

DFWIECEX

TECHNICAL MANUAL

ENGLISH

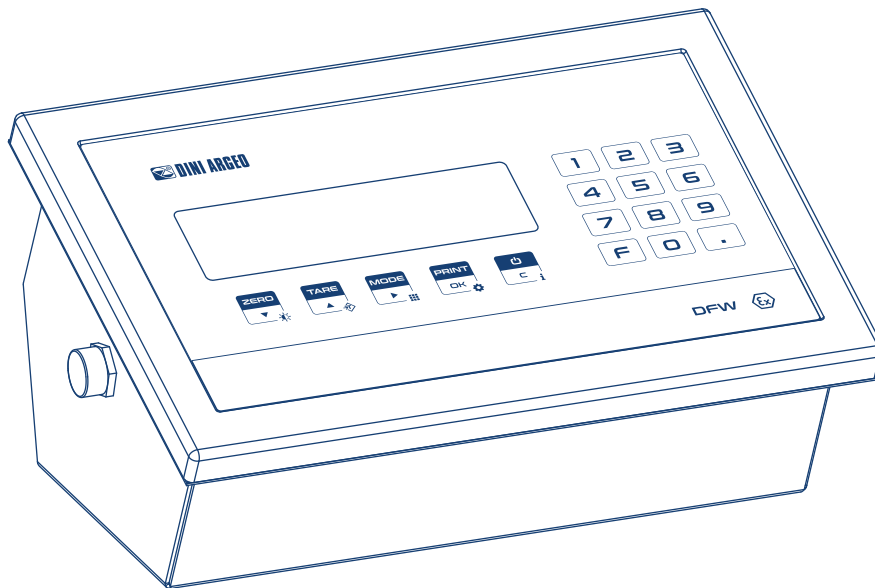


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1. INTRODUCTION AND WARNINGS

This product is the best solution for multifunctional weighing applications in Ex environments.

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.




WARNINGS:

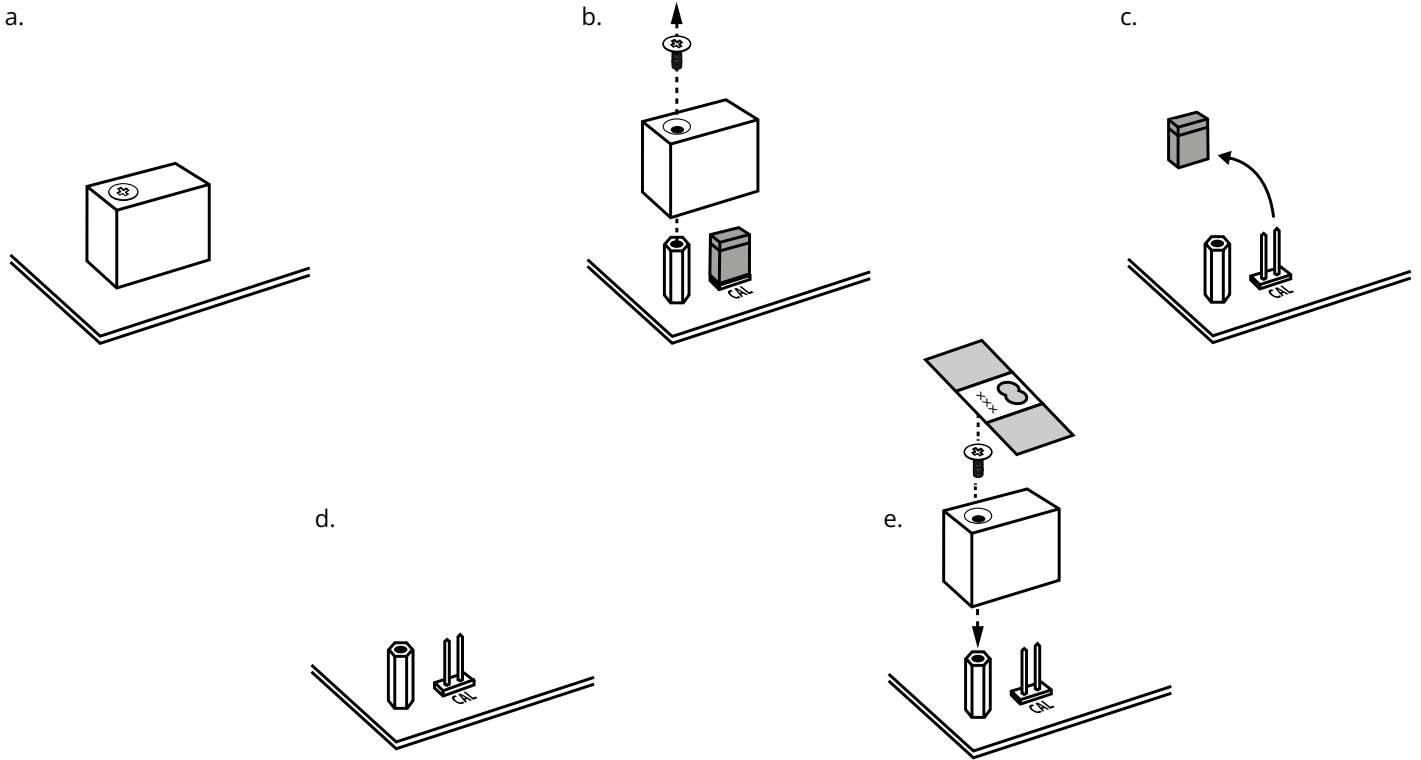
Installation and electrical precautions to be followed are indicated in the Ex safety manual enclosed with the product.

2. TECHNICAL FEATURES

IECEX marking	Ex ib [ib Gb] [ia Ga] IIC T4 Gb Ex tb [ib Db] [ia Da] IIIC T135°C Db Ta 0°C/+50°C
Atex marking	II 2G, II 2D
Power supply	6 - 9.6 Vdc (external power supply or battery)
Operating time (battery powered)	up to 80 h
Analogue channels for load cell reading	4
Connectable cells	8, 350 Ω
Load cell power supply	5V
Converter	XCore, up to 2600 conv./sec.
Maximum operating temperature range CE-M - OIML	0 °C + 40°C
Maximum operating temperature range	0 °C + 50°C
OIML divisions	10000e / 3x3000e (multi-range)
Divisions for internal factory use	100d... 800.000d
Optional Digital Relays (IECEX4IN4OUT or IECEX8OUT)	4 / 8 / 12 Ui: 18 V Ri: 214 Ω R input: 859 Ω
Optional Digital Inputs (IECEX4IN4OUT)	4 / 8 Ui: 18 V Pi: 1.75 W In: 70 mA
Optional analogue output	0 - 10 Vdc, 0 - 20 mA, 4 - 20 mA
Serial ports 485	1 standard, 2 optional (485IECEX)
Bluetooth wireless connectivity (BTH-IECEX)	1
Display	High-contrast RGB with 6 digits, 25 mm high
Case	Stainless steel, IP65 Dimensions: 280x143x185 mm

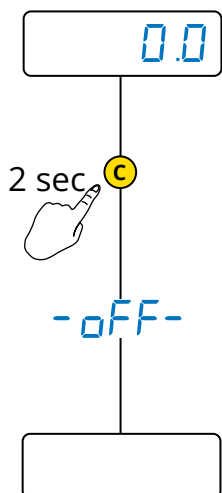
 All communication interfaces are certified for use in hazardous areas

3. APPROVAL

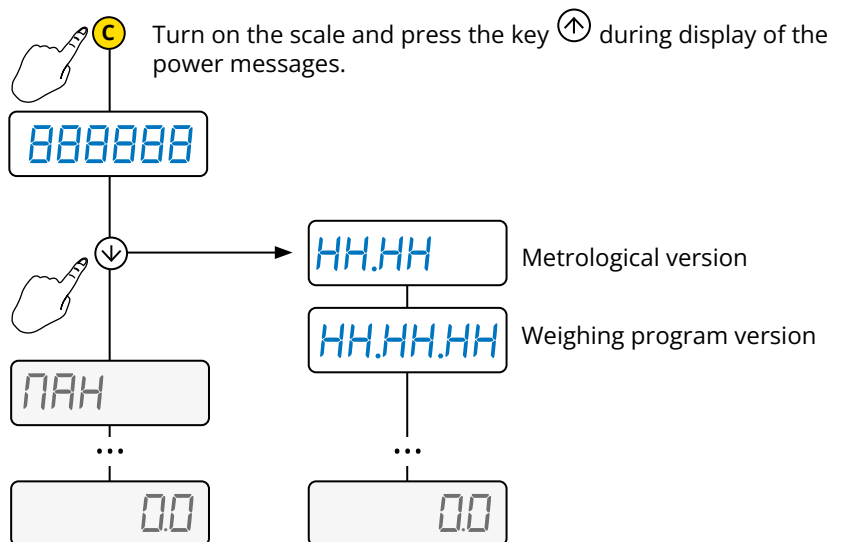


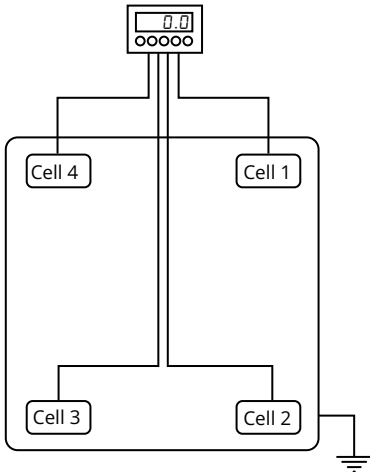
How to display the metrological version of the instrument

1. Turn off the scale



2. Follow the procedure:





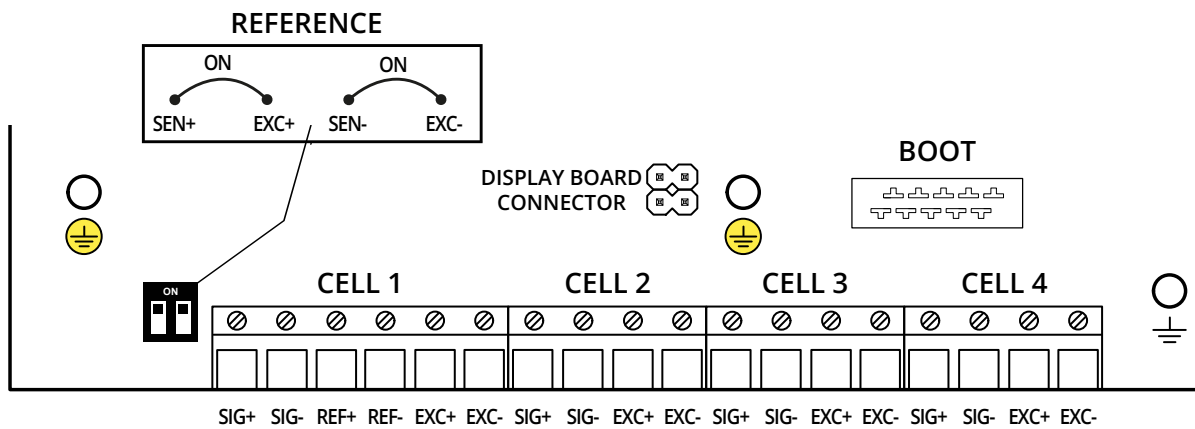
Multi-channel with digital equalisation

The 4 channels of the converter can be used to connect 2, 3 or 4 cells, digitally equalising them without using junction boxes.

Reference terminal blocks for 4-channel connection

NOTES:

- Set the "REFERENCE" dip switches to ON.



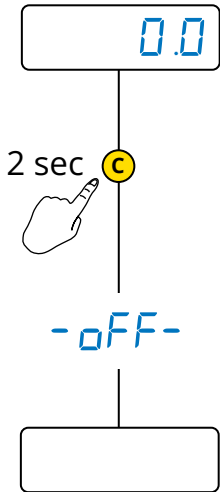
WARNING:

Make connections with indicator off and power supply disconnected. Observe the electronic specifications in the Ex safety manual.

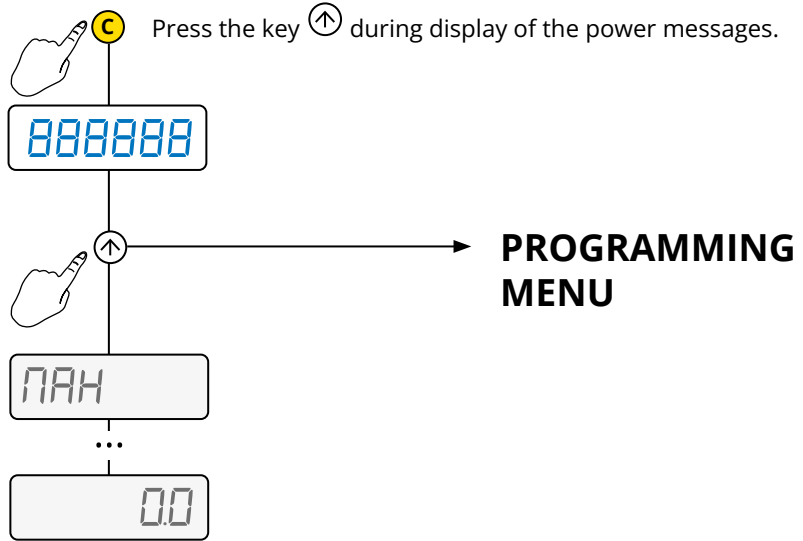
5. PROGRAMMING

How to access the programming menu

1. Turn off the scale



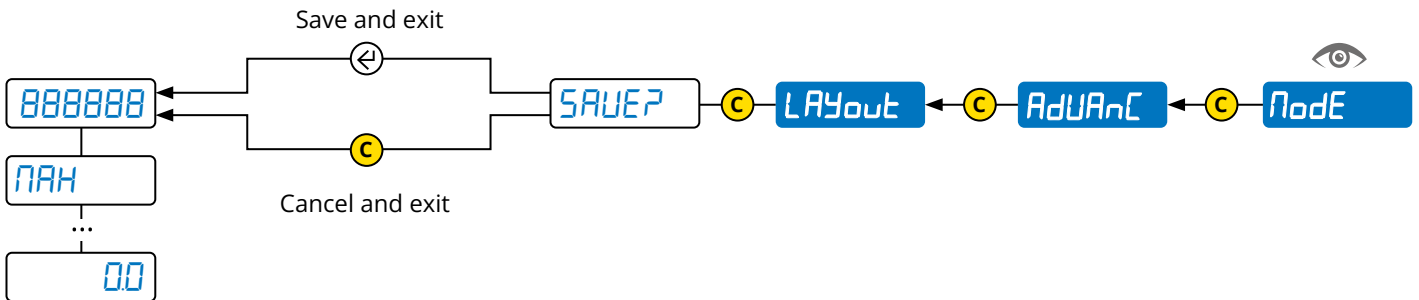
2. Follow the procedure:



How to save the programming and exit the menu









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

Example (read from right to left):













PROGRAMMING MENU

 CAL	Quick calibration.....	10
↓		
 O.CAL	Zeroing the pre-tare (zero calibration).....	11
↓		
 GrAV	Area of gravity of the place of use.....	11
↓		
SERIAL	Configuration of the serial ports.....	12
↓		
LAYout	Print customisation.....	19
↓		
 FILTER	Weighing filter.....	27
↓		
SCrEEn	Adjusting the display.....	28
↓		
bAtt	Battery use.....	29
↓		
AutoFF	Auto switch-off.....	29
↓		
 An.out	Analogue output.....	30
↓		
 inPutS	Digital inputs.....	32
↓		
 outPut	Digital outputs.....	33
↓		
rESEt	Factory configuration reset.....	34
↓		
dIAG	Diagnostics.....	34
↓		
 AdVAnC	Advanced.....	35

- 1. Off 
 - 2. On 
 - 3. 
- 

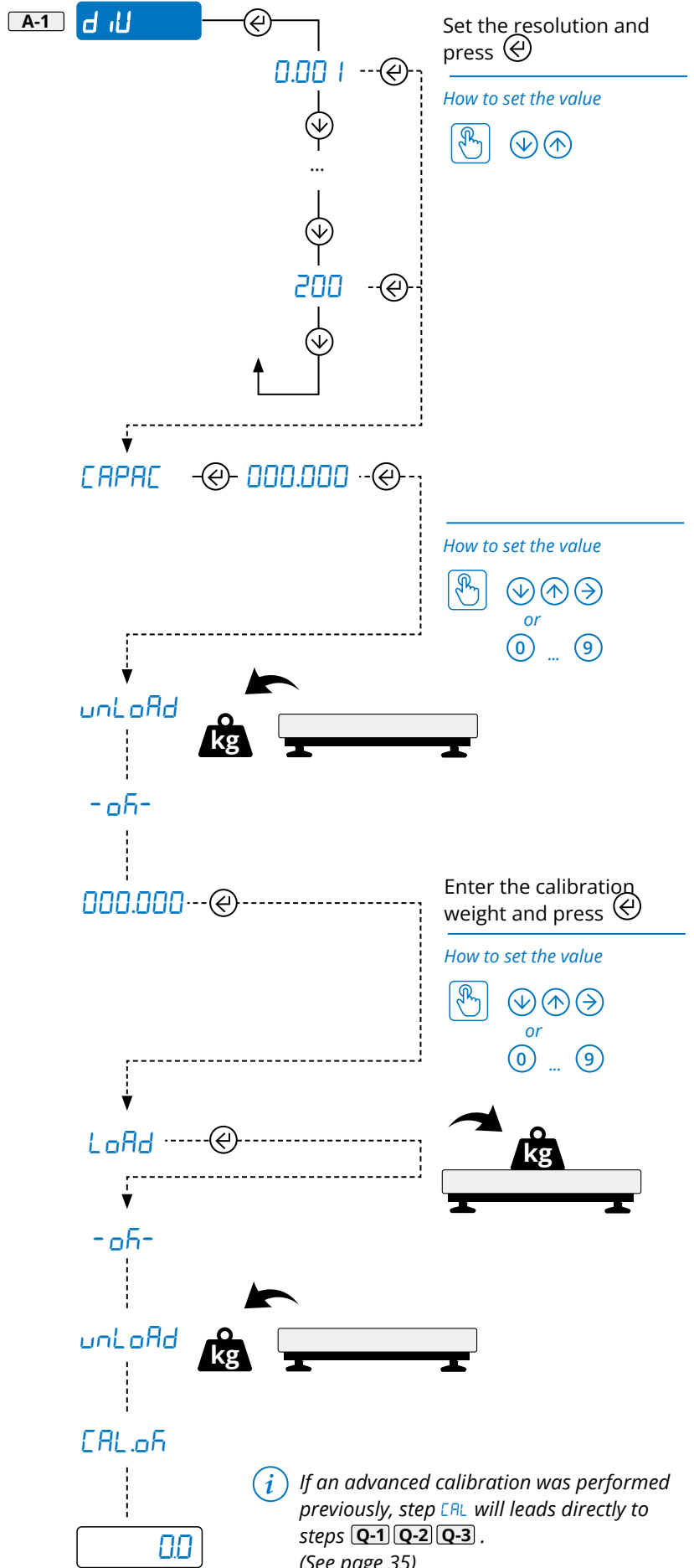
-  = 
-  = 
-  = 
-  = 







- A **CAL**
- B 0.CAL 1 d IU
- C GrAU
- D SEr iAL
- E LAYout
- F iLteR
- G SCrEEen
- H bAtte
- I AutoFF
- J An.out
- K inPutS
- L outPut
- M rESEt
- N d iAG
- O AdVAnC

CAL Quick calibration

Start of the calibration procedure:



1. Off 
 2. On 
 3. 
- 

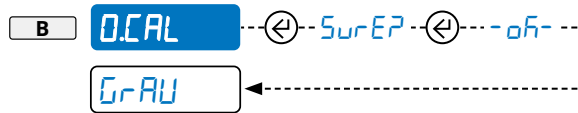
- ↑ = 
- ↓ = 
- = 
- ← = 



- A CAL
- B D.CAL**
- C GrAU
- D SERIAL
- E LAYout
- F Filter
- G SCREEN
- H bAtt
- I AutoOFF
- J An.out
- K inPutS
- L outPut
- M rESEt
- N d.iAG
- O AdVAnC

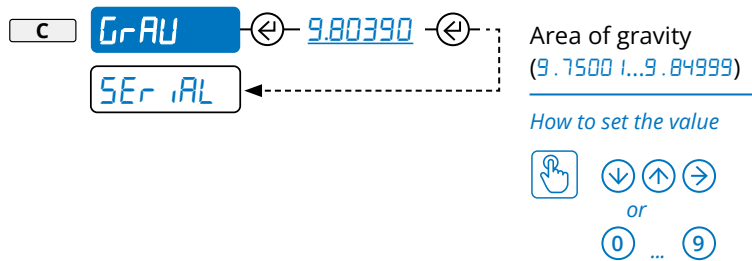
D.CAL Zeroing the pre-tare

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).



