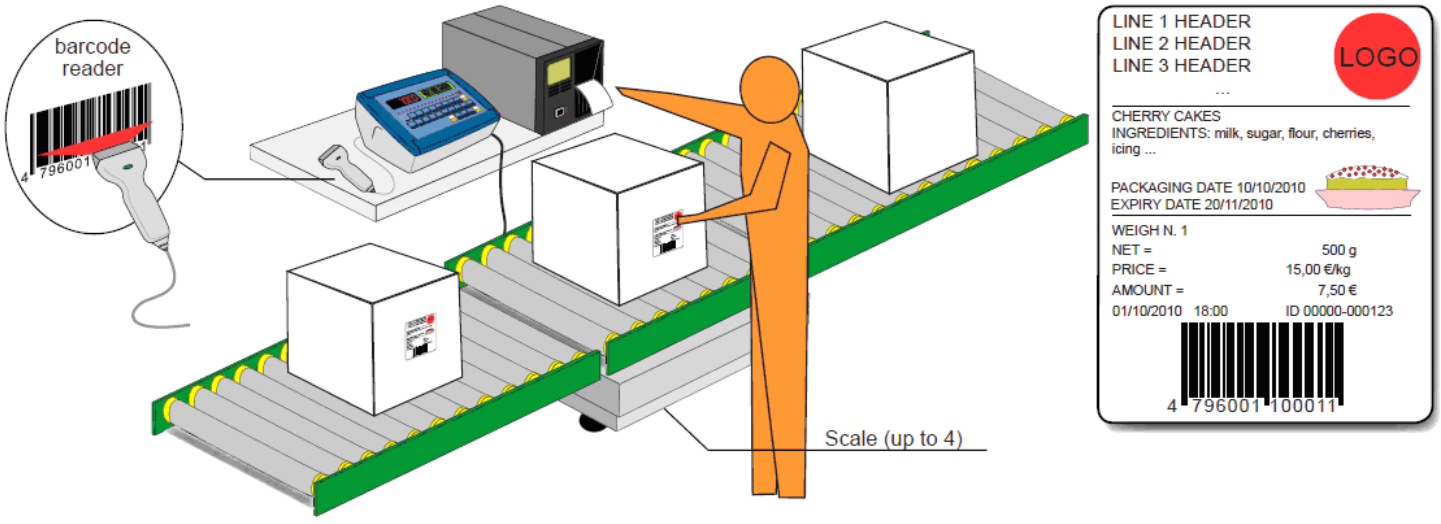
TECHNICAL MANUAL
WEIGHT INDICATOR

E-AF05: PROGRAM VERSION FOR INDUSTRIAL PRICE COMPUTING



3590EKR, 3590EXP, 3590EXT, CPWE, CPWET series indicator





INDEX

1. REQUIREMENTS FOR AN OPTIMAL INSTALLATION

To obtain the best results it is recommended to install the indicator and the platform (or transducer) in a place with the following conditions:

A flat, level surface on which to rest

Stable and vibration free

No dust or strong vapours

No draughts

Make sure the platform is level or that the loading cells are resting evenly

Moderate temperature and humidity (15-30°C and 40-70%)

Do not install anywhere where there is the risk of explosion

All the indicator connections have to be made respecting the rules applicable in the zone and in the installing environment. Respect the recommended electrical precautionary measures described in section 1.1.

Make sure that the grounding is made correctly, see section 1.2.

Everything not expressly described in this manual has to be considered as improper use of the equipment.

Avoid welding with load cells installed.

Use waterproof sheaths and couplings in order to protect the load cell cables.

Use a waterproof junction box to connect the cells.

1.1 ELECTRICAL PRECAUTIONARY MEASURES

Mains power supply is restricted to within ± 10% of the rated voltage

Electric protections (fuses etc.) are provided by the technician installing the instrument.

Respect the recommended minimal distances that are mentioned for the various cable categories, see sections 1.1.1 and 1.1.2.

The extension leads of the load cells or signal amplifiers, used for the connection of the serial ports and analogue output must be within the allowed maximum lengths, see section 1.1.3.

The extension leads of the load cells or signal amplifiers must be screened. In addition they must be laid on their own in a raceway or metal pipe as far away as possible from the power supply cables.

Install "RC" filters on the contactor coils, on the solenoid valves and on all devices producing electric disturbances.

If it is possible that condensation could form inside the weight transmitter it is advisable to leave the instrument powered at all times.

Every shielded cable or not (for instance PC cable, cell cable, power supply cable) connected to the indicator should be as shorter as possible, then you have to come out of the shield the minimum length of cable, then connect to the terminal box;

If the indicator is situated inside an electric panel, the power supply cable should be a shielded cable as shorter as possible, distant from every coil supply cable, inverter, electromotive force, etc. and in addition dedicate an uncoupler transformer in order to feed the indicator only.

1.1.1 CABLE CLASSIFICATION

The various cables are classified depending on the transmitted signals:

Category I
- Field bus, LAN
- Shielded data cables (RS232 …)
- Shielded cables for analogue/digital signals < 25V (sensors, load cells…)
- Low tension power supply cables (< 60V)
- Coaxial cables

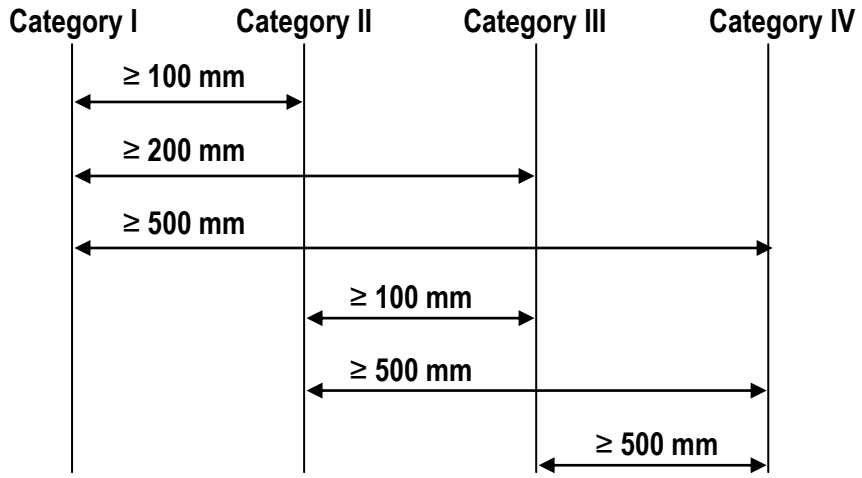
Category II
- DC supply cables with tension > 60V and < 400V
- AC supply cables with tension > 25V and < 400V

Category III
- Power supply cables with tension > 400V
- Telephone cables

Category IV
- Any cable subject to lightning

1.1.2 RECOMMENDED DISTANCES AMONG CABLES

- When the cables are laid next to each other, these must be at the distances in the table below
- These distances are valid if in the air; these are reduced if the raceways are separated by grounded metallic shields.
- Different category cables can cross each other (90°)



1.1.3 MAXIMUM CABLE LENGTH

LOAD CELL CABLE
The maximum reachable length using the appropriate load cell cable is:
- 50 m with cable 6 x 0,25 mm^2
- 100 m with cable 6 x 0,5 mm^2

RS232 CABLE
The maximum reachable length using the RS232 cable with a maximum baud rate of 19200, is about 15 m.

