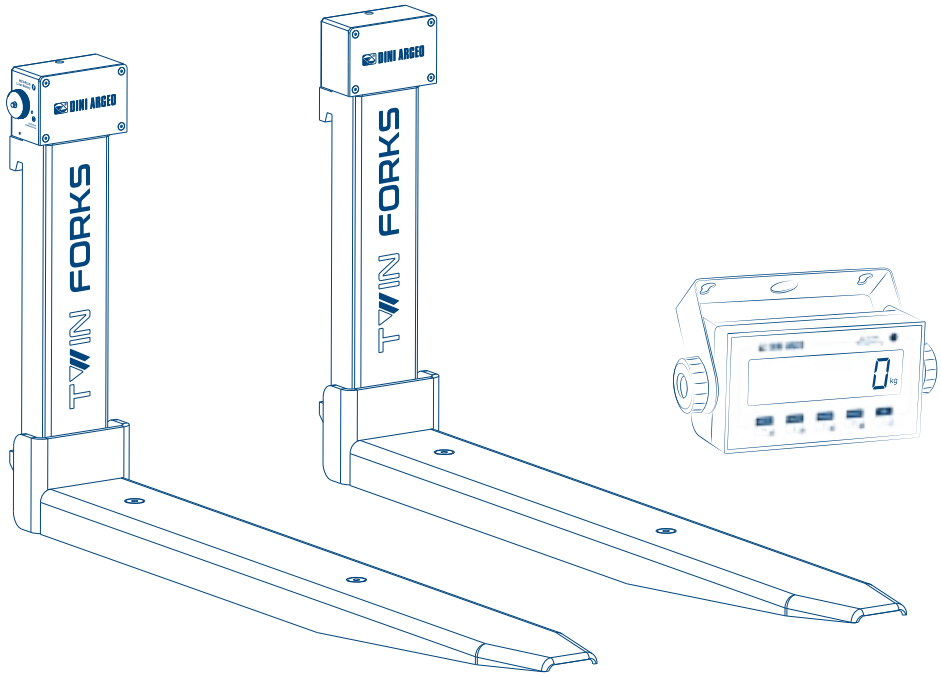
DINI ARGEO
Scales - Weighing systems
A RICE LAKE WEIGHING SYSTEMS COMPANY

TWIN FORKS

TECHNICAL MANUAL ENGLISH



www.diniargeo.com

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1. INTRODUCTION

This product is the best solution for forklift weighing applications, offering ease of use, high precision in reading the weight and many functions to speed-up and simplify everyday work.

This manual provides an overview of the potentials of the product. The configuration menu can be used to adapt the product functionality to the required weighing application.

2. WARNINGS AND SAFETY

- Observe all safety regulations already applied to the forklift.
- Do not make repairs or replace electronic components of the instrument boards.
- Only use original spare parts.
- Any tampering with the equipment or use of non-original spare parts voids the warranty and relieves the manufacturer of any liability.
- Before any installation or repair that involves access to electronic parts, turn off the device and disconnect any source of power supply (battery or other).
- Always use network power supply sources regulated within ± 10% of the rated voltage.
- In applications in connection with third parties, always follow the specifications given on the certificate of approval of the equipment.
- Do not wash the weight indicator with direct water jets and protect it from direct rain.
- Do not use aggressive cleaning solvents or substances.
- Do not install in potentially explosive environments.
- The installer is responsible for protective fuses between the forklift battery and the weight indicator.
- Pay attention to the dimensions of the weight indicator in the cab. Dini Argeo is not responsible for injuries due to collisions with the indicator.
- Service on the weighing system must only be carried out by authorised personnel.
- Avoid heavy impacts to the forks.
- Failure to follow the installation and operating instructions contained in this manual and the user's manual may compromise the proper operation of the system and void any warranty conditions.

BATTERIES

- Use only original batteries supplied by Dini Argeo.
- Only the charger supplied or original Dini Argeo chargers may be used.
- Keep batteries in the following temperature ranges:
  - During use: -10 °C - +50 °C
  - While charging: 0 °C - +40 °C
- Do not allow the batteries to come into contact with water. Use is recommended in a dry place, with a relative humidity level lower than 85% (non-condensing).
- It is recommended to perform complete charge and discharge cycles to extend battery life. Fully charge the batteries before using the system for the first time.
- Charging takes about 6-7 hours. Disconnect the charger and try replacing the battery and/or charger if the battery charge is not complete after 8 hours (LED has not turned green).
- Avoid shocks that could deform the batteries. Do not use leaking or deformed batteries under any circumstances.
- Battery life will gradually decrease with use and time. The battery is probably at the end of its life and needs to be replaced if the battery life is too short.
- Batteries should be recycled according to the regulations in your country at the end of their life. Contact Dini Argeo in case of doubt.

3. TECHNICAL FEATURES

Weighing forks

	LTF2500C-1	LTF5000C-1
Material	Painted steel	
Compatibility	FEM2A	FEM3A
Weight	68 kg approx. (each)	115 kg approx. (each)
Protection rating	IP66	
Load cells	Stainless steel, IP68	
Maximum capacity	2500 kg	5000 kg
Maximum overload	200% of maximum rated capacity	
Power supply	Lithium battery, operating time about 90 hours	

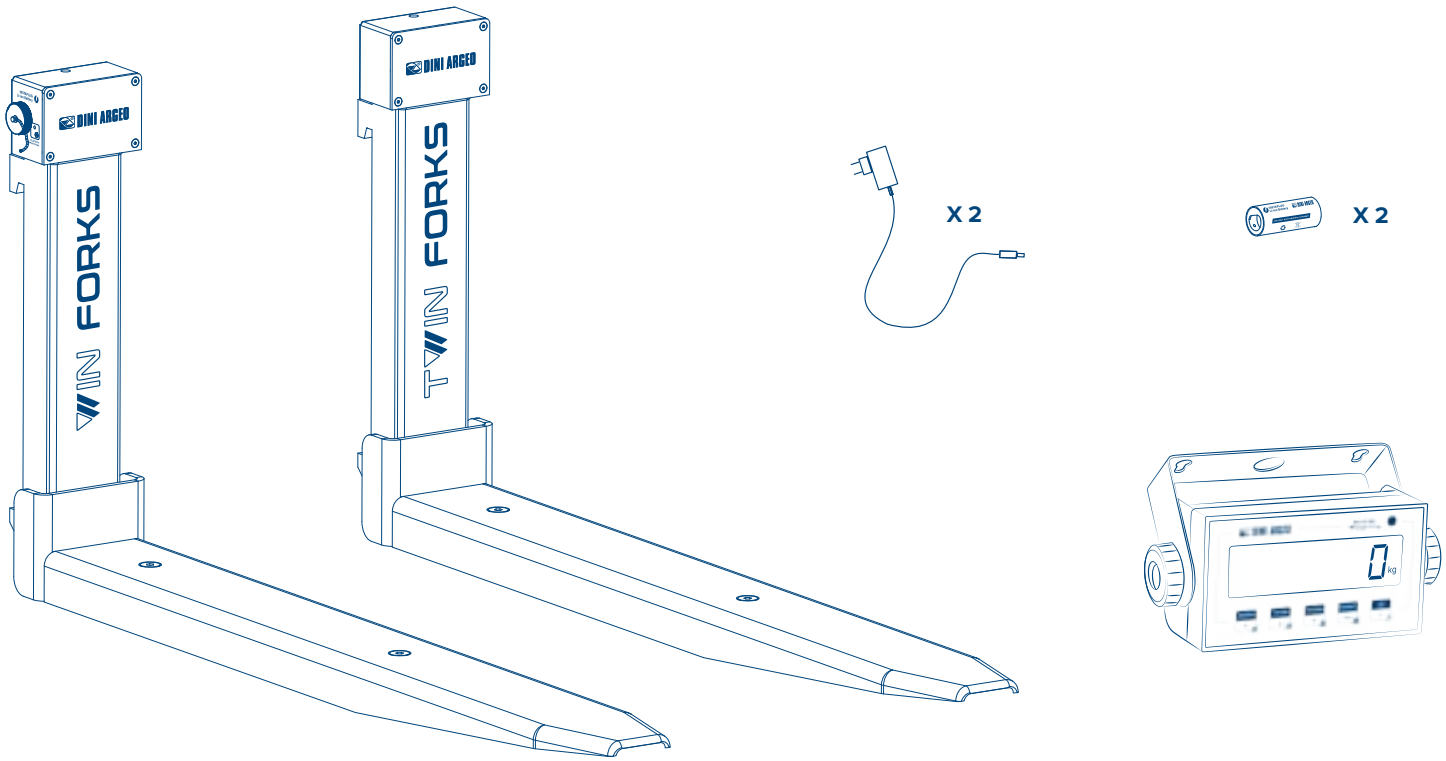
Weight indicator

Power supply	12-24 Vdc
MAX consumption	5W
Protection rating	IP67
Maximum operating temperature range CE-M - OIML	-10°C + 40°C
Maximum operating temperature range	-10°C + 60°C LCD/-20°C + 60°C LED
Display	6-digit 25 mm LCD, backlit
Keypad	Mechanical and waterproof, with 5 keys

Thermal printer (optional)

Power supply	5 Vdc
Roll width and length	57 mm, 30 m
Resolution	203 dpi
Number of columns	24/40
Graphics memory	1 logo 384 x 85 dots, programmable on request

4. SYSTEM PARTS



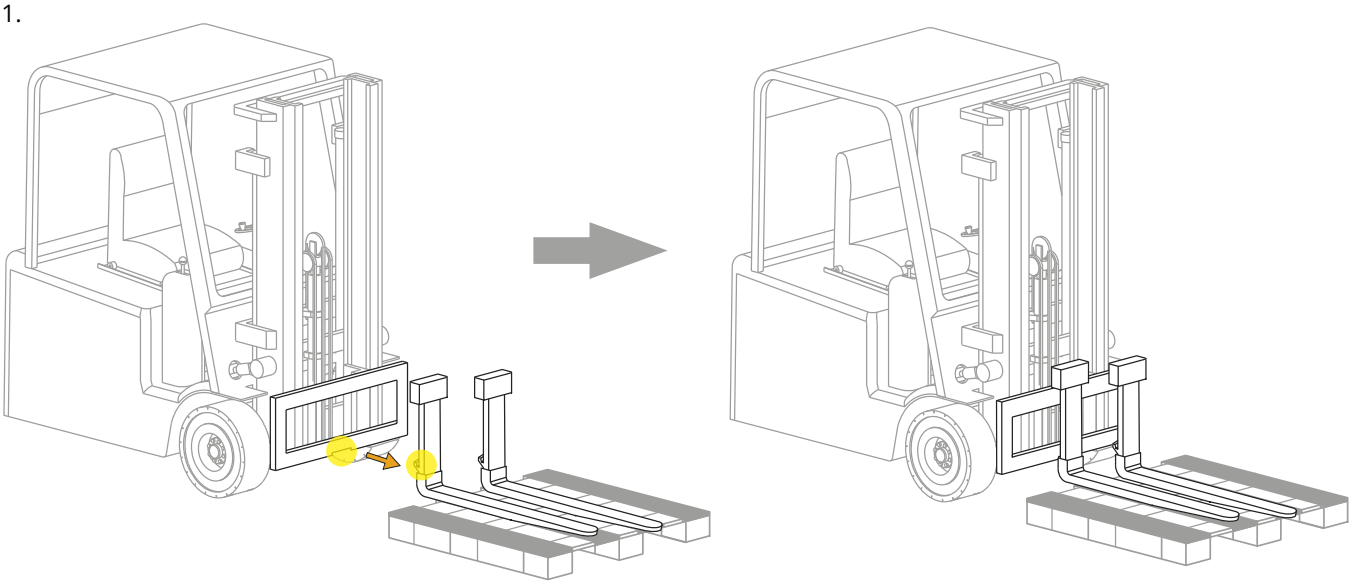
5. INSTALLATION

WEIGHING FORKS

Installation of weighing forks

1. Move the forklift closer to the first fork making the lower cutout of the plate match with the fork hooks.
2. Lift the plate to engage the first fork.
3. Move the fork to the respective side, releasing the central recess of the plate again.
   Keep the rear pin raised (detail A) to move the fork sideways.
4. Move the forklift closer to the second fork making the lower cutout of the plate match with the fork hooks.
5. Lift the plate to engage the second fork.
6. Move the fork to the correct side.

1.



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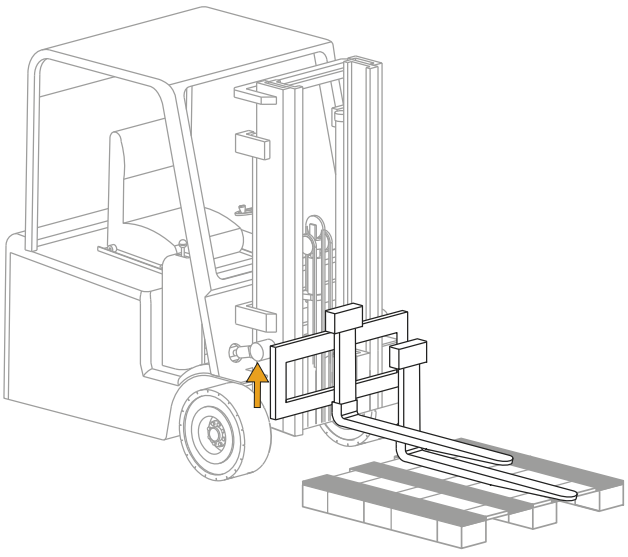

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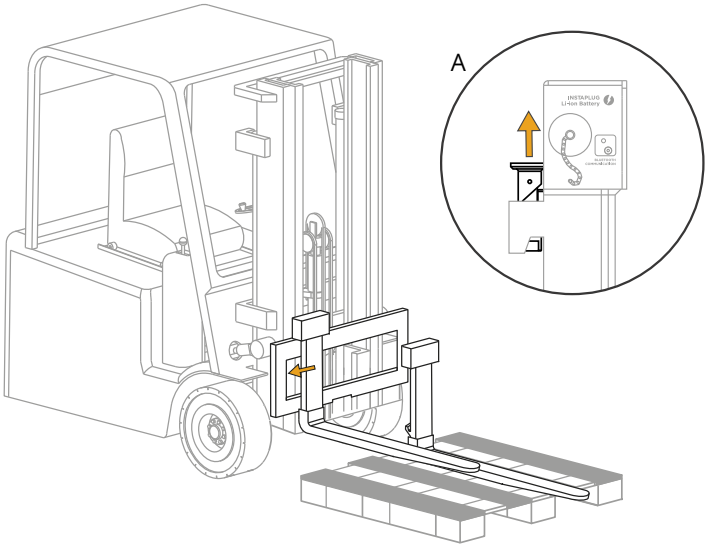

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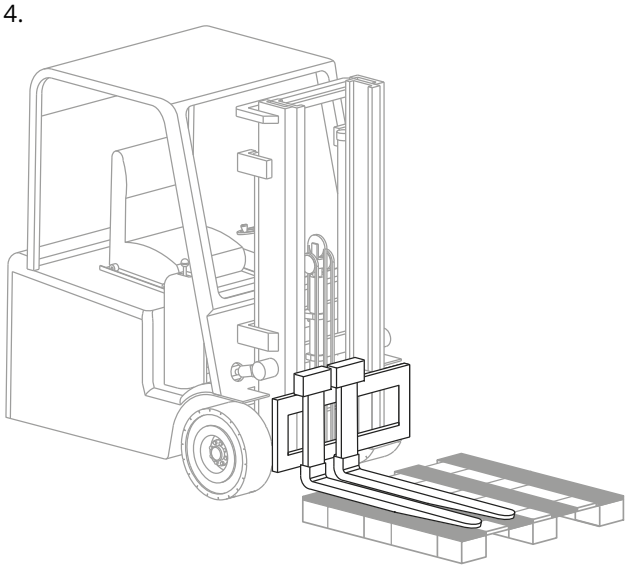

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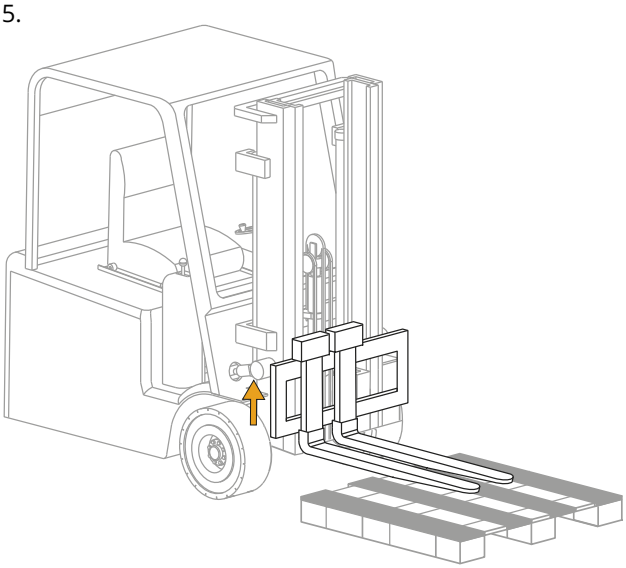

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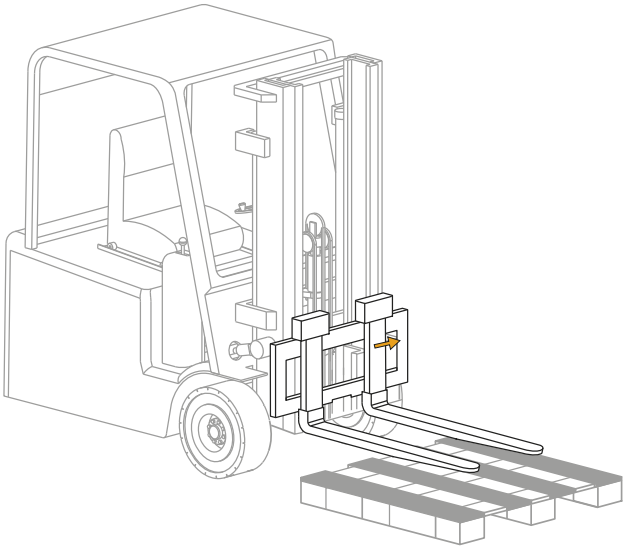
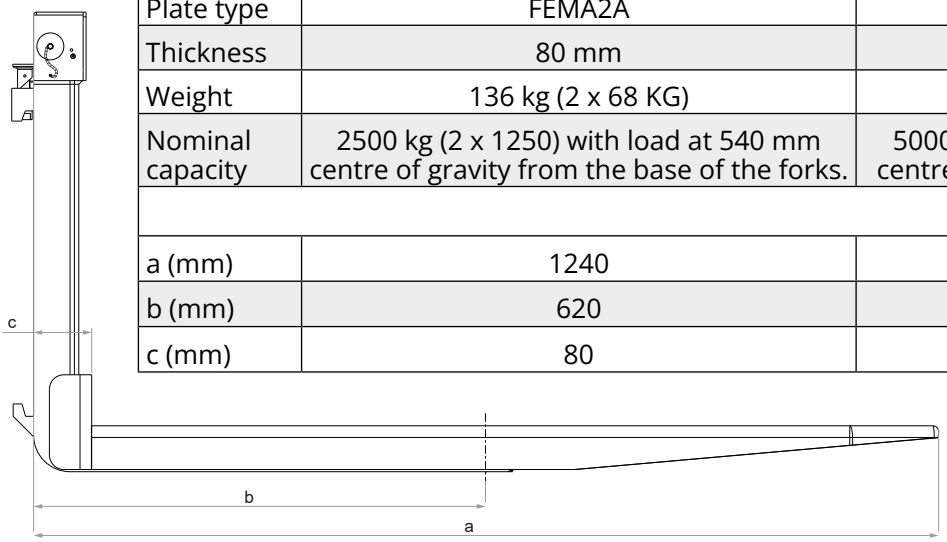


Install the forks from the sides of the plate if the forklift does not have a central cutout at the bottom.