- 1. Off 
 - 2. On 
 - 3. 
- 

-  = 
-  = 
-  = 
-  = 

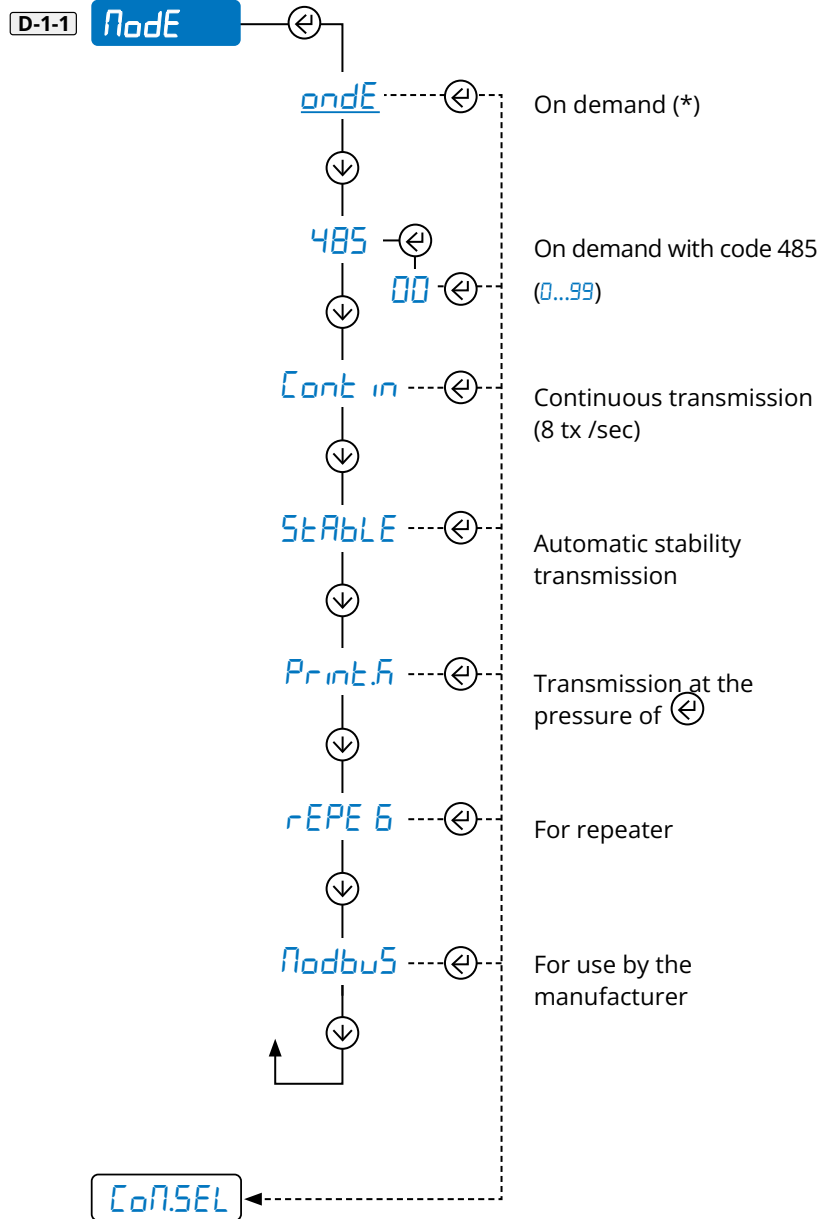


A	CAL				
B	0.CAL				
C	GrAU				
D	SEr iAL				
E	LAYout	1	CoN.PC		
F	F iLteR	2	CoN.Prn	1	Node
G	SCrEEEn	3	AuH.1	2	ProtoC
H	bAtt	4	AuH.2	3	CoN.SEL
I	AutOFF	5	AdUAnC	4	bAud
J	Anout			4	bit
K	inPutS				
L	outPut				
M	rESEt				
N	d iAG				
O	AdUAnC				

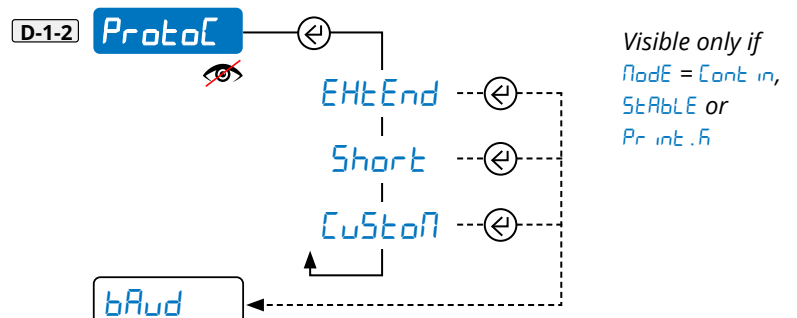
SEr iAL Configuration of the serial ports


CoN.PC Communication with PC, PLC or Repeater

Selection of the communication mode



Selection of the protocol:

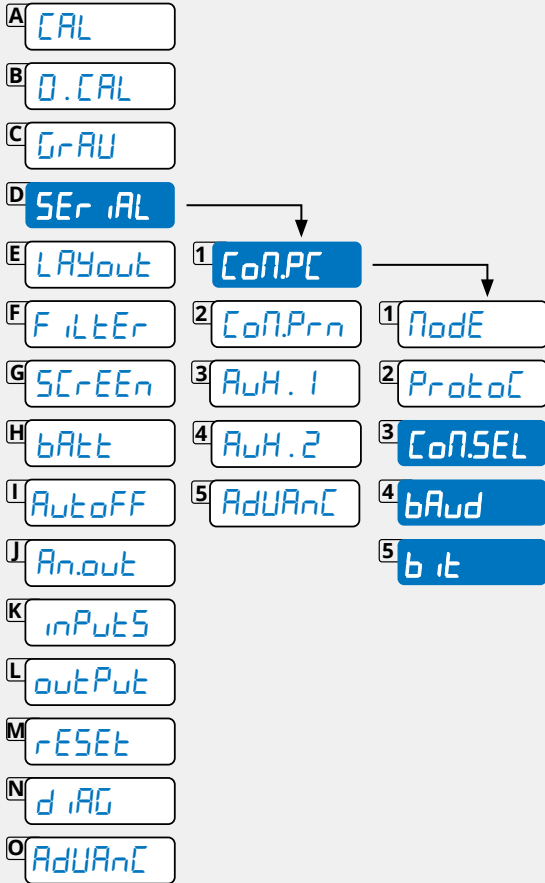


 For available protocols see page 43.

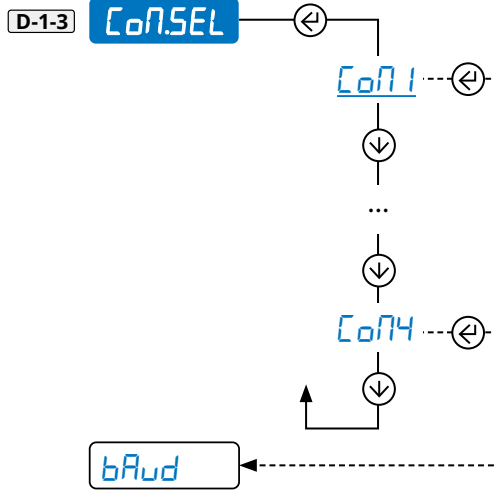
MENU

- 1. Off
- 2. On
- 3.

- =
- =
- =
- =

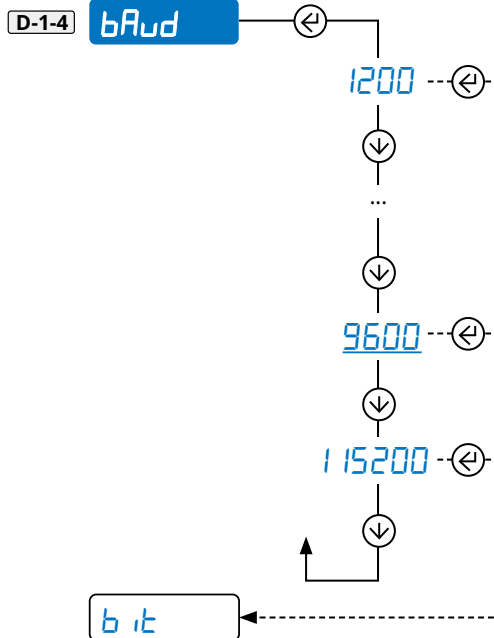


COM port selection for PC / PLC connection

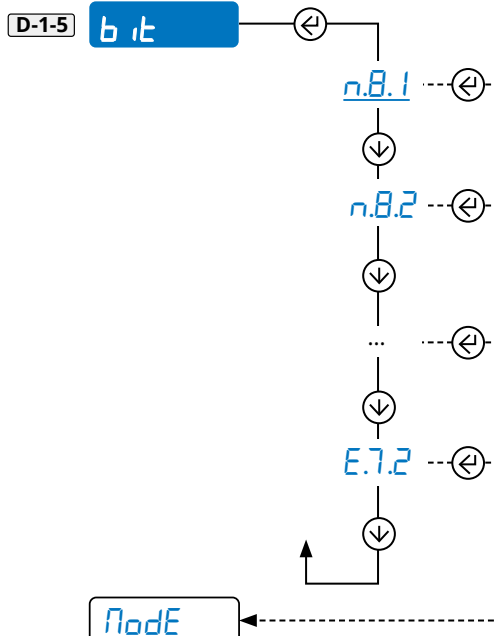


COM1, COM2 and COM3 are physically present on the CPU board of the indicator through the expansion boards. COM4 is used for communication with the Bluetooth BLE module.









Communication speed (Baud rate)



Configuration of the serial protocol



- 1. Off 
- 2. On 
- 3. 
- 

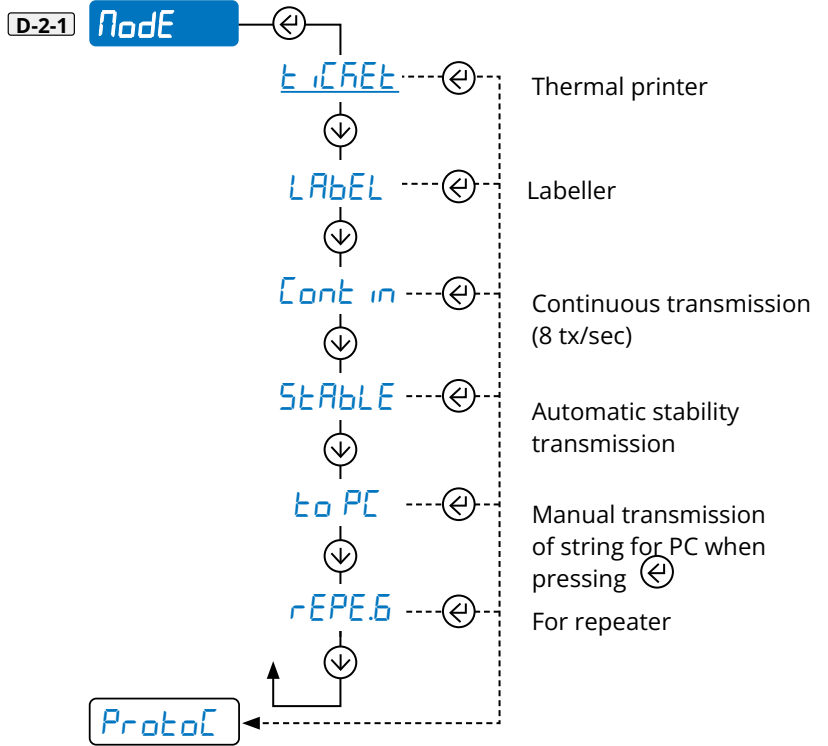
-  = 
-  = 
-  = 
-  = 



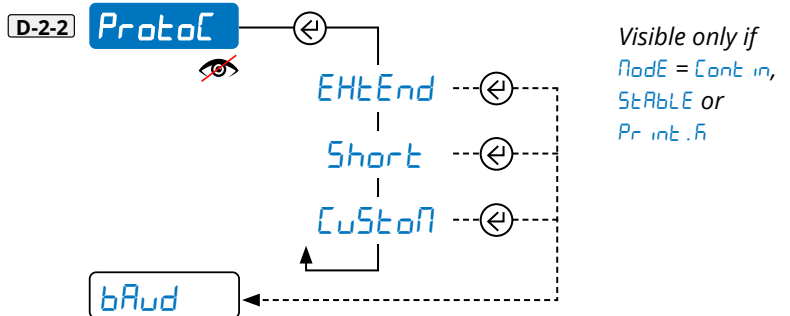
A CAL		
B O.CAL		
C GrAU		
D SEr iAL		
E LAYout	1 CoN.PC	
F FiLteR	2 CoN.Prn	
G SCrEEEn	3 AuH.1	1 Node
H bAtt	4 AuH.2	2 ProtoC
I AutoFF	5 AdUAnC	3 bAud
J Anout		4 b it
K inPutS		5 CtS
L outPut		6 PoDEr.P
M rESEt		
N d iAG		
O AdUAnC		


CoN.Prn Communication with printer or repeater or PC

Selection of the communication mode

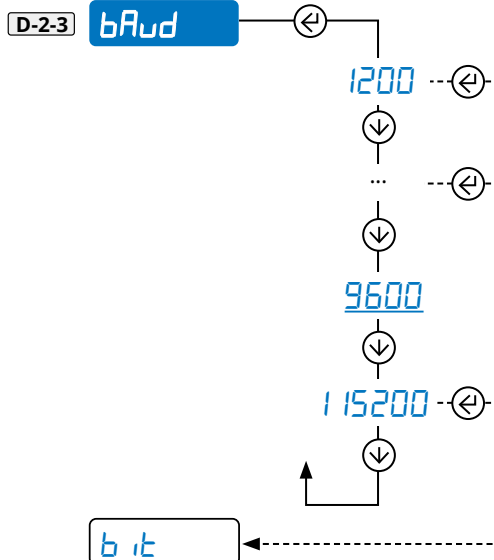


Selection of the protocol:



 For available protocols see page 43.

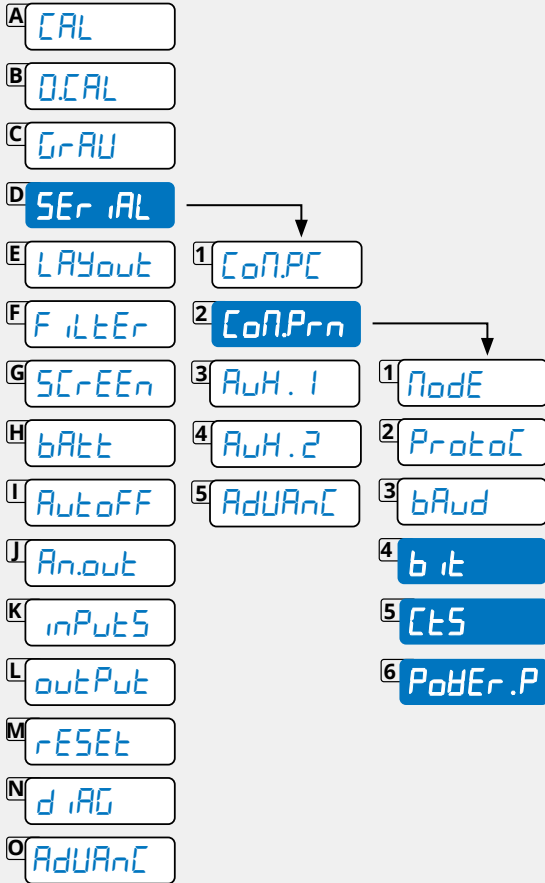
Communication speed (Baud rate)



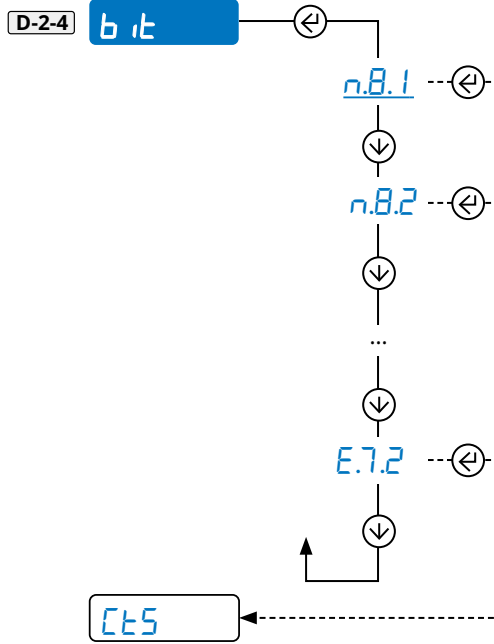
MENU

- 1. Off
- 2. On
- 3.

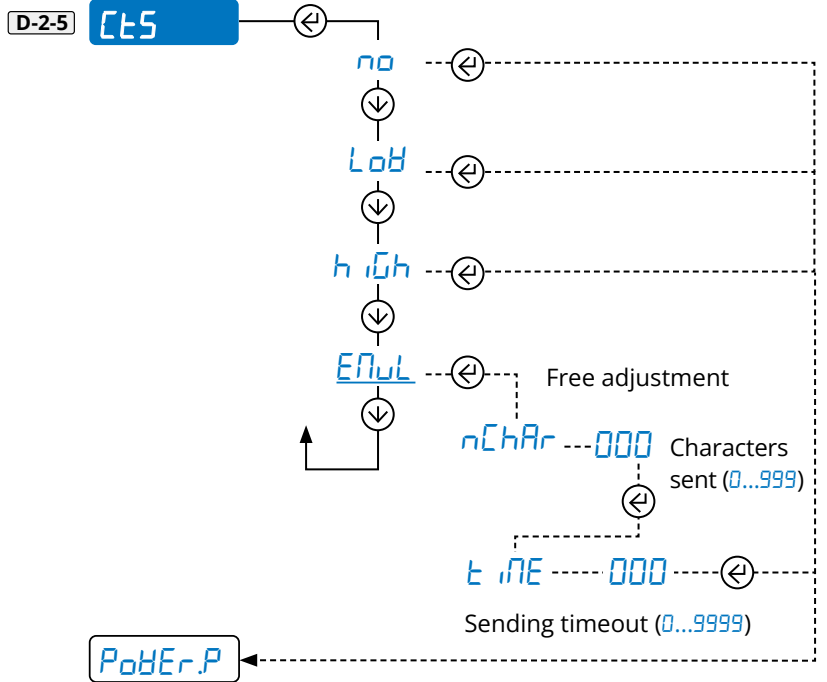
- =
- =
- =
- =



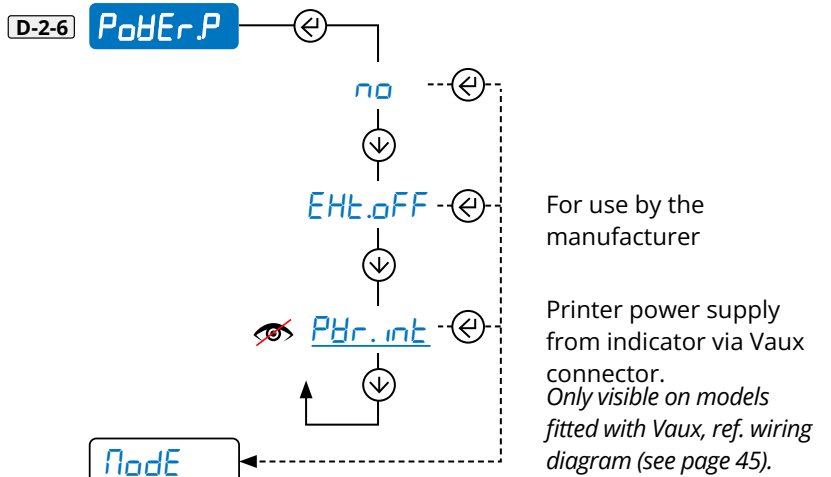
Configuration of the serial protocol











Printer control signal



Printer power supply / Radio-frequency module



- 1. Off 
 - 2. On 
 - 3. 
- 

-  = 
-  = 
-  = 
-  = 



A CAL

B O.CAL

C GrAU

D SEr iAL

E LAYout

F iLteR

G SCrEEEn

H bAtt

I AutoFF

J Anout

K inPutS

L outPut

M rESEt

N d iAG

O AdVAnC

1 CoMP

2 CoMPrn

3 AuH. 1

4 AuH. 2

5 AdVAnC

1 Node

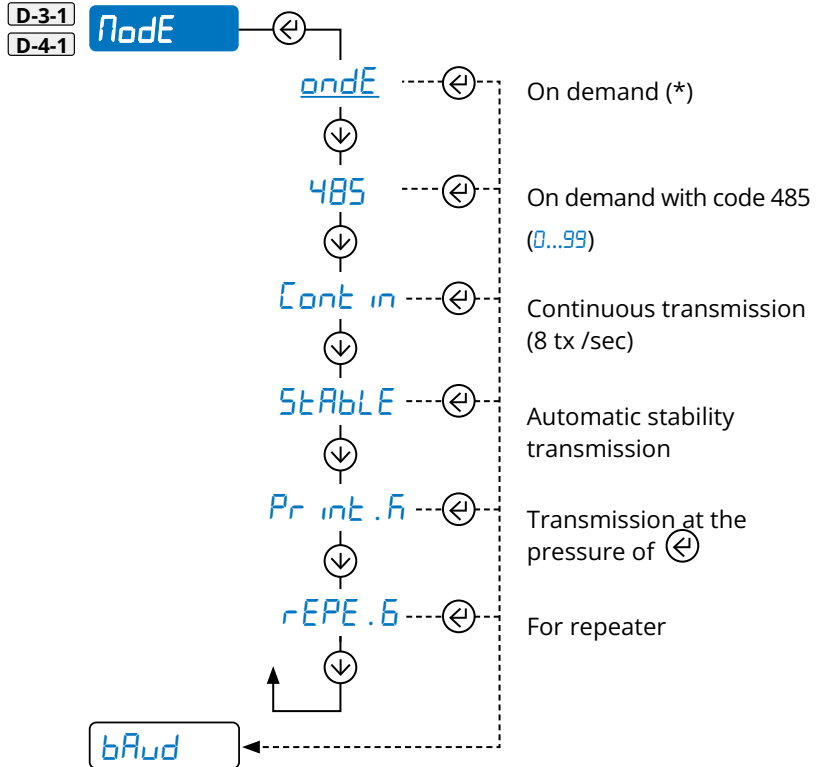
2 ProtoC

3 bAud

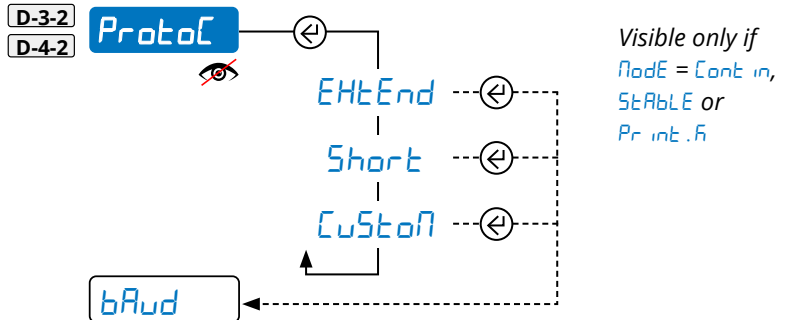
4 bit


AuH. 1-AuH. 2 Auxiliary ports

Selection of the communication mode

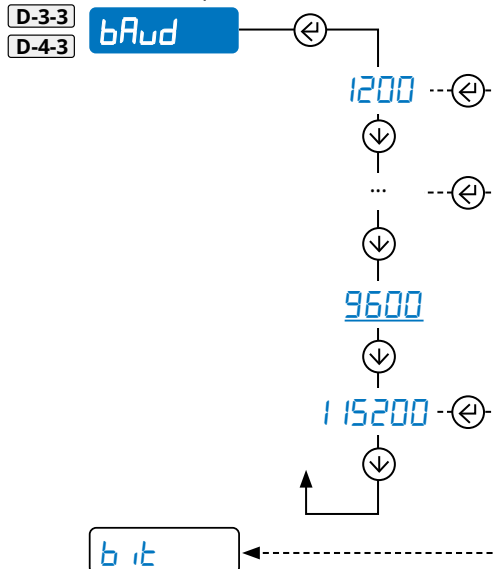


Selection of the protocol:



 For available protocols see page 43.

