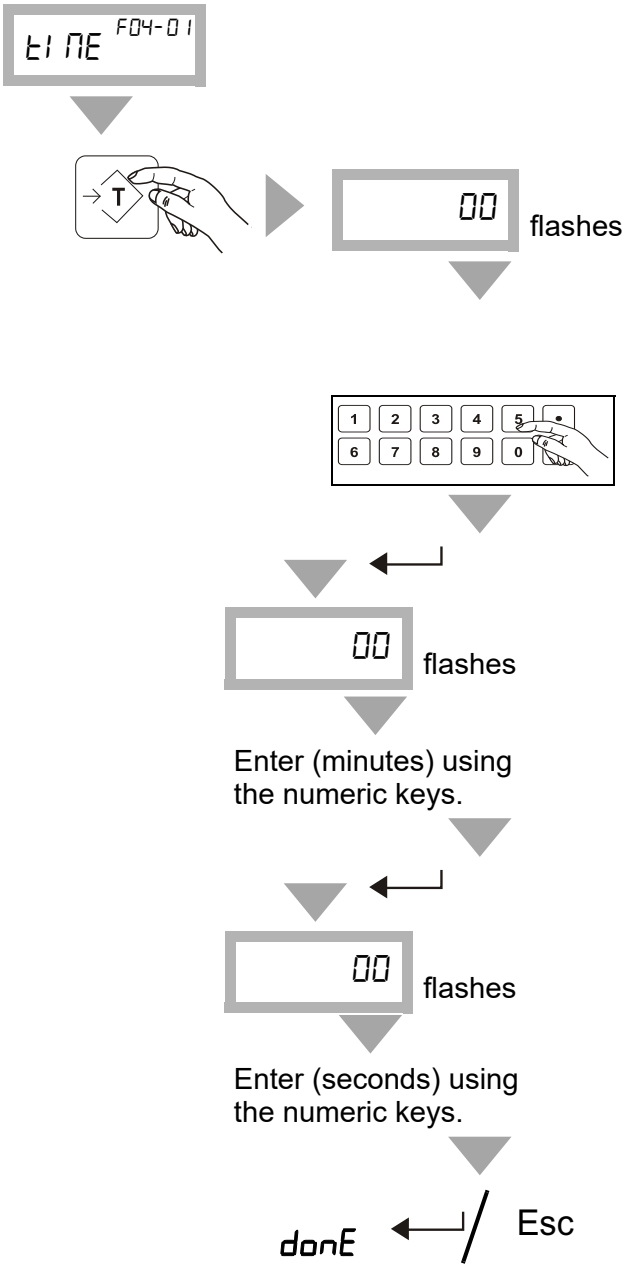


3.2.3 FUNCTION MENU F04 - OVERVIEW HOUR (DATE /TIME)

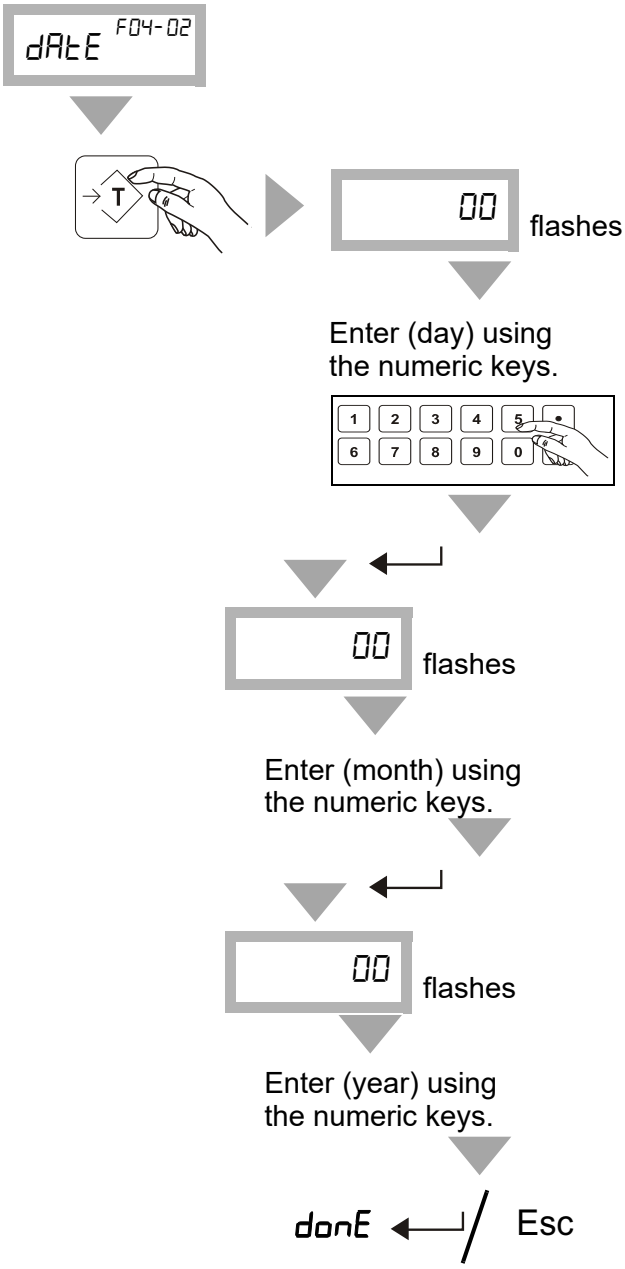
Note
No automatic changing of winter and summer time.



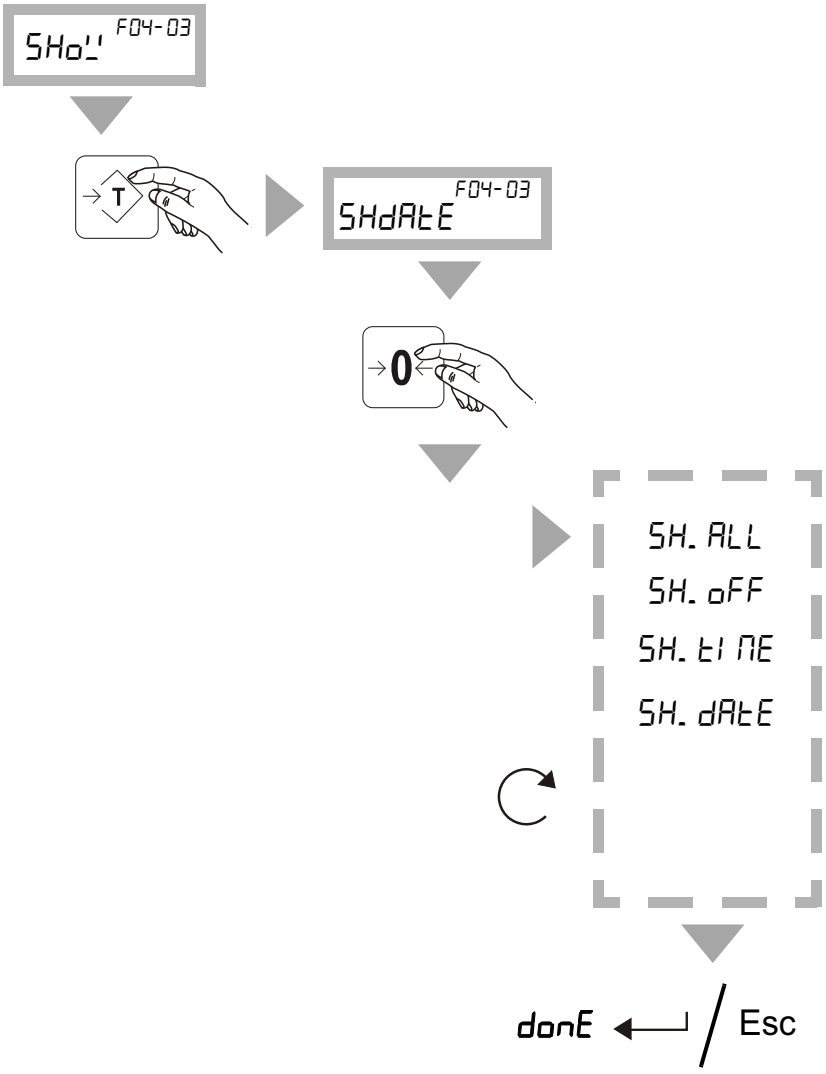
Function menu F04 - 01 TIME



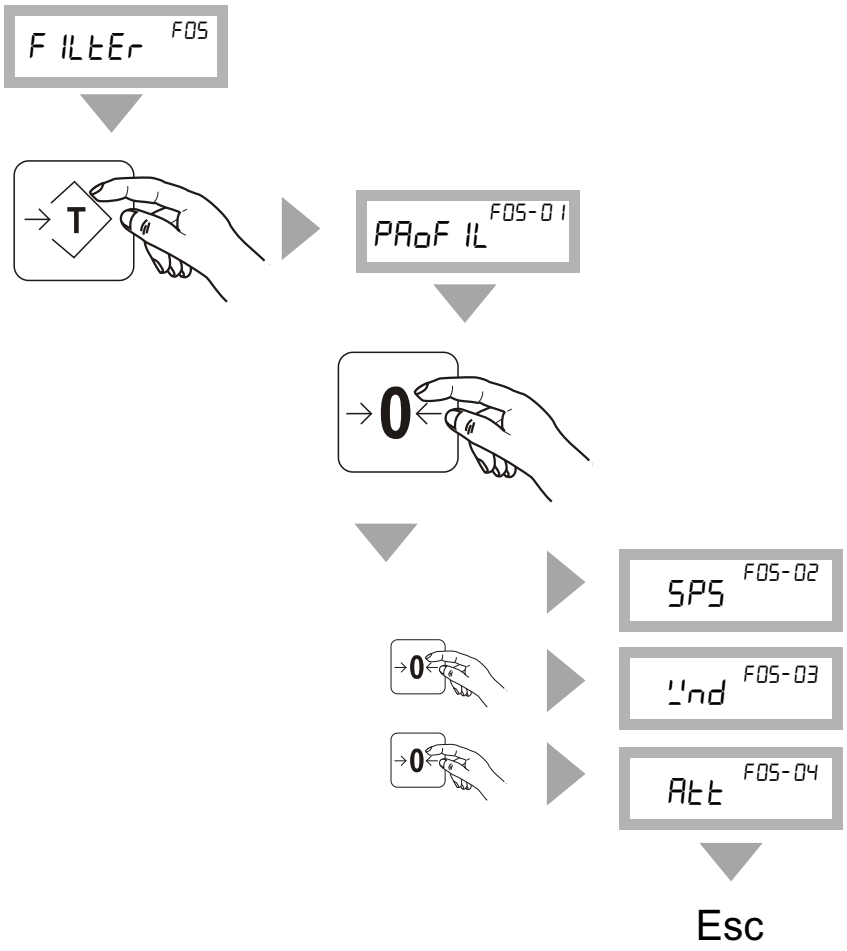
Function menu F04 - 02 DATE



Function menu F04 - 03 SHOW (show date/time on the display)



3.2.4 FUNCTION MENU P05 - OVERVIEW FILTER



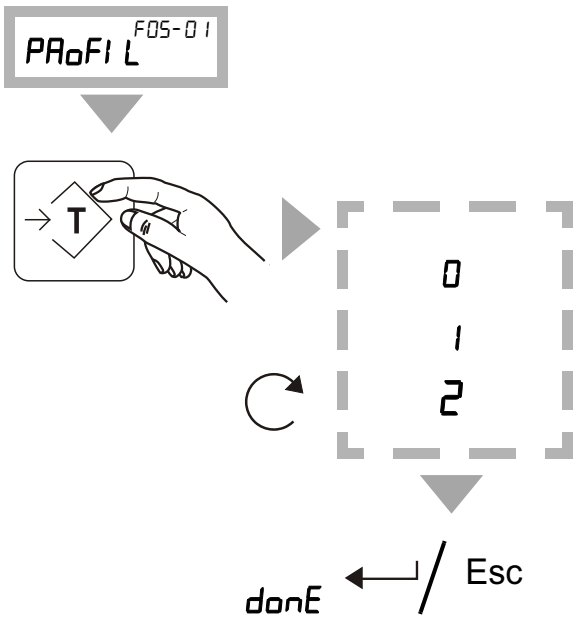
It is possible to set the internal measuring rate of the AD converter here. This parameter directly influences further settings of the weighing operation.

With increased measuring rates, the scales operates faster but looses stability.

Lower measuring rates improve stability but reduce the speed. We recommend using lower measuring rates in an environment with a lot of motion.

The following measuring rates can be selected: 6, 12, 25, 50, 100 and 200.

Function menu F05-01 - Profil (e.g. animal weighing)

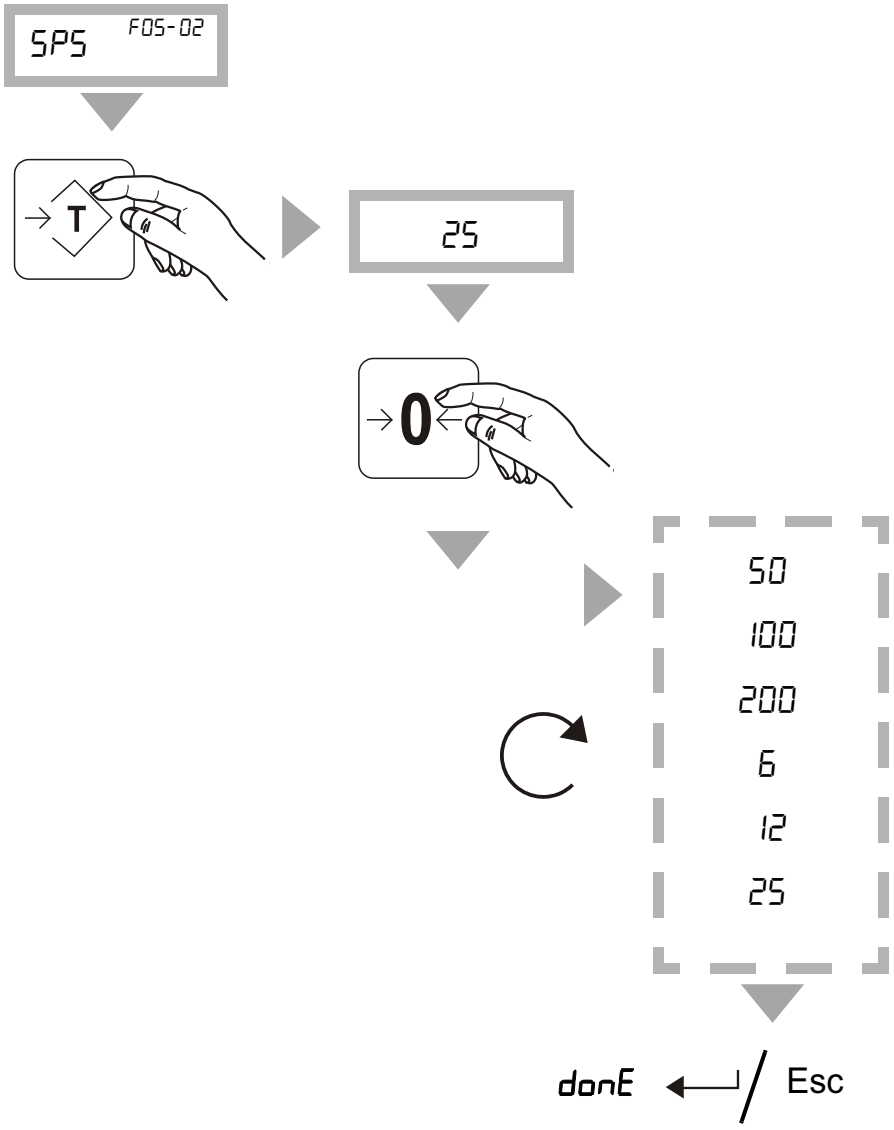


Profile 0 (default) offers the perfect settings for all statistic applications (perfect adjustment between speed and stability).