At the end of the installation it is necessary to recalculate the load capacity and the centres of gravity of the forklift and to modify the relevant plate.

Recalculation of forklift capacity

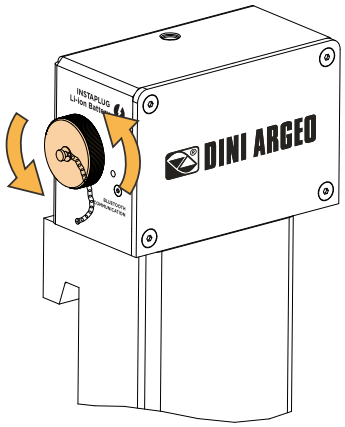
	LTF2500C-1	LTF5000C-1
Plate type	FEMA2A	FEMA3A
Thickness	80 mm	94.6 mm
Weight	136 kg (2 x 68 KG)	230 KG (2 x 115 KG)
Nominal capacity	2500 kg (2 x 1250) with load at 540 mm centre of gravity from the base of the forks.	5000 kg (2 x 2500) with load at 532.7 mm centre of gravity from the base of the forks.
a (mm)	1240	1254.6
b (mm)	620	627.3
c (mm)	80	94.6



Powering the weighing forks

1. Unscrew the cap from the fork head.
2-3-4. Insert the cylindrical battery into the battery compartment.
5. Screw the cap back on.

1.



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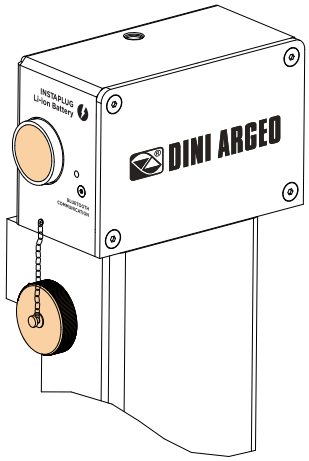

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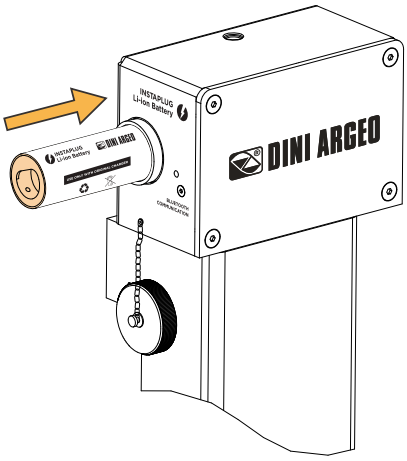

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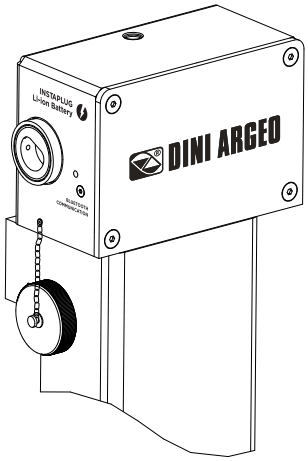

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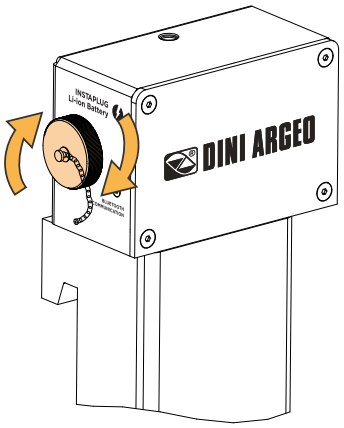
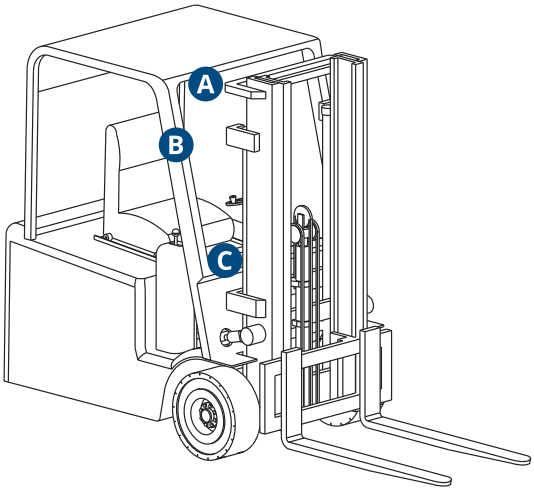
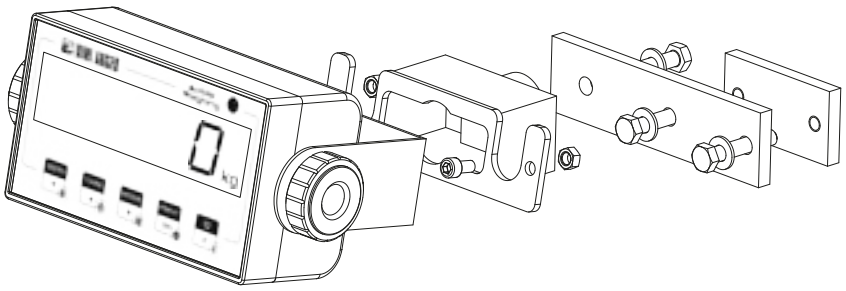


Ideal positions
On the side opposite to the one used for getting on:
A. On the roof of the cab
B. On the right side of the cab
C. On the right side of the dashboard



Bracket installation

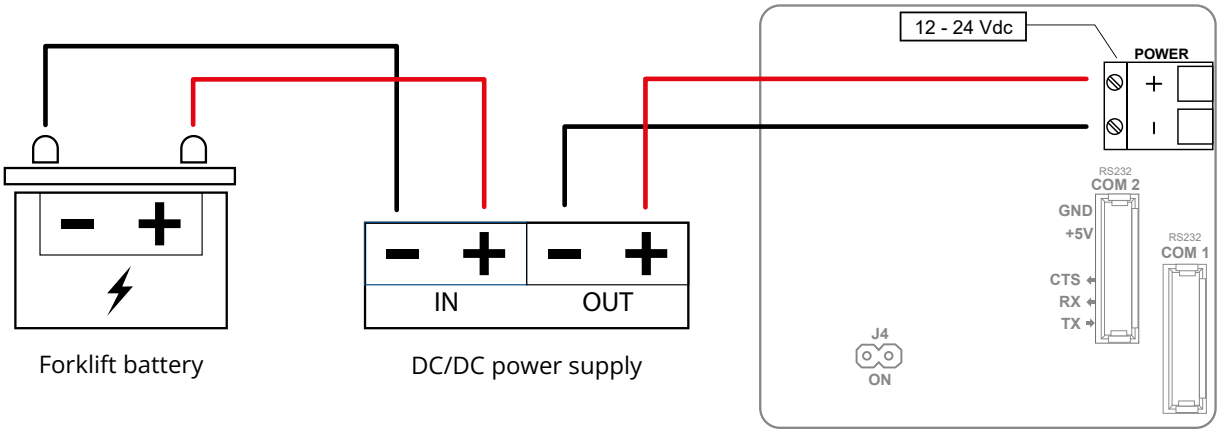
1. Attach the bracket to the forklift structure. Choose a location in which the indicator is easily accessible and visible but at the same time does not restrict visibility or hinder the driver's entry/exit.
2. Attach the weight indicator to the bracket using the nuts and bolts provided.



CONNECTIONS

Powering the weight indicator

1. Connect the + and - terminals of the forklift battery to the input of the power supply.
2. Connect the output of the DC/DC power supply to the CPU board of the weight indicator.



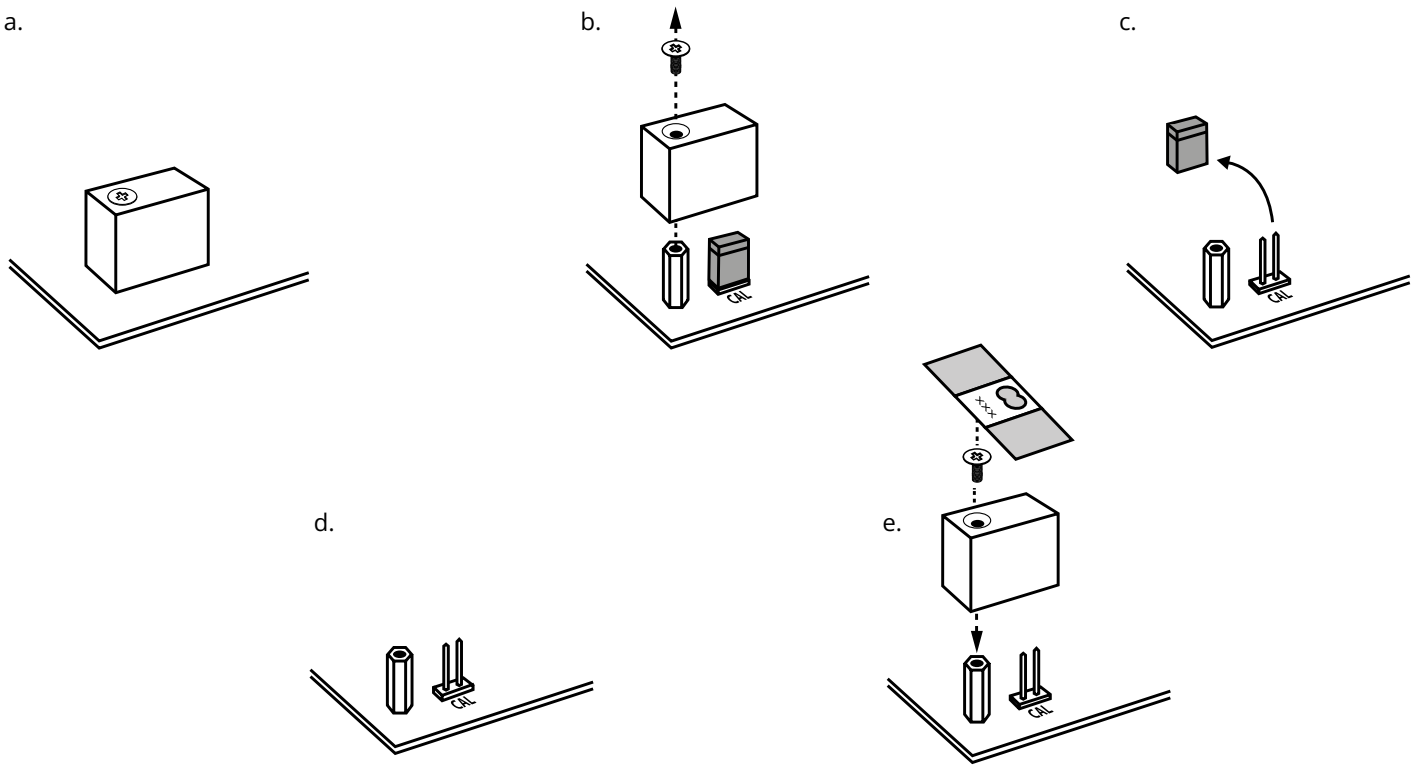
Forklift battery

DC/DC power supply

CPU board

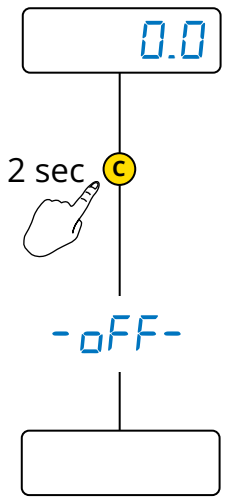
Pay special attention to the Bluetooth module aerial during installation / replacement.

6. APPROVAL

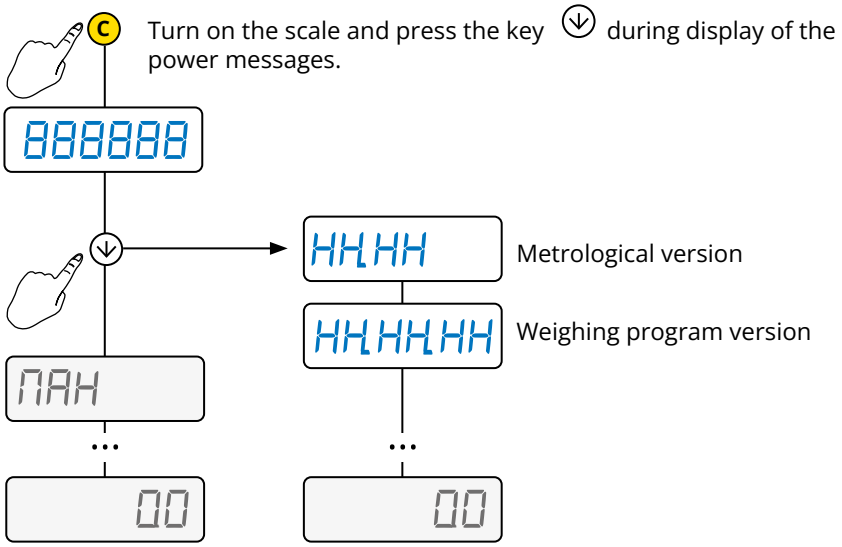


How to display the metrological version of the instrument

1. Turn off the scale



2. Follow the procedure:



7. BLUETOOTH COMMUNICATION CONFIGURATION

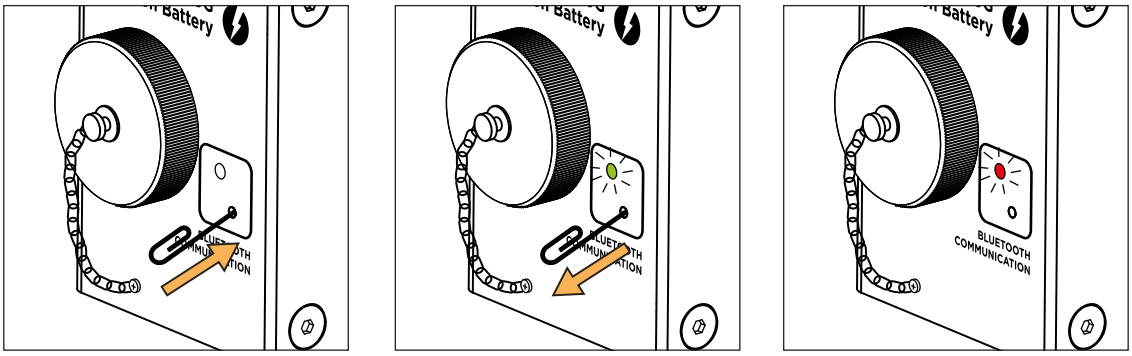
How communication between indicator and weighing forks works

Each weighing fork is connected to two load cells and communicates their weight to the indicator in the cab via Bluetooth communication.

The pairing procedure must be carried out first to establish the connection between the indicator and both weighing forks.

Pairing procedure

1. Enter the technical menu and go to step PA ir.L - **D-2**. Press the PRINT key. The display shows "PA ir 2".
2. On the left fork, press and hold the key until the LED turns green, then release the key.
   The LED turns red for one minute, during which time the Bluetooth module of the fork is visible.