Communication speed (Baud rate)



MENU

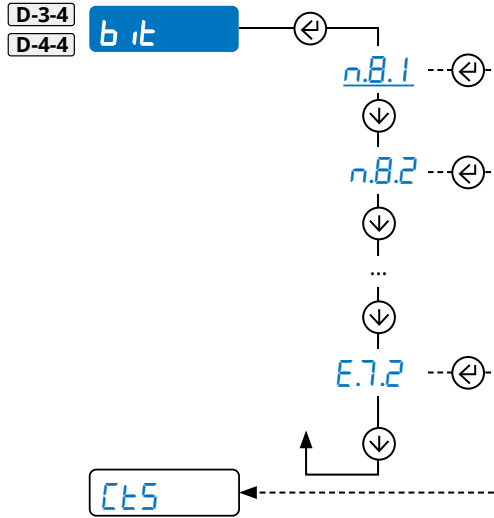
- 1. Off
- 2. On
- 3.

- =
- =
- =
- =











- A CAL
- B DCAL
- C GRAU
- D SERIAL
- E LAYOUT
 - 1 CoN.PC
- F FILTER
 - 2 CoN.Prn
- G SCREEN
 - 3 AUH.1
- H bAtt
 - 4 AUH.2
 - 1 Node
 - 2 ProtoC
 - 3 bAud
 - 4 bit
- I AutoFF
- J An.out
- K inPutS
- L outPut
- M rESEt
- N d.AG
- O AdUAnC

Configuration of the serial protocol



- 1. Off 
 - 2. On 
 - 3. 
- 

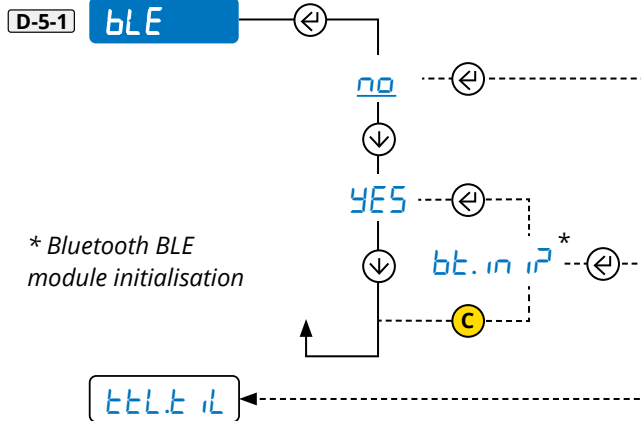
-  = 
-  = 
-  = 
-  = 




- A
- B
- C
- D
 - 1
 - 2
 - 3
 - 4
 - 5
 - 1
 - 2
 - 3
 - 4
- E
- F
- G
- H
- I
- J
- K
- L
- M
- N
- O

AdUAnC Advanced configurations

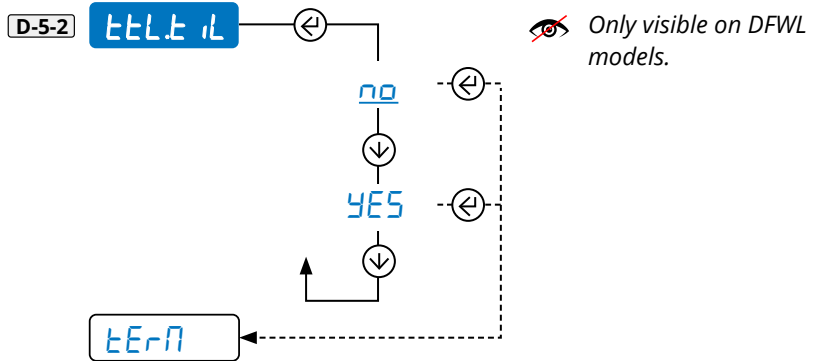
Activation of Bluetooth BLE module



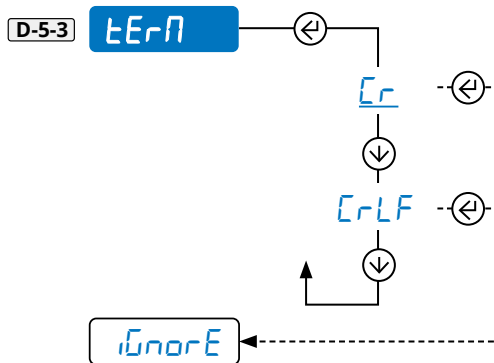
* Bluetooth BLE module initialisation

 Refer to the AUX.2 port to communicate with the Bluetooth BLE module.

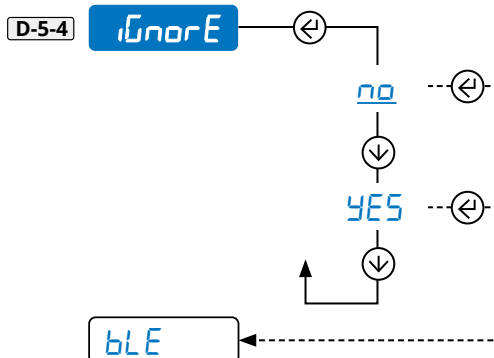
TTL port / inclinometer activation (for use by the manufacturer)




Closing character of each print line











Ignore unknown commands



 When an unknown command is sent:

- Selecting NO will result in the response "ERR04".
- Selecting YES ignores the command (no response).

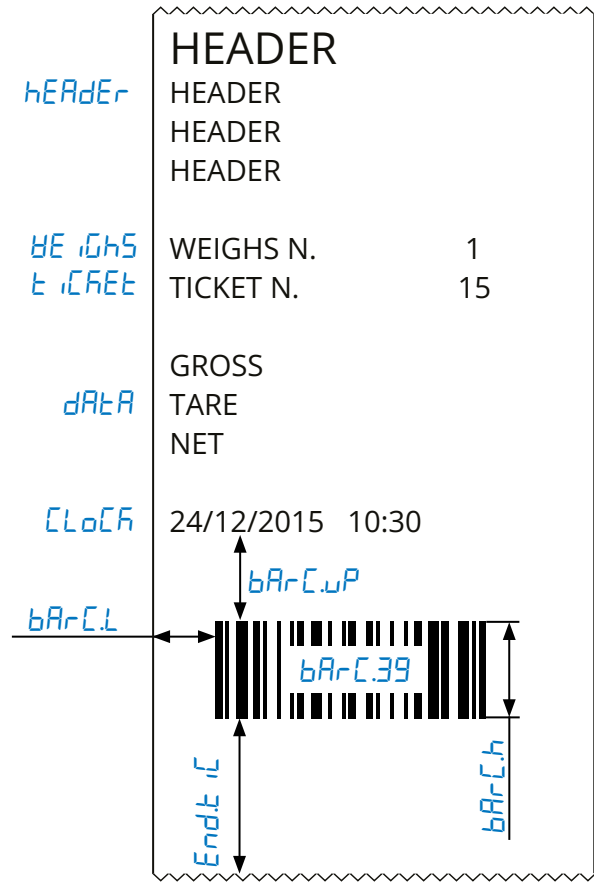
- 1. Off 
 - 2. On 
 - 3. 
- 

-  = 
-  = 
-  = 
-  = 

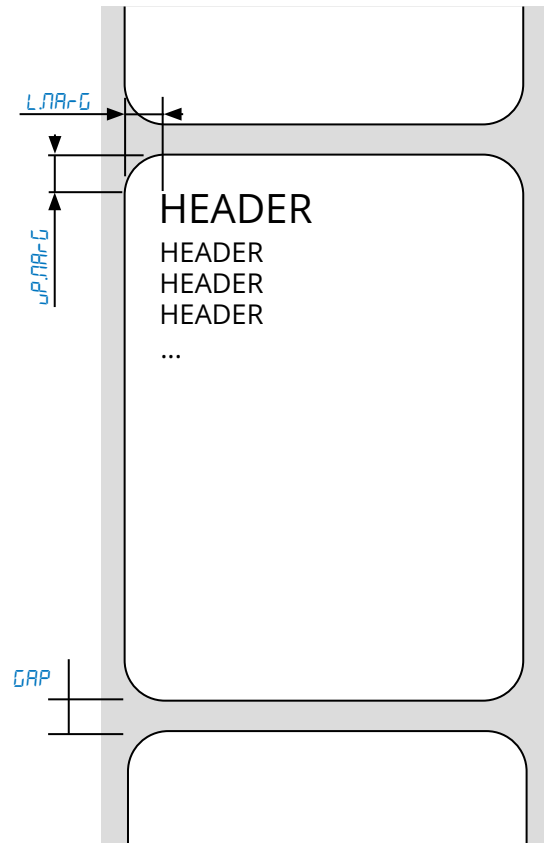


- A
- B
- C
- D
- E
- F
- G
- H
- I
- J
- K
- L
- M
- N
- O
-
-
-
-
-
-
-
-

Parameters for ticket/label mode



Additional parameters for label mode



MENU

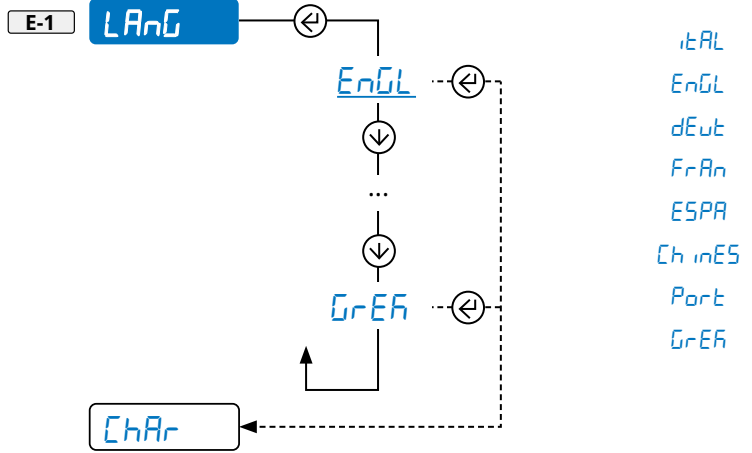
- 1. Off
- 2. On
- 3.
-

- =
- =
- =
- =



- A
- B
- C
- D
- E **LAYout**
 - 1 **LANG**
 - F
 - G
 - H
 - I
 - J
 - K
 - L
 - M
 - N
 - O
 - 2 **ChAr**
 - 1
 - 2
 - 3
 - 4
 - 5
 - 6
 - 7
 - 8
 - 9
 - 10
 - 11
 - 12
 - 13
 - 14
 - 15
 - 16
 - 17
 - 18

Print language settings



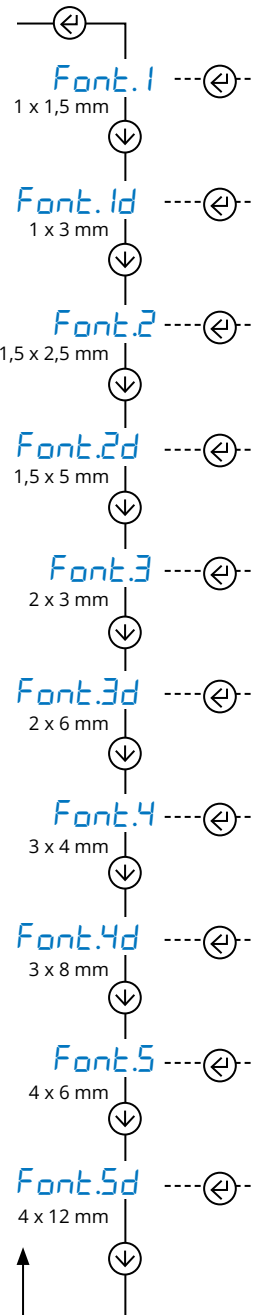
Font dimensions

E-2-1 **ChAr 1**

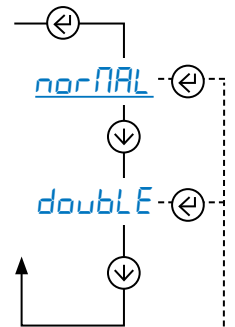
Main font

- 1
- 2

Label mode



Ticket mode



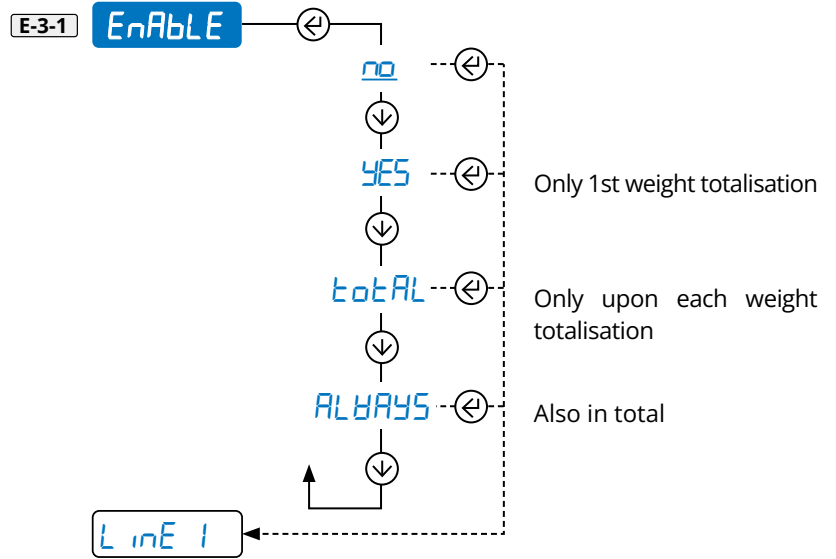
E-2-2 **ChAr 2**

See ChAr 1

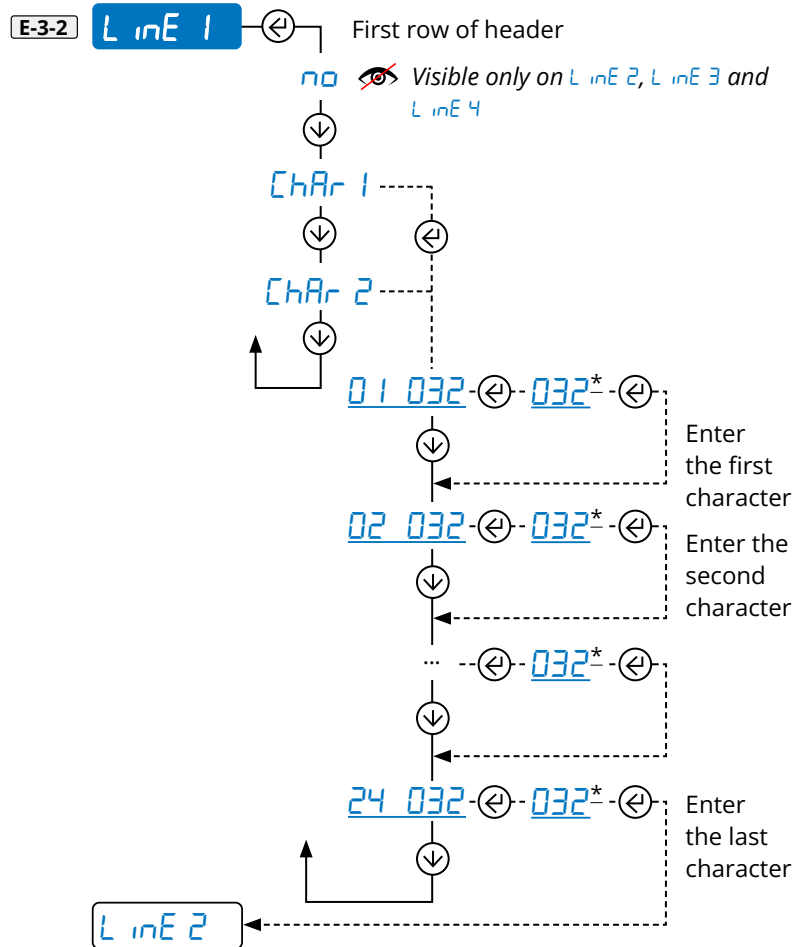


hEADer Print header

Enables header printing



Contents of the header lines



How to set the value



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

1. Off
 2. On
 3.
 ↑ =
 ↓ =
 → =
 ← =

- A CAL
 - B O.CAL
 - C GRAU
 - D SERIAL
 - E **LAYout**
 - F filter
 - G SCREEN
 - H batt
 - I AutoOFF
 - J An.out
 - K inPUTS
 - L outPut
 - M rESEt
 - N d.iAG
 - O AdVAnC
- 1 LANG
 - 2 CHAR
 - 3 **hEADer**
 - 4 dAtA
 - 5 WEIGHtS
 - 6 t.CREt
 - 7 CLoCh
 - 8 bARCL39
 - 9 bARCLwP
 - 10 bARCL
 - 11 bARCLh
 - 12 bARCLdt
 - 13 CoPIES
 - 14 Endt iC
 - 15 b.L inE
 - 16 LAbEL
 - 17 Lb.SAVE
 - 18 tEST

MENU

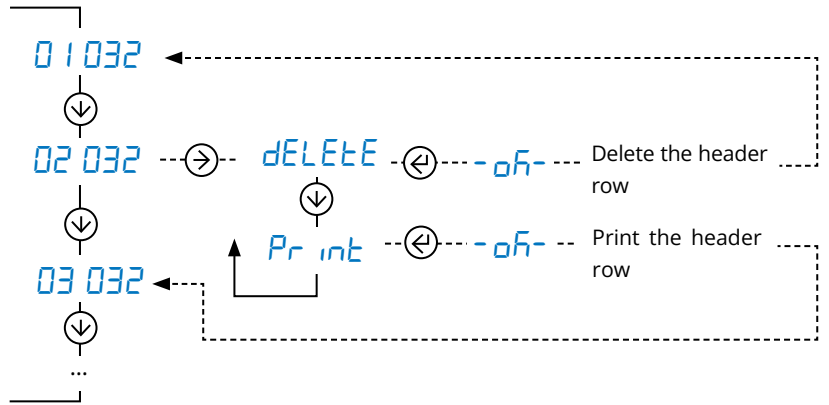
- 1. Off
- 2. On
- 3.

- =
- =
- =
- =

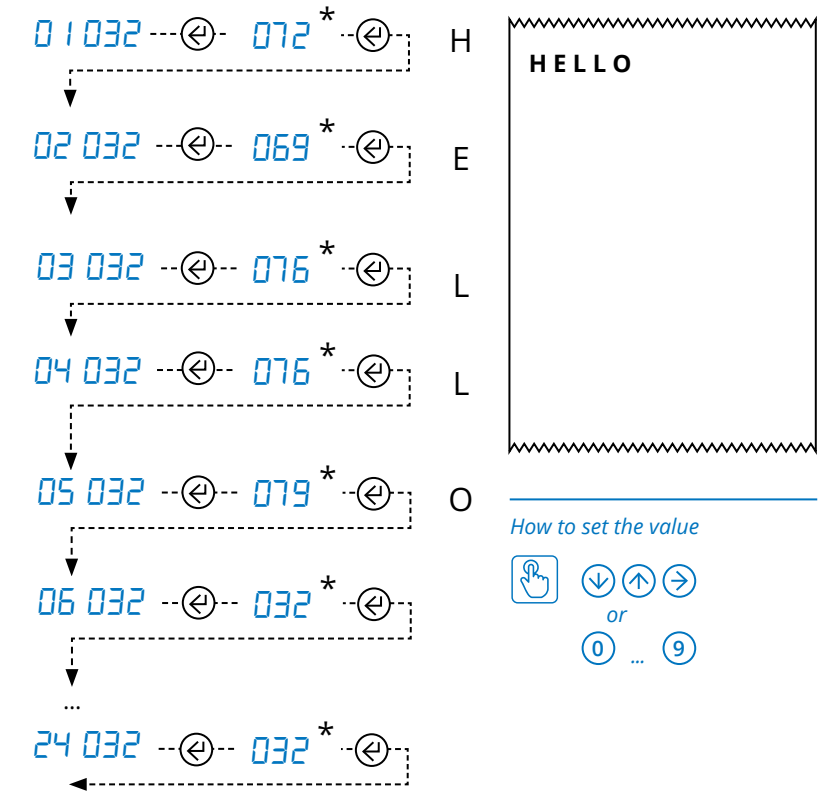


- A
- B
- C
- D
- E
 - 1
 - 2
 - 3
 - 1
 - 2
 - 3
 - 4
 - 5
 - 4
 - 5
 - 6
 - 7
 - 8
 - 9
 - 10
 - 11
 - 12
 - 13
 - 14
 - 15
 - 16
 - 17
 - 18
- F
- G
- H
- I
- J
- K
- L
- M
- N
- O

How to print / delete the row being programmed



Programming example



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

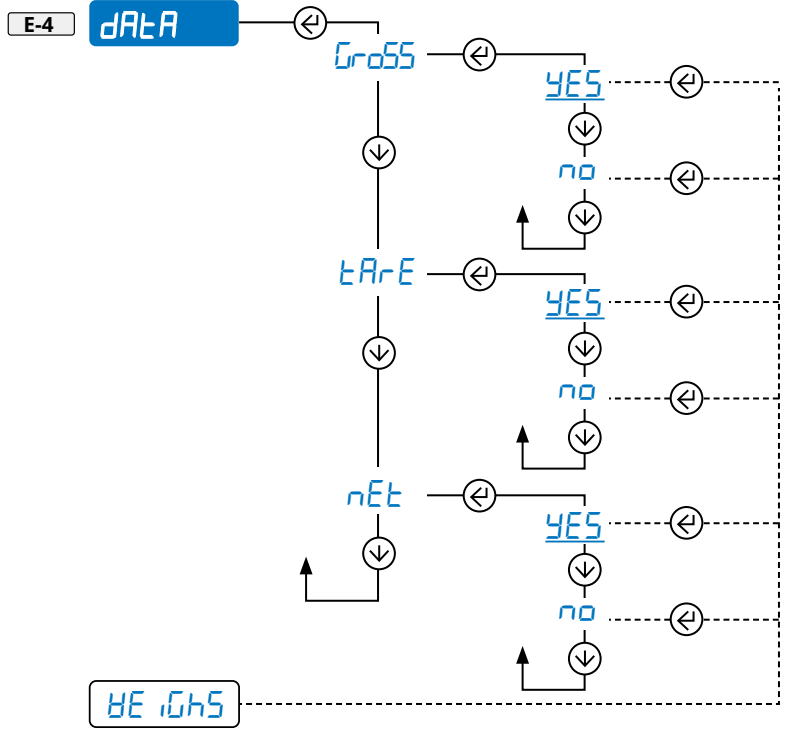
- 1. Off
- 2. On
- 3.