RS485 CABLE
The maximum reachable length with the use of the appropriate cable for RS 485 connections (see section 5.1), is about 1200 meters.

ANALOG OUTPUT CABLE
The maximum length of the analogue output cable in current is:
- 100 m with cable 2 x 0,25 mm^2
- 150 m with cable 2 x 0,5 mm^2
- 300 m with cable 2 x 1 mm^2

The maximum length of the analogue output cable in voltage is:
- 50 m with cable 2 x 0,25 mm^2
- 75 m with cable 2 x 0,5 mm^2
- 150 m with cable 2 x 1 mm^2

1.2 EARTHING SYSTEM

For the right earthing and the optimal functioning of the system, it is necessary to connect the indicator, the load cells, the possible junction box and the weighing structure to the earth.
All earthing cables must have the shortest possible length in order to minimize their resistance.

INDICATOR

Connect the external earthing of the indicator to the earth through copper cables having at least a 16 mm^2 cross-section.

LOAD CELLS AND JUNCTION BOX

The earthing must be done by connecting the earthing cables to a ground bar with cables having a cross-section of at least 16 mm^2 and by connecting the ground bar to a ground pole with a cable having a cross-section of at least 50 mm^2.

- In the case the load cells are connected to the indicator through a junction box, it is necessary to connect the sheathing both of cells cables and of indicator cable to the earthing of the junction box (refer to the junction box manual) and connect this to the earth through copper cables having at least a 16 mm^2 cross-section.
- If the load cells are connected directly to the indicator (without the use of the junction box), one should connect the shieldings of the load cell cables to the grounding point (or earthing bar) inside the container.
- If the weighing system concerns large and/or outdoor structures, like weighbridges, and the junction box is connected to the indicator in a distance that is greater than 10 m, or in the presence of noise, the cable shield must be earthed both in the junction box and in the indicator, and the two ground leads must be connected with an earth cable having a cross-section of at least 16 mm^2.

WEIGHING STRUCTURE

Connect the weighing structure and the possible connected structures (for example silos that release material on the weighing structure) to the earth through copper cables having at least a 16 mm^2 cross-section.

Furthermore it is necessary that for each cell, one connects the upper part with the lower part of the load cell through a copper braid section not less than 16 mm^2; the upper part must be short-circuited with the surface of the weighing structure and the lower part must be grounded through a copper braid section not less than 16 mm^2.

CONNECTED SERIAL CABLES AND INSTRUMENTS

Connect the shield of the serial cable at the grounding point (or grounding bar) inside the container (on the end of the cable toward the indicator) and at the earth connection of the connected instrument (on the end of the cable toward the indicator), and ground the earth connection of the connected instrument, through a copper cable section not less than 16 mm^2.
To avoid possible side effects, the earth references of the connection and power supply cable of the indicator and of the connected instrument **must be at the same potential**.

GENERAL NOTES:

- All the grounding cables must have an adequate length, in order to obtain **an overall resistance of grounding system less than 1 Ω.**

- In the case the weighing system regards great and/or outdoor structures, like weighbridges:

  - The grounding connection is to be made by connecting the grounding cables to a grounding bar and the grounding bar to the grounding pole with a cable section not less than 50 mm2.

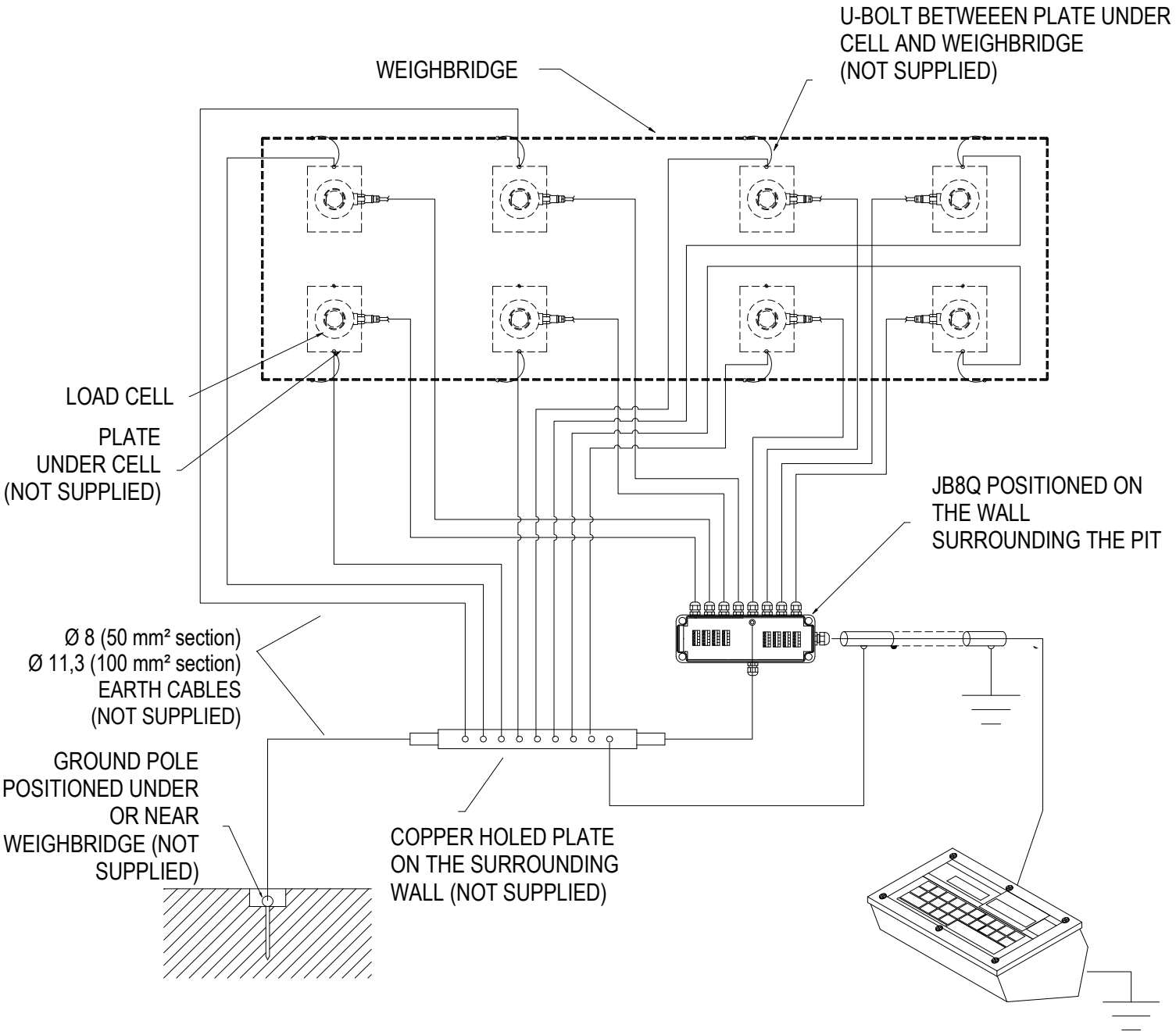
  - the cable cross-section must be greater (for example 50 mm^2 instead of 16 mm^2 and 100 mm^2 instead of 50 mm^2), because the voltage into play is greater (for example thunderbolts);