Profile 1 offers the perfect settings for all dynamic applications (animal weighing, perfect adjustment for maximum stability).

Profile 2 allows your own settings on the filter and its parameters.

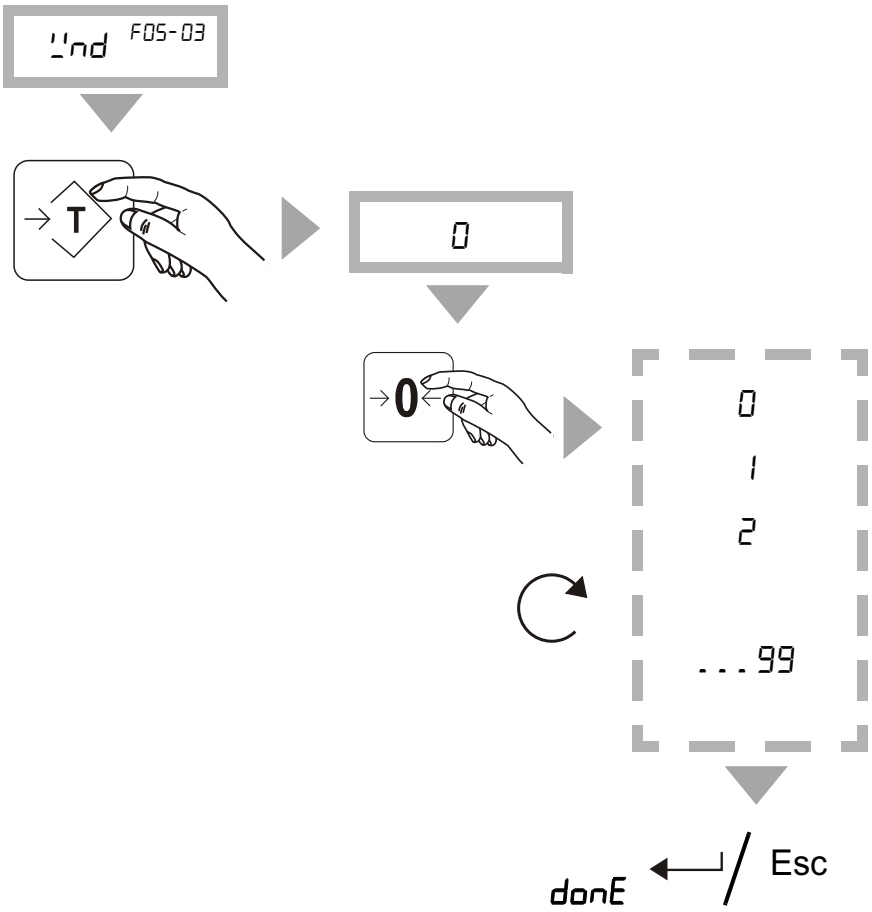
Function menu F05-02 - SPS (sampling rate)



The internal speed can be adjusted here.

We recommend using a measuring rate of 6, 12 or 25. Higher measuring rates result in smallest changes to the stability of the determined measured value.

Function menu F05-03 - WND (delays)

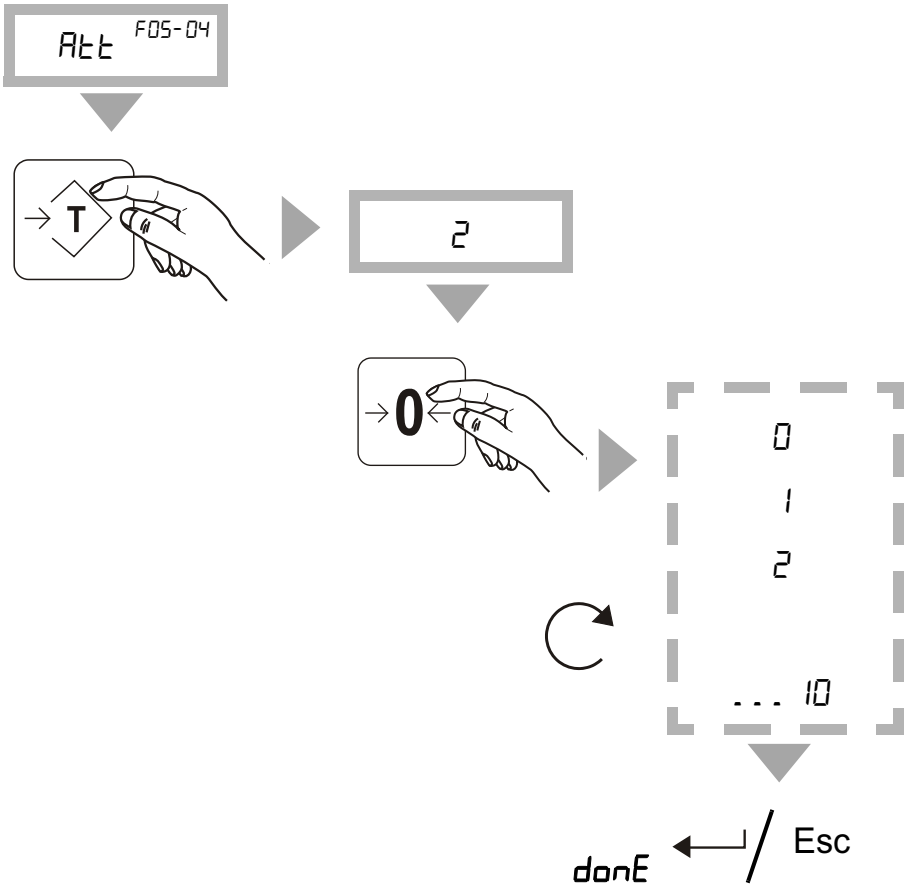


In this menu the number of required measured values in the internal filter is determined before the resulting measured value is put out.

A high value requires a lot of measured values and results in delays. However, the stability of the put out measured values is improved.

A small value increases the speed but influences the measured value stability negatively.

Function menu F05-04 - ATT (attenuation value)



The filter tries to predict the next weighing value based on several factors. The speed and the delta of the measured values are also considered.

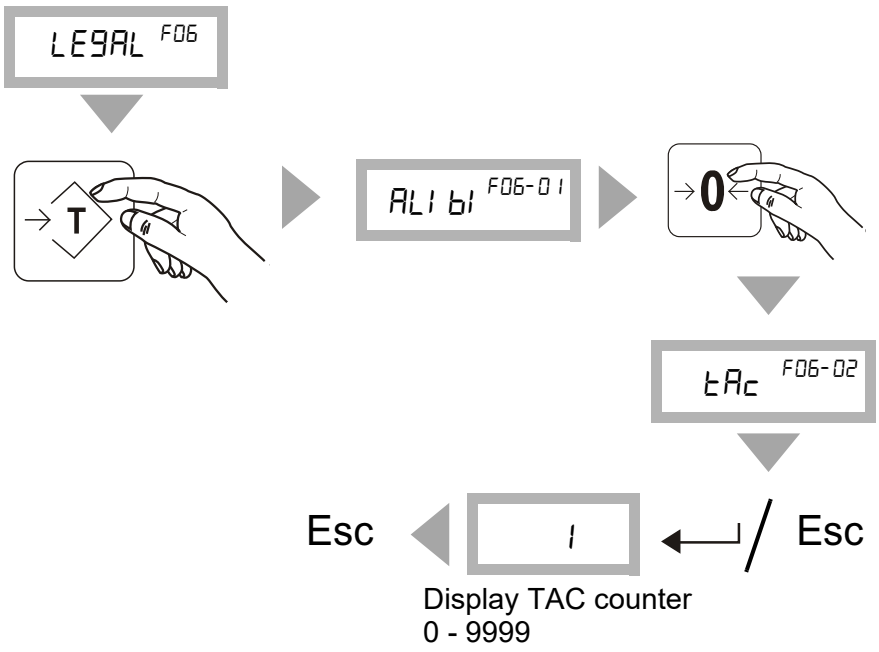
An attenuation value of ATT = 0 requires more steps to put out a filtered value.

An attenuation value of ATT = 10 requires less steps to put out a filtered value.

A high attenuation value offers intermediate values less stable but a higher speed.

3.2.5 FUNKTION MENU P06 - OVERVIEW LEGAL

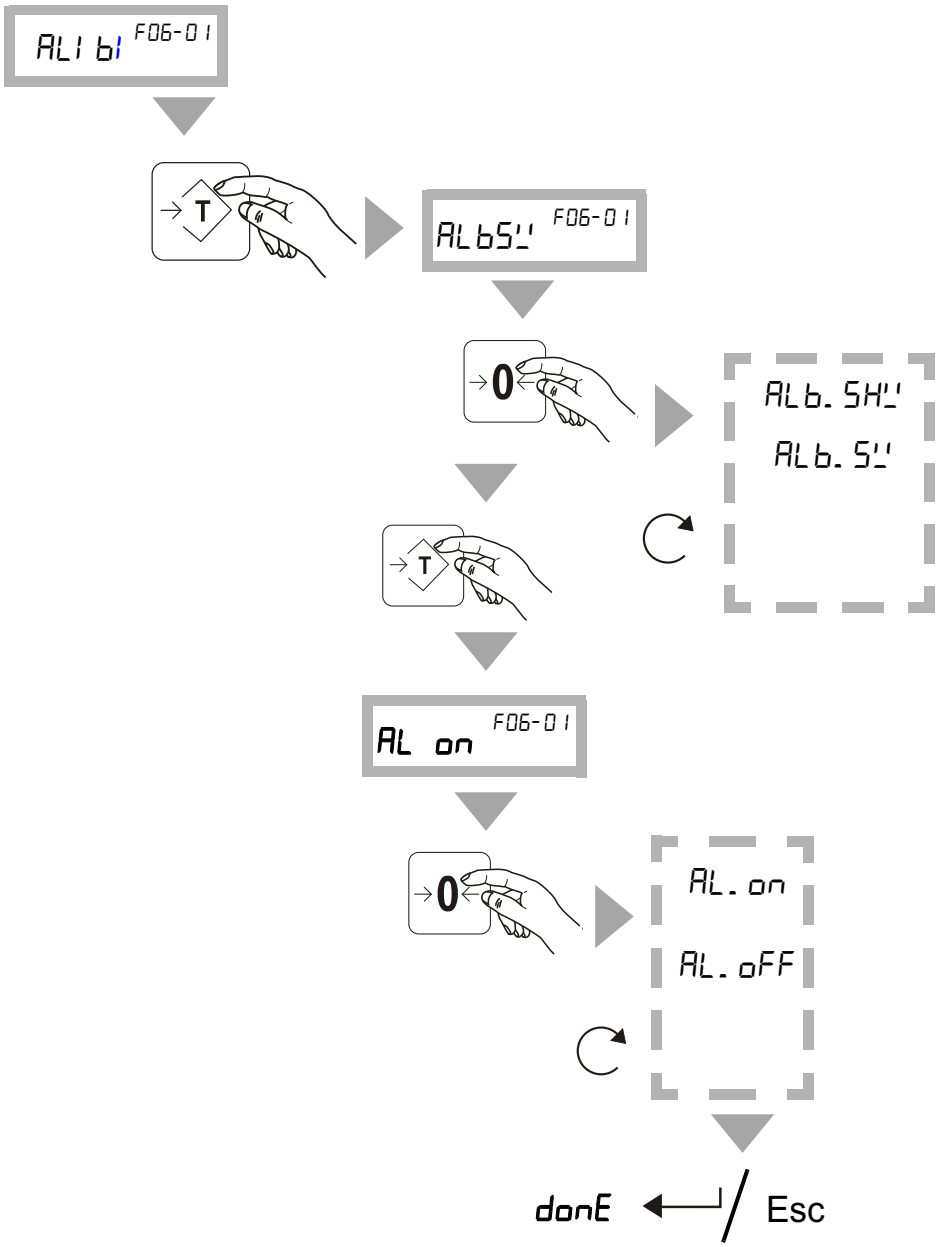
Note
In the menu item "Legal" the alibi memory can be activated or deactivated, when needed.
On legal-for-trade scales, the alibi memory is by default always active and can not be disabled. The query of the stored alibi values for market surveillance (Bureau of Standards) is located in this menu item. Another way to display stored alibi values is located in the Quick Menu (chap.2 in this manual).

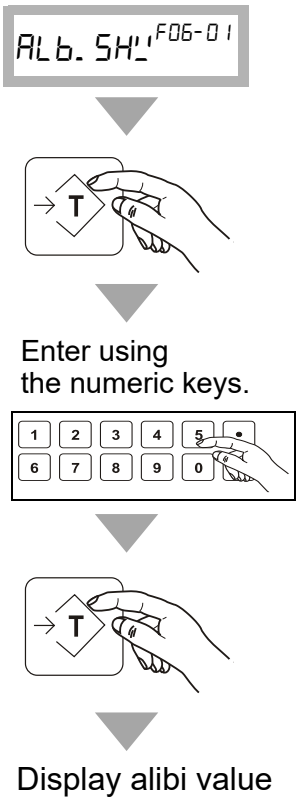


Display TAC counter
0 - 9999

Attention
Once the verification counter is increased, the verification becomes null and void.

Function menu P06-01 - Overview Alibi (alibi memory on/off)




ALb. SHI F06-01
T
Enter using
the numeric keys.
1 2 3 4 5 .
6 7 8 9 0
T
Display alibi value

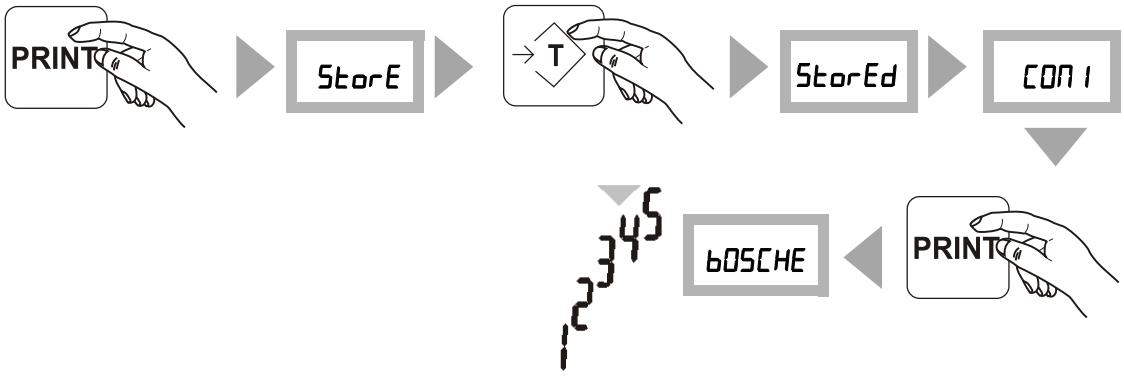
4 PASSWORD PROTECTED MENU

4.1 NAVIGATION IN THE PROTECTED MENU

Navigierung		
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.

Changing the parameter will cause that the scale operates no longer operating intended to their technical specifications. When exiting the menu, storing the modifications must be done to change parameters altered effectively.