- =
- =
- =
- =

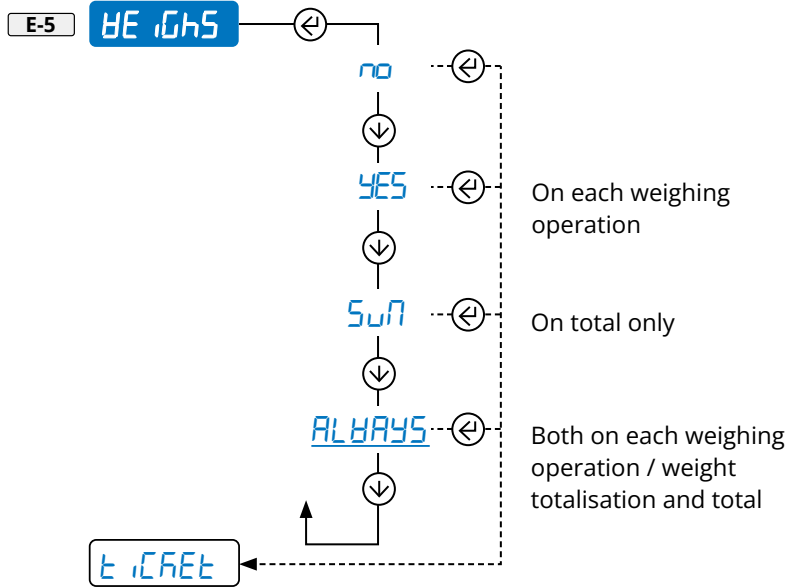


- A
- B
- C
- D
- E
- F 1
- G 2
- H 3
- I 4
- J 5
- K 6
- L 7
- M 8
- N 9
- O 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18

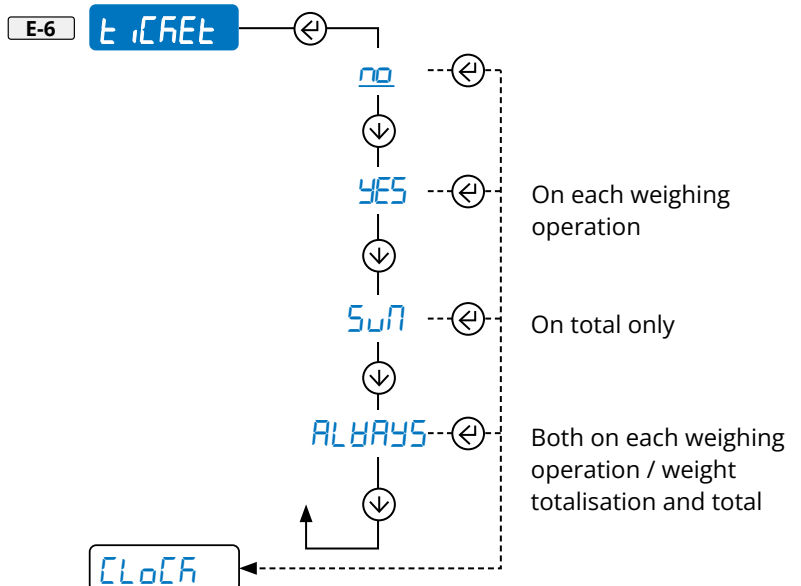
Selection of the weight data



Progressive weighed



Ticket/label progressive



MENU

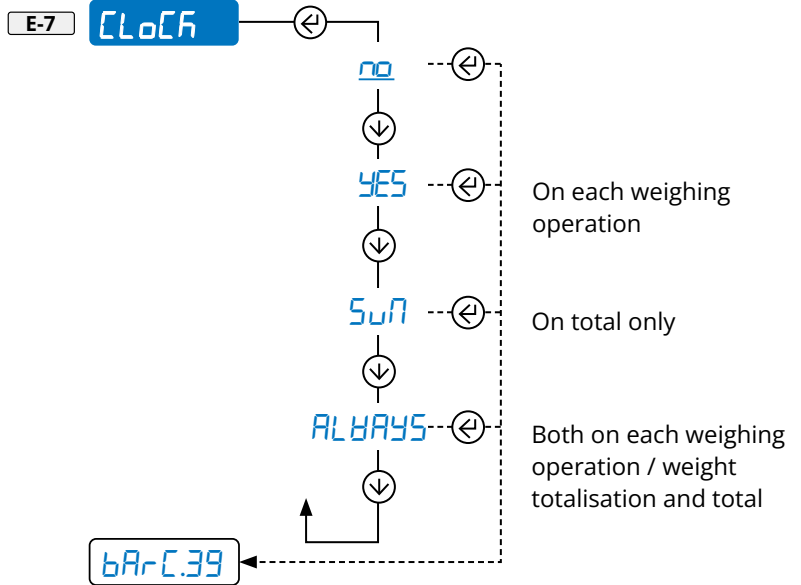
- 1. Off
- 2. On
- 3.

- =
- =
- =
- =

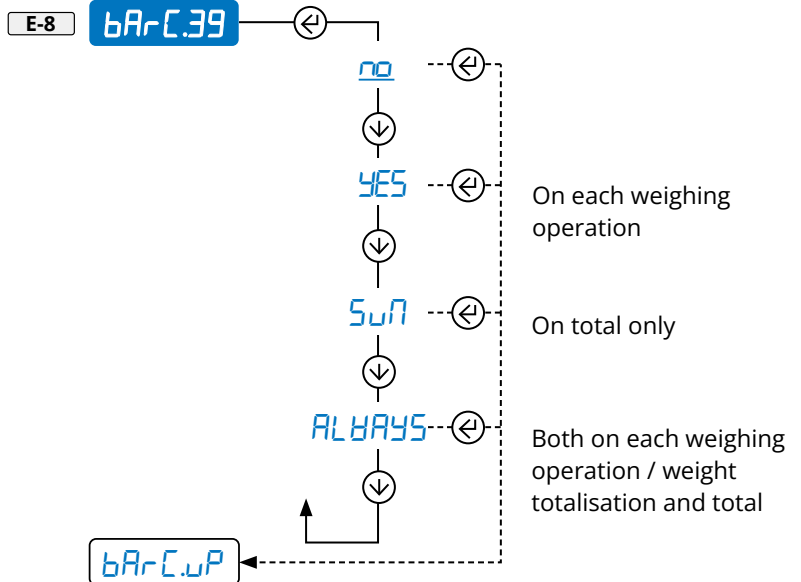


- A CAL
- B O.CAL
- C GrAU
- D SEr iAL
- E **LAYout**
 - F iLteR 1 LANg
 - G SCrEEen 2 CHAr
 - H bAtt 3 hEAdEr
 - I AutoFF 4 dAtA
 - J An.out 5 WE iGhS
 - K inPutS 6 t iCkEt
 - L outPut 7 **CLoCh**
 - M rESEt 8 **bArC.39**
 - N d iAG 9 **bArC.wP**
 - O AdVAnC 10 **bArC.L**
 - 11 **bArC.h**
 - 12 **bArC.dt**
 - 13 **CoP iES**
 - 14 **Endt iC**
 - 15 **b.L inE**
 - 16 **LAbeL**
 - 17 **Lb.SAVE**
 - 18 **tEst**

Date and time

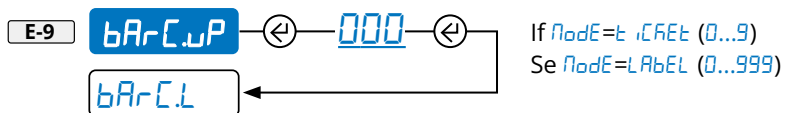


Bar code 39



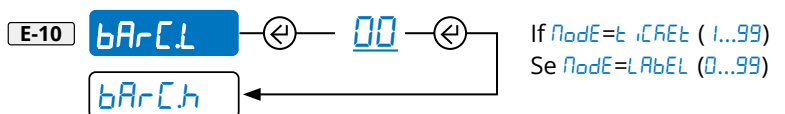
Barcode top margin (mm)

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



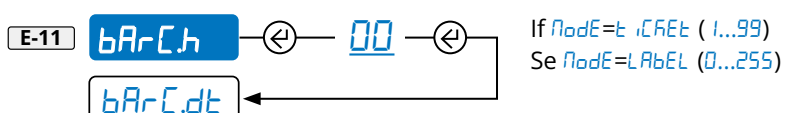
Barcode left margin (mm)

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



Barcode height (mm)

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



MENU

- 1. Off
- 2. On
- 3.

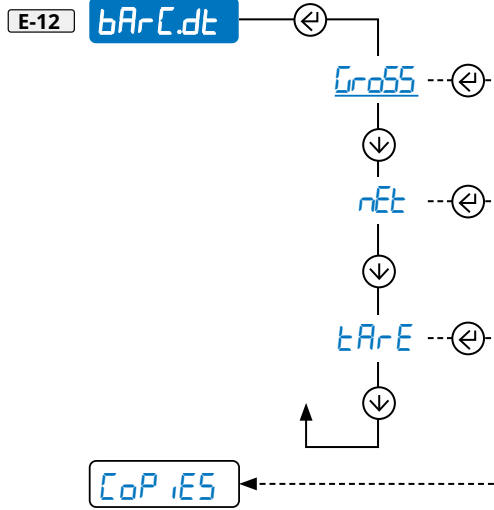
- =
- =
- =
- =



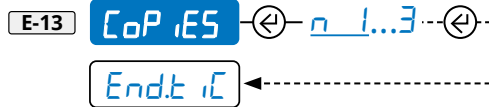
- A
- B
- C
- D
- E
 - 1
 - 2
 - 3
 - 4
 - 5
 - 6
 - 7
 - 8
 - 9
 - 10
 - 11
 - 12 (highlighted)
 - 13 (highlighted)
 - 14 (highlighted)
 - 15 (highlighted)
 - 16
 - 17
 - 18

Selection of the weight data

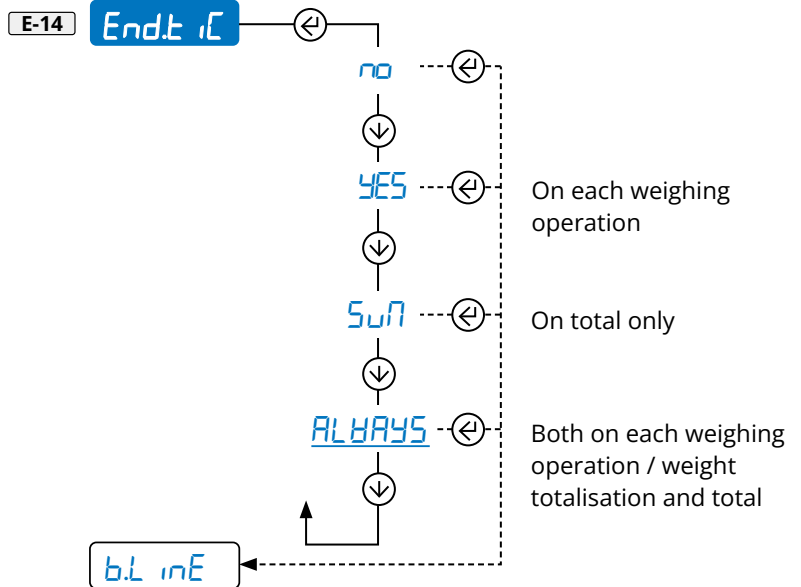
Visible only if bAR-C .39 (E-8) is active



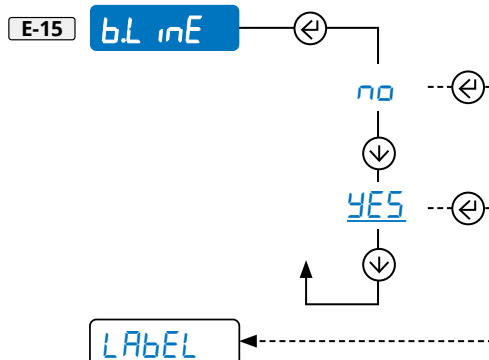
Multi-copy prints



Paper outlet for end of ticket/receipt



White print head preheating line (thermal printer only)



MENU

- 1. Off
- 2. On
- 3.

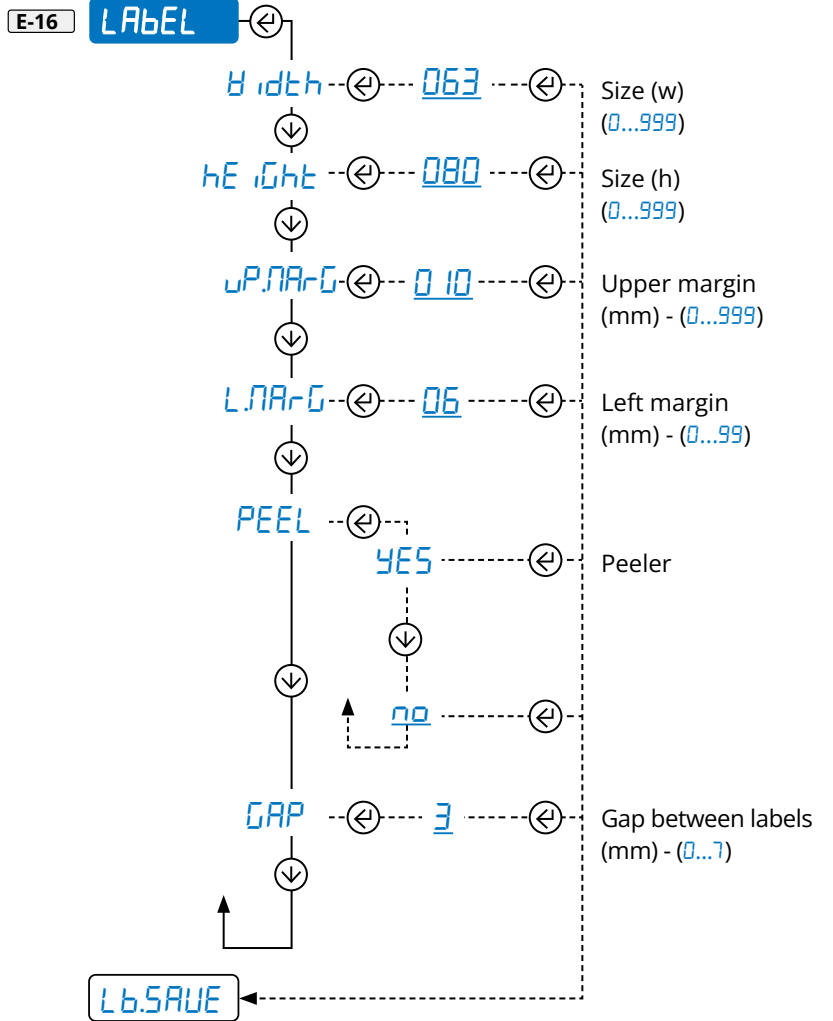
- =
- =
- =
- =



- A CAL
- B O.CAL
- C GRAU
- D SERIAL
- E **LAYOUT**
- F FILTER 1 LANG
- G SCREEN 2 CHAR
- H BATT 3 HEADER
- I AUTOFF 4 DATA
- J ANOUT 5 HEIGHT
- K INPUTS 6 CREATE
- L OUTPUT 7 CLOC
- M RESET 8 BARCL39
- N DIAG 9 BARCLWP
- O ADVANC 10 BARCL
- 11 BARCLh
- 12 BARCLdt
- 13 COPIES
- 14 Endt ic
- 15 BL inE
- 16 **LAbEL**
- 17 **Lb.SAVE**
- 18 **tEST**

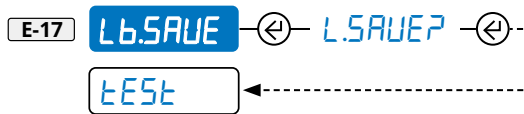
Label configuration

Only visible if ModE (D-2-1) = LAbEL

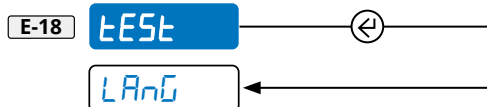


Saving labels in printer memory



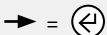

Visible only if ModE (D-2-1) = LAbEL



Saving labels in the printer memory (for label mode only) and test printing ALL FORMATS



1. Off 
 2. On 
 3. 
- 

- ↑ = 
- ↓ = 
- = 
- ← = 



- A CAL
- B O.CAL
- C GrAU
- D SEr iAL
- E LAYout
- F **F iLTER**
- G SCrEEr 1 **F 1**
- H bAtt 2 **F 2**
- I AutoFF 3 **F 3**
- J An.out 4 **F 4**
- K inPutS 5 **F 5**
- L outPut 6 **F 6**
- M rESEt 7 **F 7**
- N d iAG 8 **F 8**
- O AdVAnC 9 **F 9**
- 10 **F 10**
- 11 **CuStoN**



To change the responsiveness of the scale.

This is useful to adjust the scale according to your needs.



With an approved instrument, it is not possible to change the filter.

Foreword:

"F 10" represents the lowest filtering incidence.

By increasing the incidence, the weight becomes more stable.

It is advisable to carry out several weighing operations by changing the incidence until the best compromise between responsiveness and stability is achieved.

F-1 **F 1** Filter at 5 Hz.

F-2 **F 2** Filter at 10 Hz.

F-3 **F 3** Filter at 20 Hz.


F-4 **F 4** Filter at 40 Hz.

F-5 **F 5** Filter at 80 Hz.


F-6 **F 6** Filter at 160 Hz.

F-7 **F 7** Filter at 325 Hz.


F-8 **F 8** Filter at 650 Hz.

 Only visible if $n.chAn < 3$

F-9 **F 9** Filter at 1300 Hz.









 Only visible if $n.chAn < 2$

F-10 **F 10** Filter at 2600 Hz.

 Only visible if $n.chAn < 2$

F-11 **CuStoN** For use by the manufacturer.

- 1. Off 
 - 2. On 
 - 3. 
- 

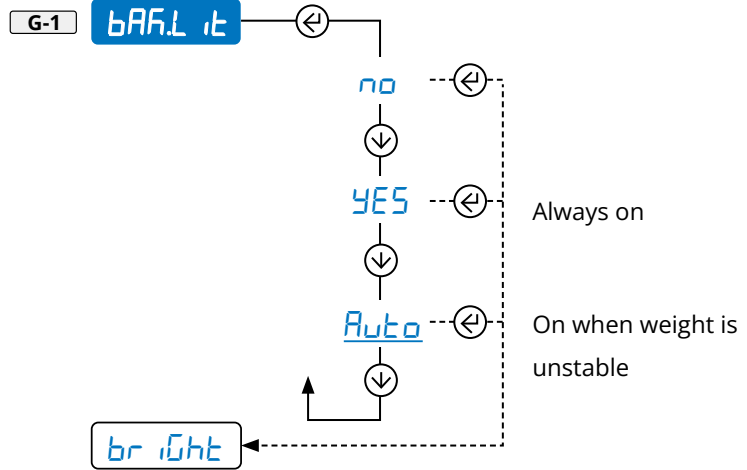
-  = 
-  = 
-  = 
-  = 



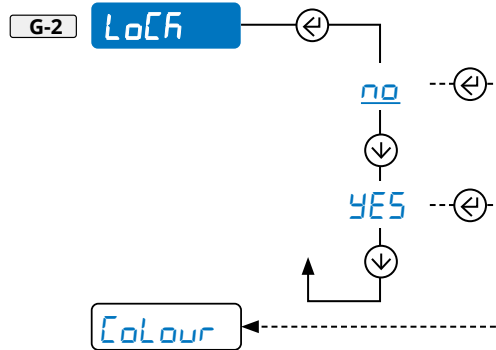
- A CAL
- B DCAL
- C GRAU
- D SERIAL
- E LAYOUT
- F FILTER
- G **SCREEN**
 - 1 **BACKLIT**
 - 2 **LOCK**
 - 3 **COLOR**
 - 4 **DSP.RF**
- H BATT
- I AUTOFF
- J ANOUT
- K INPUTS
- L OUTPUT
- M RESET
- N DIAG
- O ADVANC

SCREEN Adjusting the display

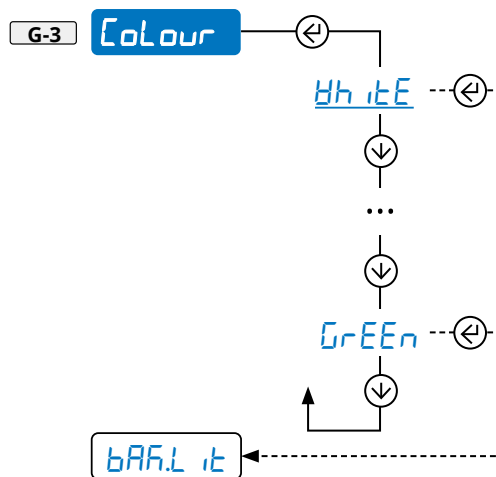
Backlighting



Display lock (for use by the manufacturer)



Backlight colour



MENU

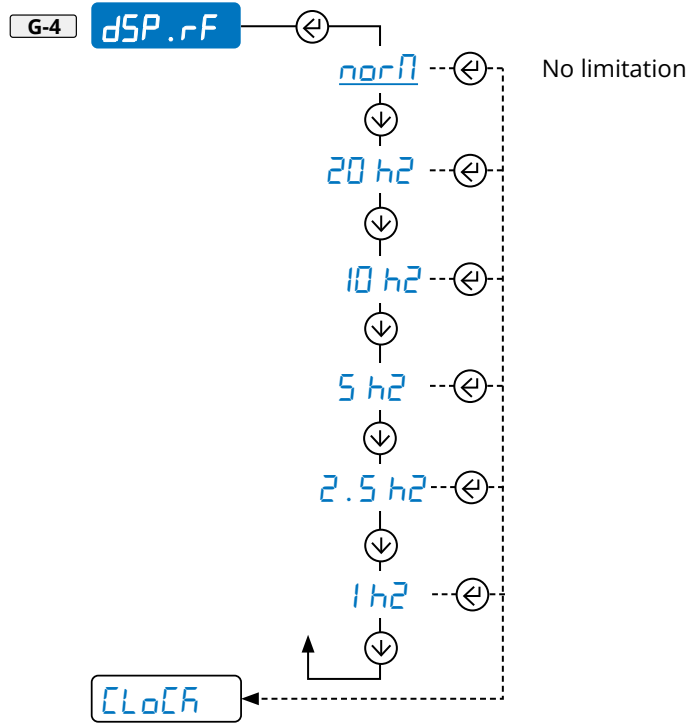
- 1. Off
- 2. On
- 3.