3. Press the PRINT key on the indicator to confirm the pairing and wait for the confirmation, given by the "PA ir.oH" message (in case of error, the "PA ir.Er" message appears).

4. Repeat the procedure for the right fork (PA ir.r - **D-3**).

On approved systems, the approval seals must be removed to perform the pairing operation.

Initialising the weight indicator Bluetooth module

1. Enter the technical menu and go to step bt. in it - **D-1**.

Note: Initialising the Bluetooth module of the indicator erases the previous pairing with the fork(s).

The pairing operation is performed by default by Dini Argeo, so the system is already ready to use.

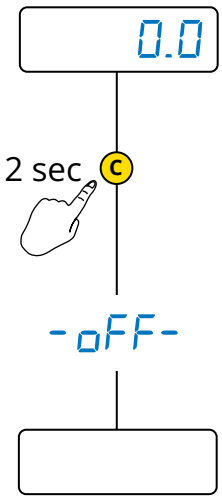
The pairing procedure must be performed if one or more of the following components is replaced:

- Board of one of the weighing forks (or both)
- Weight indicator CPU board
- Bluetooth weight indicator module

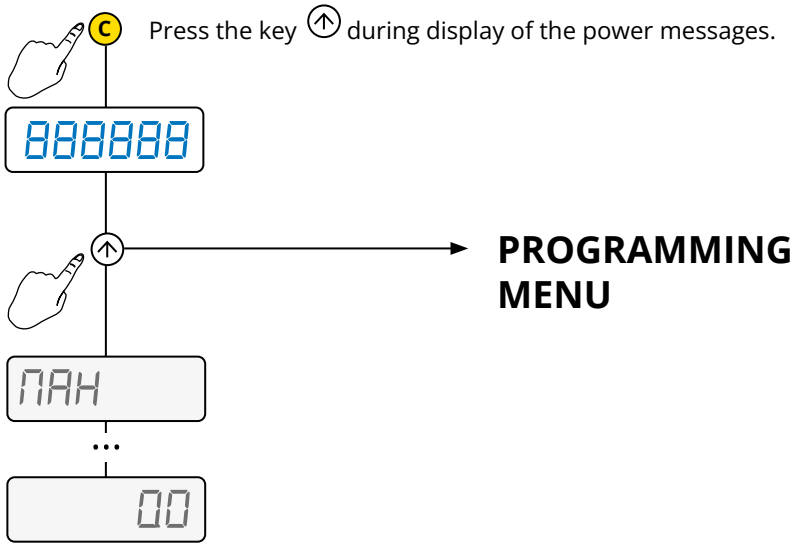
8. PROGRAMMING

How to access the programming menu

1. Turn off the scale



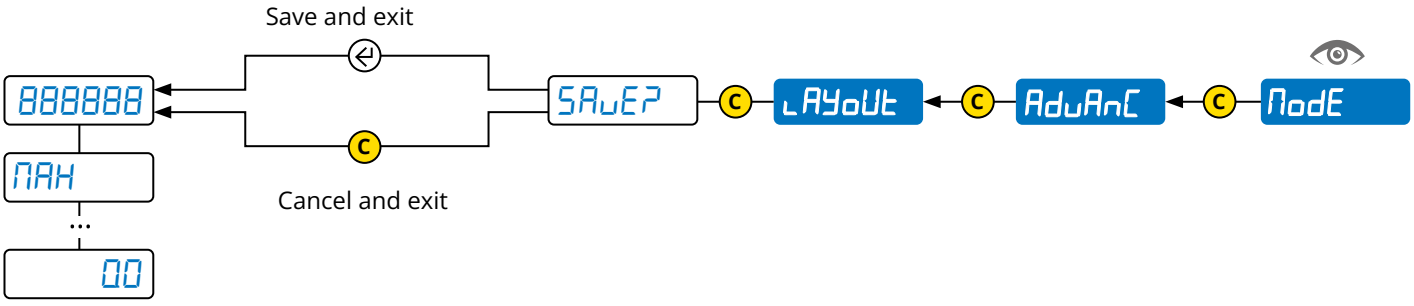
2. Follow the procedure:



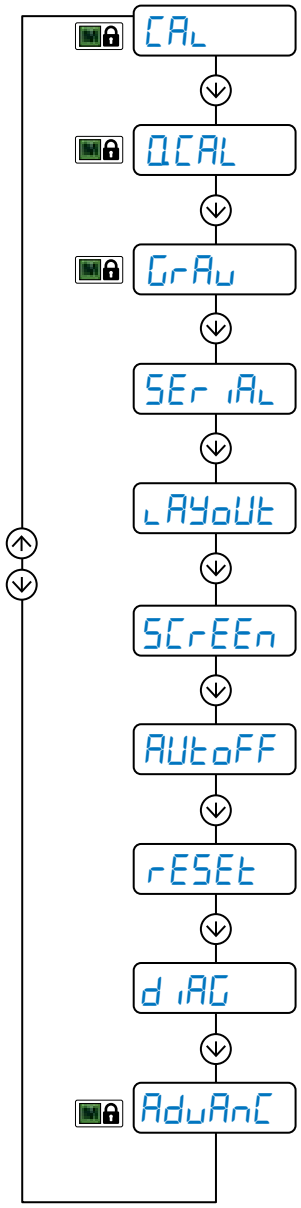
How to save the programming and exit the menu

To save the programming changes made, repeatedly press the key C browsing the menu in reverse, until the message SAvE? appears: press ↵ to save or C to exit without saving.

Example *(read from right to left)*:



PROGRAMMING MENU



Parameter visible only under certain conditions. *Parameter or menu subject to approval.*

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1. Off 2. On 3.	↑ = ↓ = → = ← = C	
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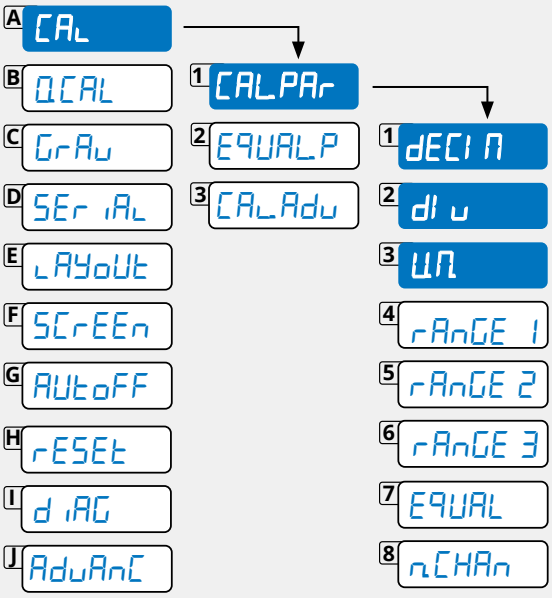
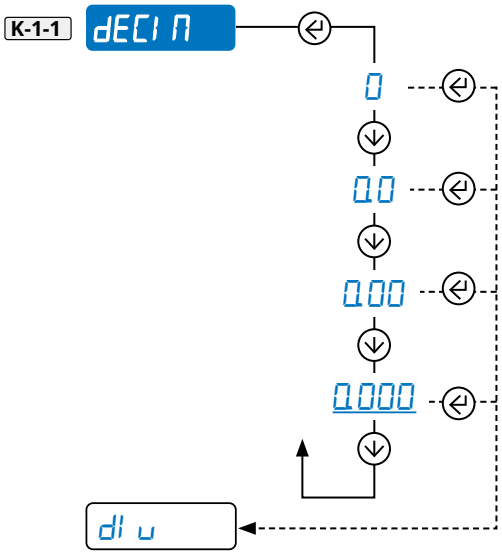


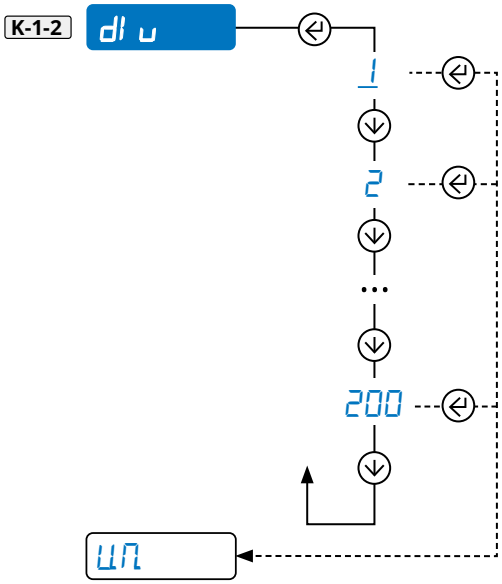
AduAnC Advanced

CAL. PAr Calibration parameters

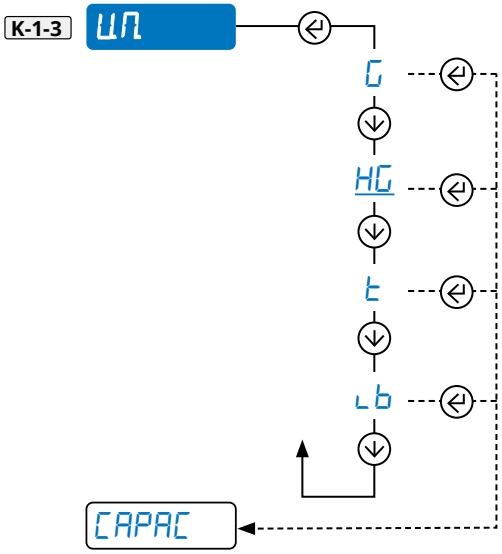
Configuration of the decimal point (0...3)



Reading division



Unit of measure



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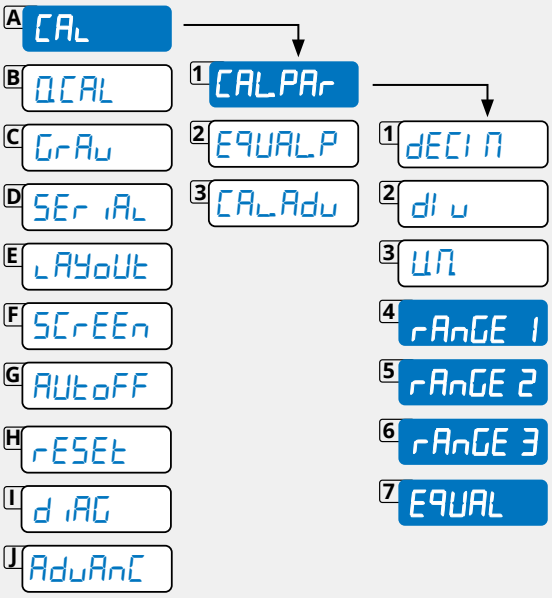
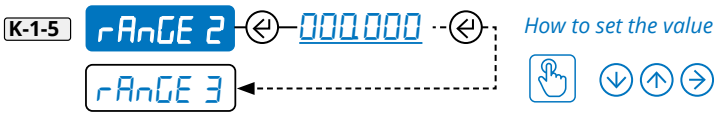


Scale capacity. Set Max or Range 1 (Max range = 800.000)

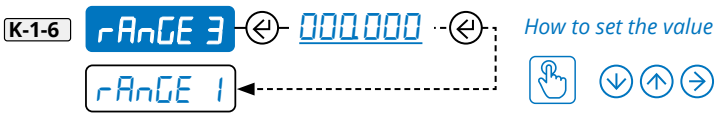
Range 2

For multirange scales, set the second weighing range.



Range 3

For multirange scales, set the third weighing range.



Example of multirange configuration at 1500/3000 kg, division 0,5/1 kg.

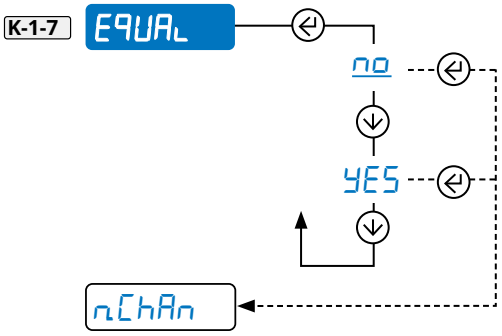
Set: dEC 1 = 0.0

d iu = 5

rAnGE 1 = 1500.0

rAnGE 2 = 3000.0

Equalisation function



See equalisation procedure.

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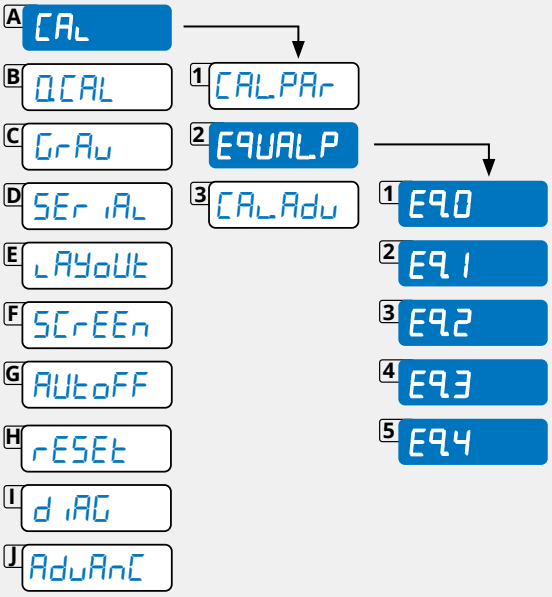
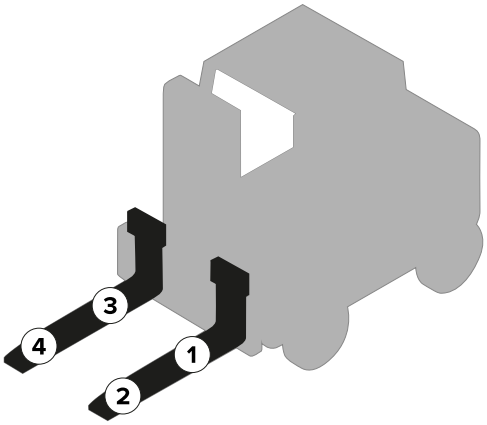


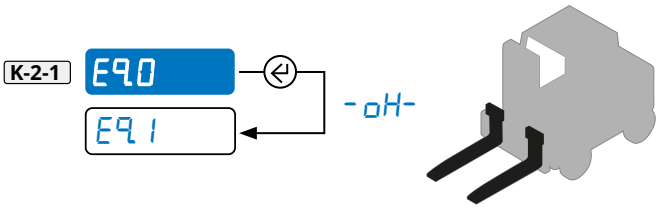
E9UAL P Equalisation

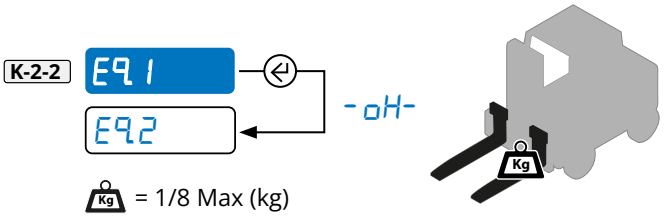
E9UAL P is only visible if the function E9UAL (L-1-7) is activated in the menu CALPAr (L-1).

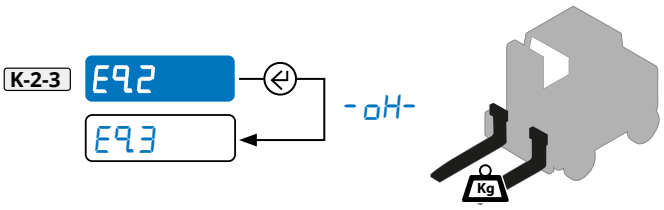
The equalisation wizard asks to acquire the zero point with scale unloaded and to later place a weight of about 1/8 of the maximum capacity (Max) on each individual cell in the required order. The message E9. oH will appear after the procedure.

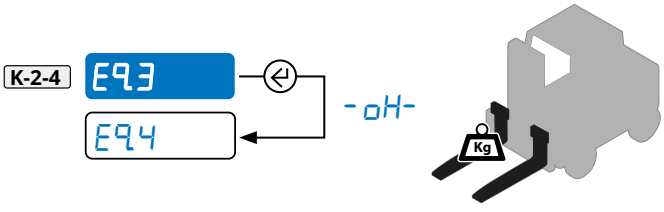
Proceed with the calibration.