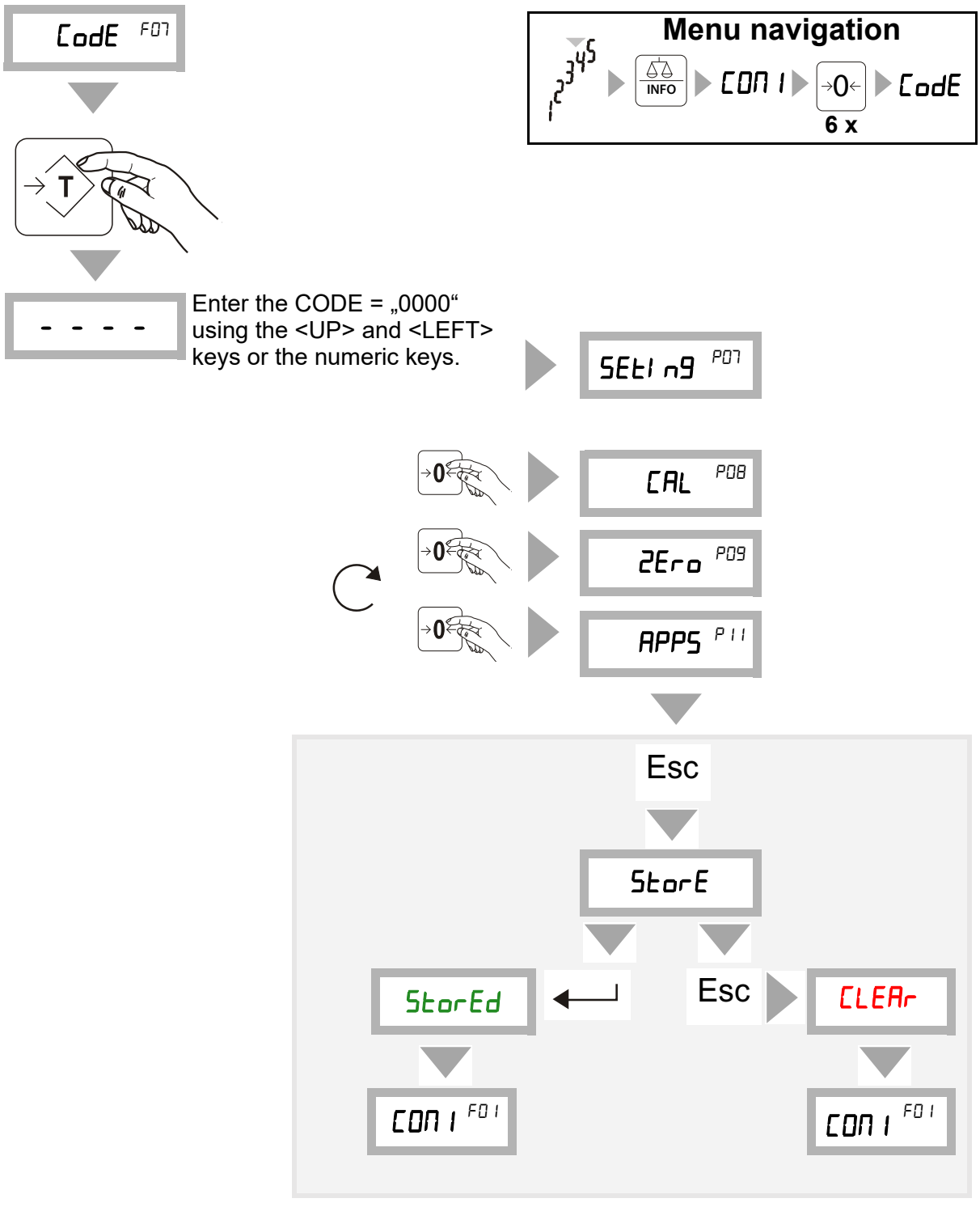
The storage also means that the value of the electronic verification counter is increased by one. At this moment, the verification disappears on verified scales. The system is thus no longer legal for trade.

Attention
Once the verification counter is increased, the verification becomes null and void.

Note
Please contact our technical support before changes (see chap.5 “Customer Service“).

If you are not sure, you leave the menu by pressing repeatedly **Esc** (PRINT). The display performs a self-test again and changes to normal weighing mode.

4.2 PASSWORD PROTECTED MENU - OVERVIEW



4.2.1 PASSWORD PROTECTED MENU - short description

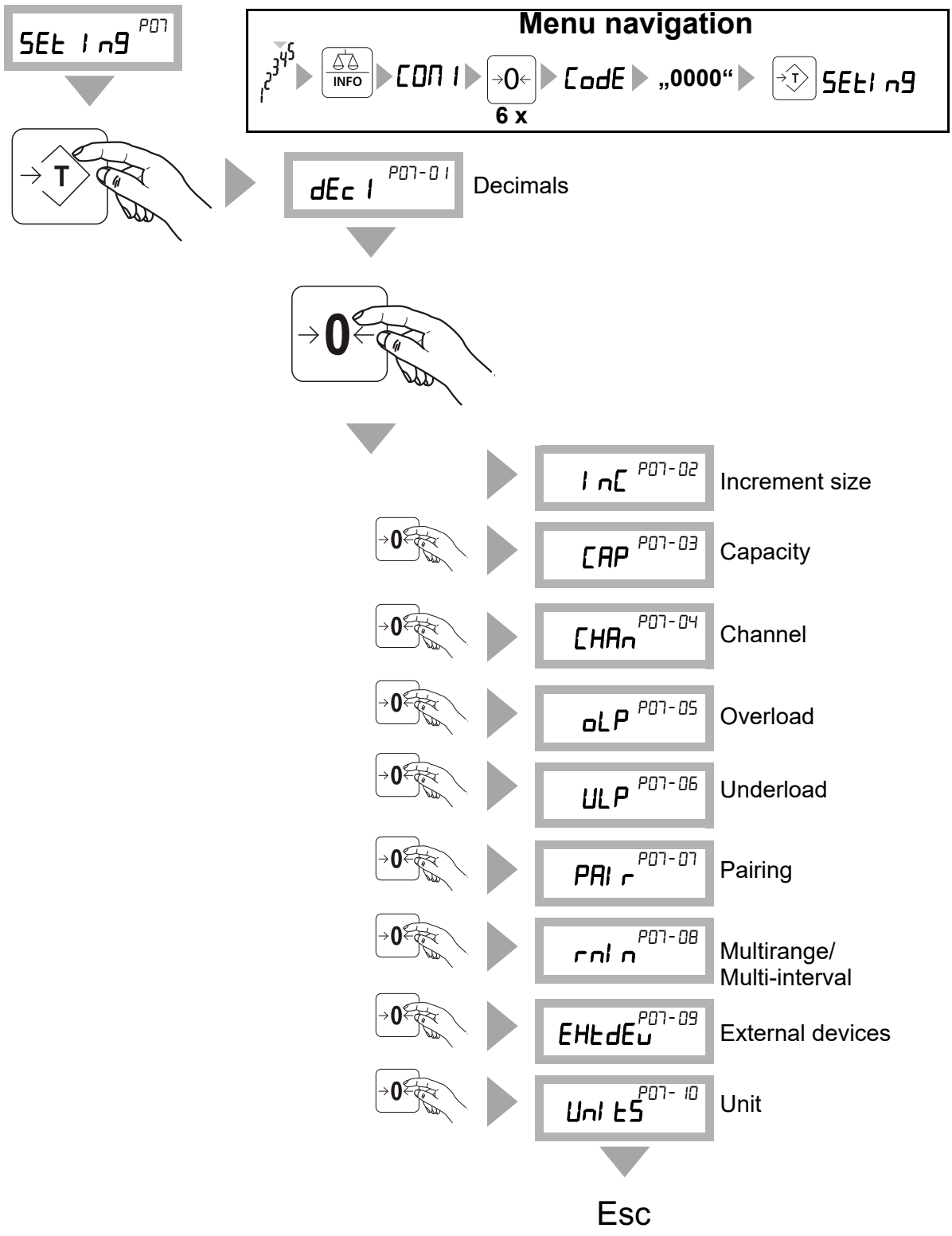
Menu	Submenu	Option	Function
P07 SEtinG	P07-01 dEc 1 Decimal place	0; 0.0; 0.00; 0.000; 0.0000; 0.00000	Setting of the desired number of digits after the decimal point.
	P07-02 inC Increment size	incSt 1 1; 2; 5; 10; 20; 50; 100; 200	Increments for the displayed weight (resolution).
	P07-03 CAP Setting the capacity	CAPMAH „00.0000“ flashing -->Enter the value using the keys <UP> and <LEFT>. CAPAN1 (is not displayed if rnIn = oFF) „00.0000“ flashing--> Enter the value using the keys <UP> and <LEFT>. CAPAN2 (is not displayed if rnIn = oFF) „00.0000“ flashing --> Enter the value using the keys <UP> and <LEFT>.	Setting of the maximum capacity. Capacity weighing range1 Capacity weighing range2
	P07-04 CHAn Aktive channel	on oFF	On/Off 1 - 4 or the sum
	P07-05 oLP Overload control	on oFF	On/Off
	P07-06 ULP Underload control	on oFF	On/Off
	P07-07 PAIr Scales pairing	on oFF	On/Off

Menu	Submenu	Option	Function
P07 SEtinG	P07-08 rnIn Multirange / Multi-interval	oFF rn92 rn93 Int2 Int3	Normal weighing Multirange scale Multi-interval scale
	P07-09 EHEdEu External devices	oFF Gyro	Normal weighing Tilt sensor (only for mobile applications)
	P07-10 UnIt5 Units	SEL 0 SEL 1 SEL 2 SEL 3	Off Gram (g) Kilogram (kg) Ton (t)
P08 CAL	P08-01 SPAn Two-point calibration (zero point, load point)	rA' „67442“ (example) 2Ero LoAd	Display of the current raw measured value of the A / D converter. UnLoAd Calibration of the zero point. Calibration of the load.
	P08-02 LInEAr Linear calibration	StEPS rA' „67442“ (example) 2Ero LoAd	1 - 6 Number of calibration points. Display of the current raw measured value of the A / D converter. UnLoAd Calibration of the zero point. Calibration of the load.

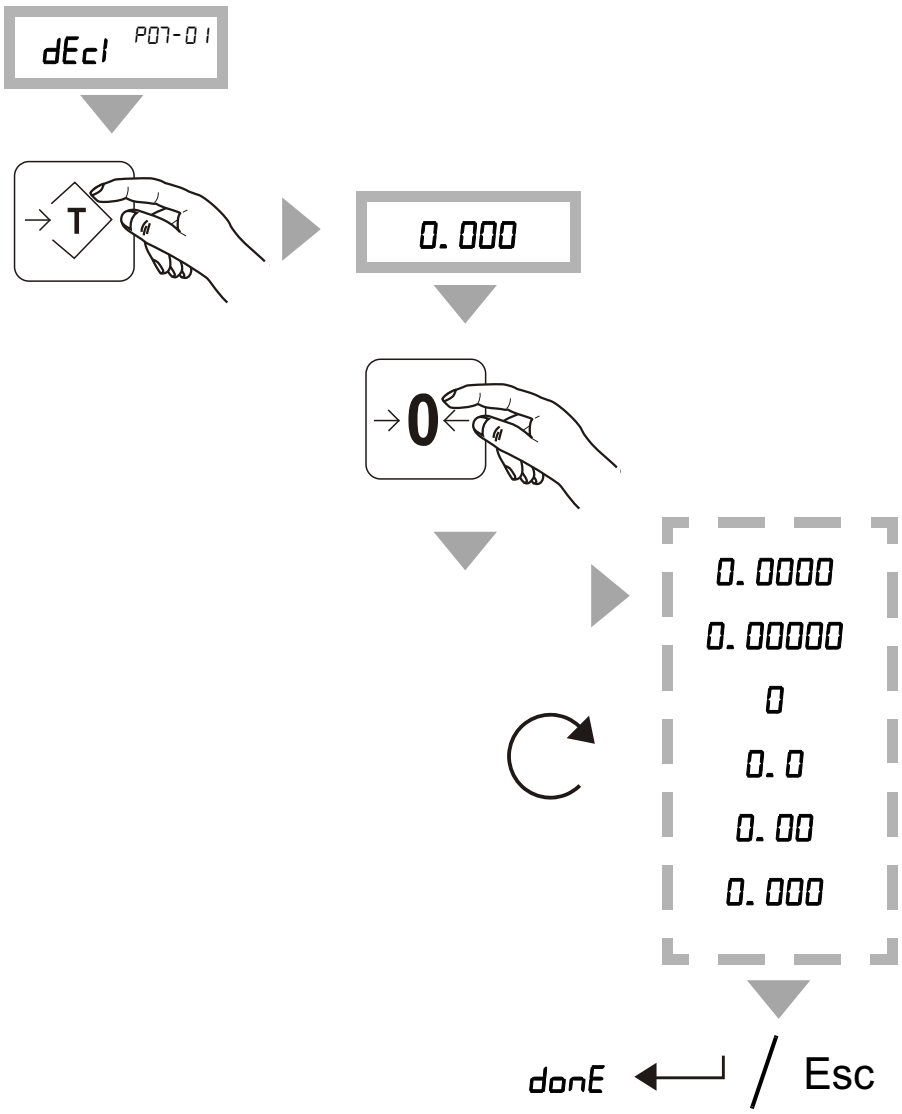
Menu	Submenu	Option	Function
P08 CAL	P08-03 nU-U	FIELD	Theoretical calibration SEnS „001000“ flashes --> Enter the value. Setting the sensitivity of the load cells used. tCAP „001000“ flashes --> Enter the value. Setting the maximum load of the load cells used. St2AP UnLoAd Set the zero point.
	P08-04 GrAUtY	OFF „9.81300“ flashes --> Set the gravity value.	Adaptation of the gravity factor to correct the weight value on the site of scales use. (Default: 9.8130)
	P08-05 CALSL	 SPCAL LnCAL FIELD FtORY	Selection of the active calibration method. Two-point calibration Calibration with several points. Calibration with adapted cell values. Factory-calibration

Menu	Submenu	Option	Function
P09 2Ero	P09-01 AU2Ero	 Auto Zero on oFF	Zero menu On/Off Off (default)
	P09-02 rn2Ero	Zero Range 0; 2; 4; 10; 20; 50; 100	Percentage of the capacity (default 2%). Zero of the scale by pressing the →0← key.
	P09-03 on2Ero	On Zero 0; 2; 4; 10; 20; 50; 100	Percentage of the capacity (default 20%).
P11 APPS	P11-03 LEUEL	Not displayed if oFF is selected in the password protected menu P07-09 (see p. 55). CALALL CALH CALY	Calibration tilt sensor (optional) Both axes x-axis y-axis