- =
- =
- =
- =

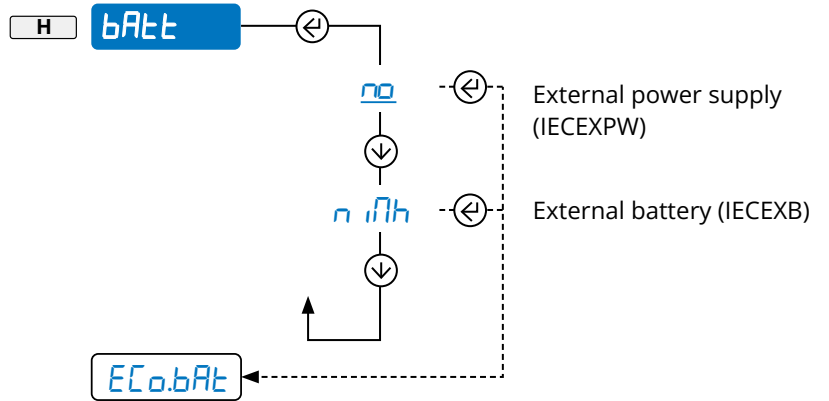


- A CAL
- B DCAL
- C GRAU
- D SERIAL
- E LAYOUT
- F FILTER
- G SCREEN
 - 1 BATTERY
 - 2 LOCK
 - 3 COLOUR
 - 4 DSP.RF
- H BATT
- I AUTOFF
- J AN.OUT
- K INPUTS
- L OUTPUT
- M RESET
- N DIAG
- O ADVANC

Display refresh rate limitation

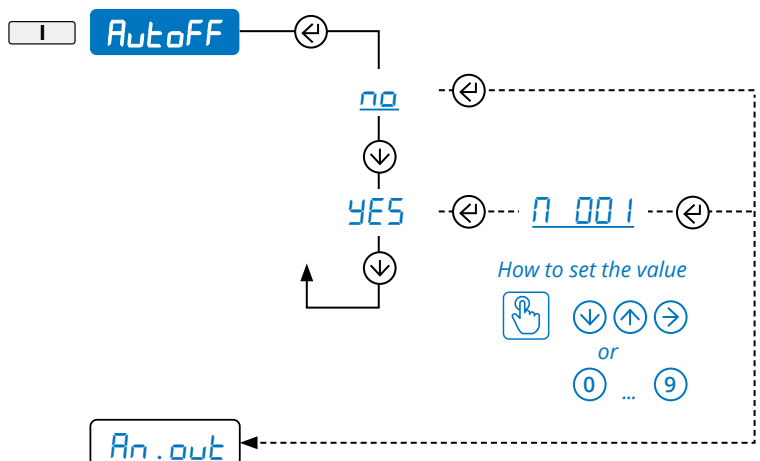


bAtt Battery power supply



WARNING:
use only original batteries.

AutoFF Auto switch-off



- 1. Off
- 2. On
- 3.

- =
- =
- =
- =

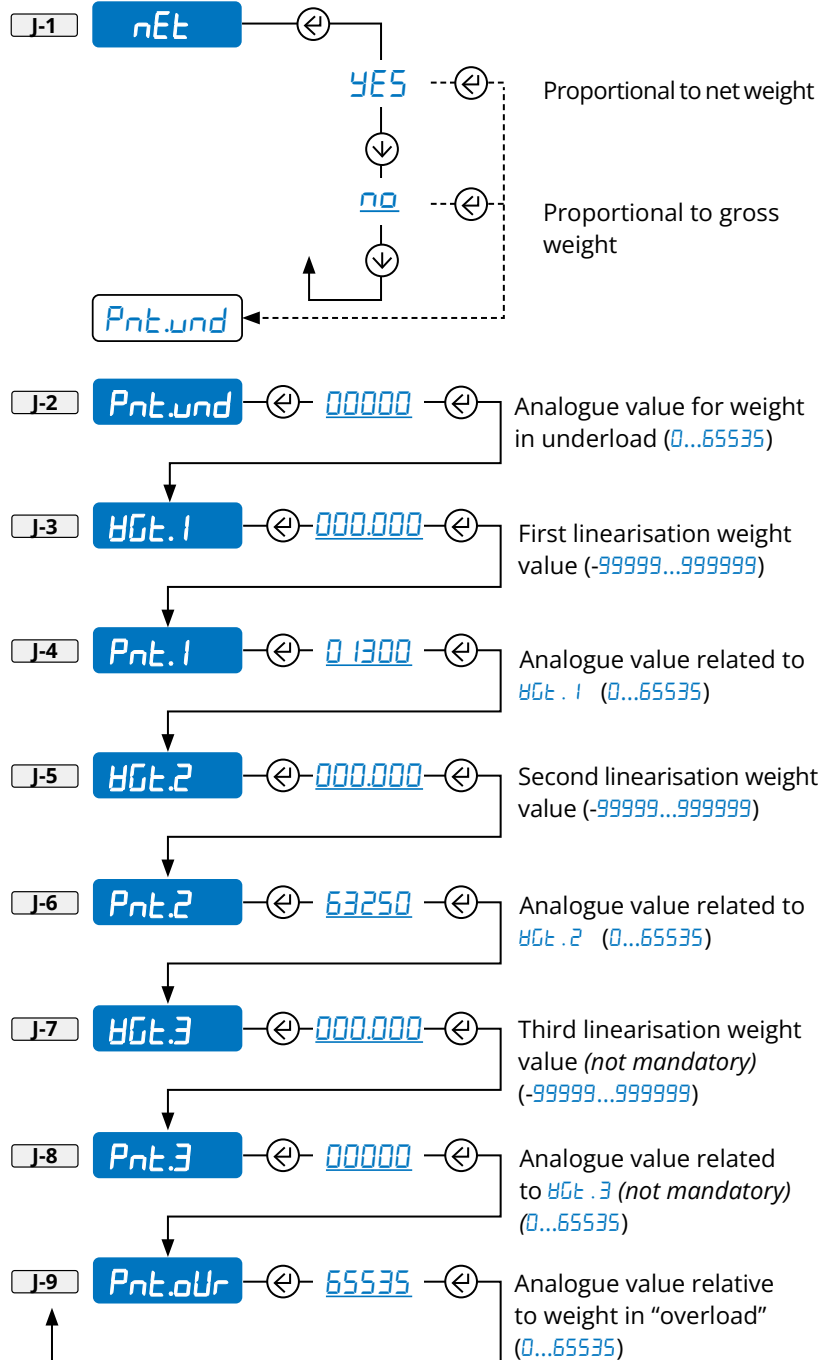


- A CAL
- B O.CAL
- C GrAU
- D SEr iAL
- E LAYout
- F iLteR
- G SCrEEen
- H bAtte
- I AutoFF
- J **An.out**
 - 1 nEt
 - 2 Pnt.und
 - 3 Hgt.1
 - 4 Pnt.1
 - 5 Hgt.2
 - 6 Pnt.2
 - 7 Hgt.3
 - 8 Pnt.3
 - 9 Pnt.oUr
- K inPutS
- L outPut
- M rESEt
- N d iAG
- O AdVAnC



Only visible when the optional analogue board is present.

Operation proportional to net/gross weight



Using the real time update of the output, it is possible to check the entered value with a tester (see example on page 31).

MENU

- 1. Off
- 2. On
- 3.

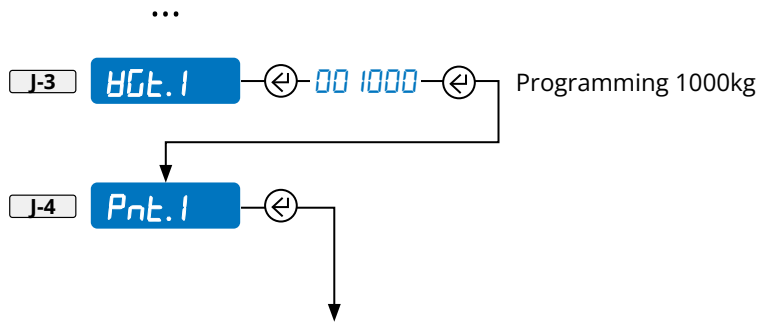
- =
- =
- =
- =



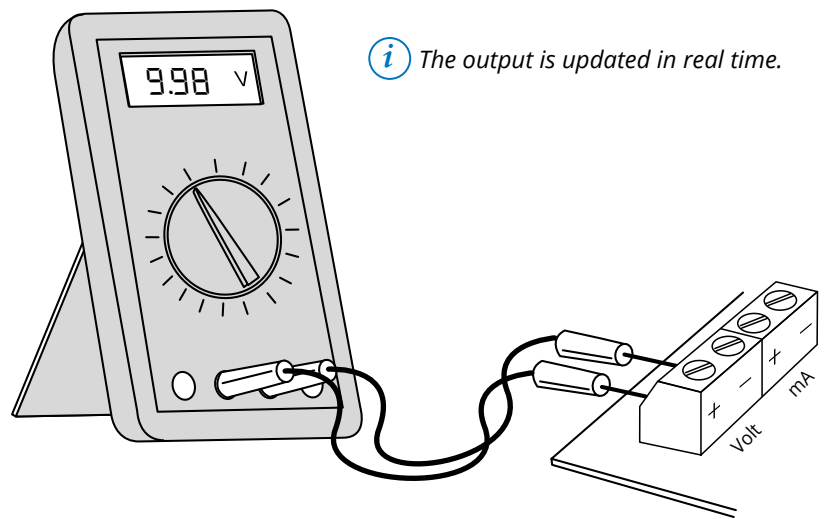
- A CAL
 - B D.CAL
 - C GrAU
 - D SEr iAL
 - E LAYout
 - F iLteR
 - G SCrEEen
 - H bAtt
 - I AutoFF
 - J An.out
 - K inPutS
 - L outPut
 - M rESEt
 - N d iAG
 - O AdVAnC
- 1 nEt
 - 2 Pnt.und
 - 3 Hgt.1
 - 4 Pnt.1
 - 5 Hgt.2
 - 6 Pnt.2
 - 7 Hgt.3
 - 8 Pnt.3
 - 9 Pnt.oUr

Programming example:

the analogue output provides 10V to program a linearisation point so that at 1000kg.

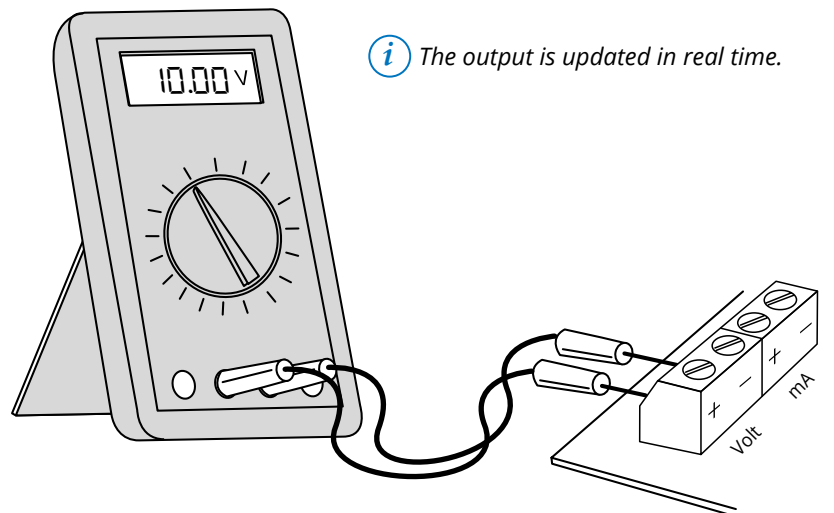


Enter **62300** (the reference value given in the table) and check the analogue output using a tester.



Adjust the analogue output by increasing or decreasing the value. Minimum variations of at least 10 points are recommended, (62310, 62320, 62330, etc.)

How to set the value



Once the desired setting has been made, confirm the value with .



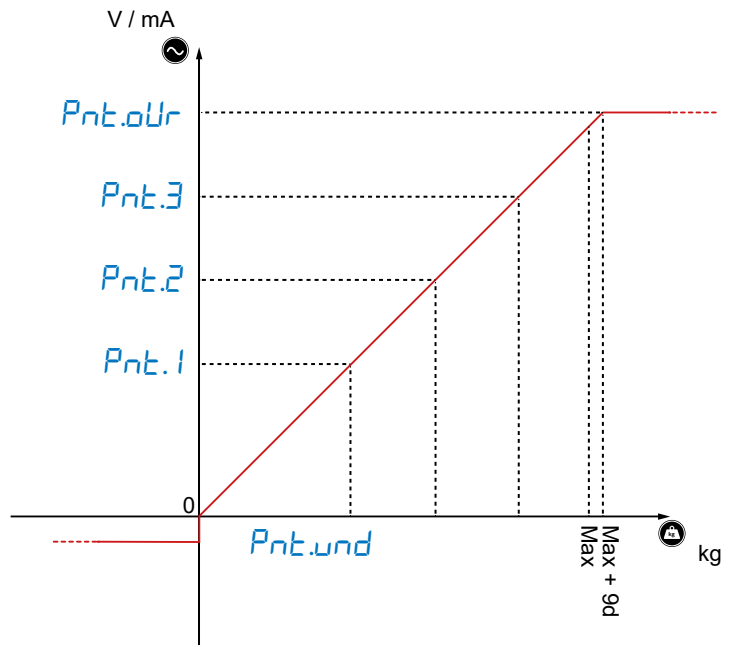
MENU

- 1. Off
- 2. On
- 3.

- =
- =
- =
- =



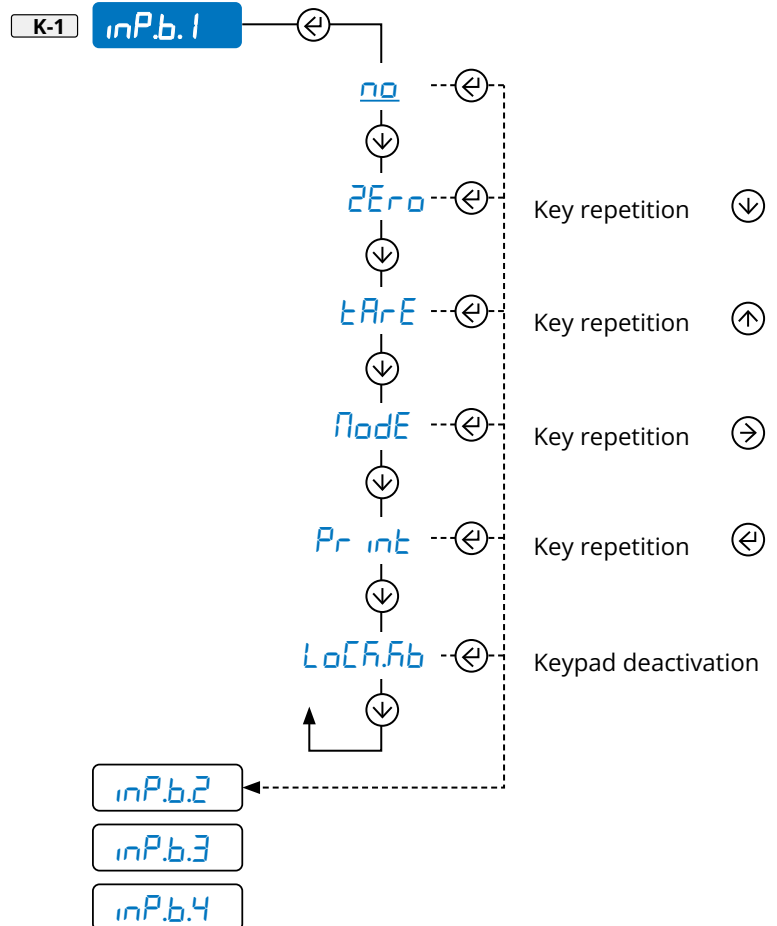
- A CAL
- B DCAL
- C GRAU
- D SERIAL
- E LAYOUT
- F FILTER
- G SCREEN
- H BATT
- I AUTOFF
- J An.out
- K **inPut5**
- L outPut
 - 1 **inP.b.1**
 - 2 **inP.b.2**
 - 3 **inP.b.2**
 - 4 **inP.b.2**
- M rESEt
- N d iAG
- O AdVAnC



Value to be entered	Output volts	mA output
1200	~ 0 V	~ 0 mA
11250		~ 4 mA
52200		~ 20 mA
62300	~ 10 V	

inPut5 Digital inputs

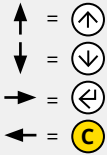
Input configuration 1



Repeat the same operation for inP.b.2.



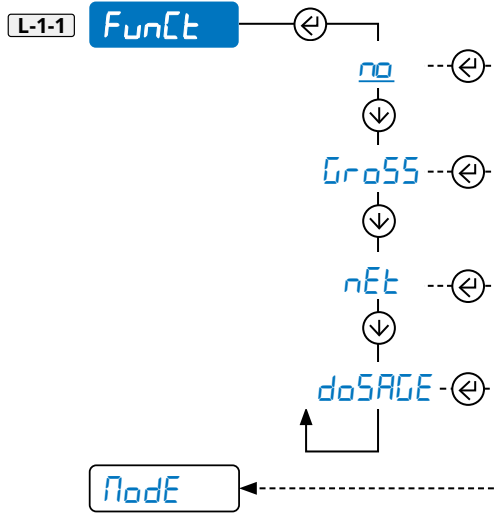
- 1. Off
- 2. On
- 3.



- A CAL
 - B O.CAL
 - C GRAU
 - D SERIAL
 - E LAYOUT
 - F FILTER
 - G SCREEN
 - H BATT
 - I AUTOFF
 - J ANOUT
 - K INPUTS
 - L **OUTPUT**
 - M RESET
 - N DIAG
 - O ADVANC
-
- 1 REL.b.1
 - 2 REL.b.2
 - 3 REL.b.3
 - 4 REL.b.4
 - 5 REL.b.5
 - 6 REL.b.6
 - 7 REL.b.7
 - 8 REL.b.8
 - 9 REL.b.9
 - 10 REL.b.10
 - 11 REL.b.11
 - 12 REL.b.12
-
- 1 FunCt
 - 2 Node
 - 3 direct
 - 4 histEr

outPut Digital outputs

Operation on net weight, gross weight or batching

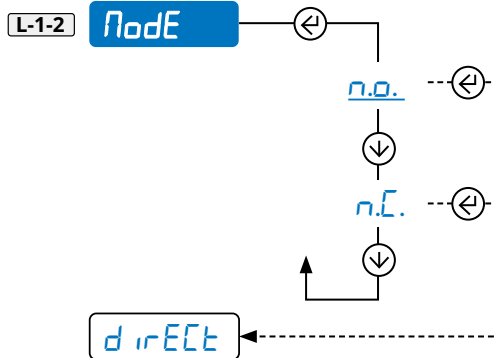


For dosing / filling:

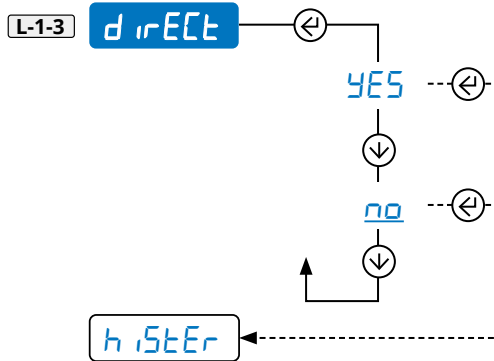
- Activate mode *doSAGE*
- Set tare *unLoCF*.

The output is activated only after the container has been calibrated (by key or external button) and is deactivated when the set target (setpoint) is reached. To carry out two-speed filling, two outputs must be programmed with *doSAGE* mode.

Normally open operation (n.o.) or closed (n.c.)