  - the ground pole must be positioned at a distance of at least 10 metres from the weighbridge structure;

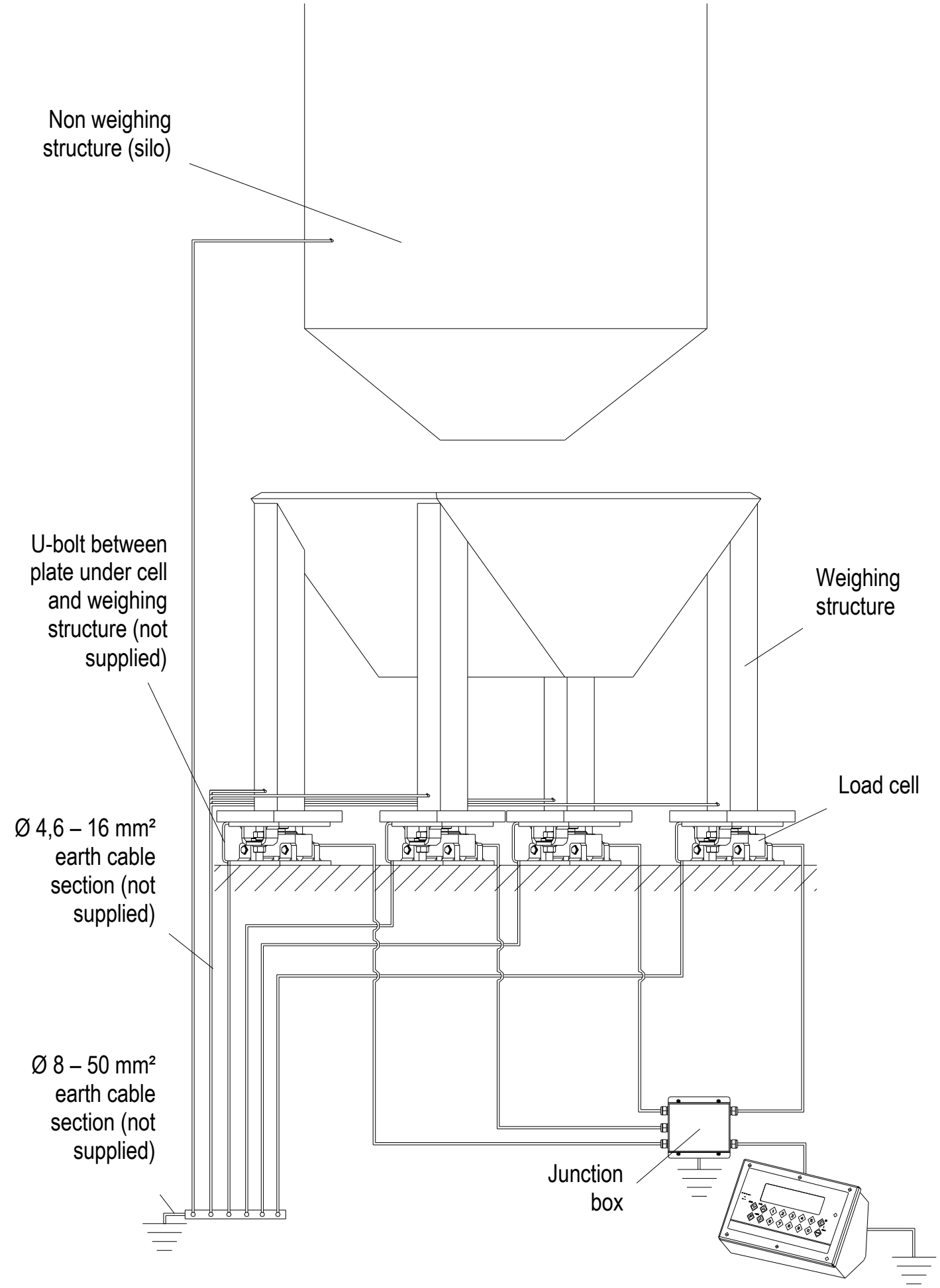
  - one needs to open the SENSE inside the indicator in order to offset the drifts due to the increase in temperature.

- One should check and remove, if necessary, the connection between the earth and the neutral wire of the electrical installation.

EARTHING EXAMPLE WEIGHBRIDGE



EARTHING EXAMPLE OF A SILO



2. CONNECTION TO THE LOAD RECEIVER

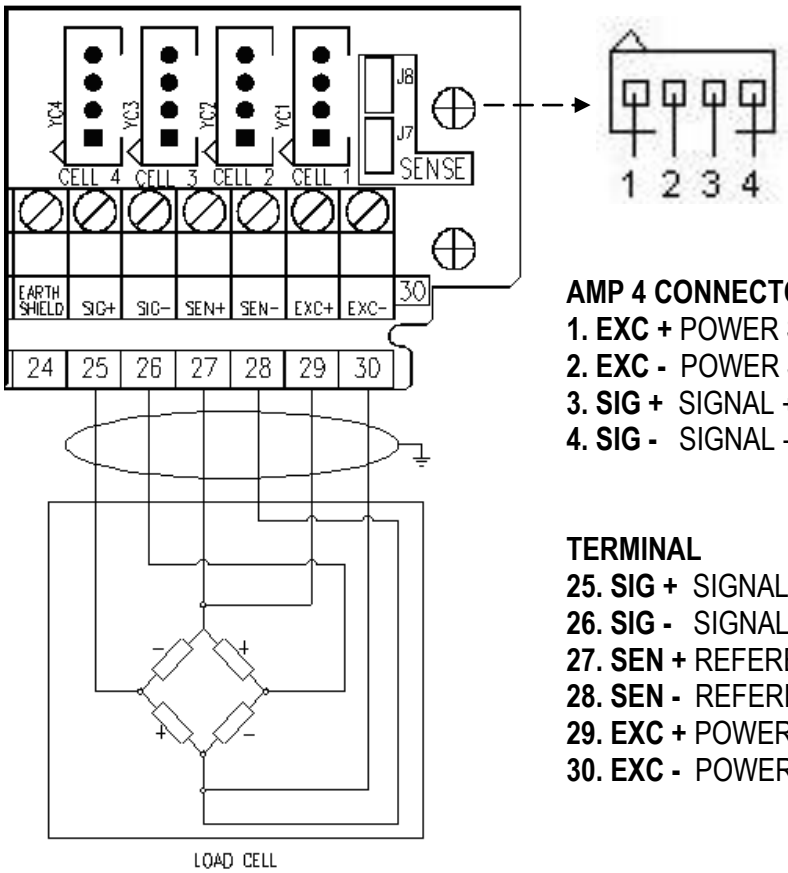
2.1 ANOLOG LOAD CELLS

IMPORTANT: Respect the electrical precautionary measures indicated in section 1.