4.2.2 PASSWORD PROTECTED MENU P09 - OVERVIEW SETTINGS

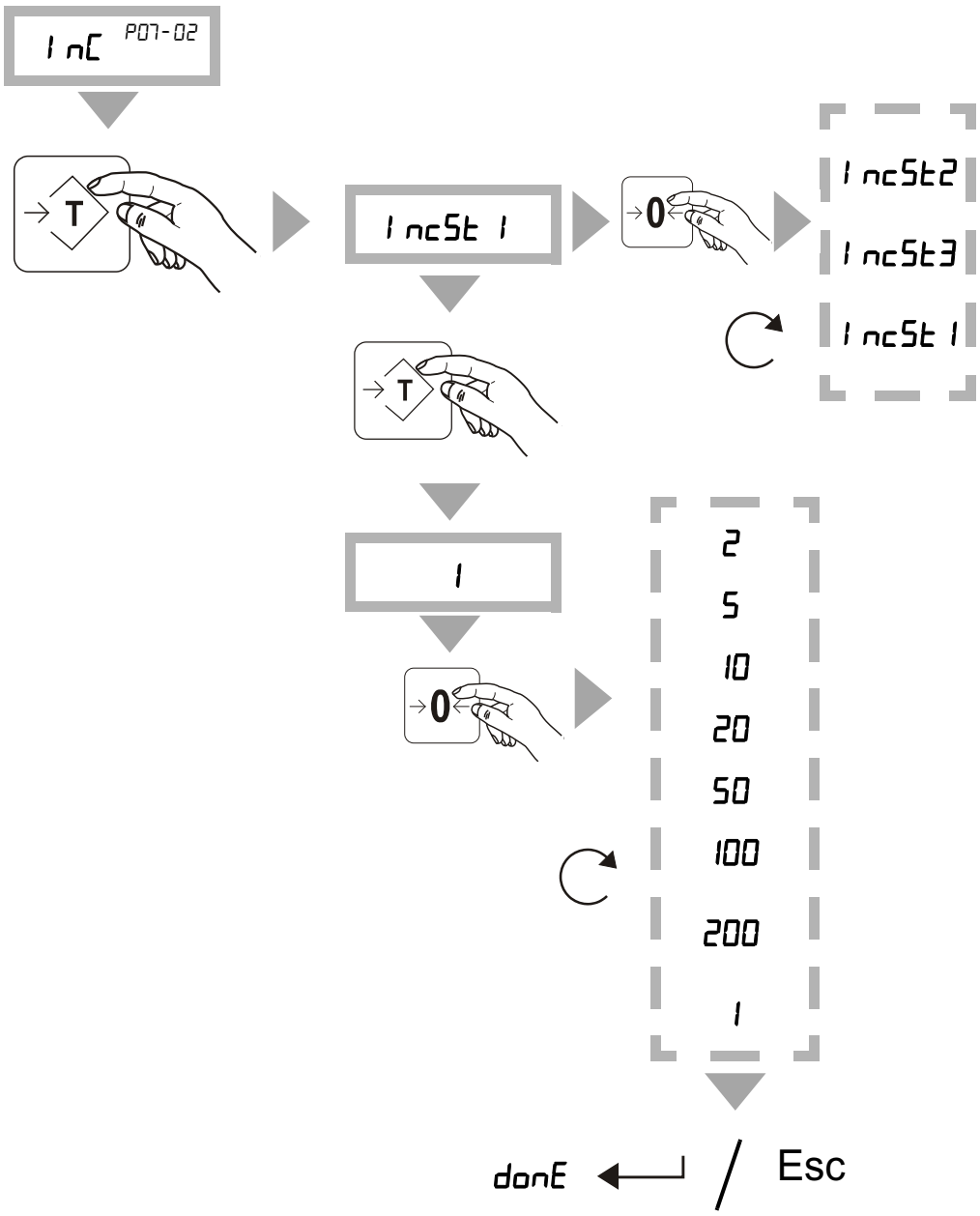


Password protected menu P07-01 - DECI (decimal place)



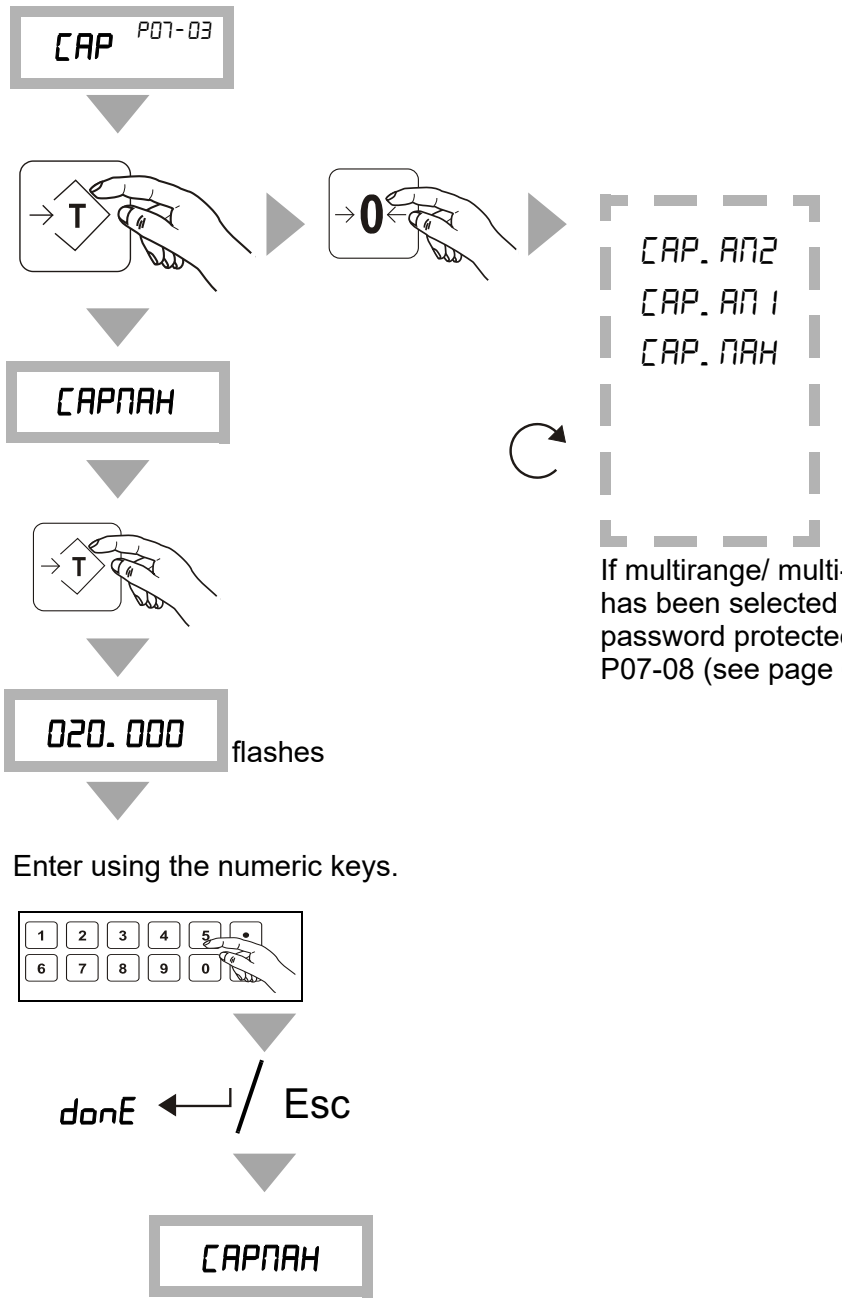
Stored/Clear see chap. 4.2

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



Stored/Clear see chap. 4.2

Password protected menu P07-03 - CAP (capacity)

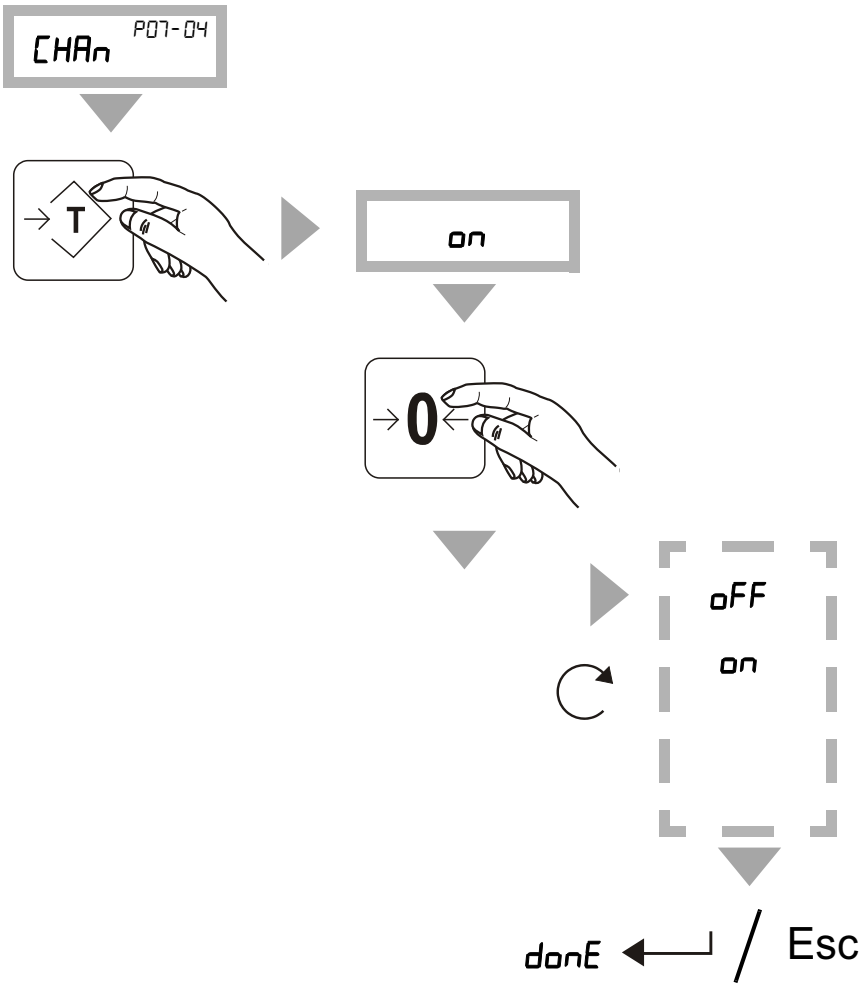


If multirange/ multi-interval has been selected in the password protected menu P07-08 (see page 66).

Stored/Clear see chap. 4.2

Password protected menu P07-04 - CHAN (active channels)

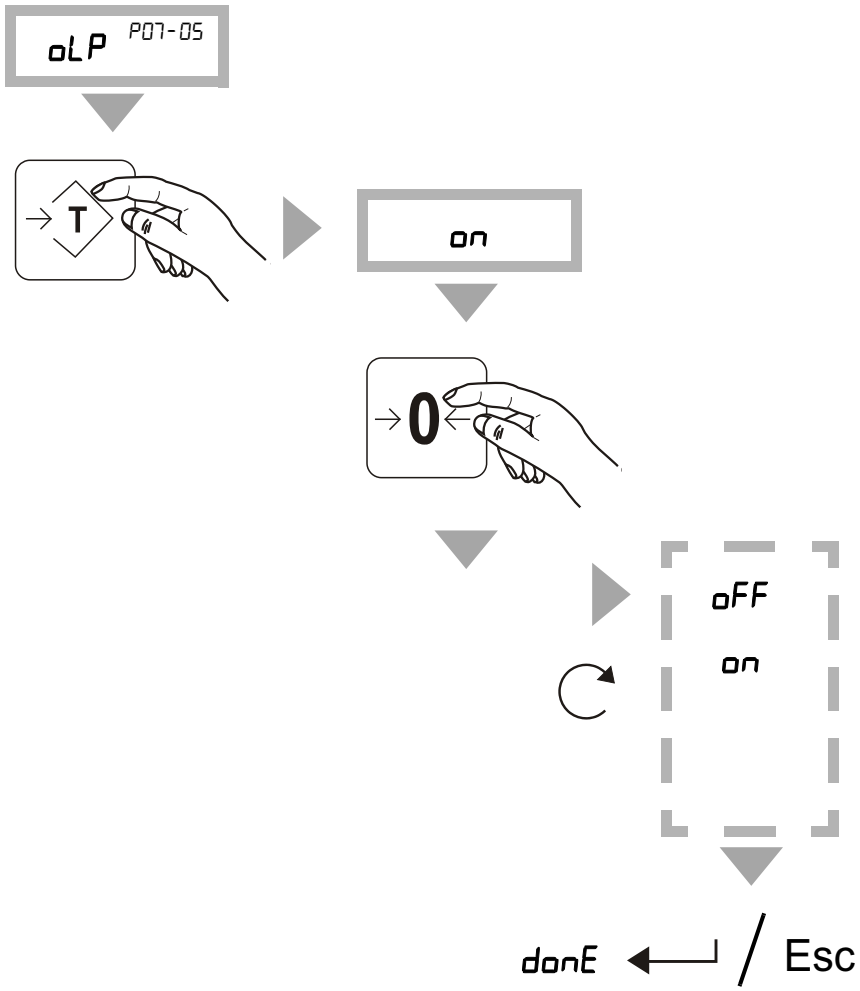
Note
This option is only available for reference scale systems. By default, only channel A is active.



Stored/Clear see chap. 4.2

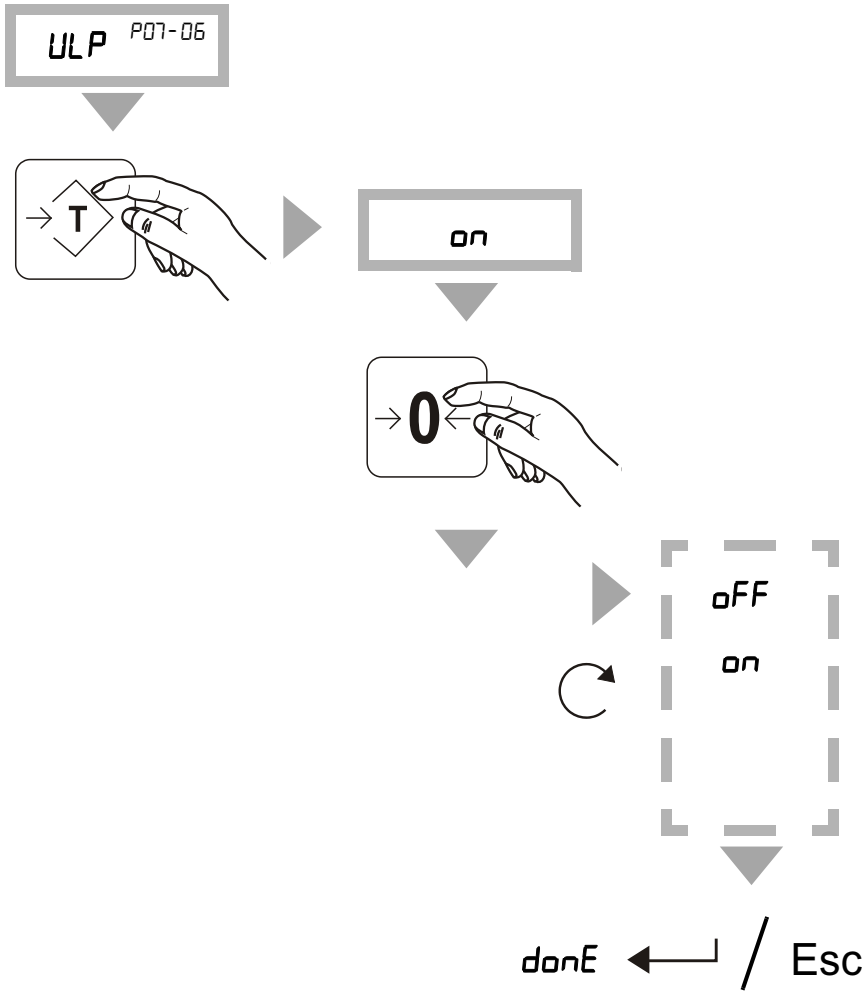
Password protected menu P07-05 - OLP (overload control)

Note
This parameter cannot be changed for vericated systems.