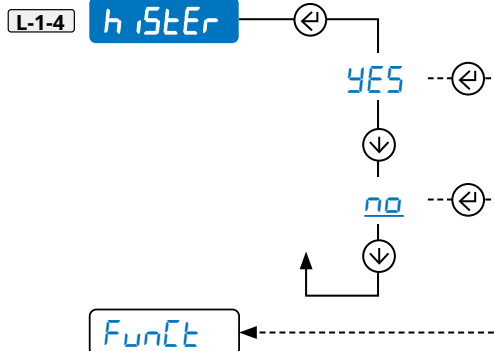
Output activation mode



Direct, stable or unstable weight

Only at stable weight

Double threshold operation (activation weight threshold ≠ from output deactivation weight threshold)



Operation:

YES (Double threshold)

no (Single threshold)

i Repeat the same operation for *REL.b.2*, *REL.b.3*, *REL.b.4*, *REL.b.5*, *REL.b.6*, *REL.b.7*, *REL.b.8*, *REL.b.9*, *REL.b.10*, *REL.b.11* and *REL.b.12*.

MENU

1. Off
 2. On
 - 3.
-

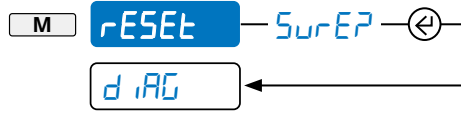
- ↑ =
- ↓ =
- =
- ← =



- A CAL
- B DCAL
- C GRAU
- D SERIAL
- E LAYOUT
- F FILTER
- G SCREEN
- H BATT
- I AUTOFF
- J AN.out
- K INPUTS
- L OUTPUT
- M rESEt
- N d iAG
- O ADVANC

- 1 AdC.uU
- 2 d iSPLA
- 3 KEyb
- 4 CtS
- 5 outPut
- 6 inPutS
- 7 An.out
- 8 SEr.nuN
- 9 PrG.UEr
- 10 d iU. int
- 11 AdC.Pnt
- 12 bt.AdC
- 13 PH.AdC
- 14 SEr iAL

rESEt Factory configuration reset











Function for restoring default configurations keeping the stored calibration.

d iAG Diagnostics

- N-1 AdC.uU** Converter. Check of input signal in μV . In case of multiple equalised channels, press the or buttons to examine all selected channels.
- N-2 d iSPLA** Display. Integrity check of all segments and icons.
- N-3 KEyb** Keypad. Press a key to check the correct operation, with beep and code on display.
- N-4 CtS** CTS. Check of status of the control signal from the printer.
- N-5 outPut** Optional digital outputs. Check the activation and deactivation of each contact.
Example: out 1 activates output 1. Press the button to select the next output.
WARNING: before entering the step **outPut** check that the activation of the output does not cause conditions of danger to persons, animals or property.
- N-6 inPutS** Optional digital inputs. Check the activation and deactivation of each input.
Example: i.b 1-0 input not active
Example: i.b 1-1 active input
Press the button to select the next input.
- N-7 An.out** Analogue output. Enter the digital value and check the analogue output response with a tester.
- N-8 SEr.nuN** Scale serial number.
- N-9 PrG.UEr** Hardware version (e.g. **rEU5**) followed by software version (e.g. **04.00.00**).
- N-10 d iU. int** For use by the manufacturer.
- N-11 AdC.Pnt** For use by the manufacturer.
- N-12 bt.AdC** For use by the manufacturer.
- N-13 PH.AdC** For use by the manufacturer.
- N-14 SEr iAL** For use by the manufacturer.



- 1. Off 
 - 2. On 
 - 3. 
- 

-  = 
-  = 
-  = 
-  = 

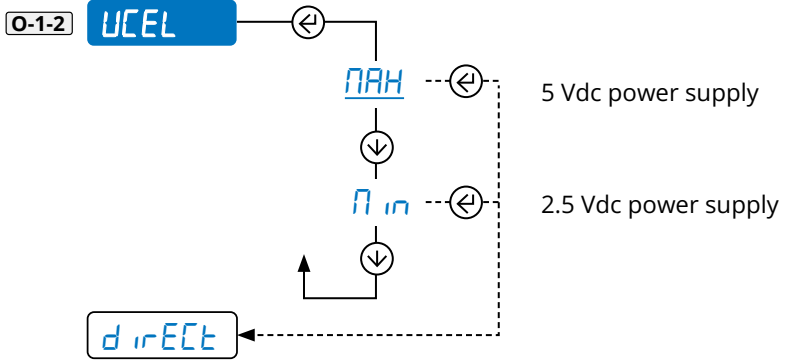



- A CAL
- B O.CAL
- C GrAU
- D SEr iAL
- E LAYout
- F FiLteR
- G SCrEEen
- H bAtt
- I AutoFF
- J An.out
- K inPutS
- L outPut
- M rESEt
- N d iAG
- O **AdUAnC**

- 1 **UCEL**
- 2 CAL .PAR
- 3 EQuALP
- 4 CAL AdU
- 5 Stb.FLt
- 6 PEAK.FL
- 7 NEtrol
- 8 REYb
- 9 t iLt
- 10 rEACt
- 11 LoCFAb
- 12 AL ib i.r
- 13 P in.tEC
- 14 P in.uSE
- 15 dFLt.t

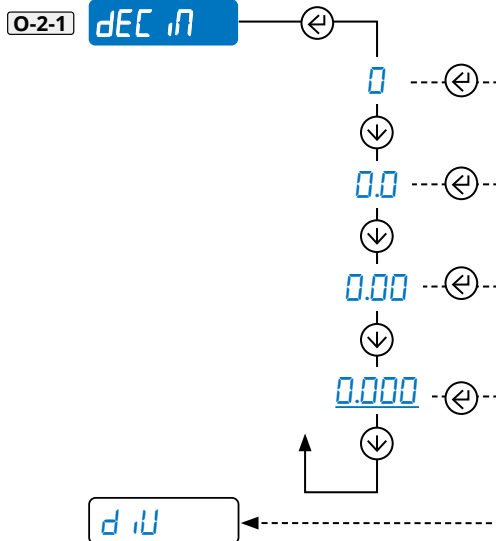
UCEL Load cell power supply

Load cell power supply voltage configuration

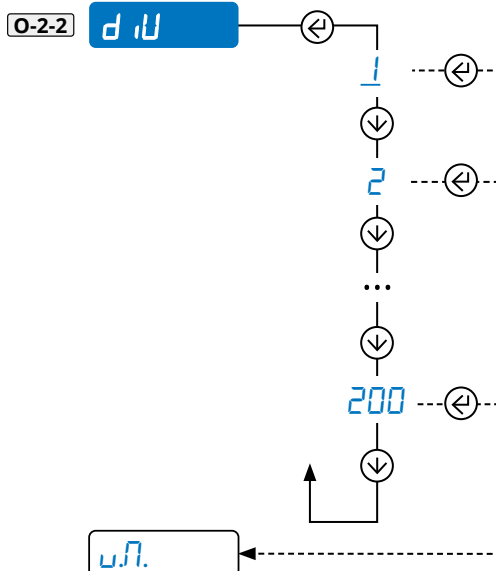


CAL .PAR Calibration parameters 

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



Reading division



MENU

- 1. Off
- 2. On
- 3.

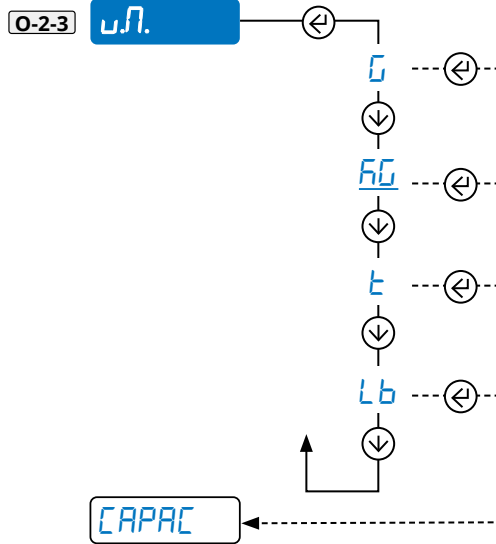
- =
- =
- =
- =



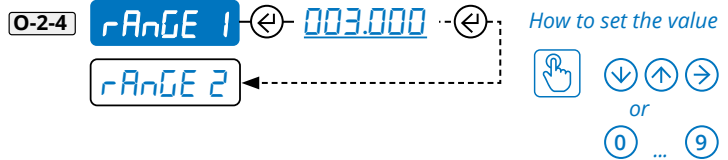
- A CAL
- B O.CAL
- C GrAU
- D SEr iAL
- E LAYout
- F iLteR
- G SCrEEen
- H bAtt
- I AutoFF
- J Anout
- K inPutS
- L outPut
- M rESEt
- N d iAG
- O AdUAnC

- 1 UCEL
- 2 CAL.PAr
- 3 EQUALP
- 4 CAL.AdU
- 5 Stb.FLt
- 6 PEAR.FL
- 7 NEtrol
- 8 REYb
- 9 t iLt
- 10 rEACt
- 11 LoCkAb
- 12 AL ib iR
- 13 P in.tEC
- 14 P in.uSE
- 15 dFLt.t

Unit of measure

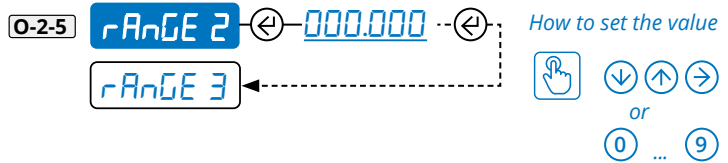


Scale capacity. Set Max or Range 1 (Max range = 800.000)



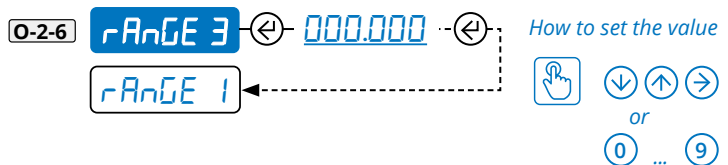
Range 2

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: $dEC i = 0.0$
 $d iU = 5$
 $rAnGE 1 = 1500.0$
 $rAnGE 2 = 3000.0$



MENU

- 1. Off
- 2. On
- 3.

- =
- =
- =
- =



A CAL

B DCAL

C GrAU

D SEr iAL

E LAYout

F iLteR

G SCrEEen

H bAtte

I AutoFF

J An.out

K inPutS

L outPut

M rESEt

N d iAG

O AdUAnC

1 UCEL

2 CAL.PAr

3 EQwALP

4 CALAdU

5 Sttb.FLt

6 PEAK.FL

7 NEtroL

8 REYb

9 t iLte

10 rEACt

11 LoCkAb

12 AL ib iR

13 P in.tEC

14 P in.uSE

15 dFLt.t

1 dEC iN

2 d iU

3 u.N.

4 rAnGE 1

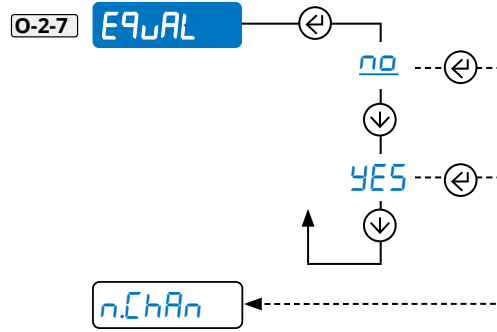
5 rAnGE 2

6 rAnGE 3

7 EQwAL

8 n.ChAn

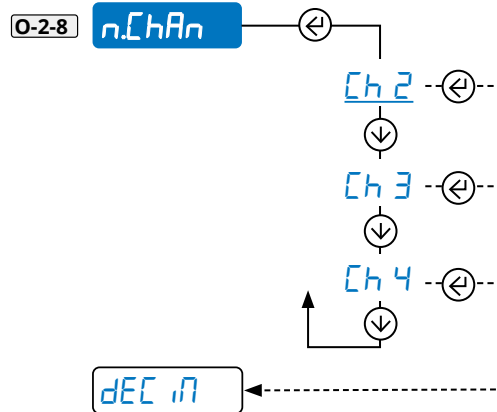
Equalisation function











Connection diagram on page 7.
Equalisation procedure on page 37.

Equalised analogue channels

Only visible if EQwAL (Q-1-7) = YES




- 1. Off 
- 2. On 
- 3. 

-  = 
-  = 
-  = 
-  = 



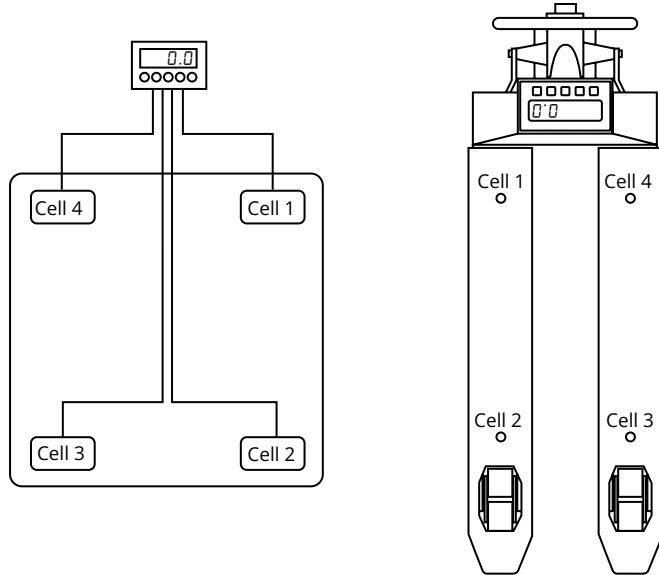
- A **CAL**
- B **0.CAL**
- C **GrAU**
- D **SEr iAL**
- E **LAYout**
- F **FiLteR**
- G **SCrEEen**
- H **bAtte**
- I **AutoFF**
- J **Anout**
- K **inPutS**
- L **outPut**
- M **rESEt**
- N **d iAG**
- O **AdUAnC**



- 1 **UCEL**
- 2 **CAL.PAr**
- 3 **EQUAL.P**
- 4 **CAL.AdU**
- 5 **Stb.FLt**
- 6 **PEAR.FL**
- 7 **NEtrol**
- 8 **AEYb**
- 9 **t iLt**
- 10 **rEACt**
- 11 **LoCkAb**
- 12 **AL ib iR**
- 13 **P intEC**
- 14 **P inuSE**
- 15 **dFLt.t**


 **EQUAL.P** is only visible if the function **EQUAL** (Q-1-7) is activated in the menu **CAL.PAr** (Q-1).


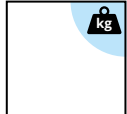
The equalisation wizard asks to acquire the zero point with scale unloaded and to later place a weight of about 1/8 of the maximum capacity (Max) on each individual cell in the required order. The message **E9.0h** will appear after the procedure.


Proceed with the calibration.






O-3-1 **E9.0**  **-oh-** 



E9.1 


O-3-2 **E9.1**  **-oh-** 



E9.2  **kg**
kg = 1/8 Max (kg)


O-3-3 **E9.2**  **-oh-** 

E9.3 









O-3-4 **E9.3**  **-oh-** 

E9.4 

O-3-5 **E9.4**  **-oh-** 

CAL 

- 1. Off 
- 2. On 
- 3. 


-  = 
-  = 
-  = 
-  = 



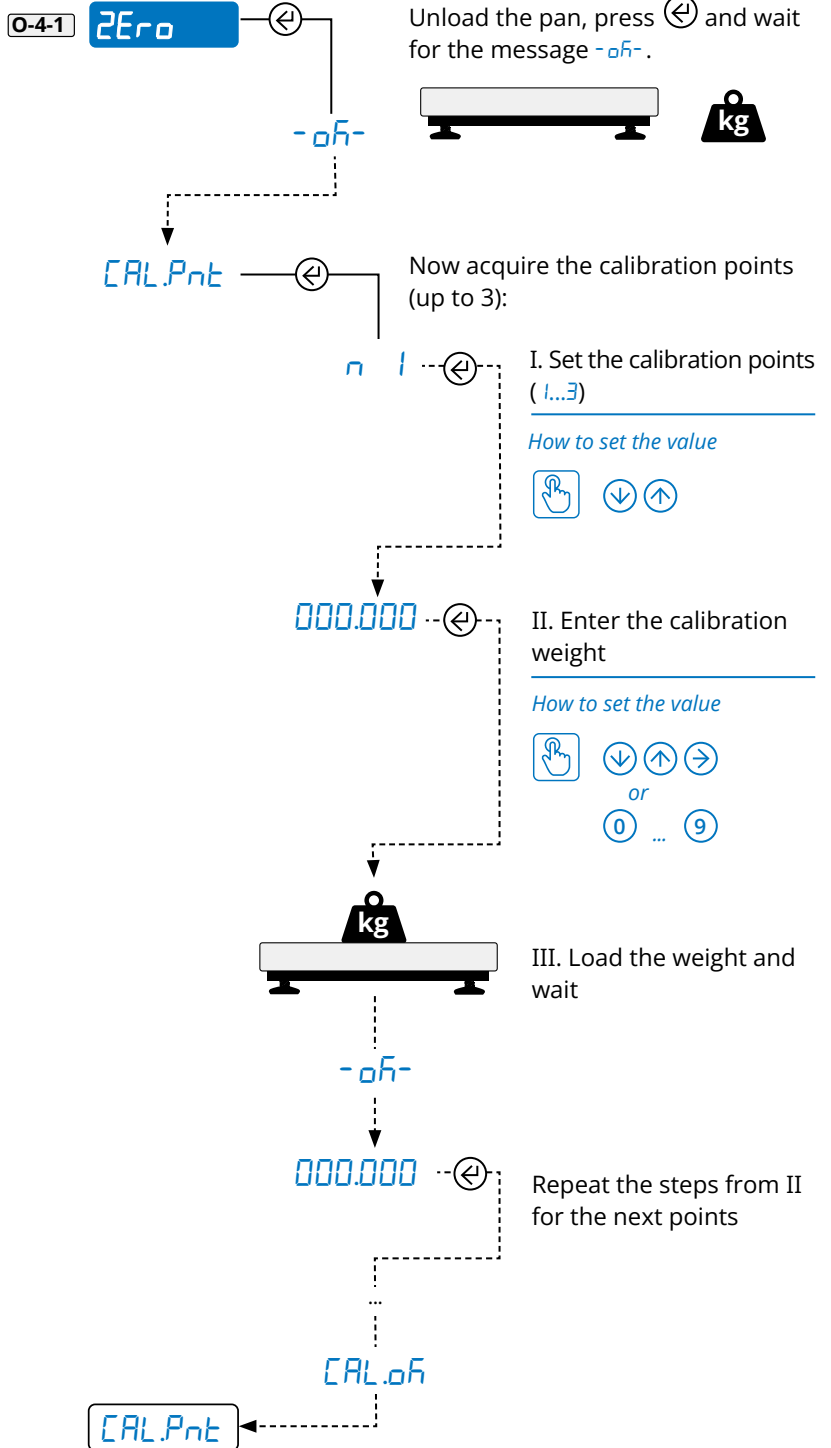
- A CAL
- B D.CAL
- C GrAU
- D SEr iAL
- E LAYout
- F iLteR
- G SCrEEen
- H bAtte
- I AutoOFF
- J An.out
- K inPutS
- L outPut
- M rESEt
- N d iAG
- O AdUAnC

- 1 UCEL
- 2 CALPAR
- 3 EQUALP
- 4 CALAdU
- 5 Stb.FLT
- 6 PEAK.FL
- 7 NETrol
- 8 REYb
- 9 t iLte
- 10 rEACt
- 11 LoCRAb
- 12 AL ib iR
- 13 P intEC
- 14 P inUSE
- 15 dFLt.t

CALAdU Complete calibration

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

Start of the calibration procedure:











Stb.FLT Additional stability filter

0-5 Stb.FLT For use by the manufacturer.



- 1. Off 
 - 2. On 
 - 3. 
- 

-  = 
-  = 
-  = 
-  = 



A CAL

B O.CAL

C GrAU

D SEr iAL

E LAYout

F iLteR

G SCrEEen

H bAtt

I AutoFF

J Anout

K inPutS

L outPut

M rESEt

N d iAG

O AdUAnC

1 UCEL

2 CAL.PAr

3 EQwALP

4 CAL.AdU

5 Stb.FLt

6 PEAR.FL

7 METrol

8 REYb

9 t iLt

10 rEACt

11 LoCkAb

12 AL ib iR

13 P in.tEC

14 P in.wSE

15 dFLt.t

1 OPErC

2 d iUStb

3 O.t.r.h

4 on.zEro

5 CAL.AdU


6 CAL.NAn

7 d.SALE

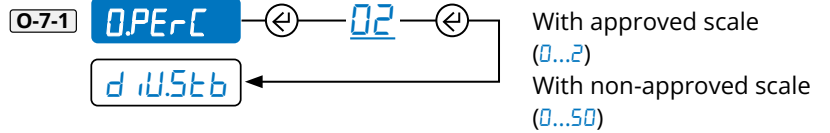


PEAR.FL Anti-peak filter

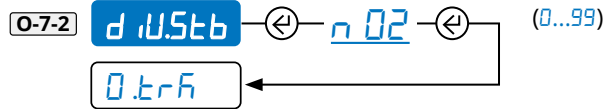
O-6 **PEAR.FL** For use by the manufacturer.

METrol Metrological parameters 

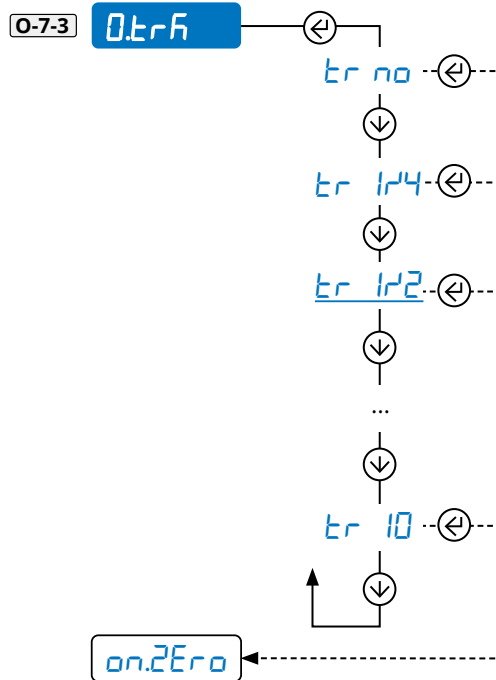
Resetting percentage using the key



Sensitivity of the weight stability control

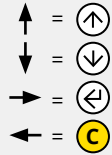


Zero hold function (tracking)



MENU

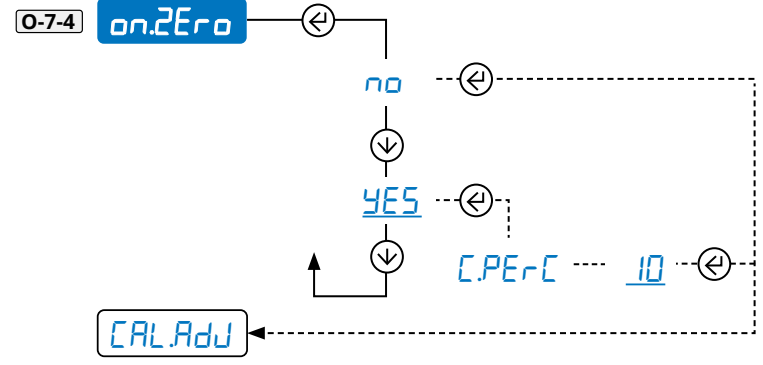
- 1. Off
- 2. On
- 3.