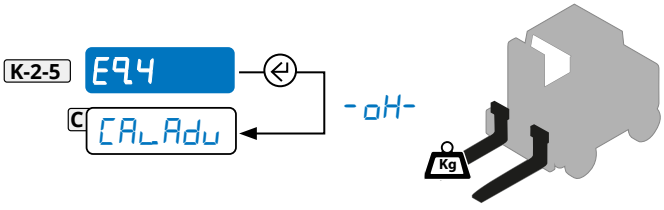












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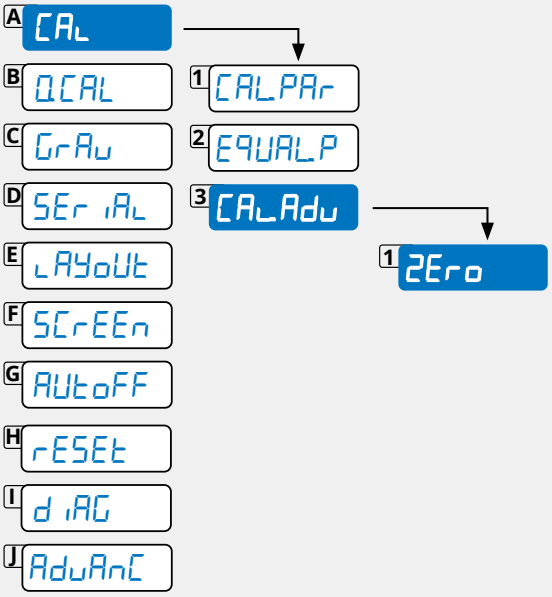
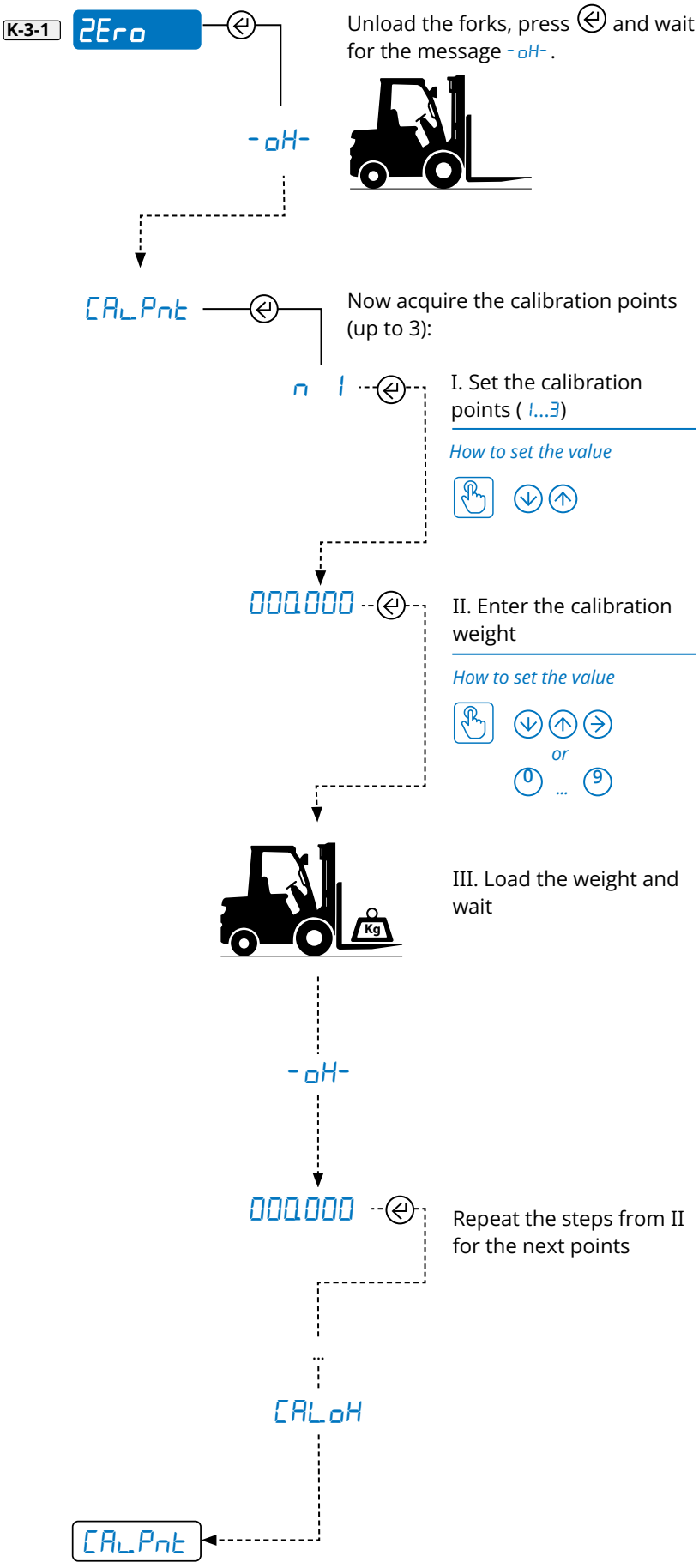


CALAdu Complete calibration

Before calibrating, configure the decimals (dEC ı - **L-1-1**), the division (d ıu - **L-1-2**) and the capacity (rAnGE - **L-1-4,5,6**).

Start of the calibration procedure:



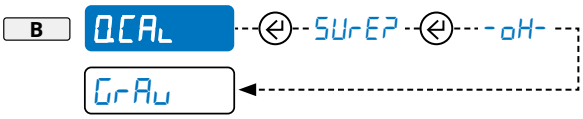
MENU

Enter	Browse	Save and exit
1. Off 2. On 3.	↑ = ↑ ↓ = ↓ → = ↵ ← = C	
Page 11		Page 11

A CAL
B 0. CAL
C GrAu
D SEr iAL
E LAYoUt
F SCrEEn
G AUtoFF
H rESEt
I d iAG
J AduAnC

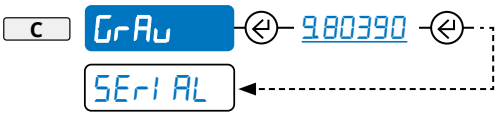
0CAL Resetting the pre-tare

Acquisition of the zero point



GrAu Area of gravity of the place of use

Once the calibration is completed, for proper operation set the area of use in this pitch (if different from that of calibration).



Area of gravity
(9.7500 i...9.84999)

How to set the value

MENU

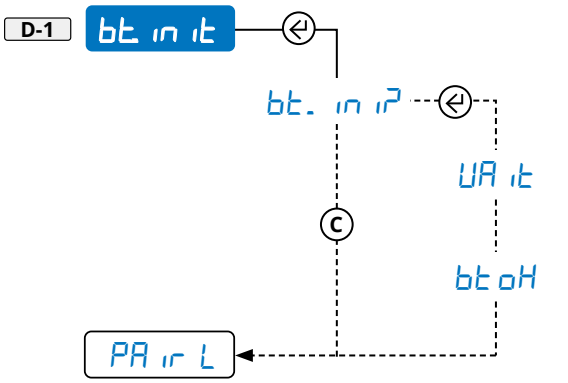
Enter	Browse	Save and exit
1. Off ⏻ 2. On ⏻ 3. ↑	↑ = ↑ ↓ = ↓ → = ↵ ← = C	Page 11

Page 11

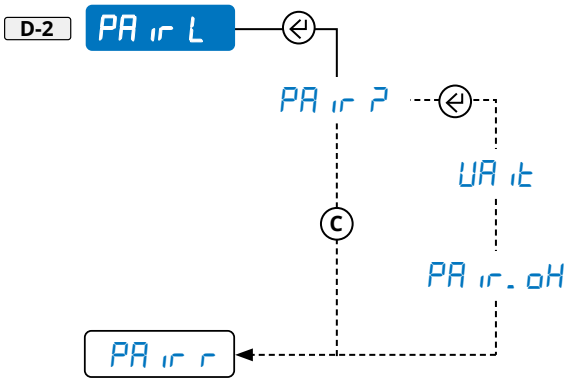
- A CAL
- B QCAL
- C GrAd
- D SEr iAL
  - 1 bt in it
  - 2 PA ir L
  - 3 PA ir r
  - 4 CoM.PC
  - 5 CoM.Prn
- E LAYoUt
- F SCrEEn
- G AUtoFF
- H rESEt
- I d iAG
- J AdvAnC

SEr iAL Configuration of the serial ports

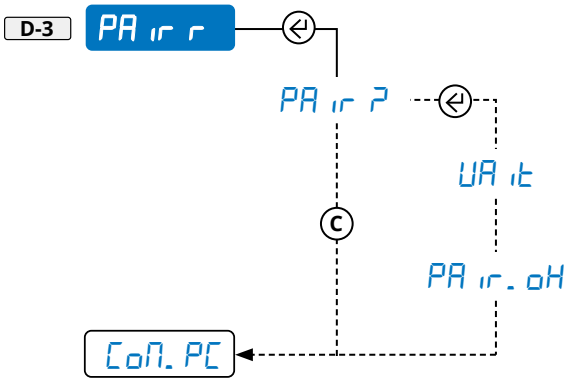
Initialising the Bluetooth module (loss of pairing with the forks)



Pairing with the left weighing fork



Pairing with the right weighing fork



MENU

Enter	Browse	Save and exit
1. Off 2. On 3.	↑ = ↑ ↓ = ↓ → = ↵ ← = C	
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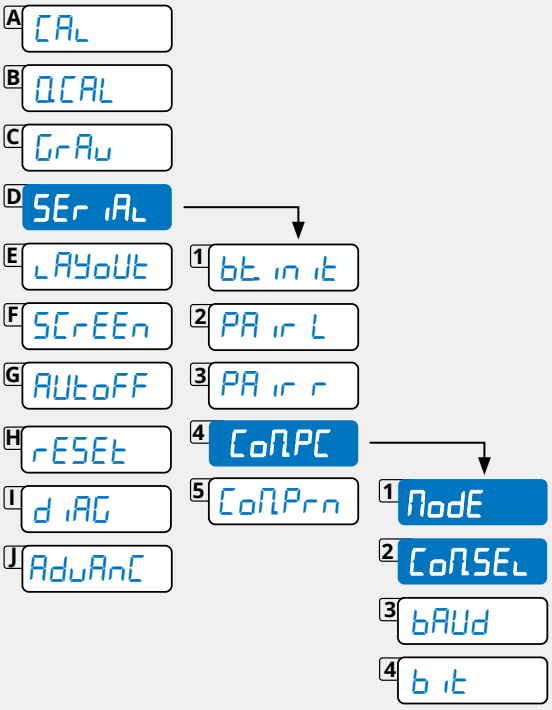
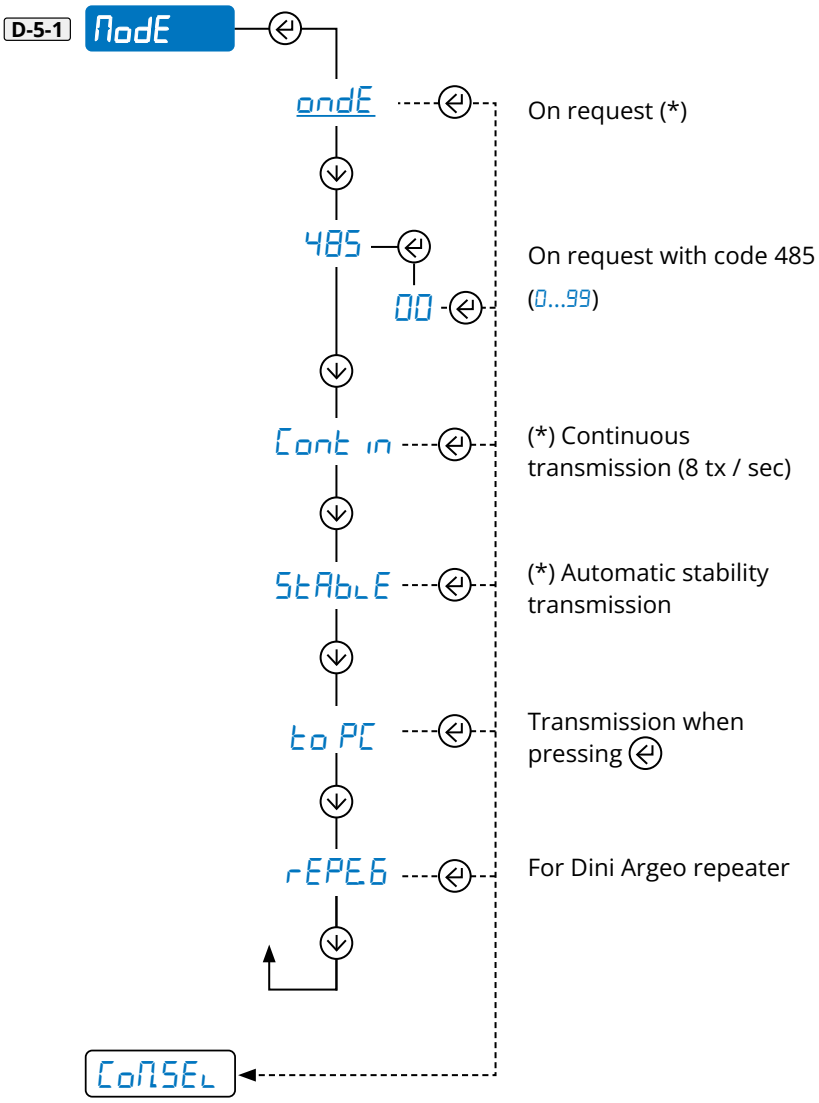


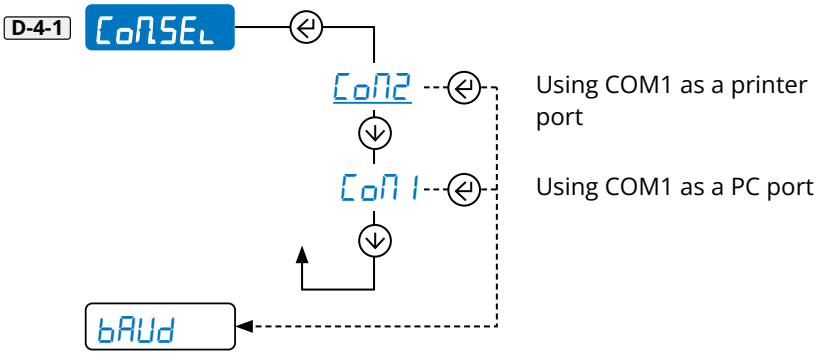
CoMPC Communication with PC

Selection of the communication mode



(*) See "Communication strings" paragraph.

Configuration of the serial port



The COM2 port is always occupied by the bluetooth module for communication with the forks.

MENU

Enter	Browse	Save and exit
1. Off 2. On 3.	= ↑ = ↓ = ↵ = C	
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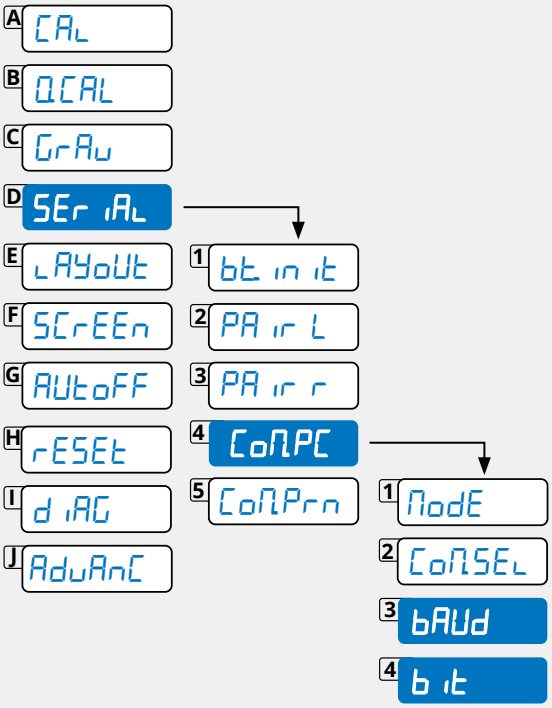
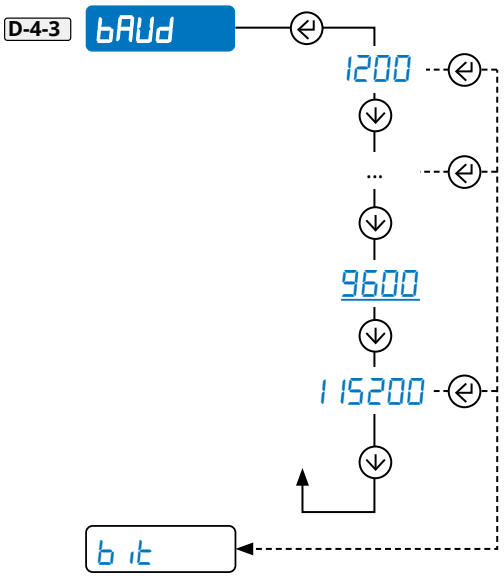
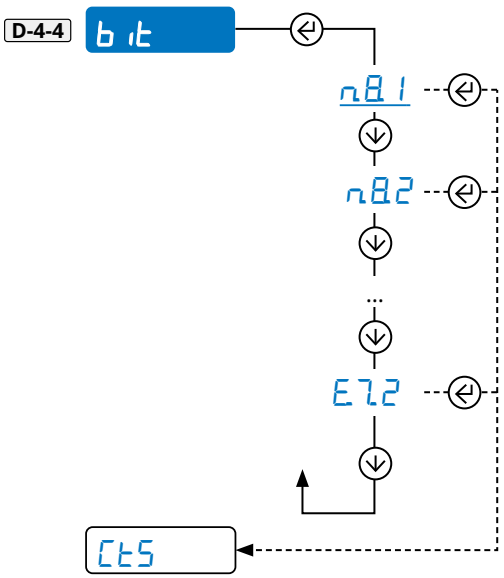


Communication speed (Baud rate)



Configuration of the serial protocol



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Enter	Browse	Save and exit
1. Off 2. On 3.	↑ = ↑ ↓ = ↓ → = ↵ ← = C	
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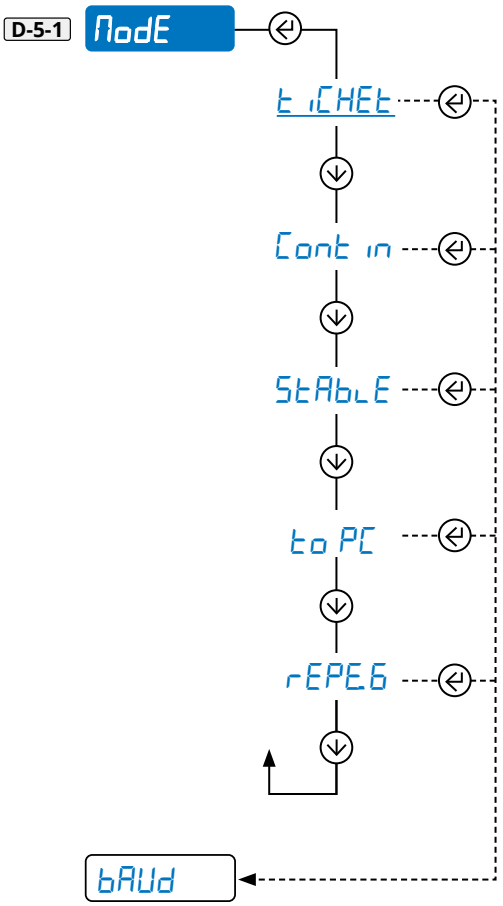
- B QCAL
- C GrAu
- D SEr iAL
  - 1 bt in it
  - 2 PA ir L
  - 3 PA ir r
  - 4 CoN. PC
  - 5 CoNPrn
    - 1 NodE
    - 2 bAUd
    - 3 b it
    - 4 CtS
    - 5 PoUEr.P
- E LAYoUt
- F SCrEEn
- G AUtoFF
- H rESEt
- I d iAG
- J AdvAnC

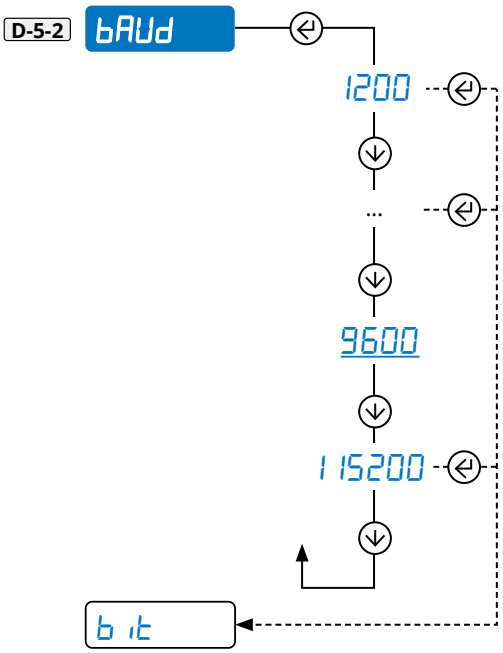
CoNPrn Communication with printer or repeater or PC

Selection of the communication mode



(*) See "Communication strings" paragraph.