After having followed the instructions regarding the platform or the load receiver, the screened cable leading from the load cell(s) must be connected to the instrument through the CELL1 terminal board and the CELL1, CELL2, CELL3, CELL4 connectors; see section 8.
The terminal board of the indicator may be connected to the 6-wire load receiver (with use of SENSE), or simply 4-wire; for this, through jumper J7 and J8 it is possible to choose whether to short-circuit the SENSE with the POWER SUPPLY (jumpers closed) or not (jumpers open). The sense allows compensating for any drops in voltage in the part of the cable that connects the instrument to the transducer. It is useful when the distance between the indicator and the transducer is greater than 10 m.
The 4-pin connectors instead allow just the 4-wire connection.
To make the connection qualified personnel must open the instrument (see terminal board connections section 8).

TAKE NOTE: if there is just one LOAD RECEIVER, it is possible to make a 6-wire connection (use of sense) directly with the terminal board, removing the J7 and J8 jumpers.
If there are two or more LOAD RECEIVERS, one should close the J7 and J8 jumpers (sense and power supply are short-circuited) and make the 4-wire connection.

Normally the indicator comes already connected to the platform and is ready to use. If this is a LEGAL version instrument, access to the connection will be subject to a legal SEAL.
Follow the instructions for preparing the platform for use.



AMP 4 CONNECTOR
1. EXC + POWER SUPPLY +
2. EXC - POWER SUPPLY -
3. SIG + SIGNAL +
4. SIG - SIGNAL -

TERMINAL
25. SIG + SIGNAL +
26. SIG - SIGNAL -
27. SEN + REFERENCE +
28. SEN - REFERENCE -
29. EXC + POWER SUPPLY +
30. EXC - POWER SUPPLY -

See section 8 for further information.

PART RESERVED FOR THE AUTHORISED TECHNICAL PERSONNEL

3. SETUP ENVIRONMENT

By “SETUP environment" we mean a certain menu inside which all the indicator operating parameters can be set.
To enter it, turn on the instrument and, while the firmware version is being displayed, press the TARE key for an instant.

The indicator shows:

1) **“TECH ”** for an instant on the display → **ACCESS PASSWORD DISABLED** → **“LAnG”** on the display on top; **“LANGUAGE”** on the display below → **COMPLETE SET-UP MENU (technical personnel).**

Or

2) **“USER – PRESS KEY ”** for an instant on the display → **ACCESS PASSWORD ENABLED** → **“ PrG.VEr ”** on the display on top; **“FIRMWARE”** On the display below → **PARTIAL SET-UP MENU (only user)**

If one has chosen **2)** and you want to access the complete set-up menu one should:

Press TARE/ZERO During the visualisation of the “**USER – PRESS KEY”** message On the display → **ENTER THE PASSWORD SUBSTITUTING THE DISPLAYED VALUE** → **PRESS “ENTER”** → **“TECH ”** for an instant on the display → **COMPLETE SET-UP MENU (technical personnel).**

In the parameter description and in the block diagram

- The **METRIC** parameters are shown with the **(*)** symbol**, and, with approved instrument, these may not be visible or read only. See the explanation of the parameter for the details.**
  NOTE: The indicator is approved when the J1 jumper (CAL) of the motherboard is closed (see the electrical scheme in section 8.1).
- The **CONDITIONAL STEPS** are shown with the **(§)** symbol, **and are not accessible or displayed in specific conditions, shown in the step description.**
- The **DEFAULT VALUES** are shown with the **(!)** symbol placed next to the step and at the end of it.

FUNCTION OF THE KEYS IN THE SET-UP ENVIRONMENT

KEY	FUNCTION
F6, F7	Allow scrolling ahead and behind, in the menu steps or in the parameters inside a step.
Fn / ENTER	Allows to enter a step or confirm a parameter inside a step.
C / DEL	Allows to exit a step without confirming the possibly modified parameter and go to the preceding level.
F5	Allows to print all configurations in the set-up environment (if one is in the menu), or to print the configuration of the single step (if one is in the desired step). The display shows the "PRINT" message: press **ENTER** to confirm or **C** to cancel.
NUMERIC KEYBOARD	Allows entering an alphanumeric input.

The display show, the current parameter and its description; generally, when one exits a step the instrument places itself on the following step.

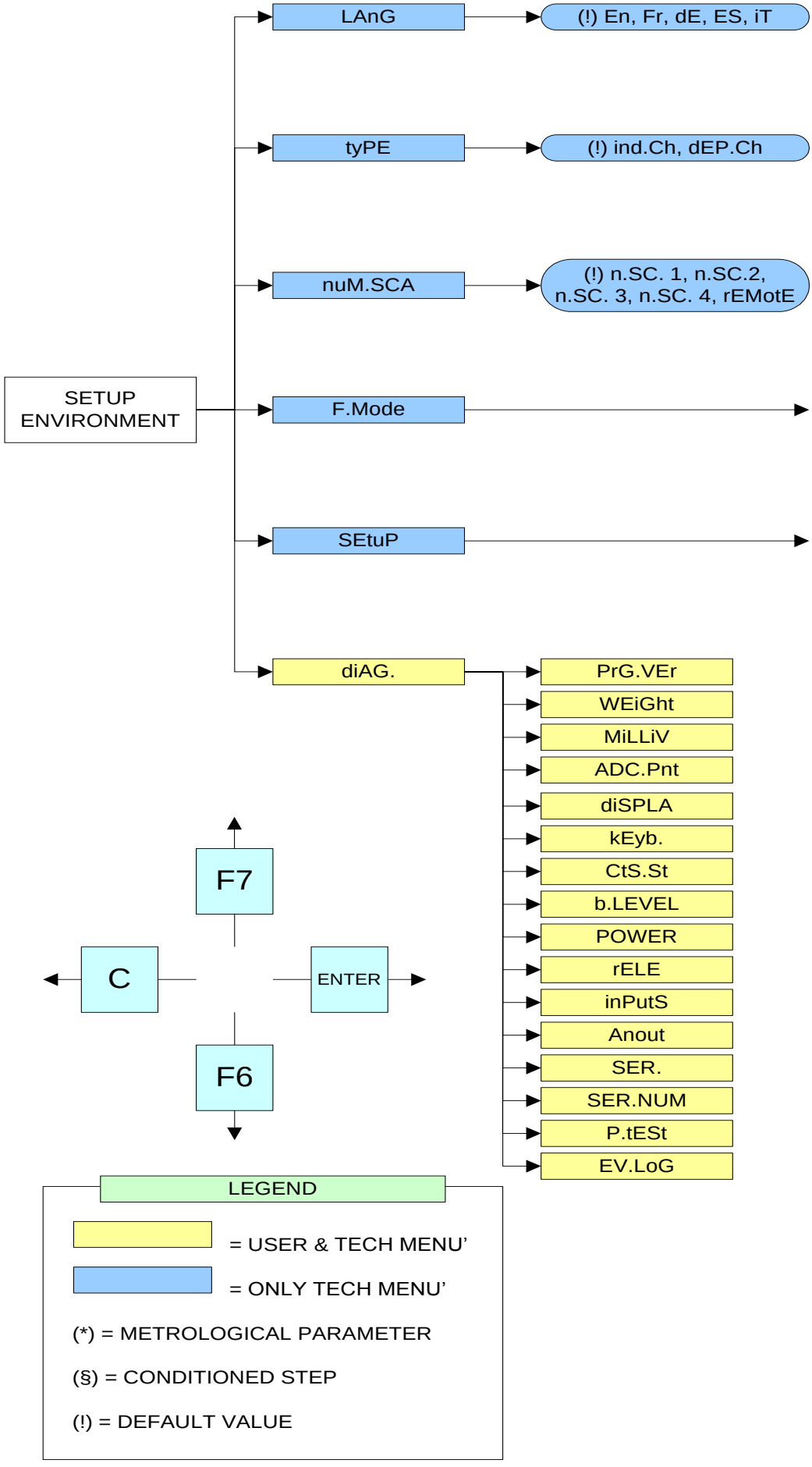
TO EXIT THE SET-UP ENVIRONMENT, PRESS THE C KEY MANY TIMES UNTIL THE INDICATOR SHOWS:

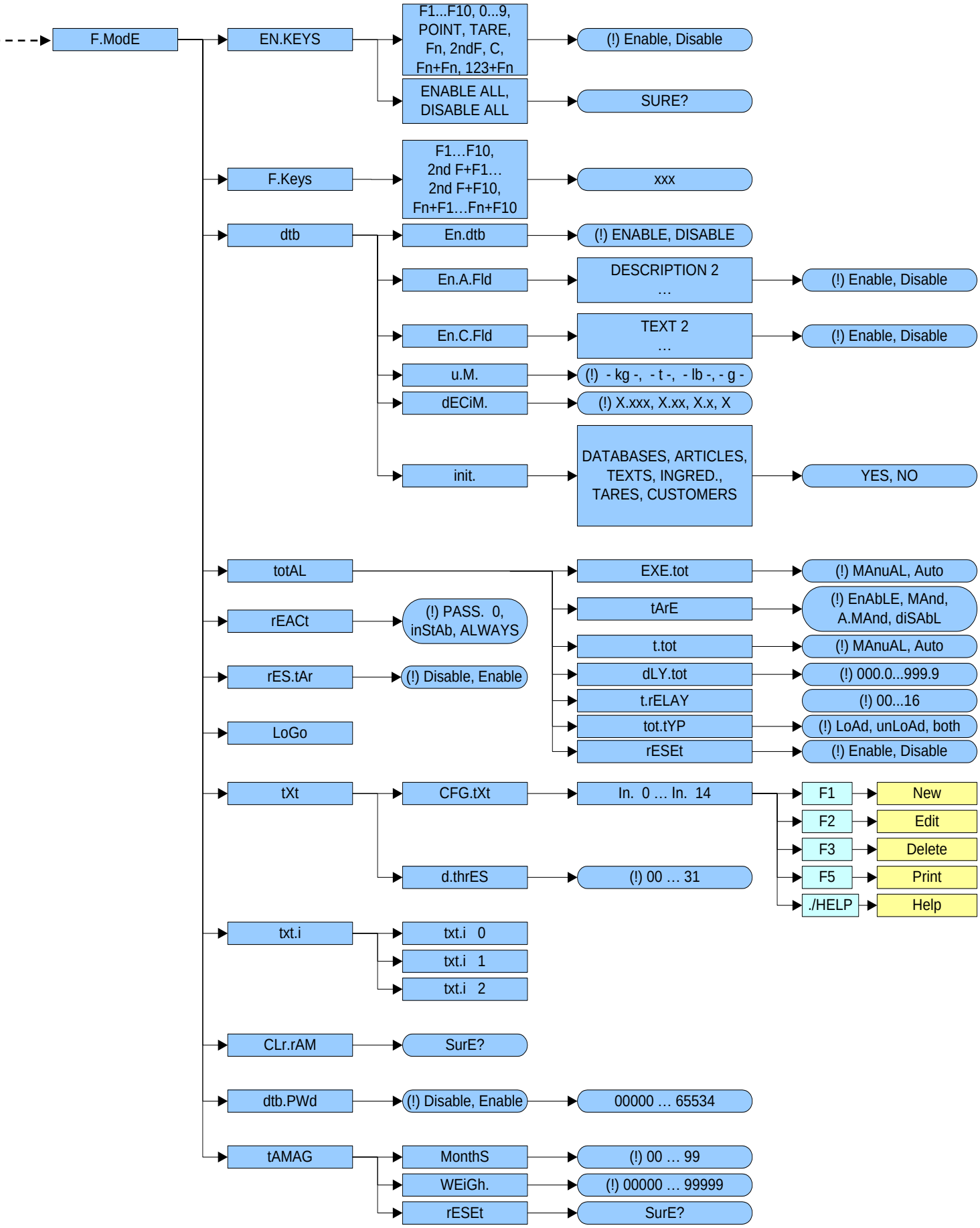
EXITING SETUP:
SAVE ?