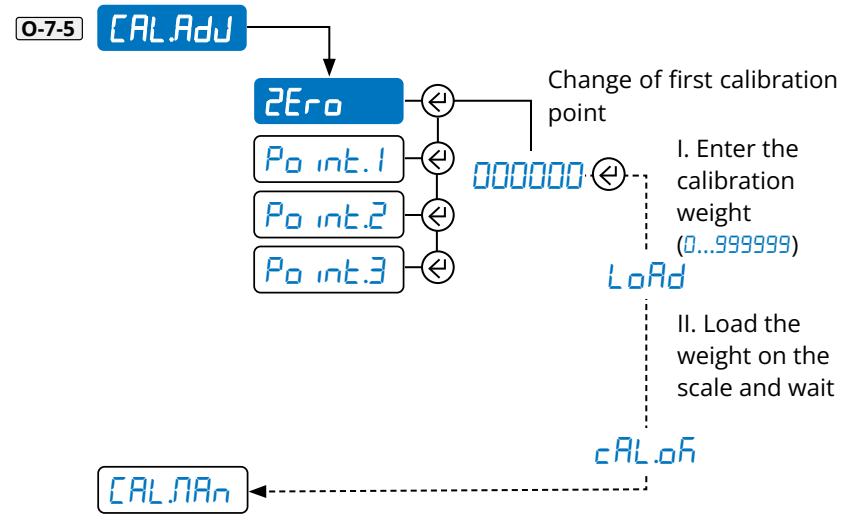
- A CAL
- B O.CAL
- C GrAU
- D SEr iAL
- E LAYout
- F FiLteR
- G SCrEEen
- H bAtte
- I AutoFF
- J An.out
- K inPutS
- L outPut
- M rESEt
- N d iAG
- O AdJAnC

- 1 UCEL
- 2 CAL.PAr
- 3 EQwALP
- 4 CAL.AdJ
- 5 FLt.Stb
- 6 PEAK.FL
- 7 NEtrol
- 8 KEyb 1 OPErC
- 9 t iLt 2 d iUStb
- 10 rEACt 3 OtrH
- 11 LoCkAb 4 on.2Ero
- 12 AL ib i.r 5 CAL.AdJ
- 13 P intEC 6 CAL.NAn
- 14 P inuSE 7 d.SALE
- 15 dFLt.t

Reset at power and reset percentage



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

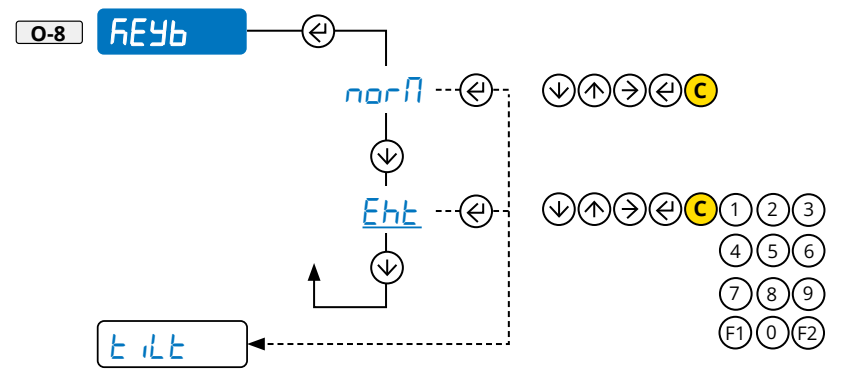


i Repeat the same operation for Po int 1, Po int 2 and Po int 3

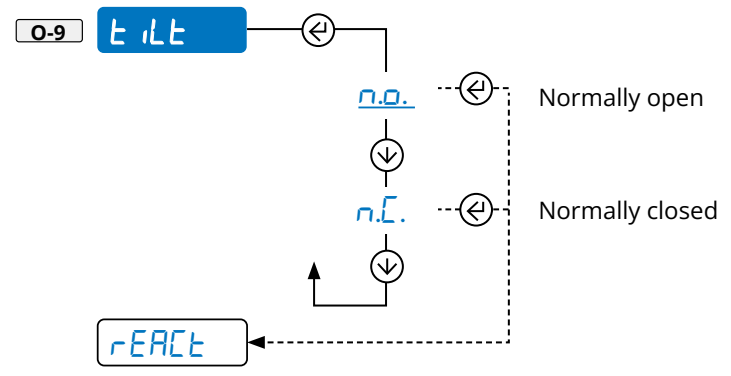
O-7-6 CAL.NAn For use by the manufacturer.

O-7-7 d.SALE For use by the manufacturer.

Type of keypad

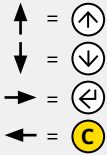


Inclinometer (for use by the manufacturer)



MENU

- 1. Off
- 2. On
- 3.

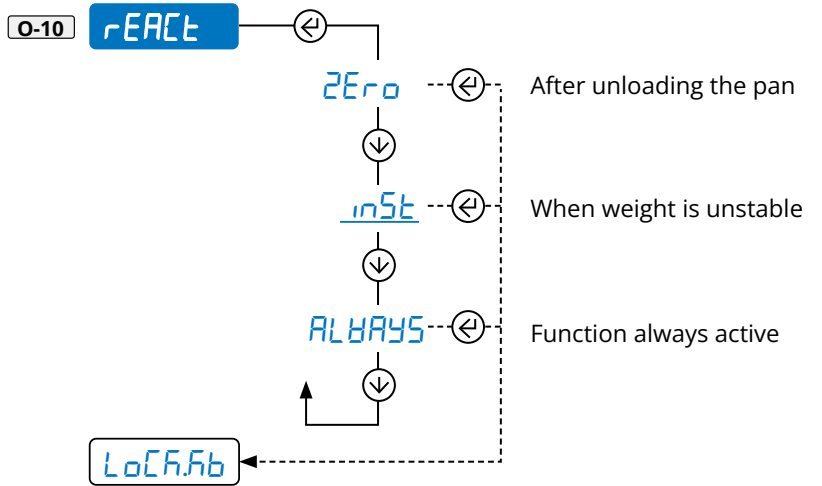


- A CAL
- B O.CAL
- C GrAU
- D SEr iAL
- E LAYout
- F FiLteR
- G SCrEEen
- H bAtt
- I AutoFF
- J An.out
- K inPutS
- L outPut
- M rESEt
- N d iAG
- O AdUAnC

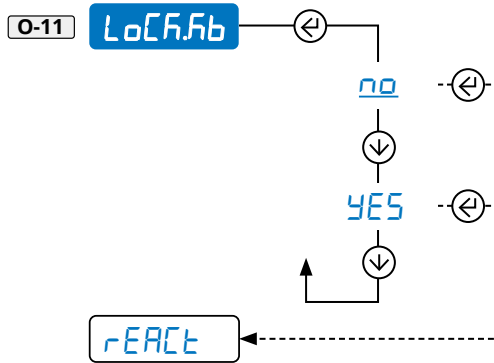
- 1 UCEL
- 2 CALPAR
- 3 EQUALP
- 4 CALADU
- 5 Stb.FLt
- 6 PEAK.FL
- 7 NEtrol
- 8 REYb
- 9 t iLt
- 10 rEAct
- 11 LoCkAb
- 12 AL ib ir
- 13 P in.tEC
- 14 P in.uSE
- 15 dFLt.t



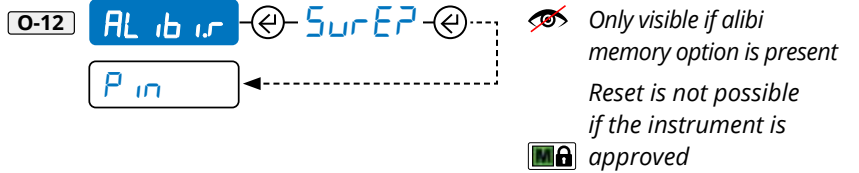
Reactivation of the print or weight totalisation function



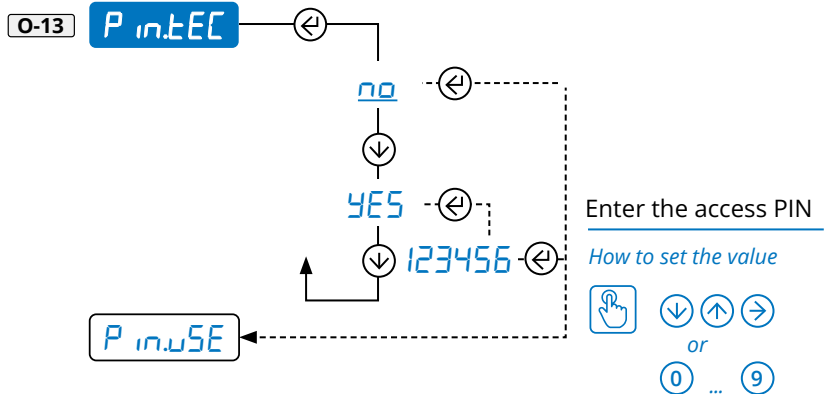
Permanent keypad lock (excluding key)



Reset of fiscal memory (alibi memory, optional)



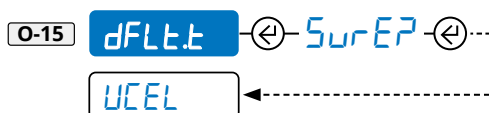
Access PIN to programming menu



Access PIN to user menus



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



6. COMMUNICATION STRINGS

Short string

[01]ST,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): <u>US</u> - Unstable weight <u>ST</u> - Stable weight <u>QL</u> - Weight overload (out of range) <u>UL</u> - Weight underload (out of range)
,	ASCII 044 character
GS	Type of weight data (2 characters) <u>GS</u> - Gross <u>NT</u> - 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

[01]1, 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): <u>US</u> - Unstable weight <u>ST</u> - Stable weight <u>QL</u> - Weight overload (out of range) <u>UL</u> - Weight underload (out of range) <u>TL</u> - 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

Custom string

Foreword:

The configuration can only be carried out using DiniTools in the "CUSTOM STRING FORMATTING" section.

The maximum length of the string configuration field is 100 characters. Fixed alphanumeric characters or variable macros may be used inside.

There are also "tokens" which define the characters to be displayed in the string.

The custom string can be composed using the macros on page 45

The default custom string setting is shown below:

<2><P><W7.><U><M><S><CR><LF>

where

<2>	ASCII STX character (start of text)
<P>	Weight polarity
<W7.>	Weight (formatted to 7 digits with decimal point)
<U>	Unit of measure
<M>	Type of weight (gross, net, tare)
<S>	Weight status
<CR><LF>	Transmission terminator, characters ASCII 013 and ASCII 010

Default token:

Gross mode token "<M>"	G
Net mode token "<M>"	N
Tare mode token "<M>"	T
Preset weight token "<M>"	T
Unit token "<U>"	K
Positive polarity token "<P>"	SPACE
Negative polarity token "<P>"	-
Invalid status token "<S>"	I
Motion status token "<S>"	M
Valid status token "<S>"	SPACE
Coz status token "<S>"	Z
Overload status token "<S>"	O
Underload status token "<S>"	O
Overload char token "<S>"	&
Underload char token "<S>"	=

The default command to be sent to the weight indicator to request the custom string is:

nnSF#1<CR><LF>

Available macros:

Macro	Defined by	Description	Possible values
<P[G|N|T]>	Weight polarity	This indicates the character displayed depending on the weight polarity	<P> Current weight <PG> Gross weight <PN> Net weight <PT> Tare
<U>	Unit of measure	This indicates the units of measurement	<U>
<M[G|N|T]>	Weight type	This indicates the character displayed depending on the weight type	<M> Current weight <MG> Gross weight <MN> Net weight <MT> Tare
<S>	Weight status	This indicates the status of the weight: - Stable / Unstable - Valid / Invalid - Weight in zero zone - Overload / Underload	<S>
<B[-]n,n,...>	This indicates a sequence of exactly 8 bits		
B0	Not used (always 0)		
B1	Not used (always 1)		
B2	Configuration		0 = odd parity 1 = even parity
B3	Dynamic		1 = "Net" weight type
B4	Dynamic		1 = weight in zero zone
B5	Dynamic		1 = stable weight
B6	Dynamic		1 = negative gross weight
B7	Dynamic		1 = weight in underload / overload
B8	Not used (always 0)		
B9	Dynamic		1 = active tare
B10	Dynamic		1 = active PT tare
B11	Dynamic		00 = "Gross" weight type 01 = "Net" weight type 10 = "Tare" weight type 11 = not used
B12	-		Always 00
B13	Configuration		00 = not used 01 = division="1" 10 = division="2" 11 = division="5"
B14 - B16	Not used (always 0)		
B17	Configuration		000 = 0 decimal places (000000) 001 = 1 decimal place (00000.0) 010 = 2 decimal places (0000.00) 011 = 3 decimal places (000000)
B18 - B20	Not used (always 0)		
<wspec[-][0]x[.]y>	Scale weight	This shows the weight of the scale by defining the length and number of decimal places as below: wspec = indicates which weight to display. Possible values: W/w (displayed weight) G/g (gross weight) N/n (net weight) T/t (tare) upper case is justified on the right, lower case on the left. [-] = includes the sign if the value is negative [0] = fill in the blanks with "0" x = width of the "weight" field (maximum 15 characters, from 1 to F); [.] indicates the presence of the decimal point; [y] fixed number of decimals to the right of the point (only if decimal point is present)	
<CR>	Carriage return		
<LF>	Line feed		

Example of custom string configuration to replicate the standard Dini Argeo string:

<u>String definition</u>	1,<S>,<M>,<P><W7.>,<U><CR><LF>	
Gross mode token "<M>"	GS	
Net mode token "<M>"	NT	
Tare mode token "<M>"	T	
Preset tare weight token "<M>"	PT	
Unit token "<U>"	Depending on the unit of measure	
Positive polarity token "<P>"	SPACE	
Negative polarity token "<P>"	-	
Invalid status token "<S>"	SPACESPACE	
Motion status token "<S>"	US	
Valid status token "<S>"	ST	
Coz status token "<S>"	ZR	
Overload status token "<S>"	OL	
Underload status token "<S>"	UL	
Overload char token "<S>"		(null)
Underload char token "<S>"		(null)

Example of custom string configuration to replicate the extended Dini Argeo string:

<u>String definition</u>	1,<S>,<WA.>,<MT><TA.> ,<U><CR><LF>	
Gross mode token "<M>"	GS	
Net mode token "<M>"	NT	
Tare mode token "<M>"	SPACESPACE	
Preset tare weight token "<M>"	PT	
Unit token "<U>"	Depending on the unit of measure	
Positive polarity token "<P>"	SPACE	
Negative polarity token "<P>"	-	
Invalid status token "<S>"	SPACESPACE	
Motion status token "<S>"	US	
Valid status token "<S>"	ST	
Coz status token "<S>"	ZR	
Overload status token "<S>"	OL	
Underload status token "<S>"	UL	
Overload char token "<S>"		(null)
Underload char token "<S>"		(null)

7. COMMUNICATION COMMANDS

Foreword:

in the serial commands and the respective responses

nn	Address 485 of the instrument (2 characters), only if communication mode 485 is enabled
<CR>	ASCII terminator character 13 (0D) (1 character)
<LF>	ASCII terminator character 10 (0A) (1 character)

Simple weight reading

Command	nnREAD<CR><LF>
Response	Short string (<i>see page 42</i>)

Complete weight reading

Command	nnREXT<CR><LF>
Response	Long string (<i>see page 42</i>)

Performing a semi-automatic tare

Command	nnTARE<CR><LF>
Response	OK<CR><LF> indicates that the command has been received correctly

Setting a tare value (PT)

Command	nnTMANt...t<CR><LF> Where t...t is the tare value, with decimal points, max 8 characters.
Response	OK<CR><LF> indicates that the command has been received correctly
Examples	TMAN1.56<CR><LF> sets a tare value of 1.56 TMAN100<CR><LF> sets a tare value of 100

Clearing the stored tare

Command	nnCLEAR<CR><LF>
Response	OK<CR><LF> indicates that the command has been received correctly

Zeroing the scale (ZERO key function)

Command	nnZERO<CR><LF>
Response	OK<CR><LF> indicates that the command has been received correctly

SPECIFIC COMMANDS FOR ALIBI MEMORY (OPTIONAL)

Save requests

Command	nnPID<CR><LF> request to save the weighing
Response	successful registration nnPIDss,c,wwwwwwwwwwuu,ppttttttttuu,xxxxx-yyyyyy<CR><LF>
	no registration nnPIDss,c,wwwwwwwwwwuu,ppttttttttuu,NO<CR><LF>
	where:
ss	weight status (2 characters)
TL	Too Little error condition (NO RECORDING)
OL	OverLoad condition (NO RECORDING)
UL	Underload condition (NO REGISTRATION)
ST	Stable weight
US	Unstable weight (NO RECORDING)
c	Scale number (1 character)
w...w	Gross weight (10 characters)
uu	Unit of measurement (2 characters)
pp	Type of tare: double space " " if semi-automatic, "PT" if preset (2 characters)
t...t	Tare value (10 characters)
xxxxx	Number of rewrite (5 characters)
yyyyyy	Progressive weighing (6 characters)
Example	PIDST,1, 1500.0kg,PT 2.8kg,00000-000158<CR><LF> PIDUS,1, 1500.0kg,PT 2.8kg,NO<CR><LF>

Reading a stored weighing

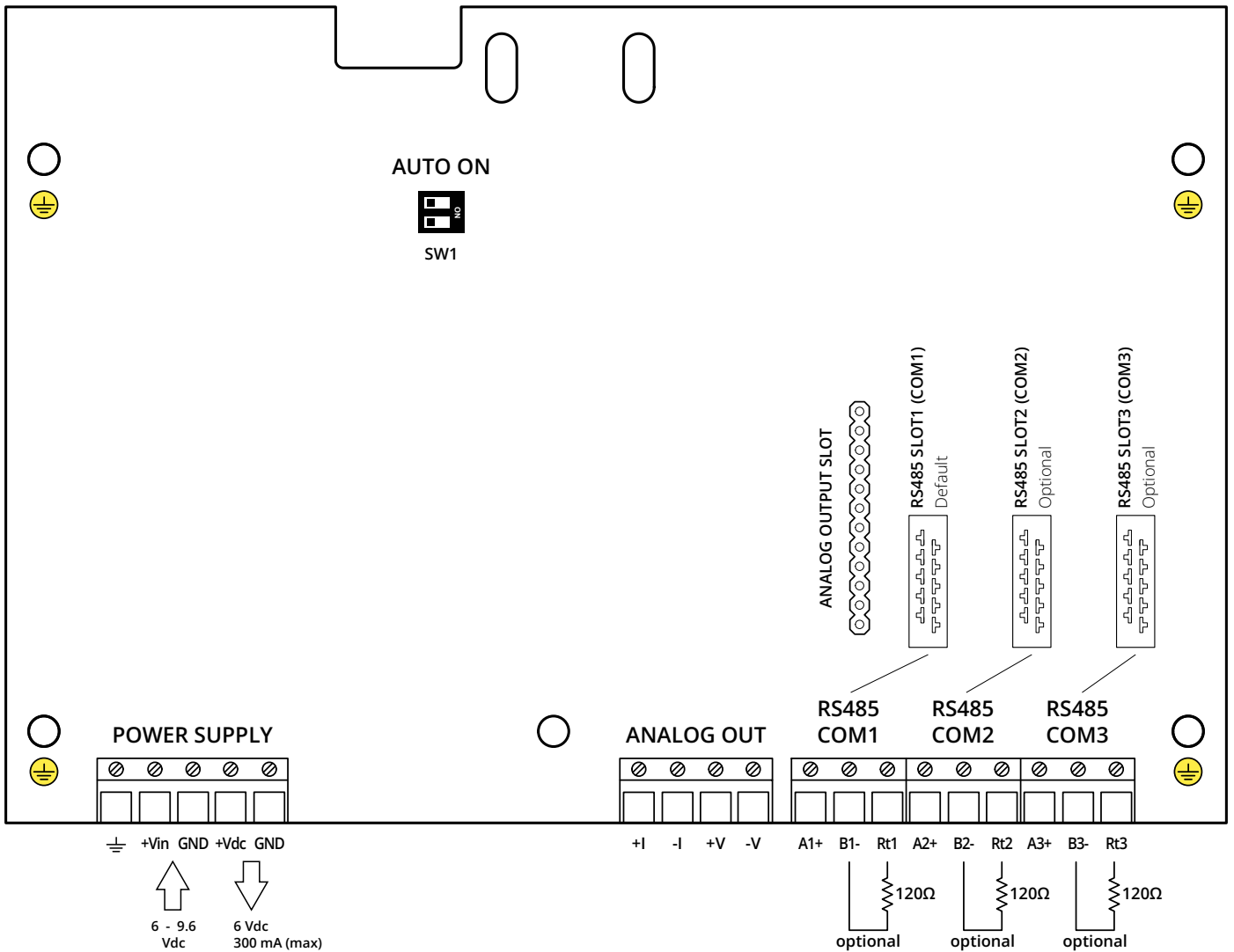
Command	nnALRDxxxxx-yyyyyy<CR><LF> Where xxxxx is the rewrite number, yyyy is the weighing sequence.
Response	s, w w w w w w w w w u u, p p t t t t t t t t u u<CR><LF>
	where:
s	Number of scales (always 1)
w...w	Gross weight (10 characters)
uu	Unit of measurement ("g", "kg", "t", "lb")
pp	Type of tare: double space " " if semi-automatic, "PT" if preset (2 characters)
t...t	Tare value (10 characters)
Example	ALRD00000-000158<CR><LF> 1, 1500.0kg, 2.8kg<CR><LF>

8. WIRING DIAGRAMS

i All cables inside the DFWIECEX must be connected to the terminals by means of a cable lug. The part of the cable outside the sheath (from the shield to the terminal) should be as short as possible.