Communication speed (Baud rate)



MENU

Enter	Browse	Save and exit
1. Off 2. On 3.	↑ = ↓ = → = ← = C	
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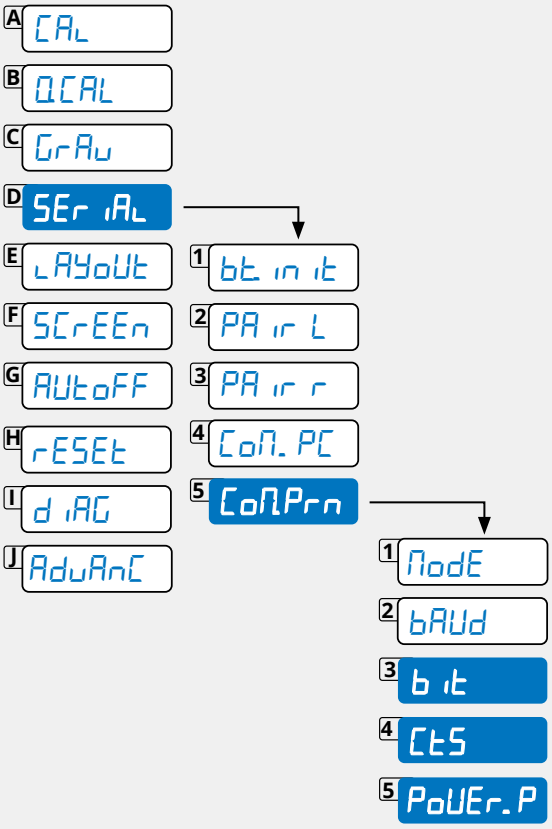
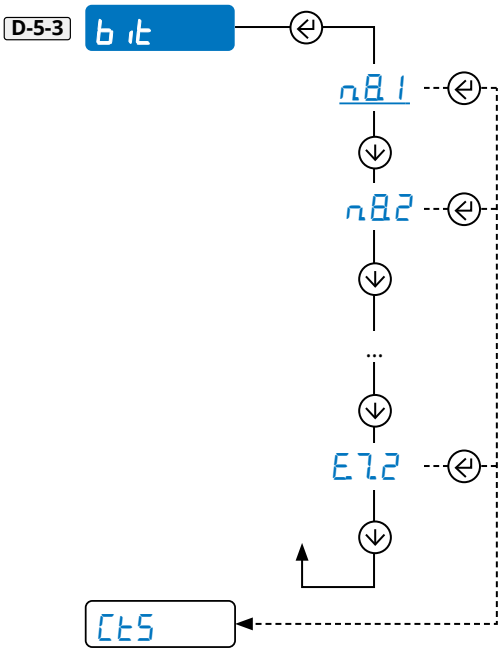
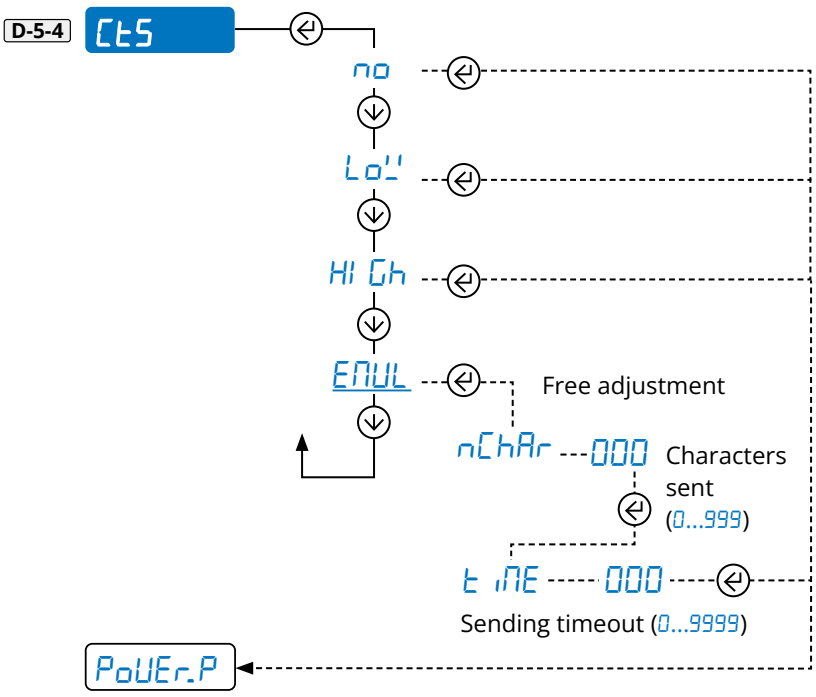


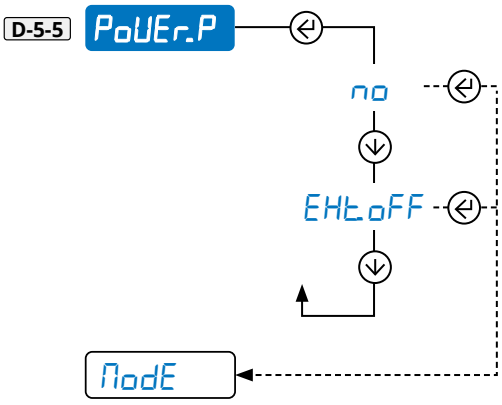
Configuration of the serial protocol



Printer control signal



Printer power supply / Radio-frequency module



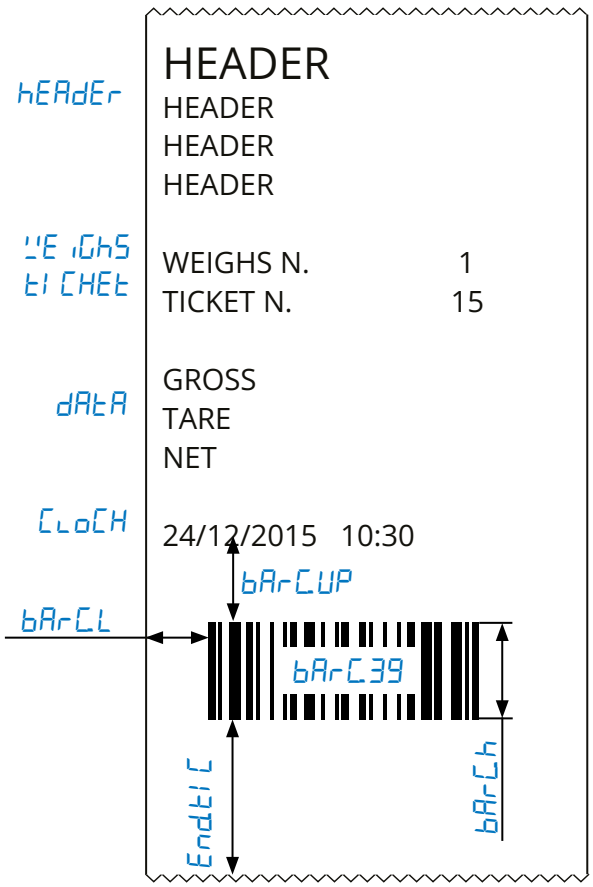
MENU

Enter	Browse	Save and exit
1. Off 2. On 3.	↑ = ↓ = → = ← = C	
Page 11		Page 11

- A CAL
- B QCAL
- C GrAu
- D SEr iAL
- E LAYoUt
  - 1 LAnG
  - 2 ChAr
  - 3 hEAdEr
  - 4 dAtA
  - 5 UE iGhS
  - 6 t iCHEt
  - 7 CLoCH
  - 8 bArC39
  - 9 bArCUP
  - 10 bArCL
  - 11 bArCh
  - 12 bArCdt
  - 13 CoP iES
  - 14 Endt iC
  - 15 bL inE
  - 16 tESt
- F SCrEEn
- G AUtoFF
- H rESEt
- I d iAG
- J AdvAnC

LAYoUt Print customisation

Parameters for receipt / label mode

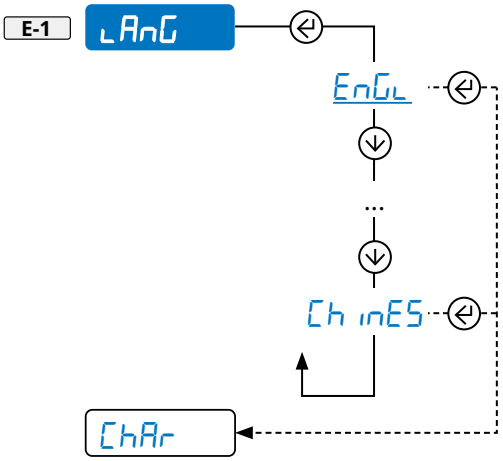


MENU

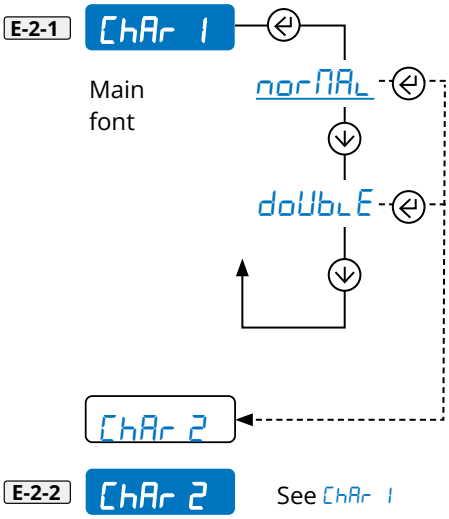
Enter	Browse	Save and exit
1. Off 2. On 3.	↑ = ↑ ↓ = ↓ → = ↵ ← = C	
Page 11		Page 11

- A CAL
- B QCAL
- C GrAu
- D SEr iAL
- E LAYoUt
  - 1 LAnG
  - 2 ChAr
    - 1 ChAr 1
    - 2 ChAr 2
  - 3 hEAdEr
  - 4 dAtA
  - 5 UE iChS
  - 6 t iCHEt
  - 7 CLoCH
  - 8 bArC39
  - 9 bArCUP
  - 10 bArCL
  - 11 bArCh
  - 12 bArCdt
  - 13 CoP iES
  - 14 Endt iC
  - 15 bL inE
  - 16 tESt
- F SCrEEn
- G AUtoFF
- H rESEt
- I d iAG
- J AdvAnC

Setting of the print language (itAL, EnGL, dEUt, FrAn, ESPA, Ch inES)



Font dimensions



E-2-2 ChAr 2 See ChAr 1

MENU

Enter
1. Off
2. On
3.

Page 11

Browse
= ↑
= ↓
= →
= C

Save and exit

Page 11

- A CAL
- B QCAL
- C GrAu
- D SEr iAL
- E LAYoUt
  - 1 LAnG
  - 2 ChAr
  - 3 hEAdEr
    - 1 EnAbLE
    - 2 LinE 1
    - 3 LinE 2
    - 4 LinE 3
    - 5 LinE 4
  - 4 dAtA
  - 5 UE iGhS
  - 6 t iCHEt
  - 7 CLoCH
  - 8 bArC39
  - 9 bArCUP
  - 10 bArCL
  - 11 bArCh
  - 12 bArCdt
  - 13 CoP iES
  - 14 Endt iC
  - 15 bL inE
  - 16 tESt
- F SCrEEn
- G AUtoFF
- H rESEt
- I d iAG
- J AdvAnC

hEAdEr Print header

Enables header printing

E-3-1 EnAbLE
- no
- YES — Only 1st weight totalisation
- totAL — Only upon each weight totalisation
- ALWAYS — Also in total

LinE 1

Contents of the header lines

E-3-2 LinE 1 — First row of header

no — *Visible only on LinE 2, LinE 3 and LinE 4*

ChAr 1
ChAr 2

01 032 — 032* — Enter the first character
02 032 — 032* — Enter the second character
... — 032*
24 032 — 032* — Enter the last character

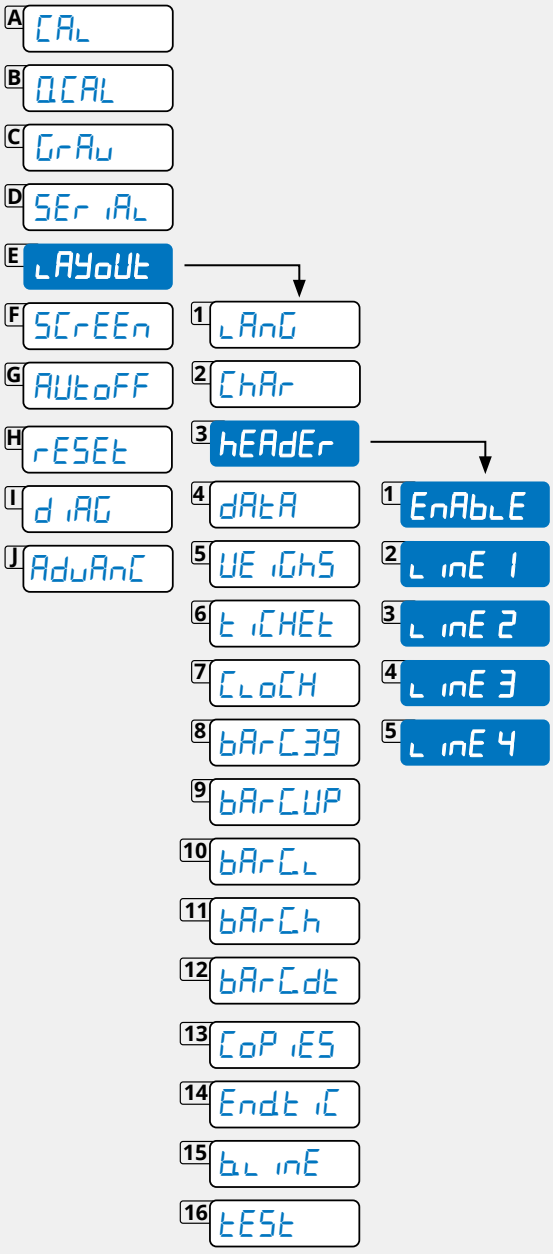
LinE 2

How to set the value

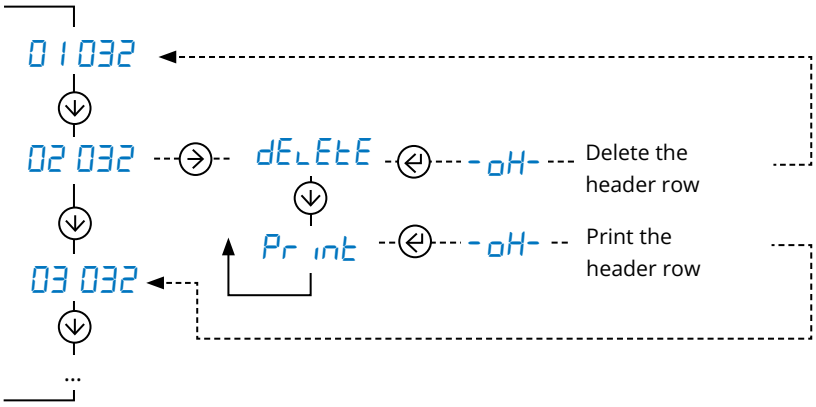
Repeat the operation to program LinE 2, LinE 3 and LinE 4. Select no to disable them.