Stored/Clear see chap. 4.2

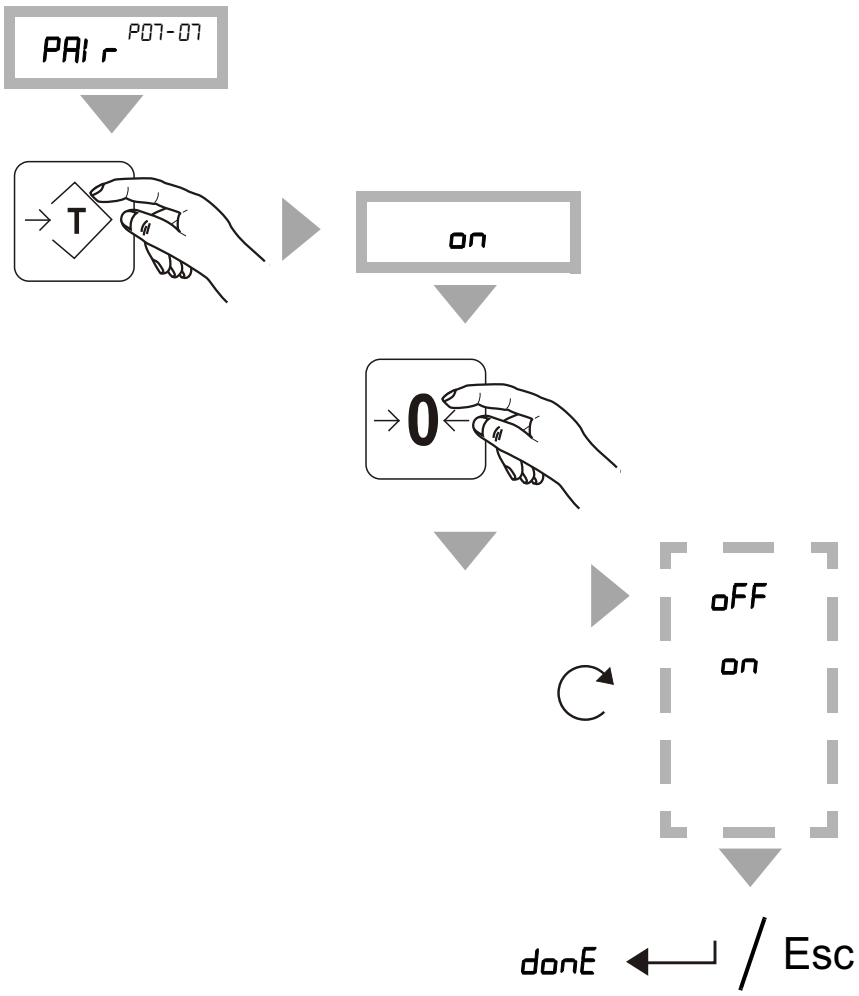
Password protected menu P07-06 - ULP (underload control)



Stored/Clear see chap. 4.2

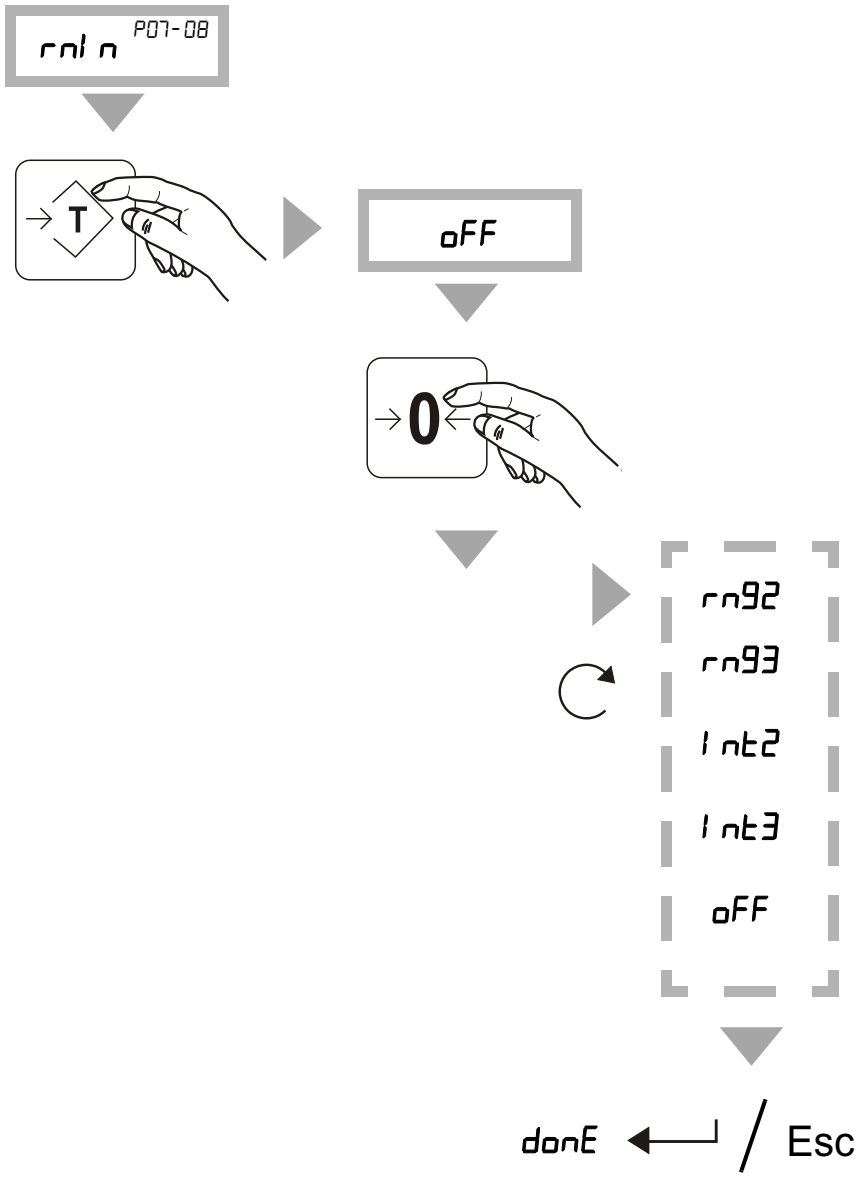
Password protected menu P07-07 - PAIR (scales pairing)

Note
The function of the "pairing", should be carried out by Bosche company or by Bosche authorized personnel.



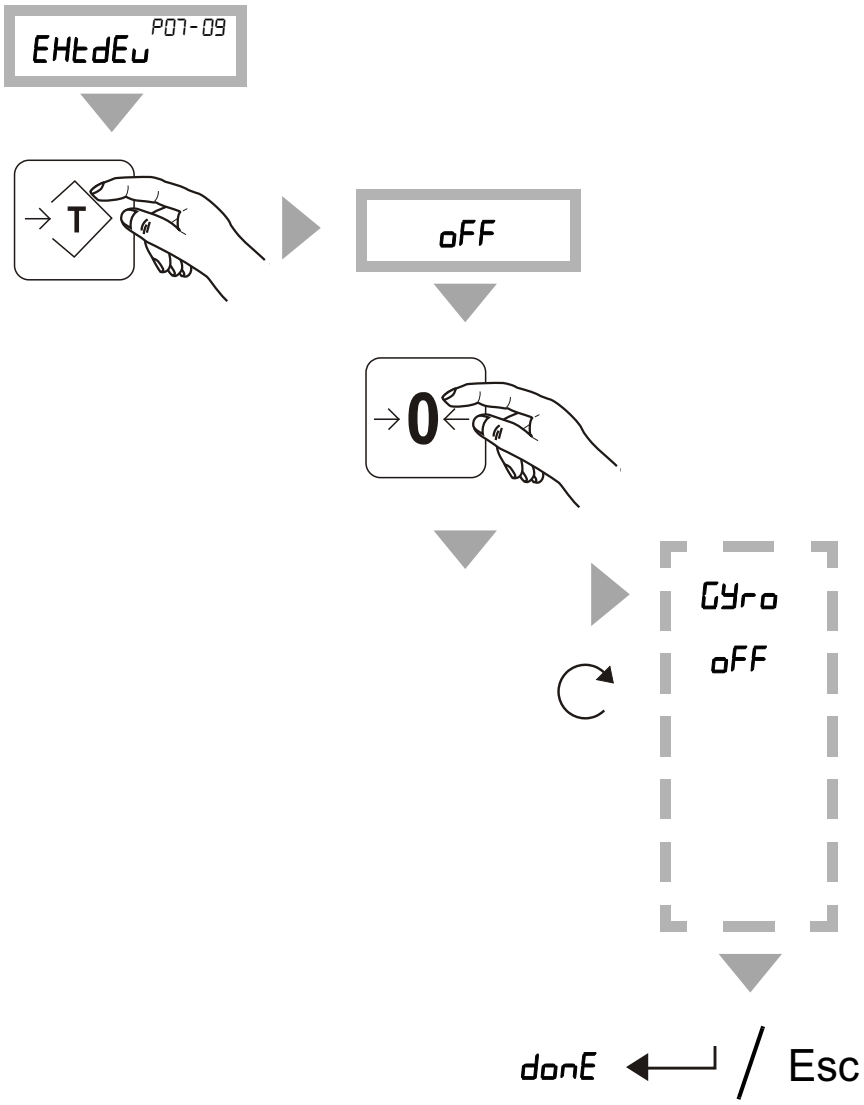
Stored/Clear see chap. 4.2

Password protected menu P07-08 - RNIN (setting multirange / multi-interval)



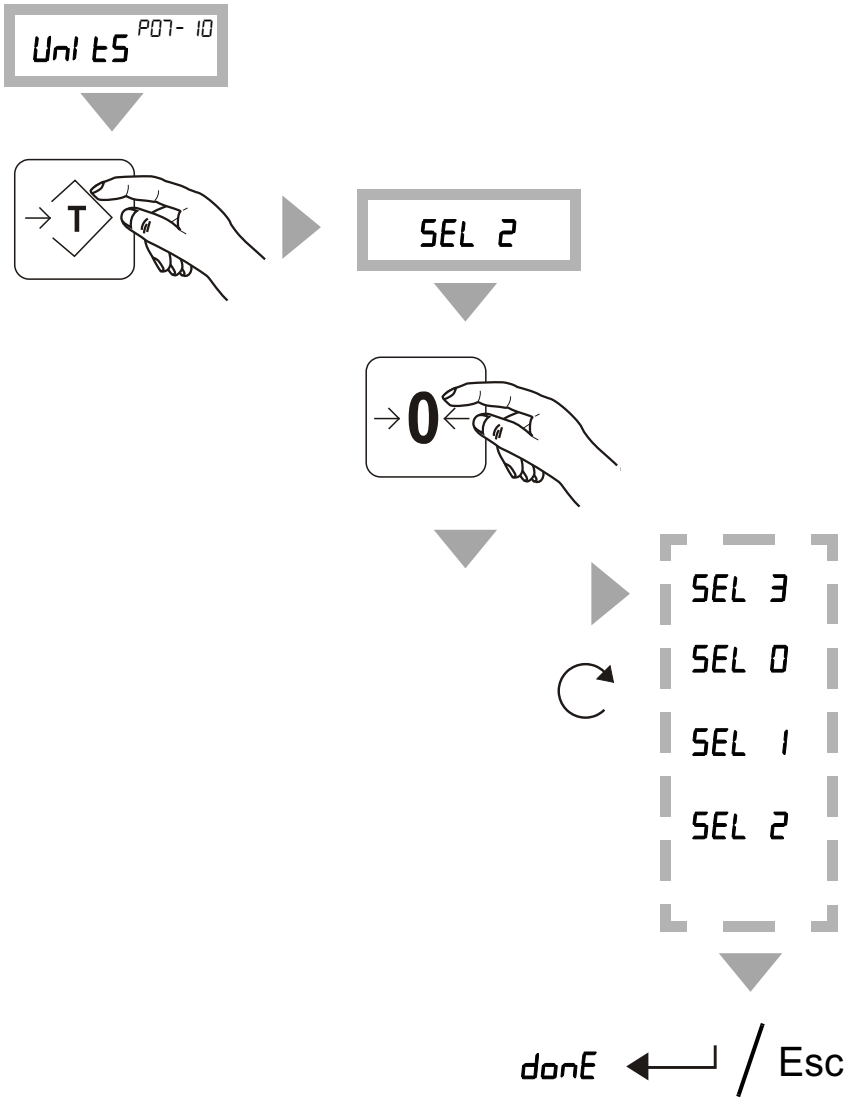
Stored/Clear see chap. 4.2

Password protected menu P07-09 - EXT.DEV (active tilt sensor, if available)



Stored/Clear see chap. 4.2

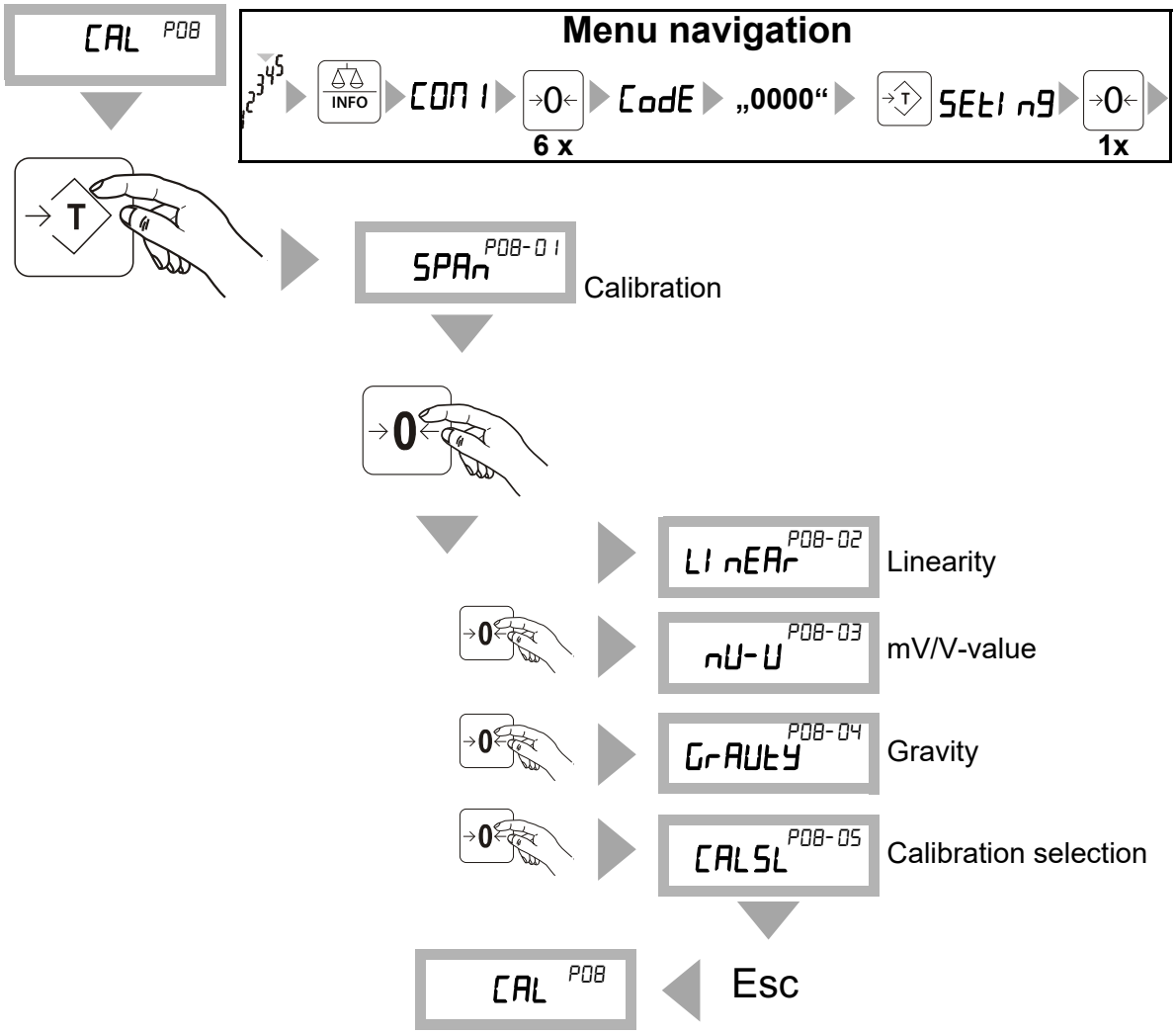
Password protected menu P07-10 - UNITS (settings)