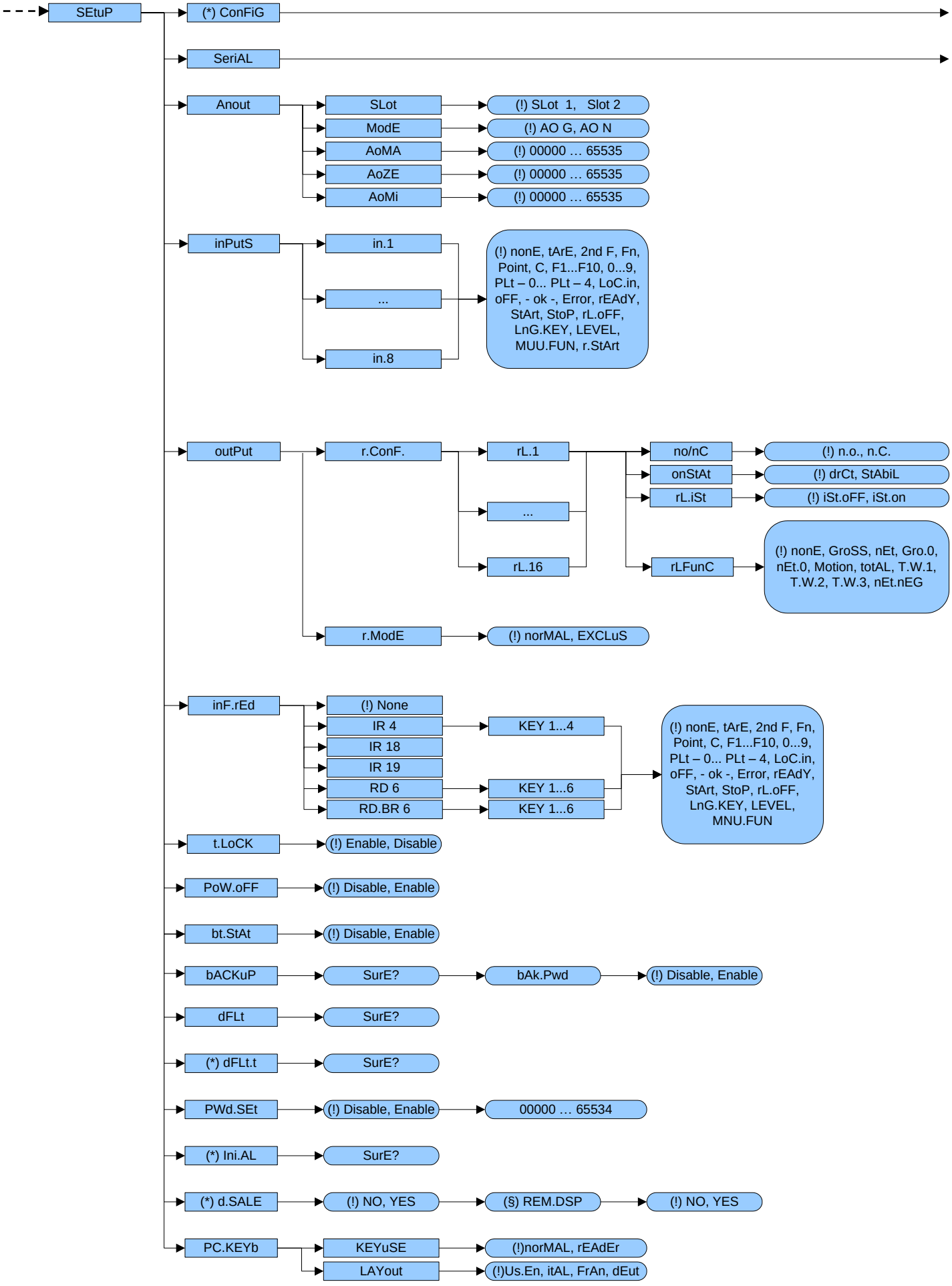
CONFIRM WITH ENTER TO SAVE CHANGES MADE OR PRESS ANOTHER KEY TO NOT SAVE.