MENU

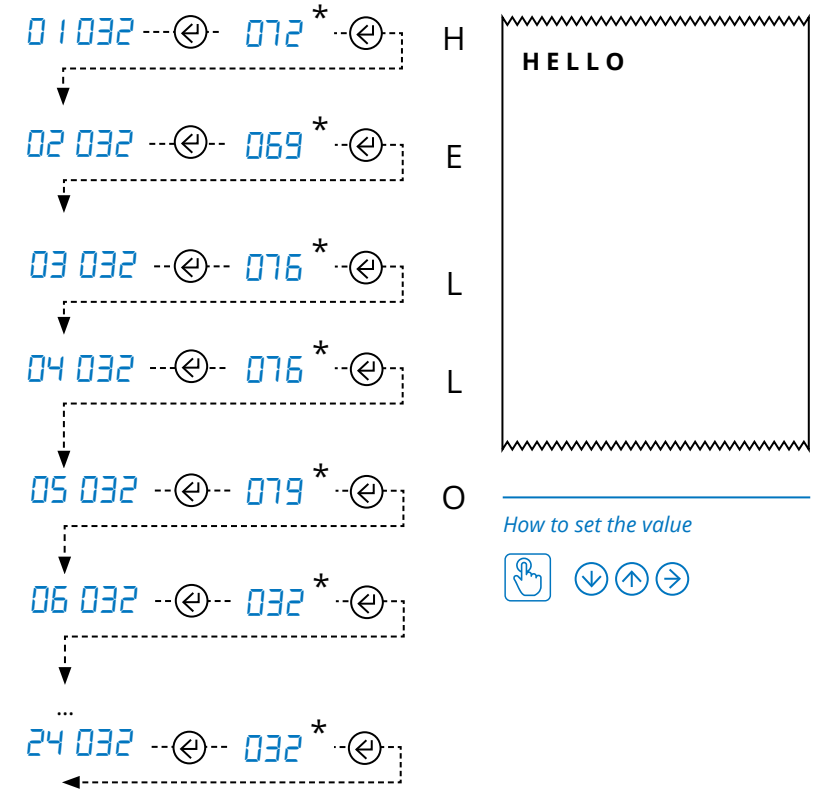
Enter	Browse	Save and exit
1. Off 2. On 3.	= ↑ = ↓ = ↵ = C	
Page 11		Page 11



How to print / delete the row being programmed



Programming example



How to set the value

List of characters

(*)

32		47	/	62	>	77	M	92	\	107	k	122	z
33	!	48	0	63	?	78	N	93	]	108	l	123	{
34	"	49	1	64	@	79	O	94	^	109	m	124	|
35	#	50	2	65	A	80	P	95	_	110	n	125	}
36	$	51	3	66	B	81	Q	96	'	111	o	126	~
37	%	52	4	67	C	82	R	97	a	112	p		
38	&	53	5	68	D	83	S	98	b	113	q		
39	'	54	6	69	E	84	T	99	c	114	r		
40	(	55	7	70	F	85	U	100	d	115	s		
41	)	56	8	71	G	86	V	101	e	116	t		
42	*	57	9	72	H	87	W	102	f	117	u		
43	+	58	:	73	I	88	X	103	g	118	v		
44	,	59	;	74	J	89	Y	104	h	119	w		
45	-	60	<	75	K	90	Z	105	i	120	x		
46	.	61	=	76	L	91	[	106	j	121	y		

MENU

Enter	Browse	Save and exit
1. Off 2. On 3.	= ↑ = ↓ = ↵ = C	
Page 11		Page 11

- A CAL
- B QCAL
- C GrAd
- D SEr iAL
- E LAYoUt
  - 1 LAnG
  - 2 ChAr
  - 3 hEAdEr
  - 4 dAtA
  - 5 UE iGhS
  - 6 t iCHEt
  - 7 CLoCH
  - 8 bArC39
  - 9 bArCUP
  - 10 bArCL
  - 11 bArCh
  - 12 bArCdt
  - 13 CoP iES
  - 14 Endt iC
  - 15 bL inE
  - 16 tESt
- F SCrEEn
- G AUtoFF
- H rESEt
- I d iAG
- J AdvAnC

Selection of the weight data

E-4 dAtA

- GroSS
  - YES
  - no
- tArE
  - YES
  - no
- nEt
  - YES
  - no

UE iGhS

Progressive weighed

E-5 UE iGhS

- no
- YES — On each weighing operation
- SUM — On total only
- ALWAYS — Both on each weighing operation / weight totalisation and total

t iCHEt

Receipt / label progressive

E-6 t iCHEt

- no
- YES — On each weighing operation
- SUM — On total only
- ALWAYS — Both on each weighing operation / weight totalisation and total

CLoCH

MENU

Enter	Browse	Save and exit
1. Off 2. On 3.	↑ = ↓ = → = ← = C	
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  - 4 dAtA
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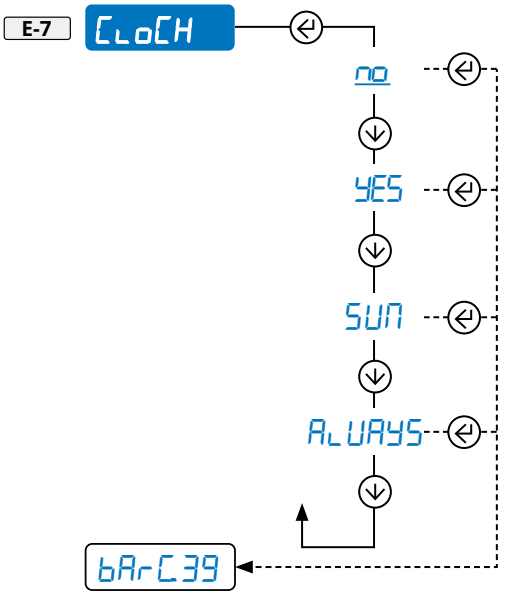
  - 9 bArCUP
  - 10 bArCL
  - 11 bArCh
  - 12 bArCdt
  - 13 CoP iES
  - 14 Endt iC
  - 15 bL inE
  - 16 tESt
- F SCrEEn
- G AUtoFF
- H rESEt
- I d iAG
- J AdvAnC

Date and time

E-7 CLoCH



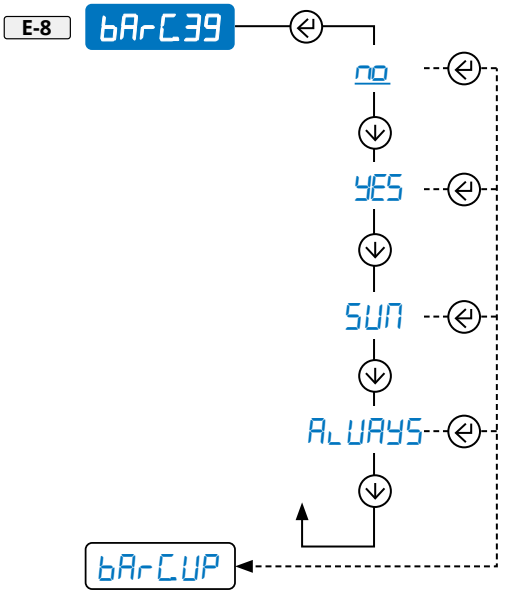
On each weighing operation

On total only

Both on each weighing operation / weight totalisation and total

Bar code 39

E-8 bArC39



On each weighing operation

On total only

Both on each weighing operation / weight totalisation and total

Barcode top margin (mm)

Visible only if bArC39 **(E-8)** *is active*

E-9 bArCUP — 000 — bArCL

If ModE=t iCHEt (0...9)

Barcode left margin (mm)

Visible only if bArC. 39 **(E-8)** *is active*

E-10 bArCL — 00 — bArCh

If ModE=t iCHEt (1...99)

Barcode height (mm)

Visible only if bArC. 39 **(E-8)** *is active*

E-11 bArCh — 00 — bArCdt

If ModE=t iCHEt (1...99)

MENU

Enter	Browse	Save and exit
1. Off 2. On 3.	= ↑ = ↓ = → = ← C	
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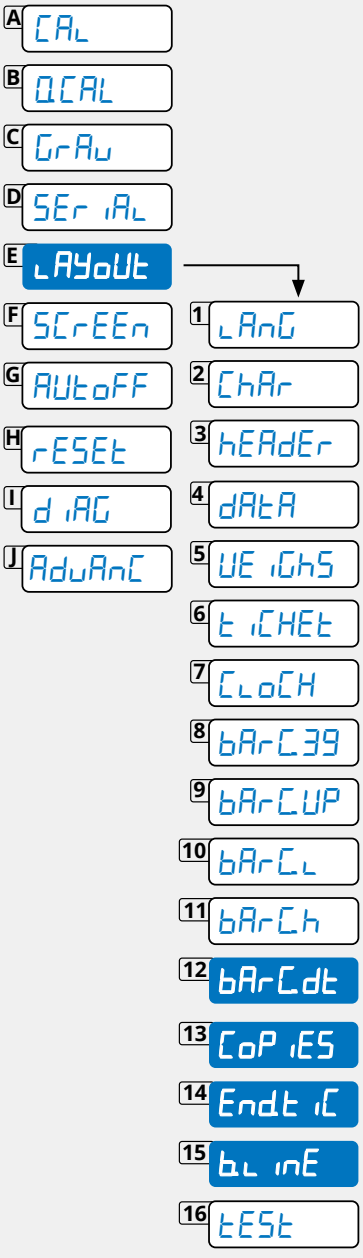
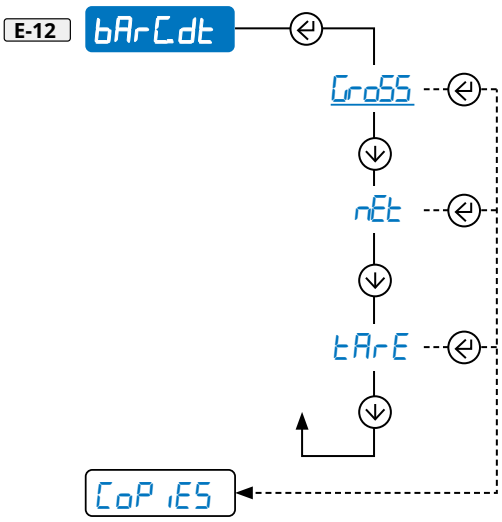
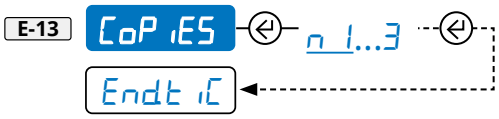


Selection of the weight data

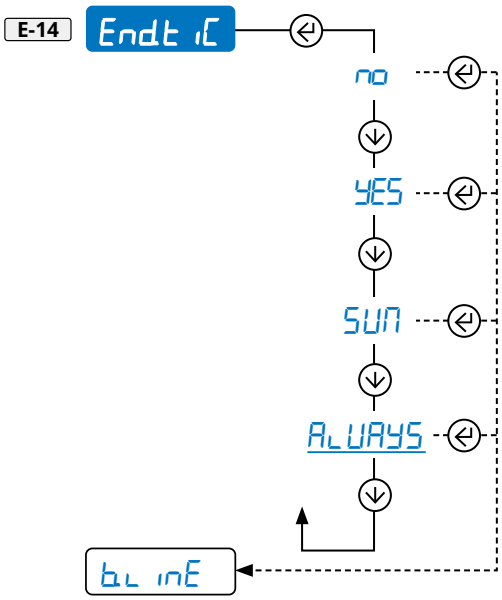
Visible only if bArC39 **(E-8)** *is active*



Multi-copy prints



Paper outlet for end of label

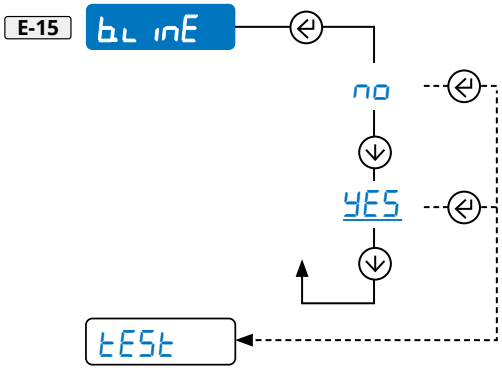


On each weighing operation

On total only

Both on each weighing operation / weight totalisation and total

White pre-heating line of the print head



MENU

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  - 9 bArCUP
  - 10 bArCL
  - 11 bArCh
  - 12 bArCdt
  - 13 CoP iES
  - 14 Endt iC
  - 15 bL inE
  - 16 tESt
- F SCrEEn
- G AUtoFF
- H rESEt
- I d iAG
- J AdvAnC

Label test print

E-16 tESt → LAnG → tESt

MENU

Enter	Browse	Save and exit
1. Off 2. On 3.	= ↑ = ↓ = ↵ = C	
Page 11		Page 11

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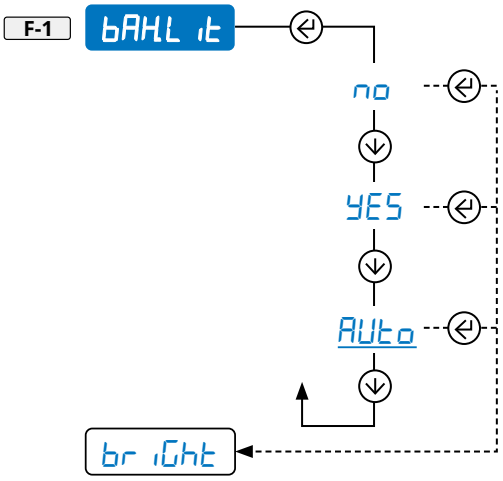
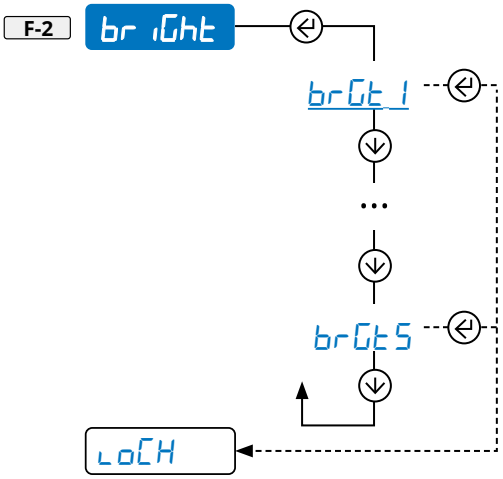
- C GrAu
- D SEr iAL
- E LAYoUt
- F SCrEEn
  - 1 bAHL it
  - 2 br iGht
  - 3 LoCH
- G AUtoFF
- H rESEt
- I d iAG
- J AduAnC

SCrEEn Adjusting the display

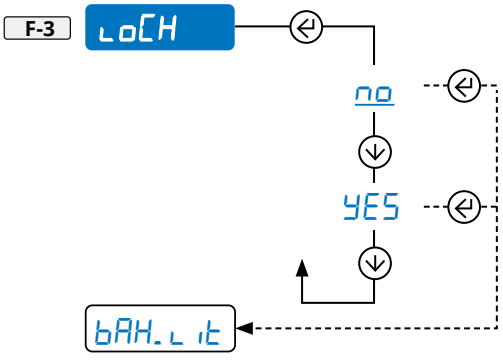
Backlighting



Brightness



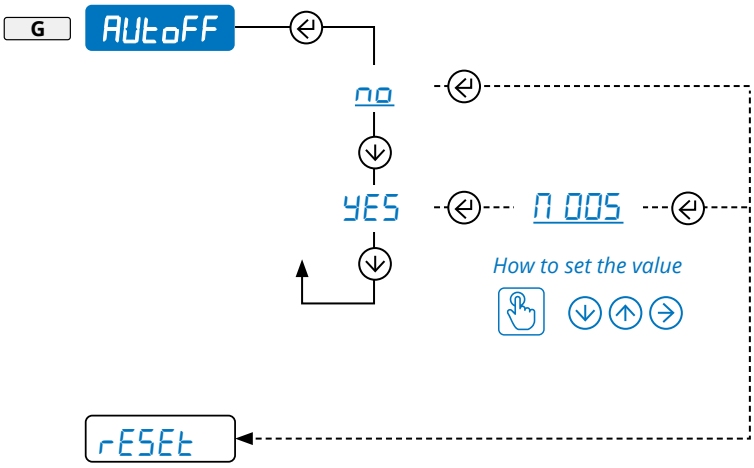
Display lock (for use by the manufacturer)



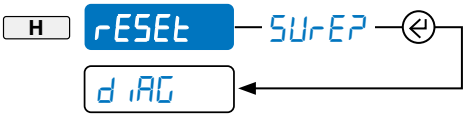
MENU

Enter	Browse	Save and exit
1. Off ⏻ 2. On ⏻ 3. ⏎	↑ = ⏎ ↓ = ⏎ → = ⏎ ← = C	
Page 11		Page 11

AUtoFF Auto switch-off



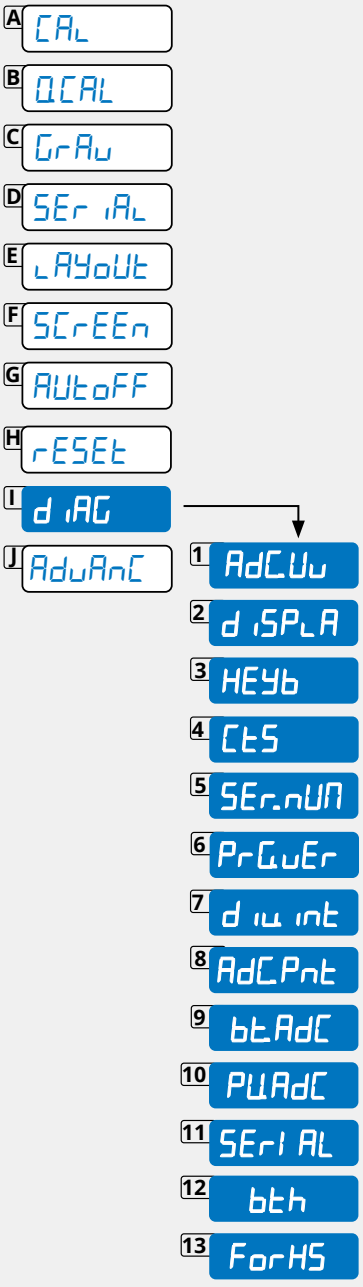
rESEt Factory configuration reset



Function for restoring default configurations keeping the stored calibration

MENU

Enter	Browse	Save and exit
1. Off ⏻ 2. On ⏻ 3. ↑ ⓘ Page 11	↑ = ↑ ↓ = ↓ → = ↵ ← = C	 ⓘ Page 11



d iAG Diagnostics

I-1 AdCUu — Converter Check of input signal in µV. Press the keys ↓ or ↑ to toggle the display between the two forks.