CPU board



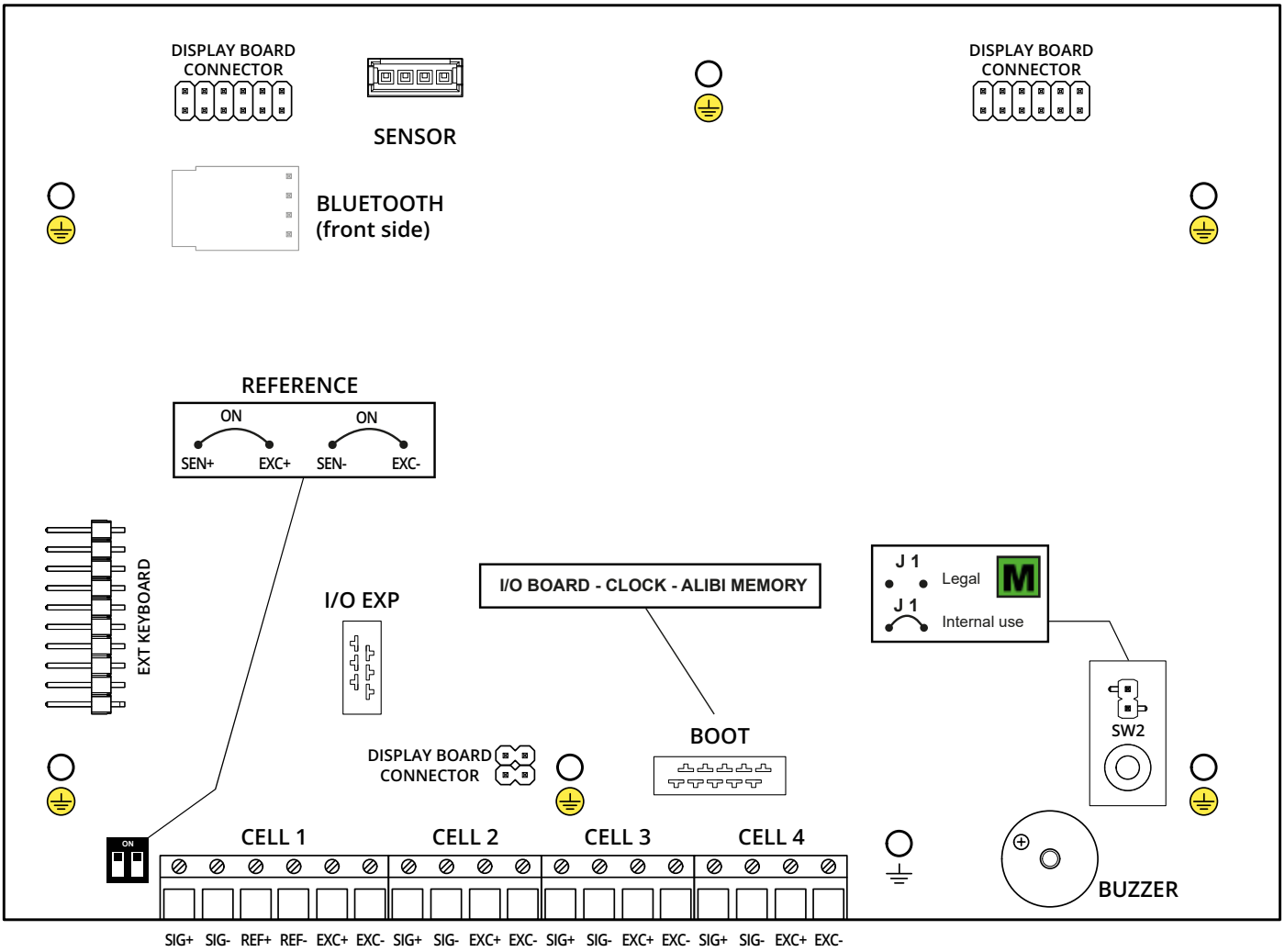
Each connected peripheral (RS485 serial ports, analogue output, Bluetooth) reduces the maximum output current.



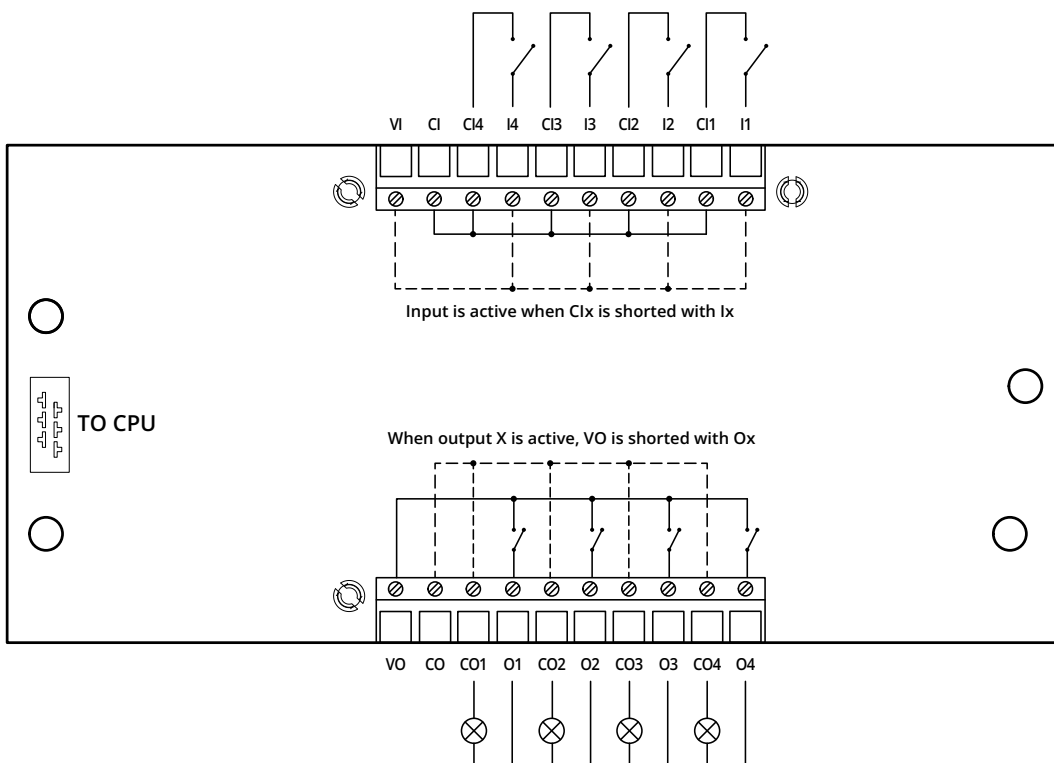
WARNINGS:

Take special care not to short-circuit GND with the +Vin and +Vdc supplies. This may affect the correct functioning of the communication interfaces.

Display board

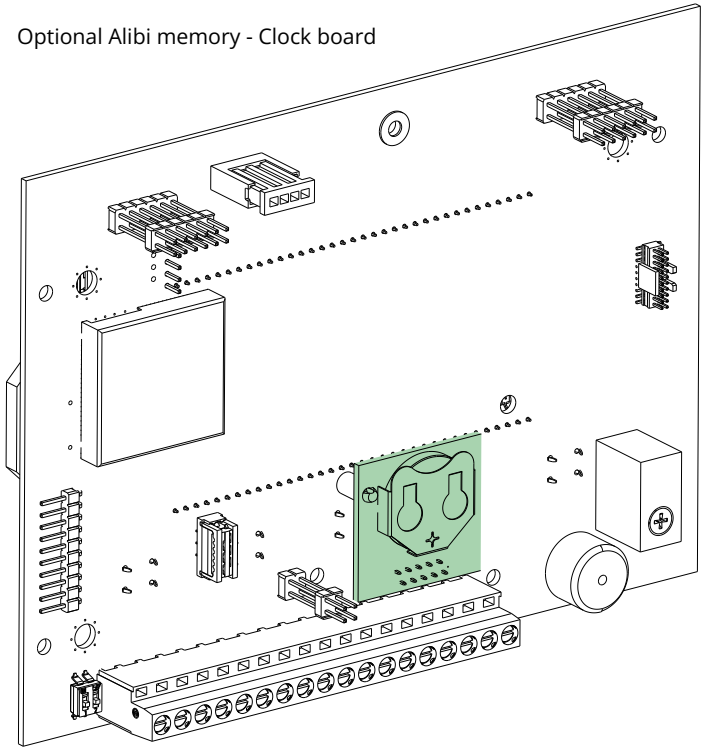


IECEX4IN4OUT option board

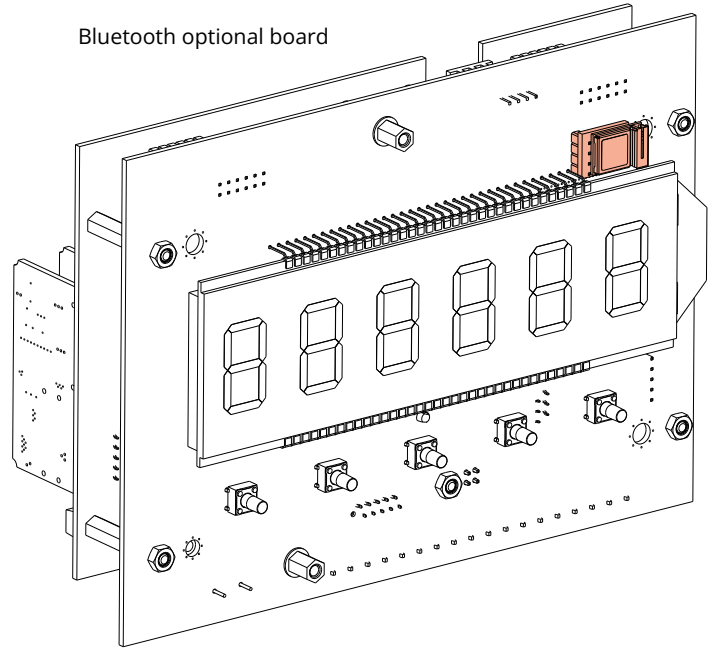


Optional boards

Optional Alibi memory - Clock board

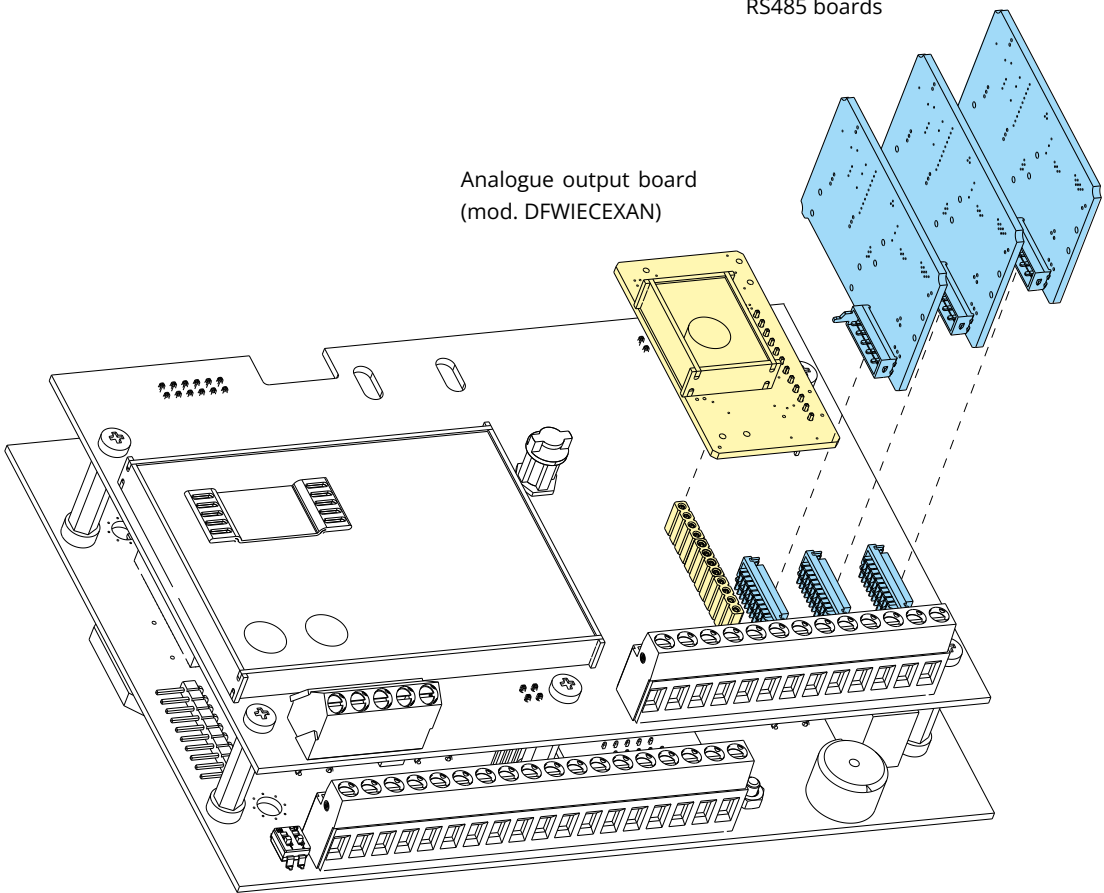


Bluetooth optional board



RS485 boards

Analogue output board (mod. DFWIECEXAN)





9. PROGRAMMING ERRORS

MESSAGE	DESCRIPTION	SOLUTION
<i>AL.Err</i>	"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.
<i>Er.1.b.H</i>	"inputs / outputs" board (optional) not detected.	Check the presence of the board inside the indicator. If missing, deactivate any inputs or outputs (parameter " <i>inPutS</i> " or " <i>outPut</i> ", see page 32-33). If present, check it is not damaged and is installed correctly.
<i>Er.r.b.H</i>		
<i>E9.Err</i>	Impossible to perform equalisation.	Check the cells are connected properly. Check the signal of each cell in the diagnostic menu (menu <i>d.iAC</i> , parameter <i>AdC.uU</i> , see page 34).
<i>PrEE.</i>	Calibration error.	First calibrate the zero point, then proceed with the next points.
<i>Err.Pnt</i>	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.
<i>Er 11</i>	Calibration error.	Increase the calibration weight.
<i>Er 12</i>	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.
<i>Er 37</i>	Calibration error.	Repeat the calibration, checking that the capacity and division have been correctly set.
<i>Er 39</i>	Instrument not configured.	Reset the factory configurations (menu <i>AdUAnC</i> , parameter <i>dFLt.t</i> , see page 41).
<i>Er 85</i>	Instrument configured but not calibrated.	Perform calibration.
<i>C.Er. 36</i>	Calibration error.	Check that the signal coming from the load cell is not negative.
<i>Err.Not</i>	Unstable weight	Check in the menu <i>d.iAC</i> , parameter <i>AdC.uU</i> (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.

10. SUMMARY OF THE PARAMETERS

CAL	Calibration	10
dIU	Division	10
0.CAL	Zeroing the pre-tare (zero calibration)	11
GrAU	Area of gravity of the place of use.....	11
SEr iAL	Configuration of the serial ports.....	12
CoN.PC	Communication with PC, PLC or repeater.....	12
Node	Selection of the communication mode.....	12
ProtoC	Selection of the protocol.....	12
CoN.SEL	COM port selection for PC / PLC connection	13
bAud	Communication speed (baud rate).....	13
bit	Configuration of the serial protocol	13
CoN.Prn	Communication with printer or repeater or PC	14
Node	Selection of the communication mode.....	14
ProtoC	Selection of the protocol.....	14
bAud	Communication speed (baud rate).....	14
bit	Configuration of the serial protocol	15
CtS	Printer control signal	15
Power.P	Printer power supply / radio-frequency module.....	15
AuH.1	Communication with PC, PLC or repeater.....	16
Node	Selection of the communication mode.....	16
ProtoC	Selection of the protocol.....	16
bAud	Communication speed (baud rate).....	16
bit	Configuration of the serial protocol	17
AuH.2	Communication with Bluetooth BLE	16
Node	Selection of the communication mode.....	16
ProtoC	Selection of the protocol.....	16
bAud	Communication speed (baud rate).....	16
bit	Configuration of the serial protocol	17
ADVAnC	Advanced configurations	18
BLE	Activation of Bluetooth BLE module	18
tTLtIL	TTL port / inclinometer activation (for use by the manufacturer)	18
tErA	Closing character of each print line.....	18
iGnorE	Ignore unknown commands	18
LAYout	Print customisation	19
LANG	Setting of the print language (<i>ITAL, ENGL, DEut, FRAN, ESPA, Ch inES</i>)	20
CHAR	Setting the font.....	20
hEAdEr	Print header	21
dAtA	Selection of the weight data.....	23
WE iGht	Progressive weighed	23
t iGht	Ticket/label progressive	23
CLoCk	Date and time.....	24
bArC.39	Bar code 39.....	24
bArC.uP	Barcode top margin (mm)	24
bArC.L	Barcode left margin (mm).....	24
bArC.h	Barcode height (mm).....	24

bArC.dE	Selection of the weight data.....	25
CoP.iES	Multi-copy prints.....	25
End.t.iC	Paper outlet for end of ticket/receipt.....	25
bL.inE	White print head preheating line (thermal printer only).....	25
LABEL	Label configuration.....	26
Lb.SAVE	Saving labels in printer memory.....	26
tEST	Saving labels in the printer memory and test printing all formats.....	26
F.iLTER	Weighing filters.....	27
SCrEEn	Adjusting the display.....	28
bAHL.t	Backlighting.....	28
LoCk	Display lock (for use by the manufacturer).....	28
CoLour	Backlight colour (on versions with colour display).....	28
dSP.rF	Display refresh rate limitation.....	29
bAtt	Battery power supply.....	29
AutoFF	Auto switch-off.....	29
An.out	Analogue output.....	30
inPutS	Digital inputs.....	32
outPut	Digital outputs.....	33
rESEt	Factory configuration reset.....	34
d.iAG	Diagnostics.....	34
AdC.uU	Converter.....	34
d.iSPLA	Display.....	34
CTs	Keypad.....	34
outPut	Digital outputs.....	34
inPutS	Digital inputs.....	34
An.out	Analogue output.....	34
SEr.nuM	Serial number.....	34
PrG.VER	Firmware release.....	34
d.iU.int	Internal divisions.....	34
AdC.Pnt	ADC points.....	34
bE.AdC	Battery voltage level.....	34
PH.AdC	Power supply voltage level.....	34
SEr.iAL	Serial ports.....	34
AdURnC	Advanced.....	35
CAL.PAr	Calibration parameters.....	35
dEC.iM	Configuration of the decimal point.....	35
d.iU	Reading division.....	35
u.M	Unit of measure.....	36
rAnGE 1	Scale capacity (maximum capacity / first weighing range).....	36
rAnGE 2	For multirange scales (second weighing range).....	36
rAnGE 3	For multirange scales (third weighing range).....	36
EQuAL	Equalisation function.....	37
n.ChAn	Equalised analogue channels.....	37
EQuAL.P	Equalisation.....	38
CAL.AdU	Complete calibration.....	39
Stb.FLT	Additional stability filter.....	39
PEAK.FL	Anti-peak filter.....	40

MetroL	Metrological parameters	40
OPeRc	Resetting percentage using the key 	40
dUStb	Sensitivity of the weight stability control.....	40
0trH	Zero hold function (tracking).....	40
onZEro	Reset at power and reset percentage.....	41
CALAdJ	Re-acquisition / change of the calibration points in memory	41
CALnAn	For use by the manufacturer	41
dSALE	For use by the manufacturer	41
KEYb	Type of keypad	41
tILT	Inclinometer (for use by the manufacturer)	41
rEAct	Reactivation of the print or weight totalisation function	42
LoCkAb	Permanent keypad lock (excluding key )	42
ALibir	Reset of fiscal memory (alibi memory, optional).....	42
PIn.tEEc	Access PIN to programming menu.....	42
PIn.uSE	Access PIN to user menus	42
dFLt.t	Total reset of memory and calibration	42

11. FAQ - Frequently Asked Questions

Calibration

Can I change the maximum capacity without recalibrating?

Yes, you must change the parameters [rRnGE 1.2.3](#) (Q-1-4,5,6). (See page 36)

Can I change the division without recalibrating?

Yes, you must change the parameter [dIU](#) (Q-1-2). (See page 36)

Can I change the position of the decimal point without recalibrating?

Yes, you must change the parameter [dEE n](#) (Q-1-1) and the value of the calibration points using step [CAL .nRn](#) (Q-5-6). (See page 36 e 40)

Can I calibrate the instrument in “multi-division” mode?

Yes, using the advanced configuration function from PC and the Dinitools program.

Communication

Scale doesn't answer

- Check that the cable is in good condition and that there are no faults (use a multimeter).
- Check that the communication port of the PC or device being used is not compromised. If necessary, try another device / PC.
- Check that you have connected the cable to the correct serial port.
- Check that the optional board is present (485IECEX or BTH-IECEX)
- Check step configuration [bRud](#) and [b t5](#). (See page 13)
- Temporarily activate continuous communication and retry string reception. If the string has been received correctly, carefully check the syntax of the command sent, the communication timeouts and the presence of the terminator.

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 keypad, using the diagnostic menu [dRG](#). (See page 34)
- Possible failure of the rechargeable battery (if present).



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Stamp of the authorised service centre