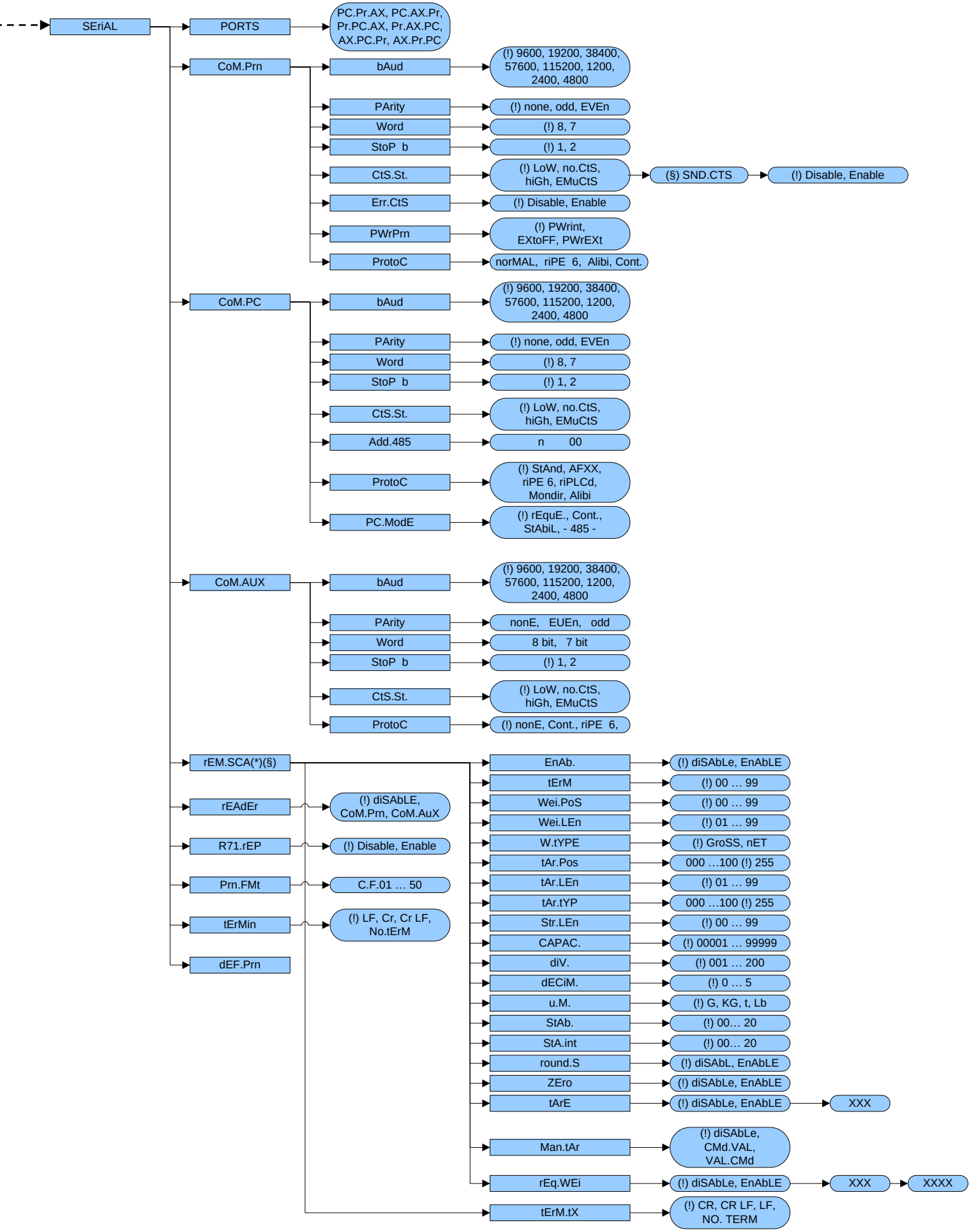
3.1 SET-UP ENVIRONMENT BLOCK DIAGRAM

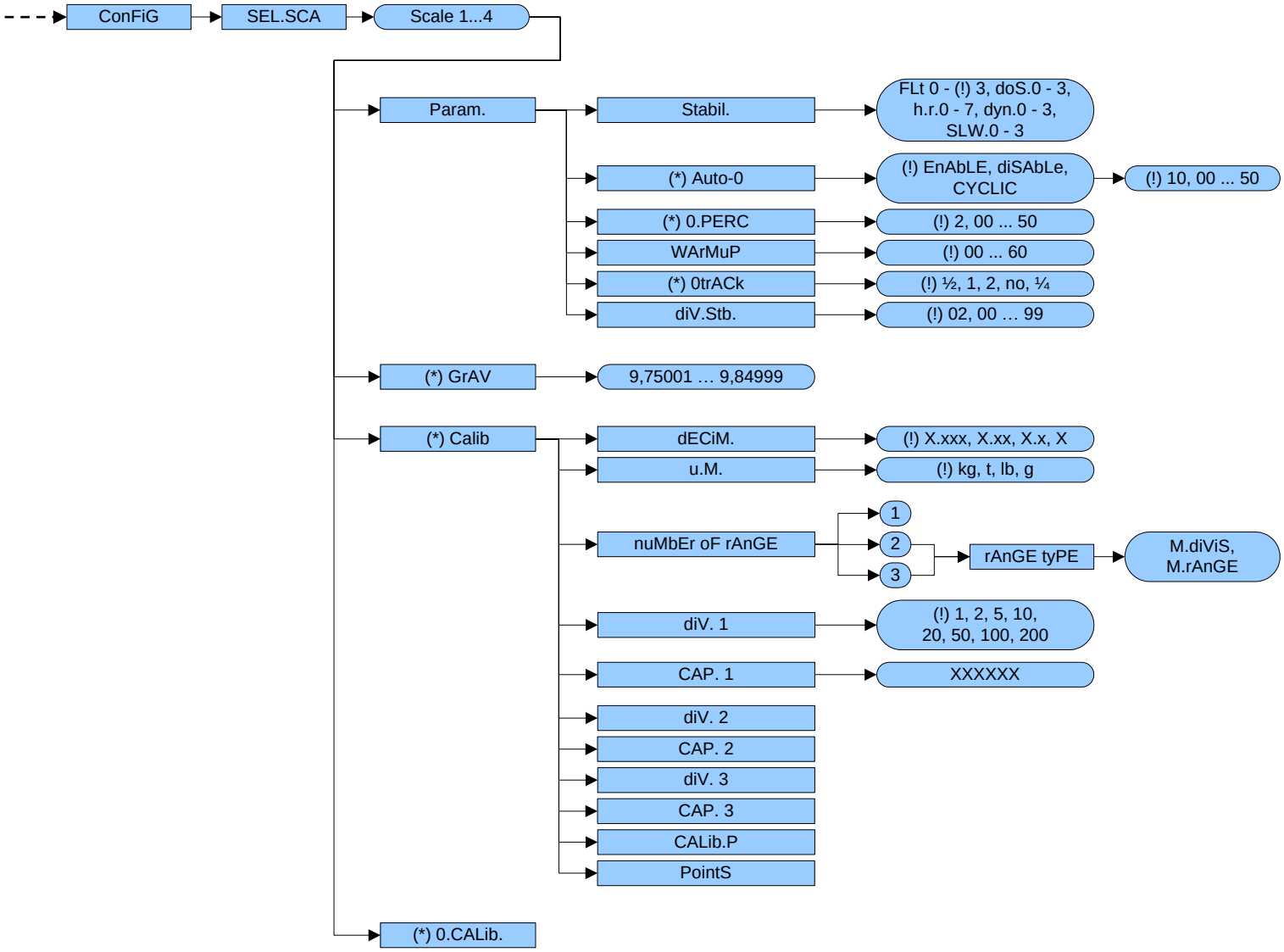
The following diagram shows the structure of the indicator's set-up environment; each step has been described in detail in the section 3.2.




F.ModE
EN.KEYS
F1...F10, 0...9, POINT, TARE, Fn, 2ndF, C, Fn+Fn, 123+Fn
(!) Enable, Disable
ENABLE ALL, DISABLE ALL
SURE?
F.Keys
F1…F10, 2nd F+F1… 2nd F+F10, Fn+F1…Fn+F10
xxx
dtb
En.dtb
(!) ENABLE, DISABLE
En.A.Fld
DESCRIPTION 2 …
(!) Enable, Disable
En.C.Fld
TEXT 2 …
(!) Enable, Disable
u.M.
(!) - kg -, - t -, - lb -, - g -
dECiM.
(!) X.xxx, X.xx, X.x, X
init.
DATABASES, ARTICLES, TEXTS, INGRED., TARES, CUSTOMERS
YES, NO
totAL
EXE.tot
(!) MAnuAL, Auto
tArE
(!) EnAbLE, MAnd, A.MAnd, diSAbL
t.tot
(!) MAnuAL, Auto
dLY.tot
(!) 000.0...999.9
t.rELAY
(!) 00...16
tot.tYP
(!) LoAd, unLoAd, both
rESEt
(!) Enable, Disable
rEACt
(!) PASS. 0, inStAb, ALWAYS
rES.tAr
(!) Disable, Enable
LoGo
tXt
CFG.tXt
In. 0 … In. 14
F1
New
F2
Edit
F3
Delete
F5
Print
./HELP
Help
d.thrES
(!) 00 … 31
txt.i
txt.i 0
txt.i 1
txt.i 2
CLr.rAM
SurE?
dtb.PWd
(!) Disable, Enable
00000 … 65534
tAMAG
MonthS
(!) 00 … 99
WEiGh.
(!) 00000 … 99999
rESEt
SurE?


SEtuP
(*) ConFiG
SeriAL
Anout
SLot
(!) SLot 1, Slot 2
ModE
(!) AO G, AO N
AoMA
(!) 00000 … 65535
AoZE
(!) 00000 … 65535
AoMi
(!) 00000 … 65535
inPutS
in.1
...
in.8
(!) nonE, tArE, 2nd F, Fn, Point, C, F1...F10, 0...9, PLt – 0... PLt – 4, LoC.in, oFF, - ok -, Error, rEAdY, StArt, StoP, rL.oFF, LnG.KEY, LEVEL, MUU.FUN, r.StArt
outPut
r.ConF.
rL.1
...
rL.16
no/nC
(!) n.o., n.C.
onStAt
(!) drCt, StAbiL
rL.iSt
(!) iSt.oFF, iSt.on
rLFunC
(!) nonE, GroSS, nEt, Gro.0, nEt.0, Motion, totAL, T.W.1, T.W.2, T.W.3, nEt.nEG
r.ModE
(!) norMAL, EXCLuS
inF.rEd
(!) None
IR 4
IR 18
IR 19
RD 6
RD.BR 6
KEY 1...4
KEY 1...6
KEY 1...6
(!) nonE, tArE, 2nd F, Fn, Point, C, F1...F10, 0...9, PLt – 0... PLt – 4, LoC.in, oFF, - ok -, Error, rEAdY, StArt, StoP, rL.oFF, LnG.KEY, LEVEL, MNU.FUN
t.LoCK
(!) Enable, Disable
PoW.oFF
(!) Disable, Enable
bt.StAt
(!) Disable, Enable
bACKuP
SurE?
bAk.Pwd
(!) Disable, Enable
dFLt
SurE?
(*) dFLt.t
SurE?
PWd.SEt
(!) Disable, Enable
00000 … 65534
(*) Ini.AL
SurE?
(*) d.SALE
(!) NO, YES
(§) REM.DSP
(!) NO, YES
PC.KEYb
KEYuSE
(!)norMAL, rEAdEr
LAYout
(!)Us.En, itAL, FrAn, dEut