I-2 d iSPLA — Display. Integrity check of all segments and icons.

I-3 HEYb — Keypad. Press any key to check its correct operation, with beep and code on display.

I-4 CtS — CTS. Check of status of the control signal from the printer.

I-5 SEr.nUM — Scale serial number.

I-6 PrGuEr — Hardware version (e.g. rEu 5) followed by software version (e.g. 040000).

I-7 d iu int — For use by the manufacturer.

I-8 AdCPnt — For use by the manufacturer.

I-9 btAdC — For use by the manufacturer.

I-10 PUAdC — For use by the manufacturer.

I-11 SEr iAL — For use by the manufacturer.

I-12 bth — Check of communication between the indicator and the internal Bluetooth module.

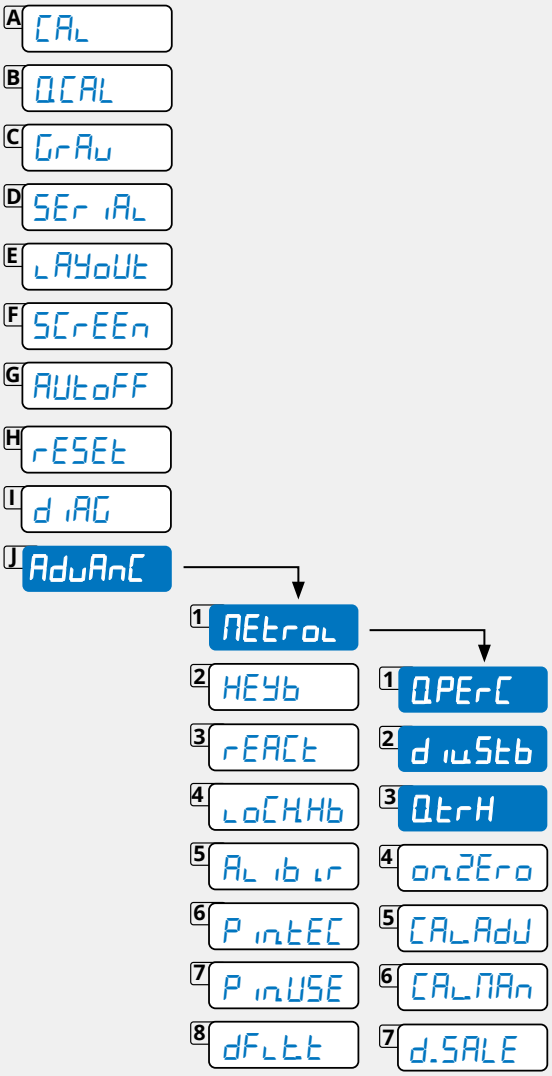
I-13 ForHS — Fork diagnostics. Press the keys ↓ or ↑ to scroll through the parameters:

bt. AdC	Battery level
tI LE	Inclinometer
PrG. uEr	Firmware version

Press the key → to change the displayed fork.

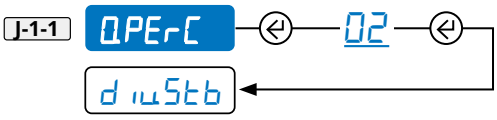
MENU

Enter	Browse	Save and exit
1. Off ⏻ 2. On ⏻ 3. ↑ ⓘ Page 11	↑ = ↑ ↓ = ↓ → = ↵ ← = C	ⓘ Page 11



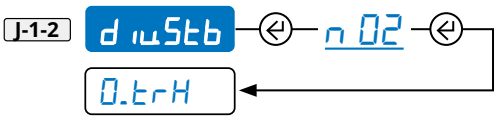
nEtroL Metrological parameters

Resetting percentage using the key



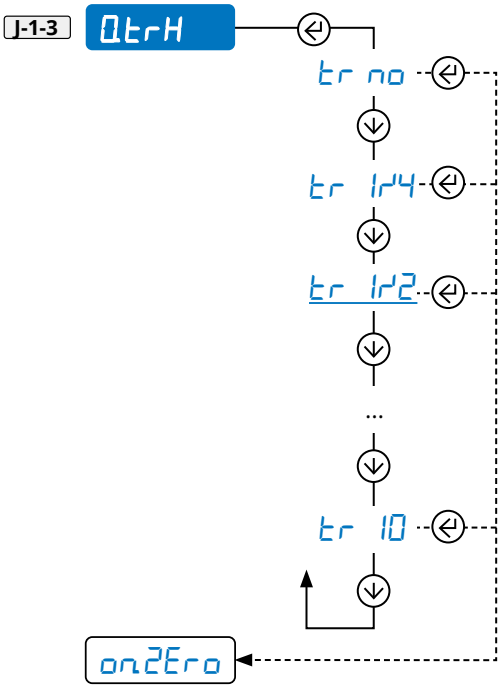
With approved scale (0...2)
With non-approved scale (0...50)

Sensitivity of the weight stability control



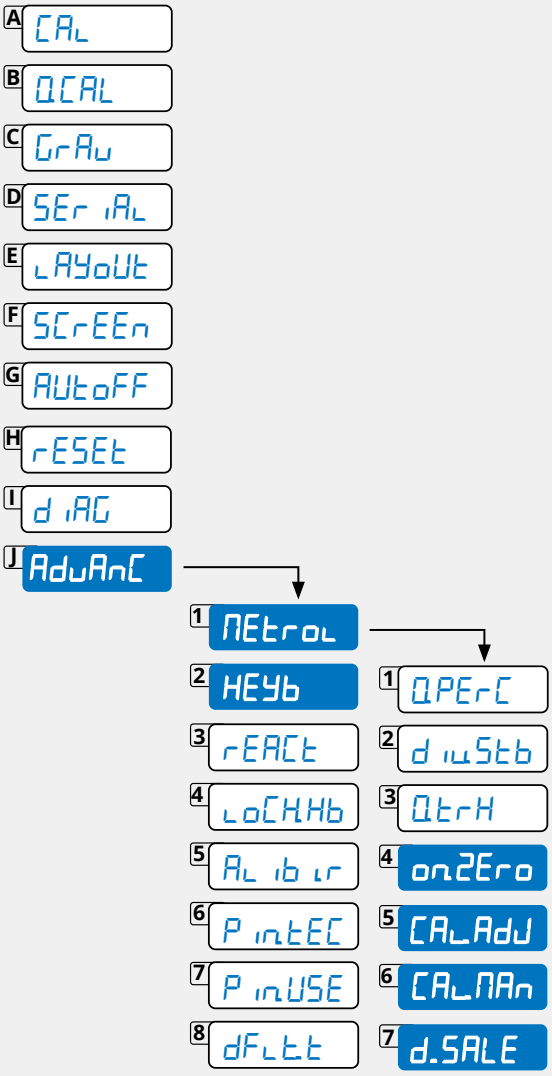
(0...20)

Zero hold function (tracking)

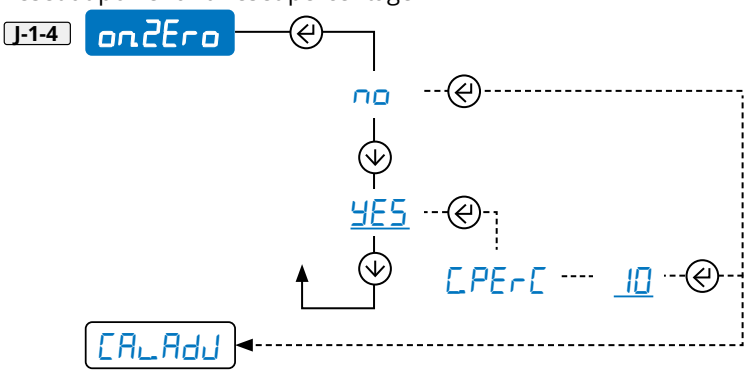


MENU

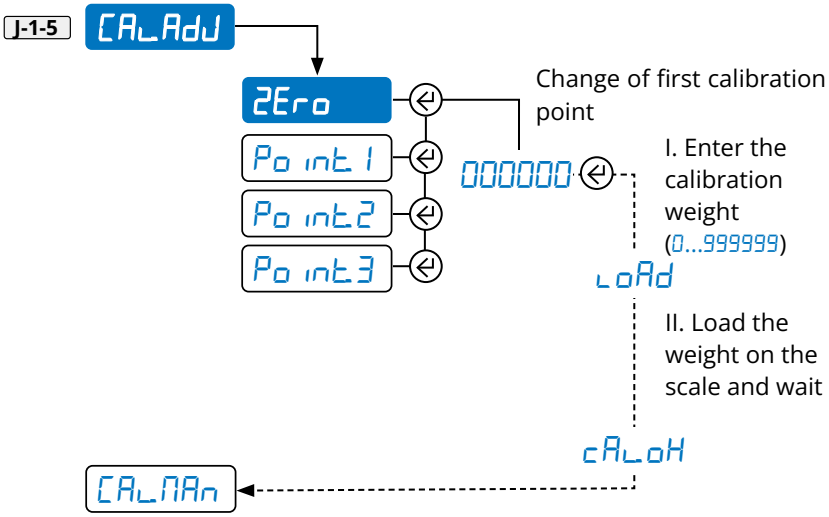
Enter	Browse	Save and exit
1. Off 2. On 3.	↑ = ↓ = → = ← = C	
Page 11		Page 11



Reset at power and reset percentage



Re-acquisition / change of the calibration points in memory.

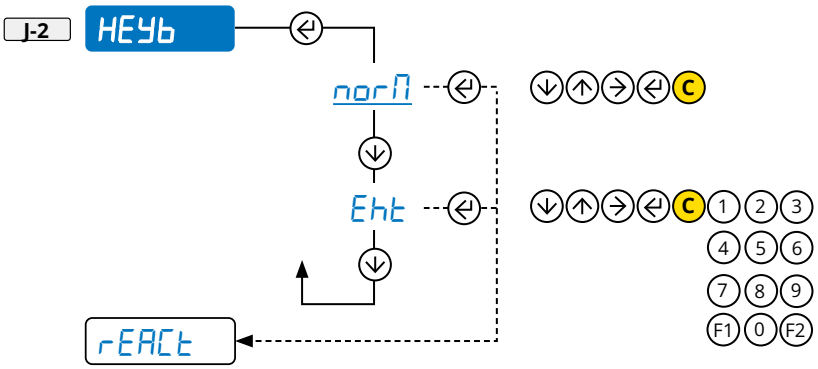


Repeat the same operation for Po int 1, Po int 2 *and* Po int 3

J-1-6 CALnAn — For use by the manufacturer.

J-1-7 d.SALE — For use by the manufacturer.

Type of keyboard



MENU

Enter	Browse	Save and exit
1. Off ⏻ 2. On ⏻ 3. ↑ ⓘ Page 11	↑ = ↑ ↓ = ↓ → = ↵ ← = C	💾 ⓘ Page 11

- A CAL
- B QCAL
- C GrAu
- D SEr iAL
- E LAYoUt
- F SCrEEn
- G AUtoFF
- H rESEt
- I d iAG
- J AduAnC
  - 1 MEtroL
  - 2 KEYb
  - 3 rEACt
  - 4 LoCKKb
  - 5 AL ib ir
  - 6 P intEC
  - 7 P inUSE
  - 8 dFLtt

Reactivation of the print or weight totalisation function

J-3 rEACt ↵ → 2Ero ↵ After unloading the plate
↓ → inSt ↵ When weight is unstable
↓ → ALWAYS ↵ Function always active
↓ → LoCKKb

Permanent keyboard lock (excluding key C)

J-4 LoCKKb ↵ → no
↓ → YES
↓ → AL ib ir

Reset of fiscal memory (alibi memory)

J-5 AL ib ir ↵ → SUrE? ↵ → P in.tEC

Reset is not possible if the instrument is approved

Access PIN to programming menu

J-6 P intEC ↵ → no
↓ → YES ↵ → 123456 ↵
↓ → P inUSE

Enter the access PIN

How to set the value

Access PIN to user menus

J-7 P inUSE See P intEC

Total reset of memory and of calibration, with reset of the factory settings.

J-8 dFLtt ↵ → SUrE? ↵ → MEtroL

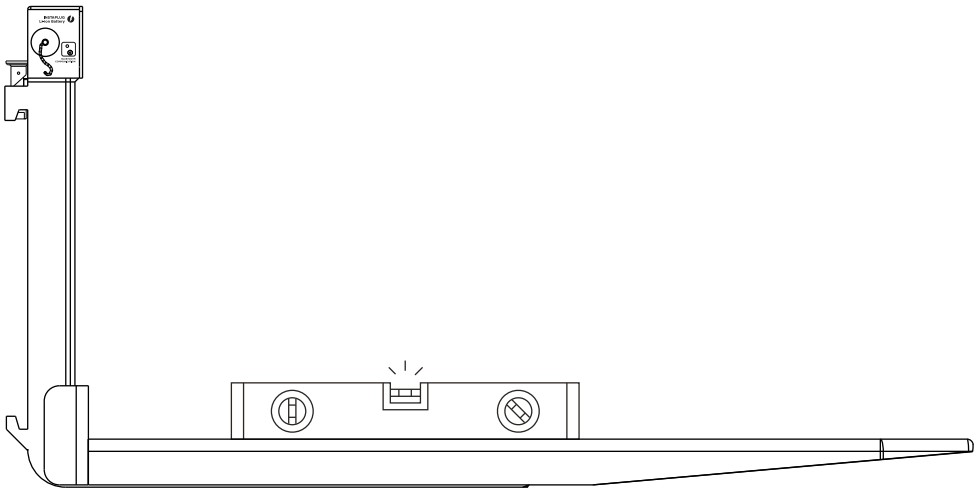
9. CALIBRATING THE INCLINOMETER

The weighing forks are equipped with a digital accelerometer that can also detect changes in tilt.

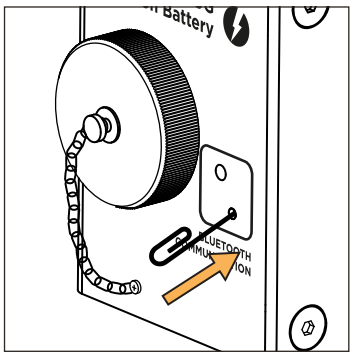
1. Place the forks in a perfectly horizontal position (use an external level gauge).
2. Press the key until the LED on the fork turns yellow, then release it.

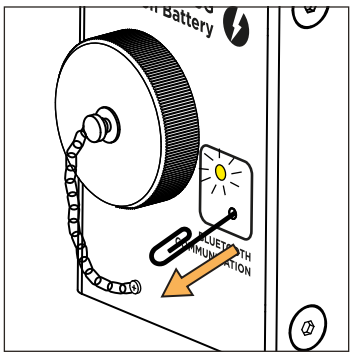
Repeat the procedure for the second fork.

1.

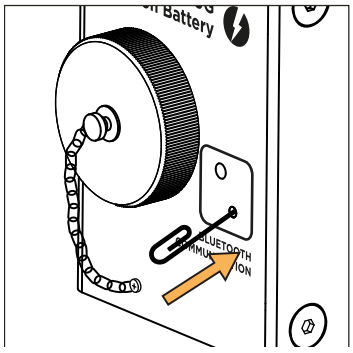


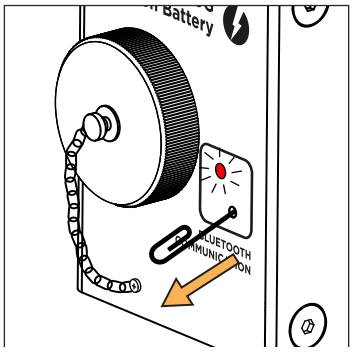
2.





To cancel the accelerometer calibration, press and hold the key on the weighing fork until the LED on the fork turns red, then release it.
Repeat the procedure for the second fork.