Stored/Clear see chap. 4.2

4.2.3 PASSWORD PROTECTED MENU P08 - OVERVIEW CAL

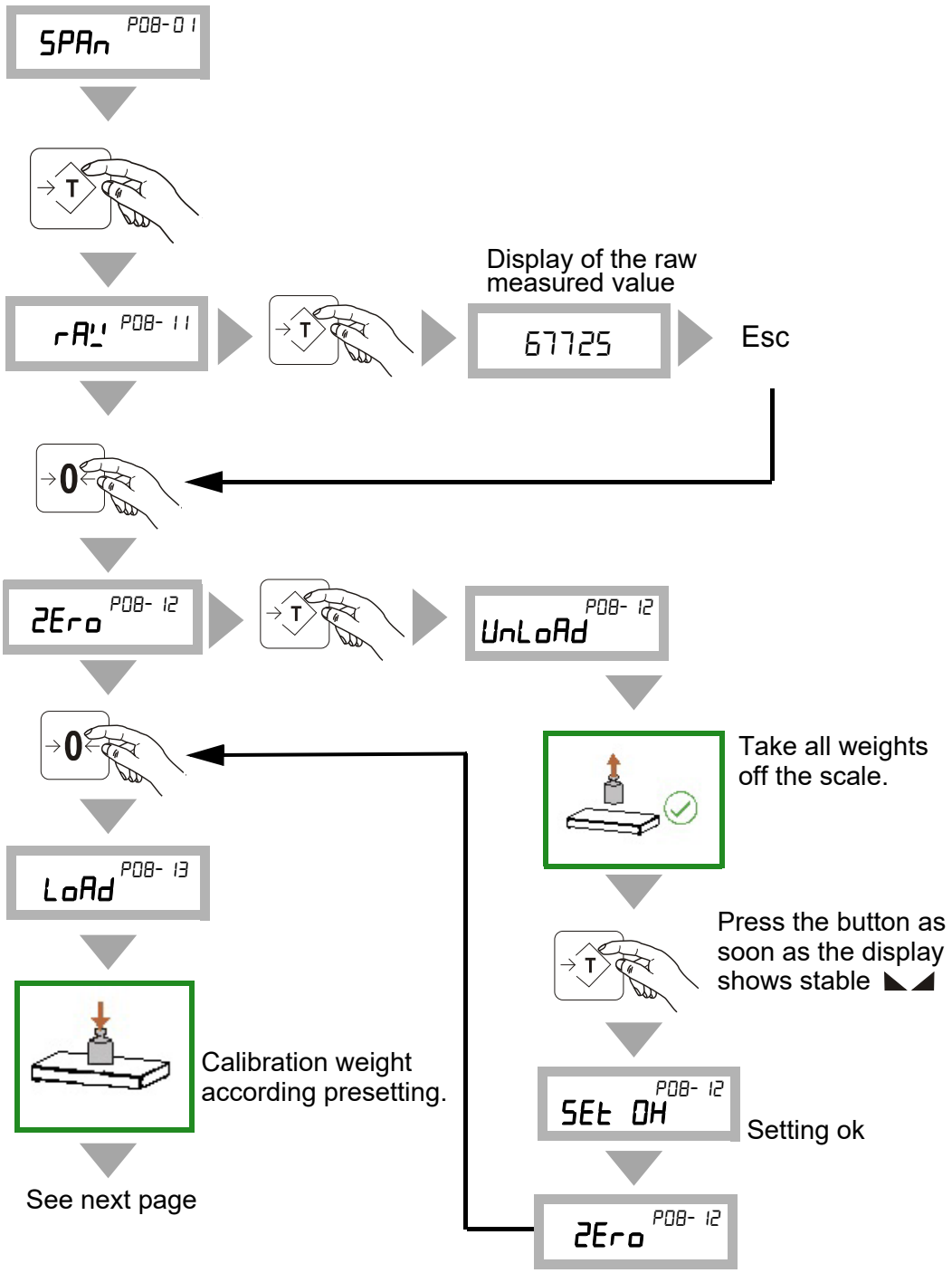
Note
Acclimatisation of the weighing system to the environment (min.10 minutes) is necessary for successful calibration. Make sure there are no objects on the weighing plate.

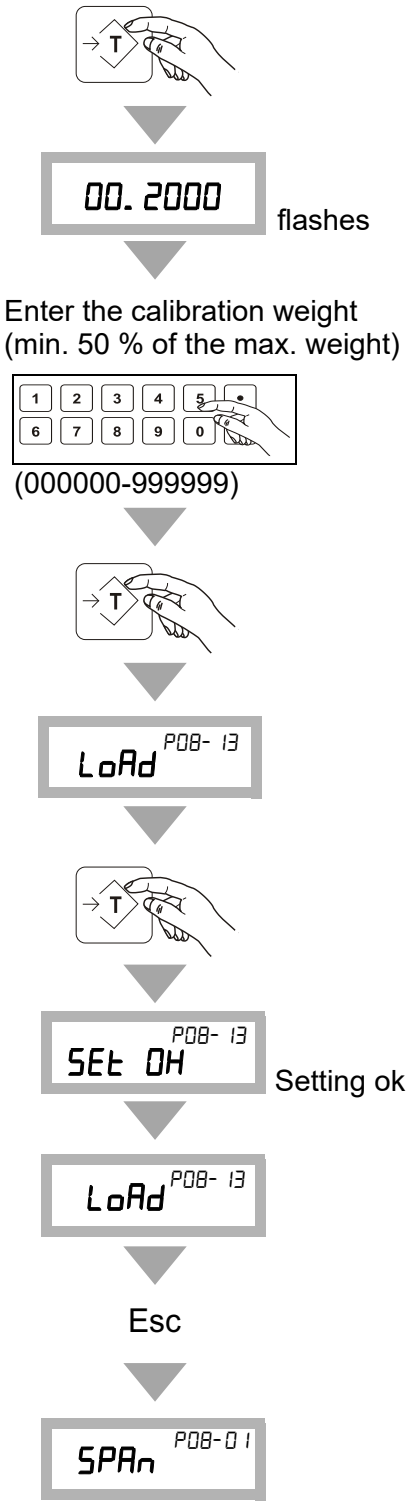


If the calibration was not successful, the error message ."Error" is displayed. Repeat the entire process as a failure may have prevented a successful calibration. After calibration, the scale should be checked for correct calibration and linearity. Repeat the process if necessary, and make sure that the scale is stable before you load a weight.

If you want to discard the calibration, press:

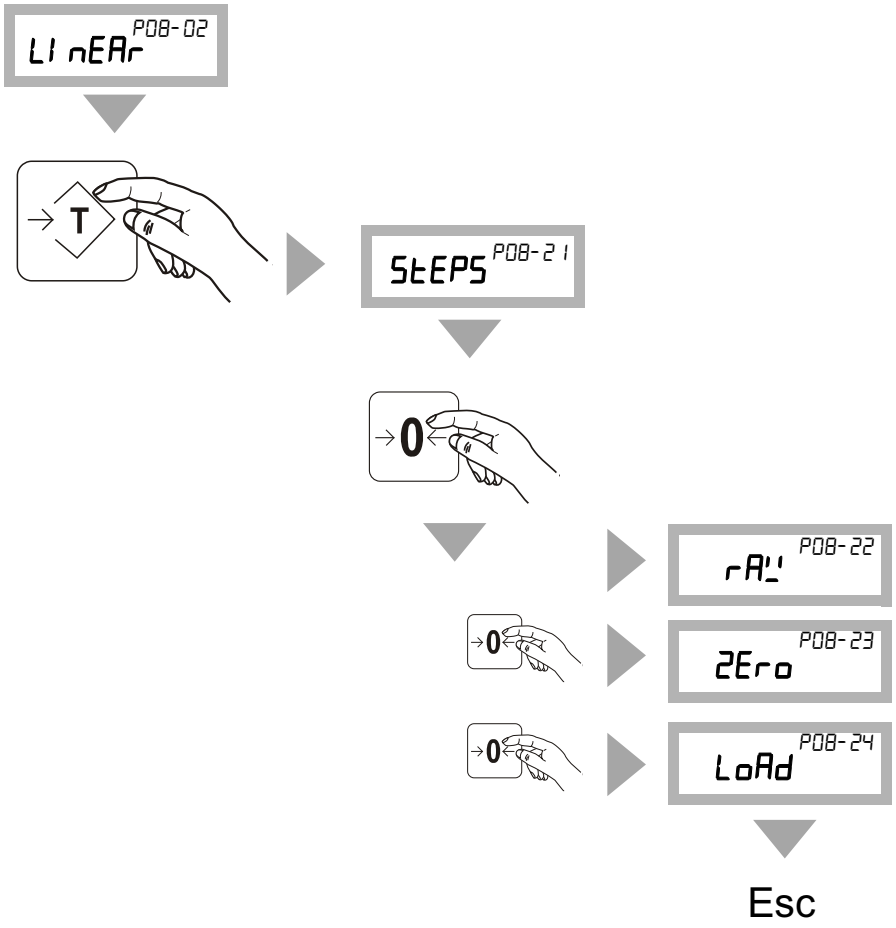
Password protected menu P08-01 - SPAN (calibration with reference weight)