On approved systems, this is done at the factory before shipment. The approval seal must be removed to calibrate the inclinometer again.

10. COMMUNICATION STRINGS

Short string

01ST,GS, 0.0,kg<CR><LF>

where

01	Code 485 of the instrument (2 characters), only if communication mode 485 is enabled
ST	Scale status (2 characters): US - Unstable weight ST - Stable weight OL - Weight overload (out of range) UL - Weight underload (out of range) TL - Scale not level (inclinometer active)
,	ASCII 044 character
GS	Type of weight data (2 characters) GS - Gross NT - Net
,	ASCII 044 character
0.0	Weight (8 characters including the decimal point)
,	ASCII 044 character
kg	Unit of measurement (2 characters)
<CR><LF>	Transmission terminator, characters ASCII 013 and ASCII 010

Extended string

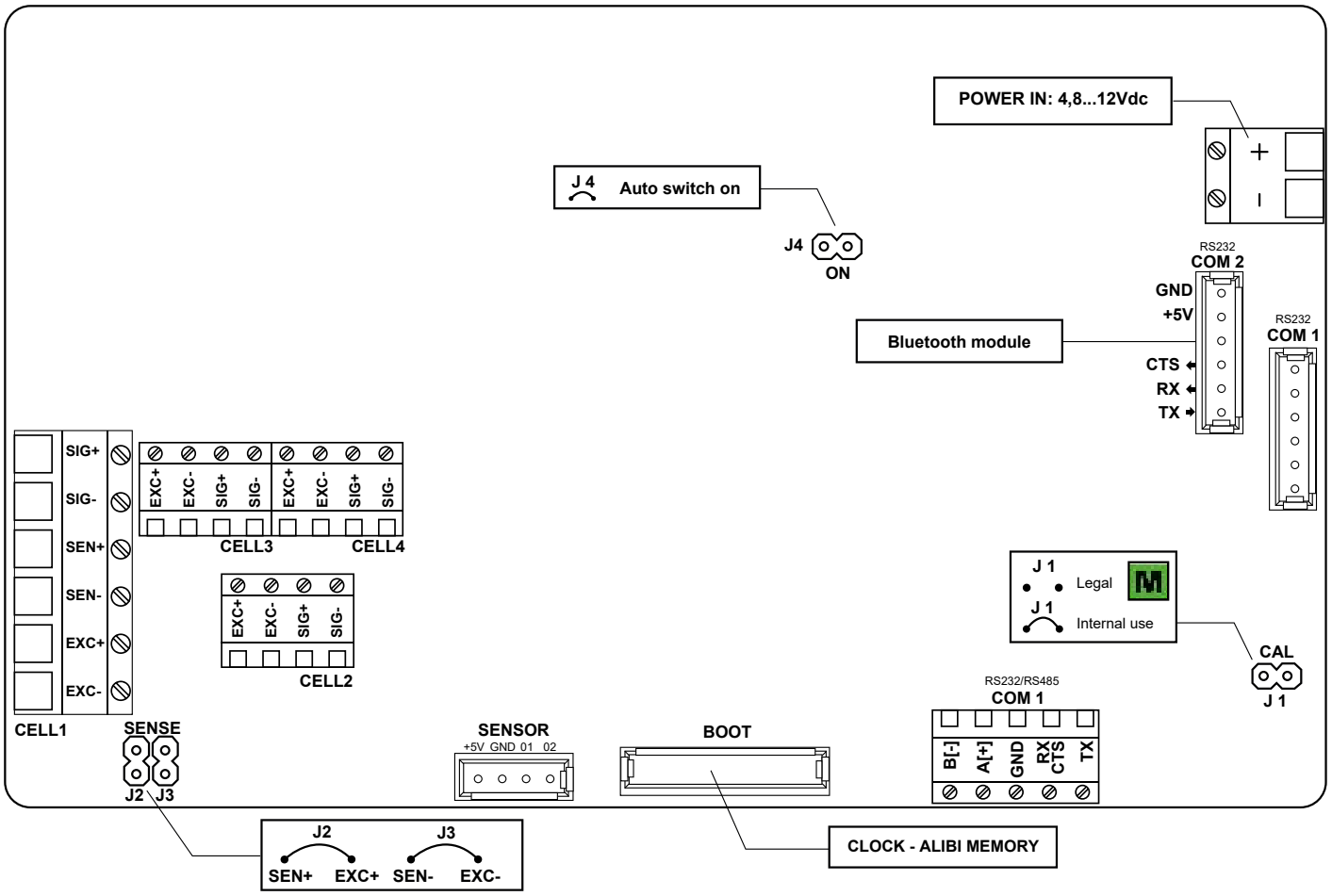
011,ST, 0.0,PT 20.8, 0,kg<CR><LF>

where

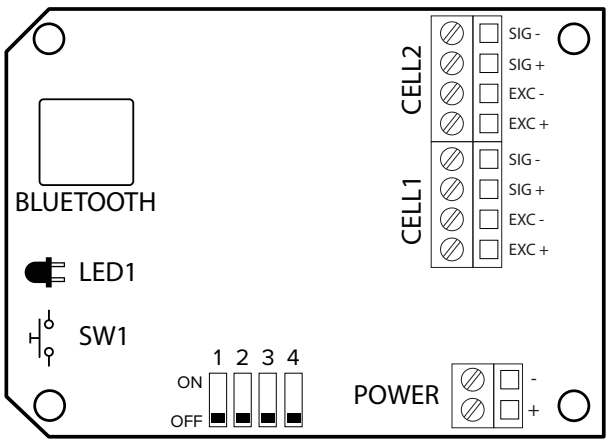
01	Code 485 of the instrument (2 characters), only if communication mode 485 is enabled
1	ASCII 049 character
,	ASCII 044 character
ST	Scale status (2 characters): US - Unstable weight ST - Stable weight OL - Weight overload (out of range) UL - Weight underload (out of range) TL - Scale not level (inclinometer active)
,	ASCII 044 character
0.0	Net weight (10 characters including the decimal point)
,	ASCII 044 character
PT	Indication of pre-set manual tare (2 characters)
20.8	Tare weight (10 characters including the decimal point)
,	ASCII 044 character
0	Number of pieces (10 characters)
,	ASCII 044 character
kg	Unit of measurement (2 characters)
<CR><LF>	Transmission terminator, characters ASCII 013 and ASCII 010

11. WIRING DIAGRAMS AND EXPLODED VIEW

Weight indicator CPU board



Weighing forks board



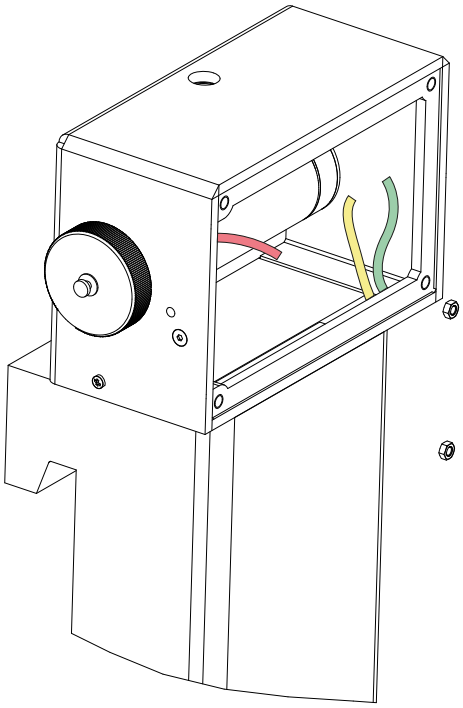
Pay special attention to the Bluetooth module aerial during installation / replacement.

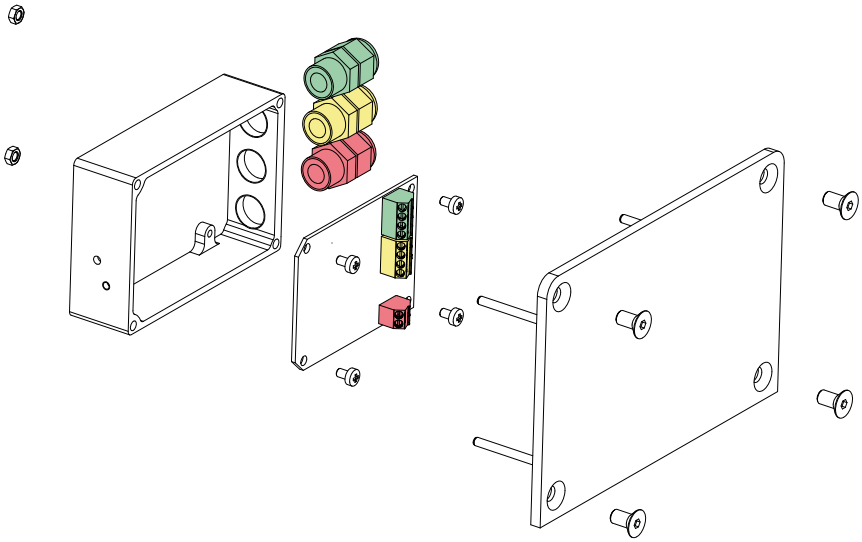
Set dip switches as:

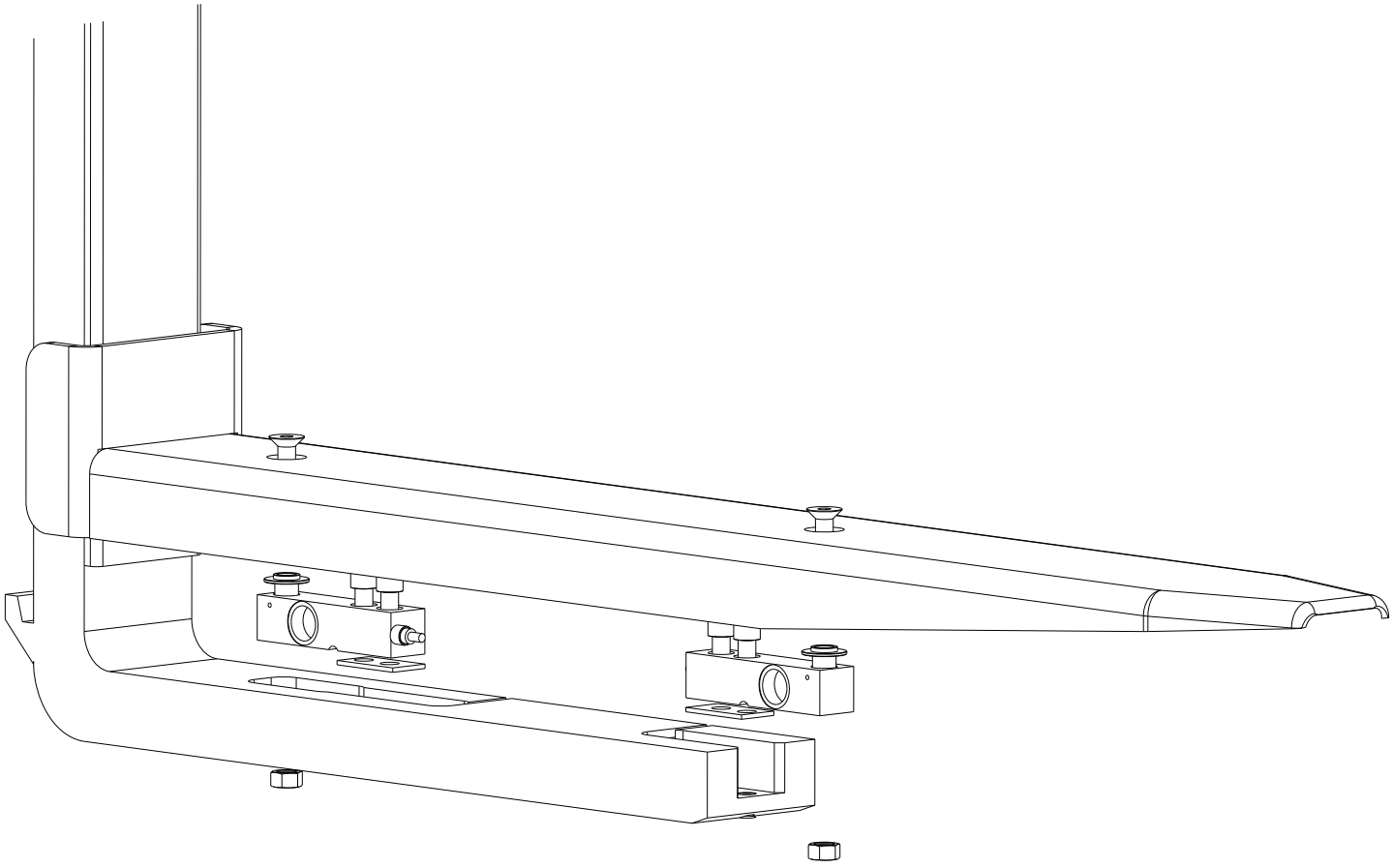
- *Switch 1 ON = right fork*
- *Switch 1 OFF = left fork*

Exploded view weighing forks

	Left fork	
	Cell 1	Cell 3
	Cell 2	Cell 4
	Power supply	Power supply







12. FACTORY CONFIGURATION RESET

Weight indicator

To restore the factory configuration of the weight indicator, open the technical menu and go to step dFLt.t. Press the PRINT key to select, the instrument shows the confirmation message "dFLtP". Press the PRINT key again to confirm.
When you have finished, exit the menu and save your changes.
This operation clears the calibration of the weight indicator.

Weighing forks

Press and hold the key on the weighing forks until the red light comes on, then release it.
The operation cancels the calibration of the inclinometer but maintains the pairing with the weight indicator.

In approved systems, the approval seals must be removed and the weight indicator must be configured for internal use (Jumper inserted, see "Approval" paragraph) to run the reset operations.

13. ERRORS AND MESSAGES

MESSAGE	DESCRIPTION	SOLUTION
AL.Err	"Alibi memory" board (optional) not detected.	Check the presence of the board inside the indicator. If present, check it is not damaged and is installed correctly.
EQ.Err	Impossible to perform equalisation.	Check the cells are connected properly. Check the signal of each cell in the diagnostic menu (menu d iAG, parameter AdC.Uu, *see page 34).*
PrEC.	Calibration error.	First calibrate the zero point, then proceed with the next points.
Err.Pnt	Calibration error.	Check the connection of the load cell. Check that the cell signal is stable, valid and greater than that of the previously acquired point.
Er 11	Calibration error.	Increase the calibration weight.
Er 12	Calibration error.	Check that the signal coming from the cell increases upon the increasing of the weight loaded on the scale. When acquiring the calibration points, use the increasing calibration weights.
Er 37	Calibration error.	Repeat the calibration, checking that the capacity and division have been correctly set.
Er 39	Instrument not configured.	Reset the factory configurations (menu AduAnC, parameter dFLt.t, *see page 41).*
Er 85	Instrument configured but not calibrated.	Perform calibration.
CEr. 36	Calibration error.	Check that the signal coming from the load cell is not negative.
Err.Not	Unstable weight.	Check in the menu d iAG, parameter AdC.Uu *(see page 34)* that the signal is stable and try again. If the connection of the cells is with 4 wires, check that the sense jumpers are inserted.
PAir.Er	Pairing error between indicator and fork(s).	Check that the fork is switched on and in pairing mode (red LED).
bt.Err	Communication error between the indicator and the internal Bluetooth module.	Open the indicator case and check the connection of the Bluetooth module to the CPU board.

LED COLOR	STATUS	DESCRIPTION
	Normal	Fork is functioning correctly with the indicator. Ready for use.
	Tilt	Fork is not level. Return fork to a leveled position.
	Pause	Fork is connecting to the indicator. Wait for connection to finish.
	Sleep	Fork is asleep after extended inactivity. Wake up fork by moving it.

14 SUMMARY OF THE PARAMETERS

15. FAQ - Frequently Asked Questions

Calibration

Can I change the maximum capacity without recalibrating?
Yes, you must change the parameters rAnGE 123 **(K-1-4,5,6)**.
The maximum capacity set on the weight indicator must be less than or equal to the nominal capacity of the weighing forks (2500 kg).

Can I change the division without recalibrating?
Yes, you must change the parameter d iu **(K-1-2)**.

Can I change the position of the decimal point without recalibrating?
Yes, you must change the parameter dEC iN **(K-1-1)** and the value of the calibration points using step CAL nAn **(K-5-6)**.

Communication

Scale doesn't answer
- Check that the Bluetooth module is working properly.
- Check that both weighing forks are switched on. If necessary, move the forks to wake them up.
- If necessary, perform the weighing fork pairing procedure again.

Generic

The scale does not turn on
- Check that the input voltage level to the motherboard is correct.
- Try the forced power by inserting the "ON BOOT" jumper present on the motherboard. If the indicator lights up, check the correct operation of the keyboard, using the diagnostic menu diAG.
- Possible failure of the internal rechargeable battery (if present).

NOTES

DINI ARGEO
Scales - Weighing systems
A RICE LAKE WEIGHING SYSTEMS COMPANY

HEAD OFFICE
Via Della Fisica, 20
41042 Spezzano di Fiorano, Modena - Italy
Tel. +39 0536 843418 - Fax +39 0536 843521

SERVICE ASSISTANCE
Via Dell'Elettronica, 15
41042 Spezzano di Fiorano, Modena - Italy
Tel. +39 0536 921784 - Fax +39 0536 926654

www.diniargeo.com

Stamp of the authorised service centre

TWINFORKS_09.2023_EN_T
Rev. 29.09.2023