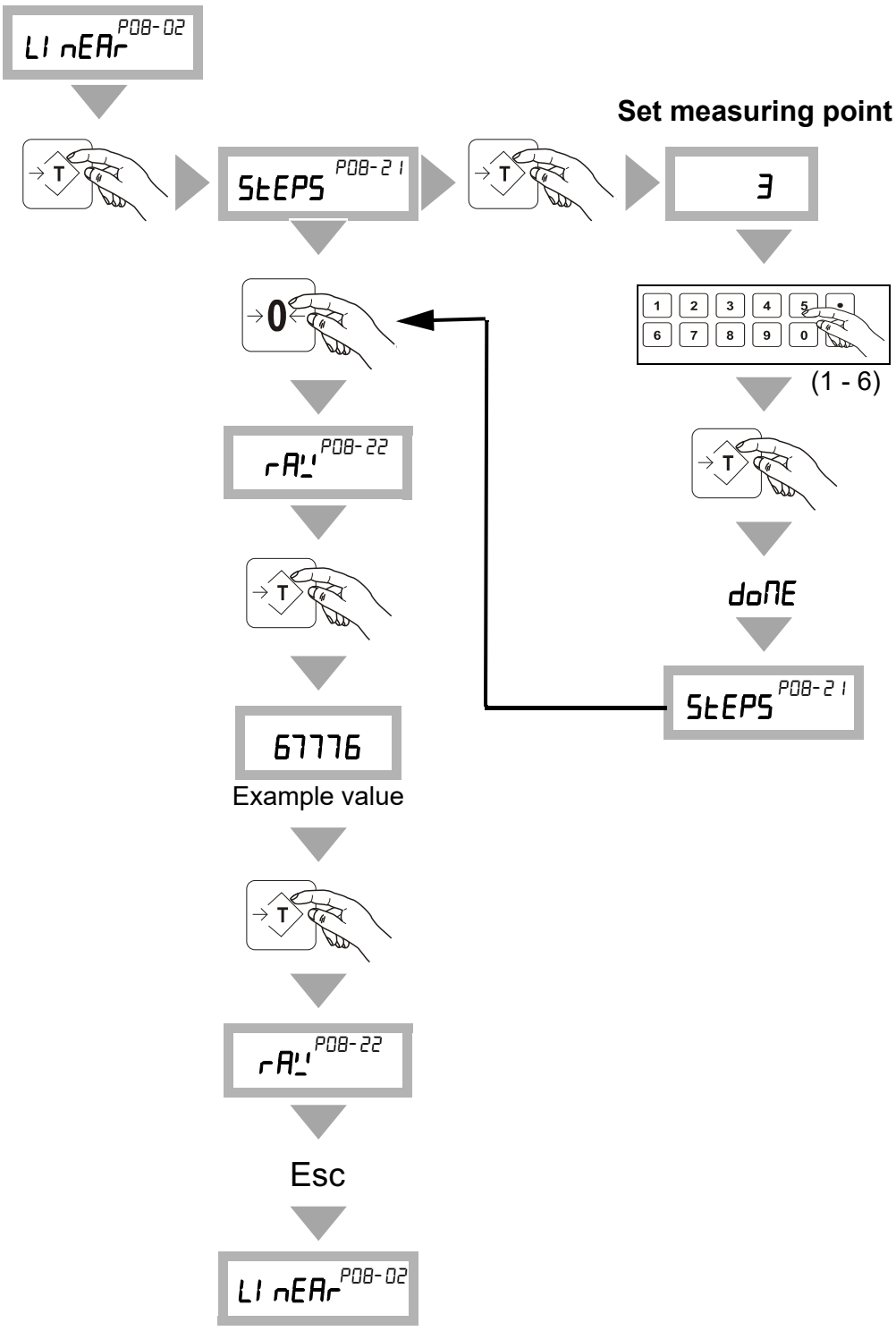




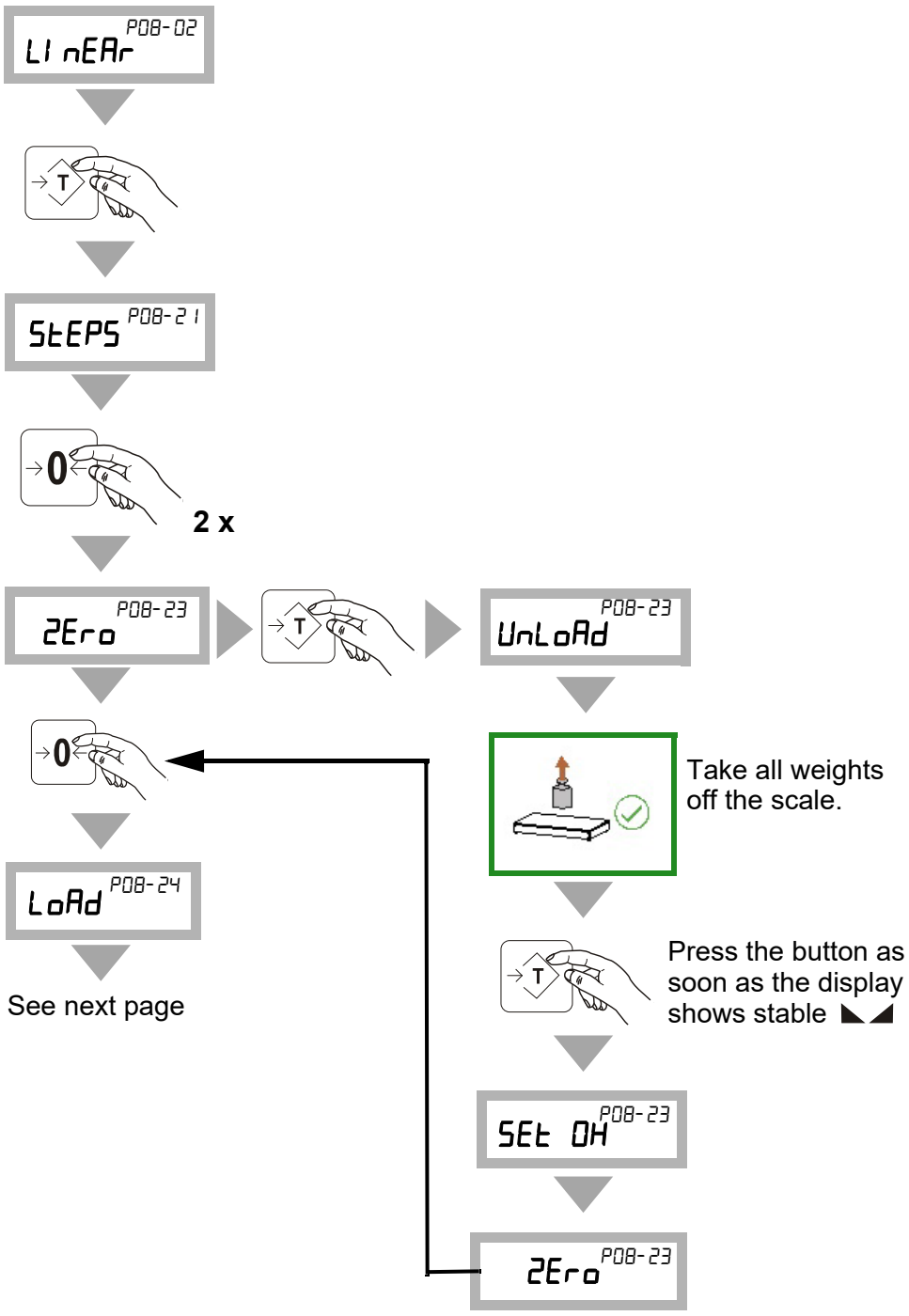
Stored/Clear see chap. 4.2

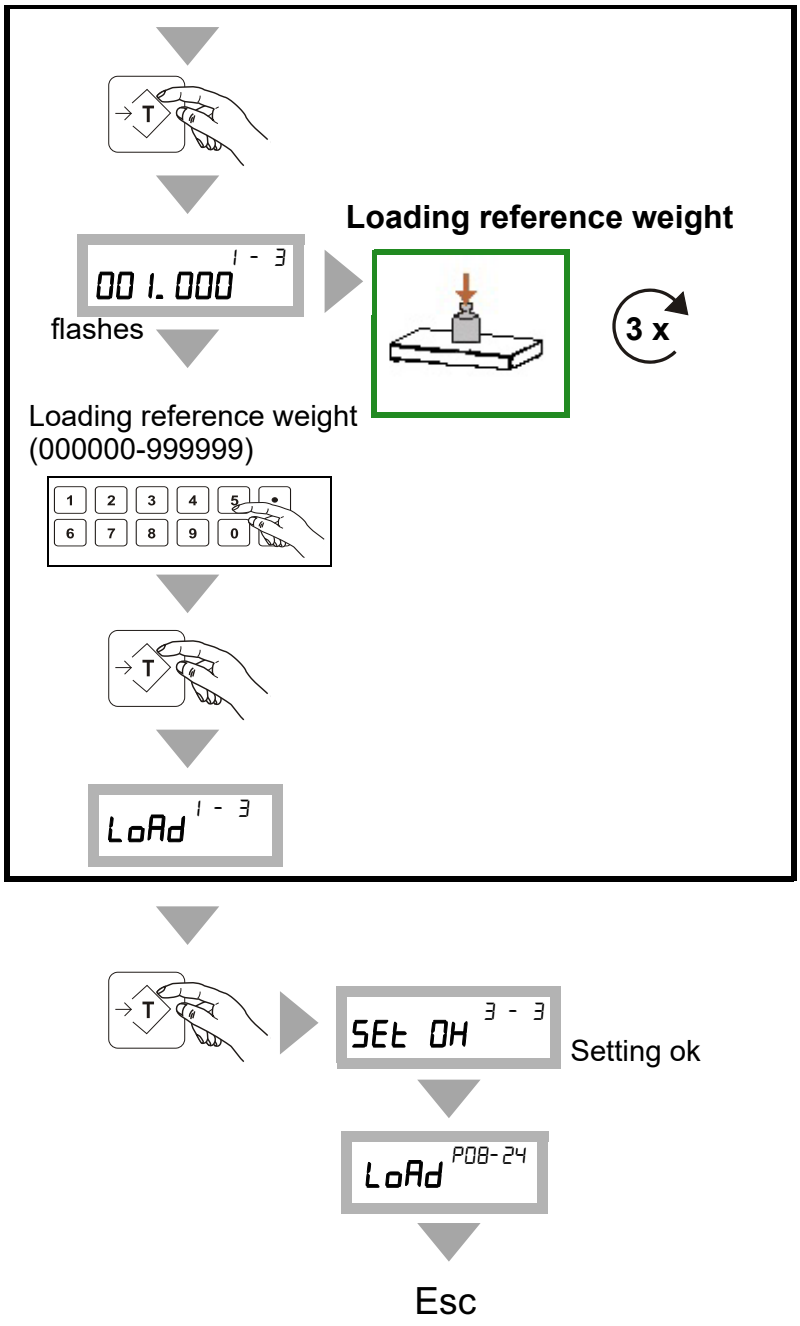
Password protected menu P8-02 - LINEAR (linearity)





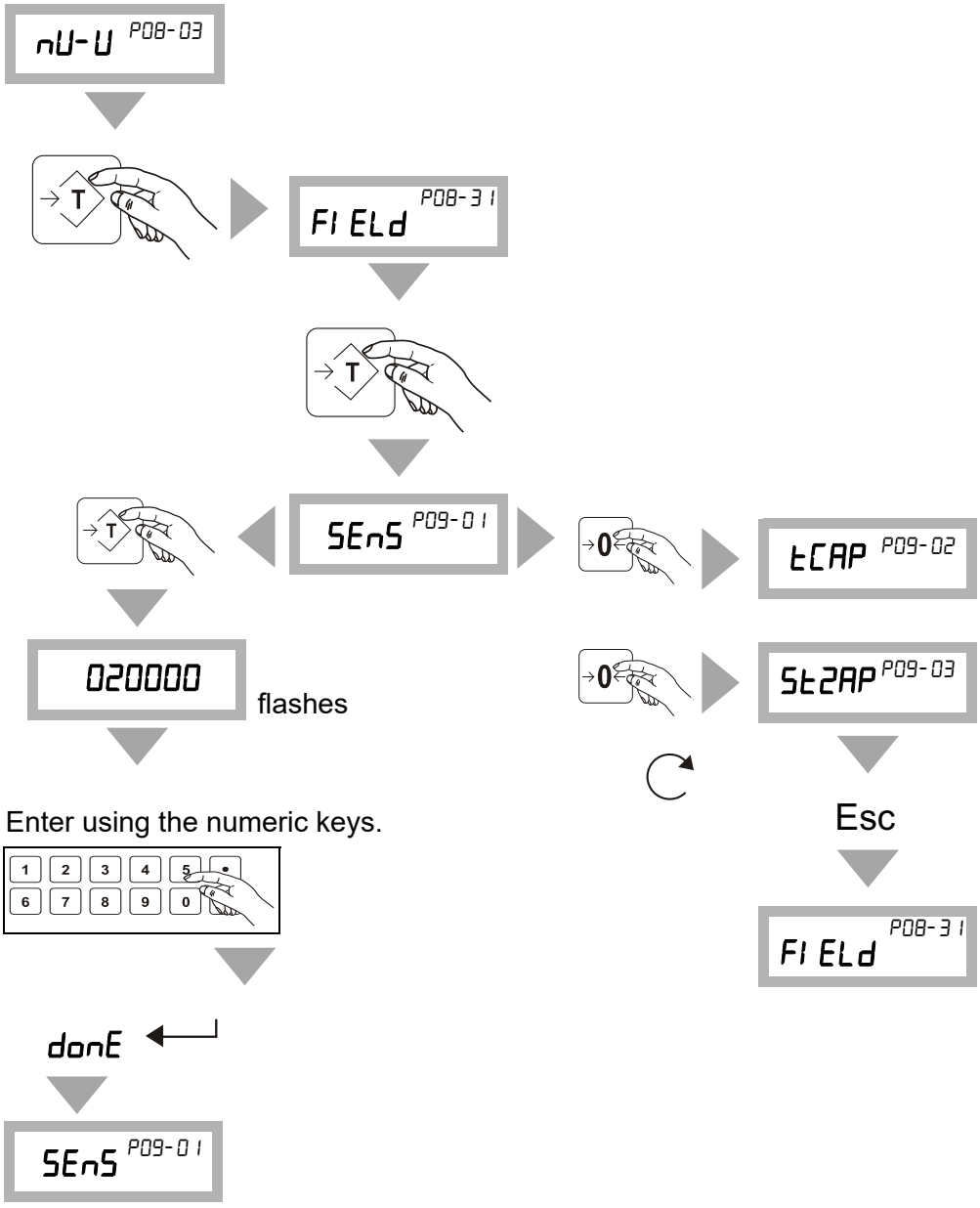
Stored/Clear see chap. 4.2


LInEAr P08-02
T
StEPS P08-21
0
2 x
2Ero P08-23
T
UnLoAd P08-23
0
Take all weights off the scale.
LoAd P08-24
See next page
Press the button as soon as the display shows stable
SEt DH P08-23
2Ero P08-23

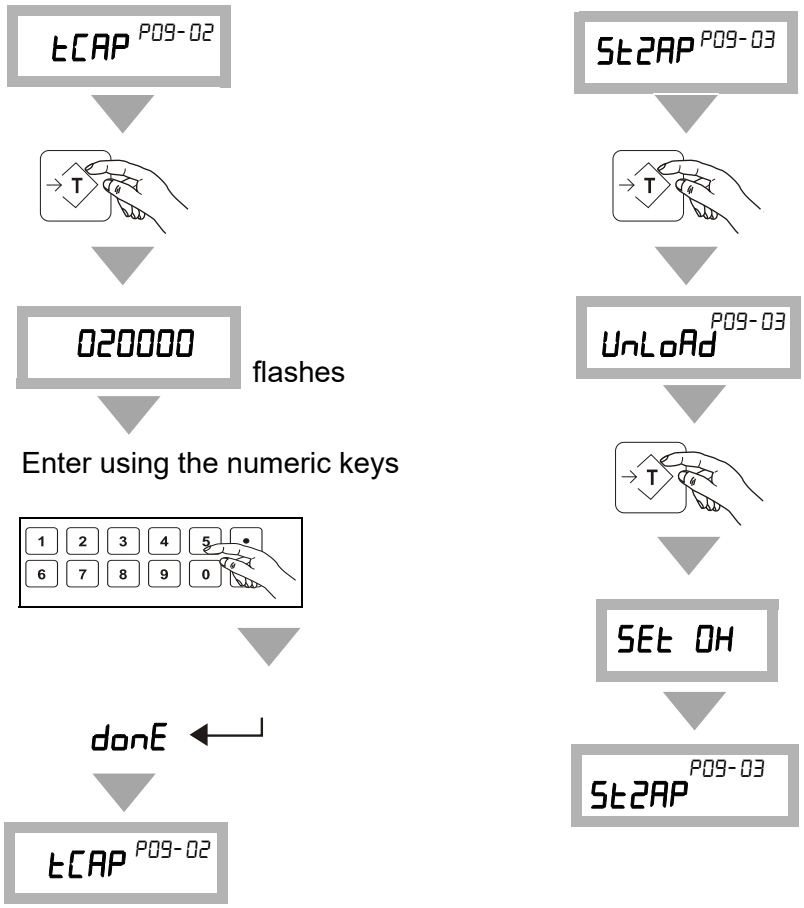


Stored/Clear see chap. 4.2

Password protected menu P08-03 - mV-V (theoretical calibration with mV/V value of the load cells)

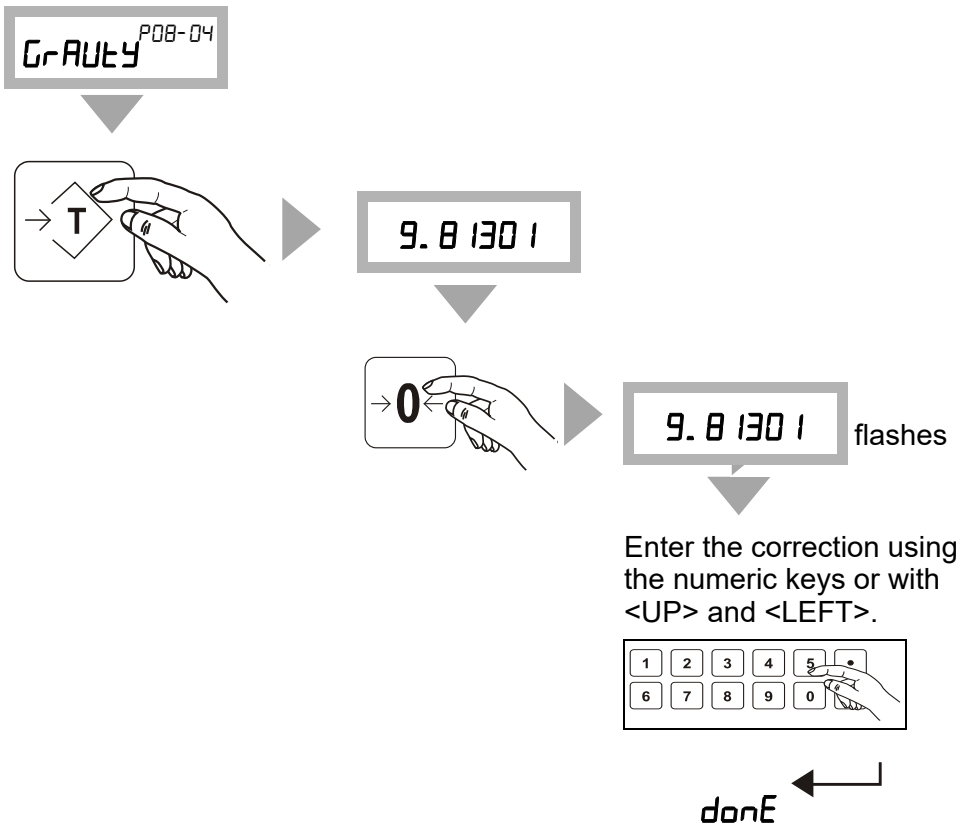


Stored/Clear see chap. 4.2



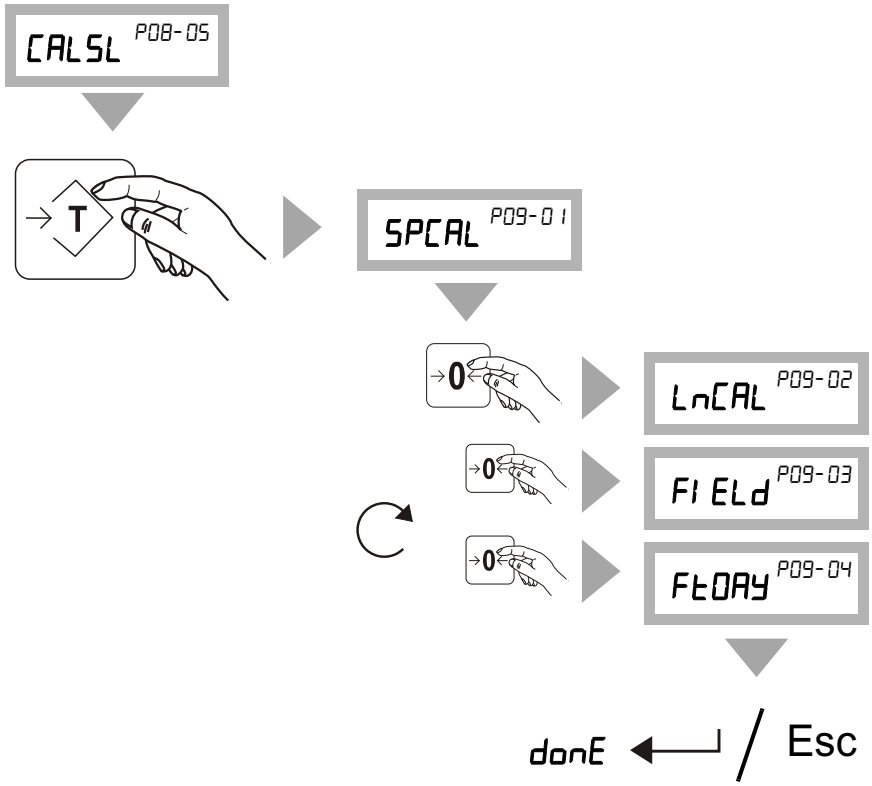
Stored/Clear see chap. 4.2

Password protected menu P08-04 - GRAVITY (correction)



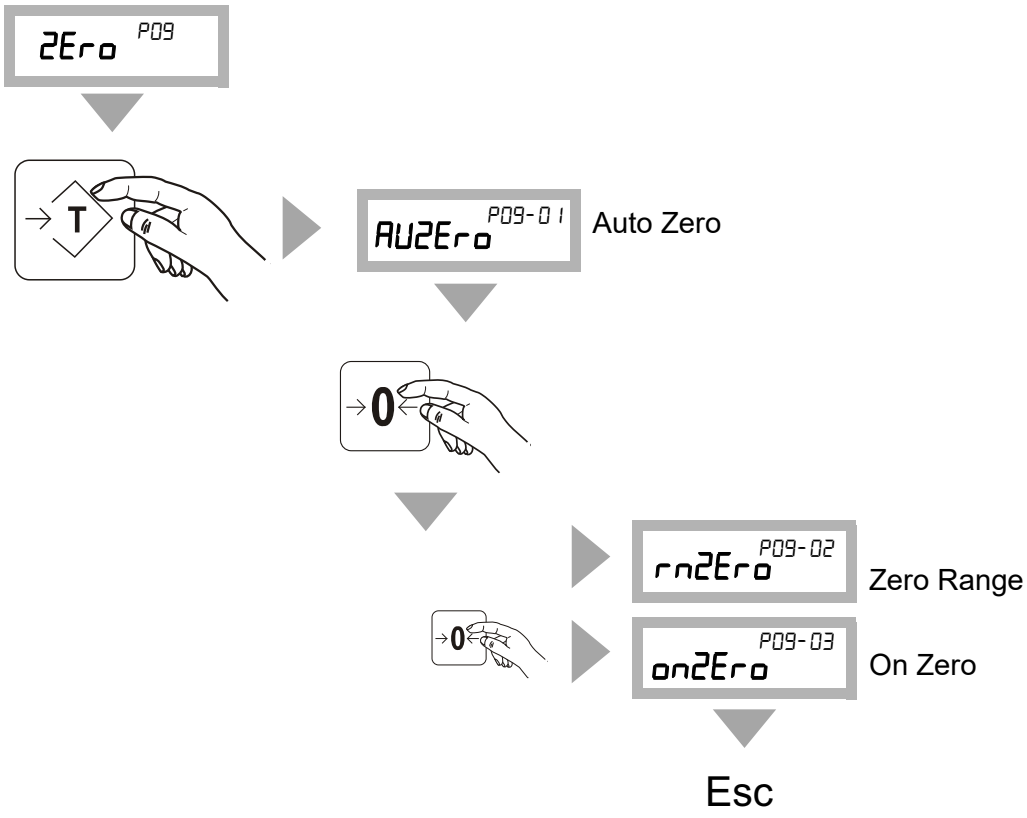
Stored/Clear see chap. 4.2

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

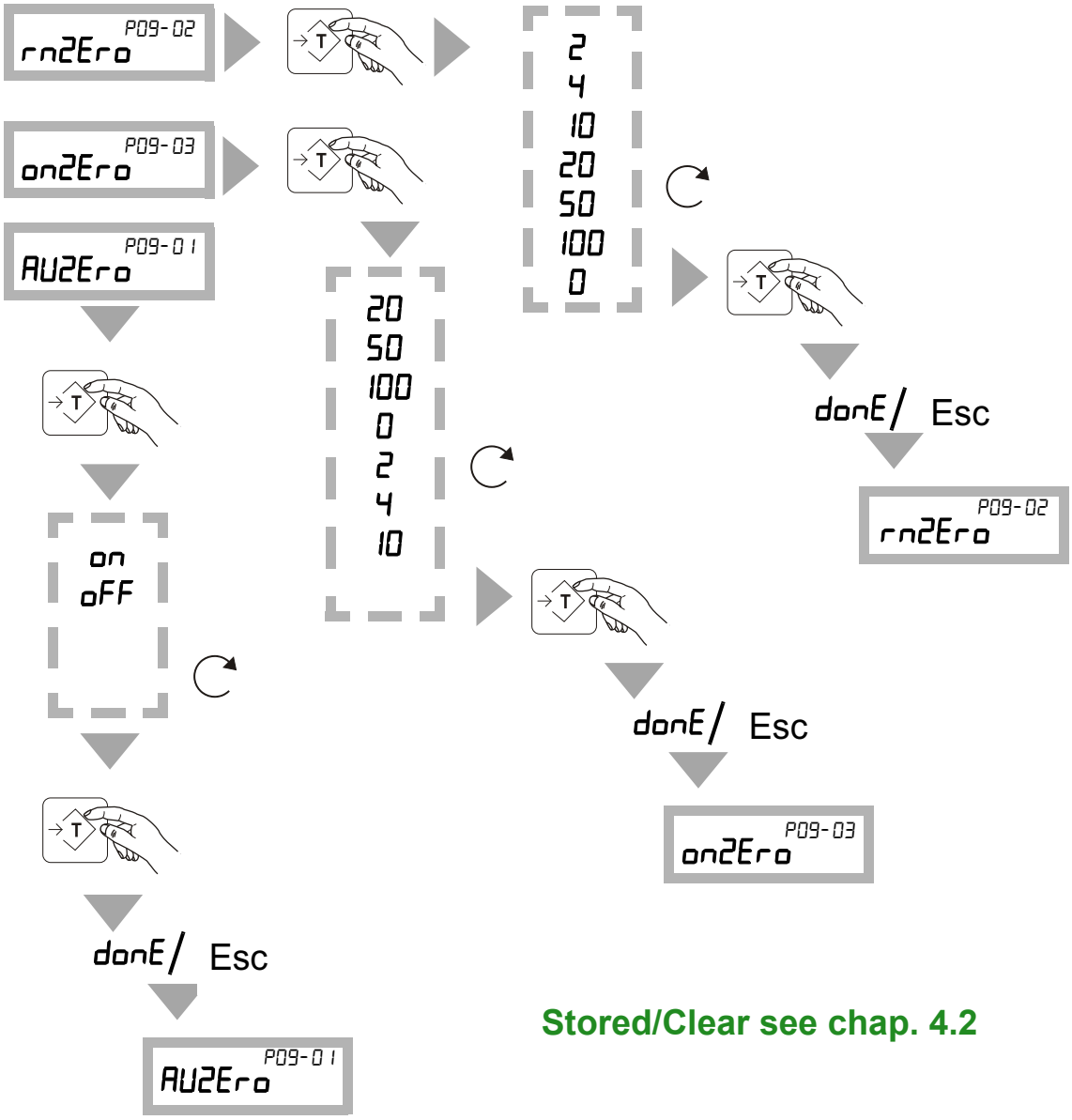


Stored/Clear see chap. 4.2

Password protected menu P09 - ZERO (zero menu)

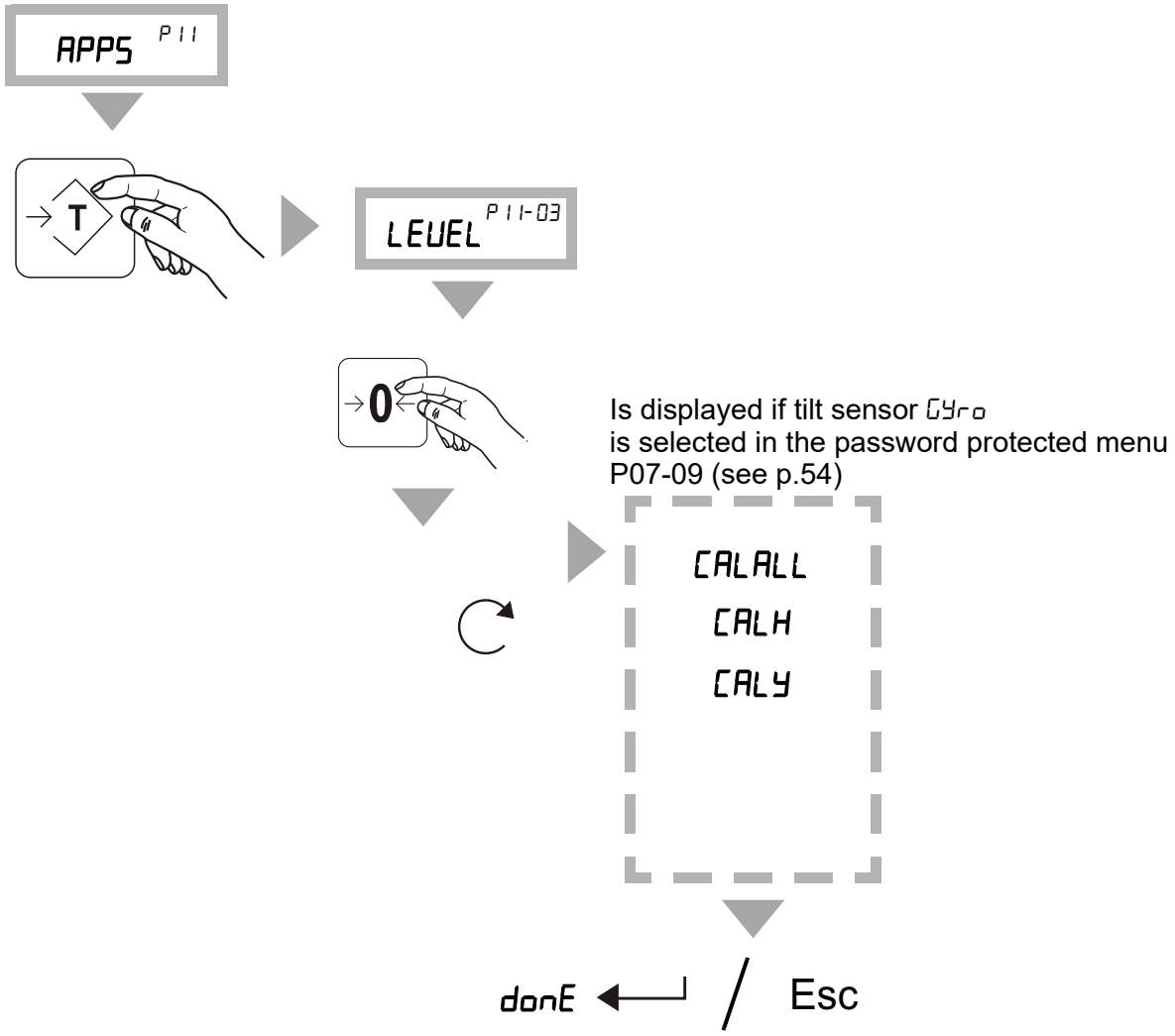


Stored/Clear see chap. 4.2



Stored/Clear see chap. 4.2

Password protected menu P11 - APPS (calibration tilt sensor)

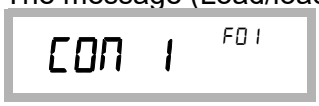


Stored/Clear see chap. 4.2

4.3 APPLICATION EXAMPLE FOR A CALIBRATION

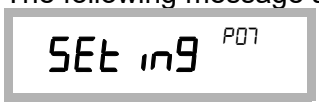
Note
For verified scales, the “Pairing“ setting (PAI r P07-07) must be “off“.

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

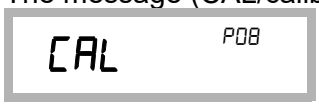


- Press the key →0← 6 x.
  - The following message appears on the display:

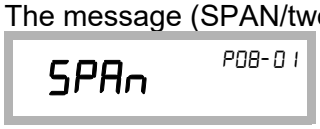
- Press the key →T← .
  - The following message appears on the display „- - - - “.
- Enter the code “0000” using the numeric keypad.
- Confirm the code using the key →T← .
  - The following message appears on the display:



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

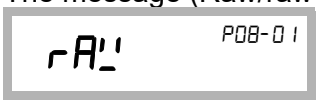


- Press the key →T← .
  - You enter the submenu.
  - The message (SPAN/two-point calibration) appears on the display:

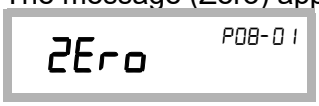


- Press the key →T← .

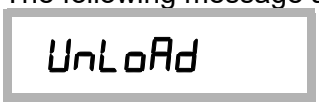
- The message (Raw/raw measured value) appears on the display:



- Press the key [→T] .
  - The current raw measured value of the A/D converter appears on the display.
- Press the key [PRINT] .
  - Changes to the rAW menu.
- Press the key [→0←] .
  - You enter the next submenu.
  - The message (Zero) appears on the display:



- Press the key [→T] .
  - The following message appears on the display:



  - The scale must be unloaded.
- Press the key [→T] when the displayed value is stable.
  - The message “SEt oH” appear on the display.
  - The zero point is calibrated, the value is accepted.
  - Changes to the 2Ero menu.
- Press the key [→0←] .
  - You enter the next submenu.
  - The following message appears on the display:

- Press the key [→T] .
  - 00.200 --> flashes
- Enter a value for the calibration weight using the numeric keypad.
- Press the key [→T] .

- Set the calibration weight (according presetting) on the scale.
- Press the key [→T] when the displayed value is stable..
  - The message "SEt oH" briefly appears on the display.
  - Changes to the „LoAd“ Menü.
  - The calibration is completed
- Press the key [PRINT] 3 x to exit the calibration.
  - The following message appears on the display:

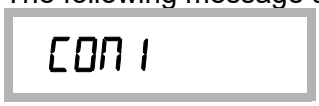
Should the value be stored?

Note
Please note, that the value of the eletronic verification counter is increased by one.

- Press the key [→T].
  - The message "StorEd“ briefly appears on the display.

Should the value <u>not</u> be stored?

- Press the key [PRINT].
  - The message "CLEAr“ briefly appears on the display.
  - The following message appears on the display::



- Press the key [PRINT].
  - The display performs a self-test and changes to normal weighing mode.

5 CUSTOMER SERVICE

5.1 CONTACTING CUSTOMER SERVICE

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

5.2 INFORMATION NEEDED WHEN CONTACTING CUSTOMER SERVICE

Operating company	Information
Name of your company	
Name of a contact	
Contact data Phone Fax E-Mail	

Product	Information
Model name	
Serial number	
Type key	
Date of purchase	
Name and location of supplier	

Note
Fill in the tables that are shown when you receive the weighing terminal, so you can easily refer back to them at any time.

Information about the problem:

Examples of necessary information that supports troubleshooting::

- Has the weighing terminal worked since being supplied?
- Has the weighing terminal been in contact with water?
- Has there been fire damage?
- Has there been a thunderstorm before/during the fault?

Note
Please include the entire prior history of the weighing terminal.

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WEIGHING SYSTEMS

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