SEriAL
PORTS
PC.Pr.AX, PC.AX.Pr, Pr.PC.AX, Pr.AX.PC, AX.PC.Pr, AX.Pr.PC
CoM.Prn
bAud
(!) 9600, 19200, 38400, 57600, 115200, 1200, 2400, 4800
PArity
(!) none, odd, EVEn
Word
(!) 8, 7
StoP b
(!) 1, 2
CtS.St.
(!) LoW, no.CtS, hiGh, EMuCtS
(§) SND.CTS
(!) Disable, Enable
Err.CtS
(!) Disable, Enable
PWrPrn
(!) PWrint, EXtoFF, PWrEXt
ProtoC
norMAL, riPE 6, Alibi, Cont.
CoM.PC
bAud
(!) 9600, 19200, 38400, 57600, 115200, 1200, 2400, 4800
PArity
(!) none, odd, EVEn
Word
(!) 8, 7
StoP b
(!) 1, 2
CtS.St.
(!) LoW, no.CtS, hiGh, EMuCtS
Add.485
n 00
ProtoC
(!) StAnd, AFXX, riPE 6, riPLCd, Mondir, Alibi
PC.ModE
(!) rEquE., Cont., StAbiL, - 485 -
CoM.AUX
bAud
(!) 9600, 19200, 38400, 57600, 115200, 1200, 2400, 4800
PArity
nonE, EUEn, odd
Word
8 bit, 7 bit
StoP b
(!) 1, 2
CtS.St.
(!) LoW, no.CtS, hiGh, EMuCtS
ProtoC
(!) nonE, Cont., riPE 6,
rEM.SCA(*)(§)
EnAb.
(!) diSAbLe, EnAbLE
tErM
(!) 00 … 99
Wei.PoS
(!) 00 … 99
Wei.LEn
(!) 01 … 99
W.tYPE
(!) GroSS, nET
tAr.Pos
000 …100 (!) 255
tAr.LEn
(!) 01 … 99
tAr.tYP
000 …100 (!) 255
Str.LEn
(!) 00 … 99
CAPAC.
(!) 00001 … 99999
diV.
(!) 001 … 200
dECiM.
(!) 0 … 5
u.M.
(!) G, KG, t, Lb
StAb.
(!) 00… 20
StA.int
(!) 00… 20
round.S
(!) diSAbL, EnAbLE
ZEro
(!) diSAbLe, EnAbLE
tArE
(!) diSAbLe, EnAbLE
XXX
Man.tAr
(!) diSAbLe, CMd.VAL, VAL.CMd
rEq.WEi
(!) diSAbLe, EnAbLE
XXX
XXXX
tErM.tX
(!) CR, CR LF, LF, NO. TERM
rEAdEr
(!) diSAbLE, CoM.Prn, CoM.AuX
R71.rEP
(!) Disable, Enable
Prn.FMt
C.F.01 … 50
tErMin
(!) LF, Cr, Cr LF, No.tErM
dEF.Prn


ConFiG
SEL.SCA
Scale 1...4
Param.
Stabil.
FLt 0 - (!) 3, doS.0 - 3, h.r.0 - 7, dyn.0 - 3, SLW.0 - 3
(*) Auto-0
(!) EnAbLE, diSAbLe, CYCLIC
(!) 10, 00 ... 50
(*) 0.PERC
(!) 2, 00 ... 50
WArMuP
(!) 00 ... 60
(*) 0trACk
(!) ½, 1, 2, no, ¼
diV.Stb.
(!) 02, 00 … 99
(*) GrAV
9,75001 … 9,84999
(*) Calib
dECiM.
(!) X.xxx, X.xx, X.x, X
u.M.
(!) kg, t, lb, g
nuMbEr oF rAnGE
1
2
3
rAnGE tyPE
M.diViS, M.rAnGE
diV. 1
(!) 1, 2, 5, 10, 20, 50, 100, 200
CAP. 1
XXXXXX
diV. 2
CAP. 2
diV. 3
CAP. 3
CALib.P
PointS
(*) 0.CALib.

3.2 DESCRIPTION OF THE STEPS

<< LAnG >> LANGUAGE SELECTION

Parameter	Language	Used Codepage (see section 7.2)
- **En**	English	1252 Windows Latin 1
- **Fr**	FranÇais	1252 Windows Latin 1
- **dE**	Deutsch	1252 Windows Latin 1
- **ES**	Español	1252 Windows Latin 1
- **It**	Italiano	1252 Windows Latin 1

(!) En

<< tYPE >> INSTRUMENT TYPE (*)

One selects the type of application: either the scale with independent channels or scale with non independent channels (eventually digitally equalised).

ind.Ch. Instrument connected to 1, 2, 3 or 4 independent scales.

dEP.Ch Instrument connected to 1 scale with 2, 3 or 4 non independent load cells (eventually equalised digitally using a specific software procedure).

(!) ind.Ch

(*) In case of approved instrument the parameter is read only.

<< nuM.SCA >> NUMBER OF CONNECTED SCALES (*)

- n.SC. 1 (1 scale) **(§).** This value is not visible is one sets **tYPE** on “dEP.Ch”.
- n.SC. 2 (2 scales)
- n.SC. 3 (3 scales)
- n.SC. 4 (4 scales)
- rEMotE **(§)** This value is not displayed if **SetuP >> SeriAL >> rEAdEr** step is set on CoMAuX**.**

(!) n.SC. 1

(*) In case of approved instrument the parameter is read only.

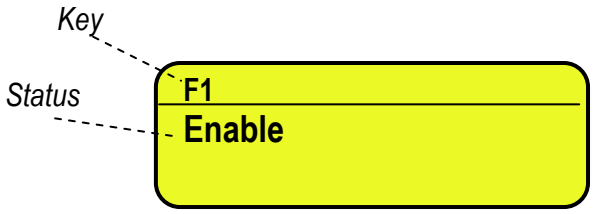
<< F.ModE >> SCALE FUNCTIONING

<< En.kEyS >> KEYS ENABLING

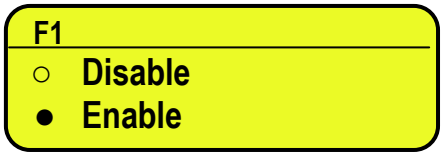
It is possible to enable/disable each single key of the keyboard as well as the following two sequences of keys:

- Fn + Fn for access to a menu listing all functions
- 123 + Fn for direct access to a specific function (e.g. number 123)

- select the desired key with F6/F7:



- press ENTER to modify the setting:



- Press F6/F7 to select “Enable” (enabled) or “Disable” (disabled), and ENTER to confirm.

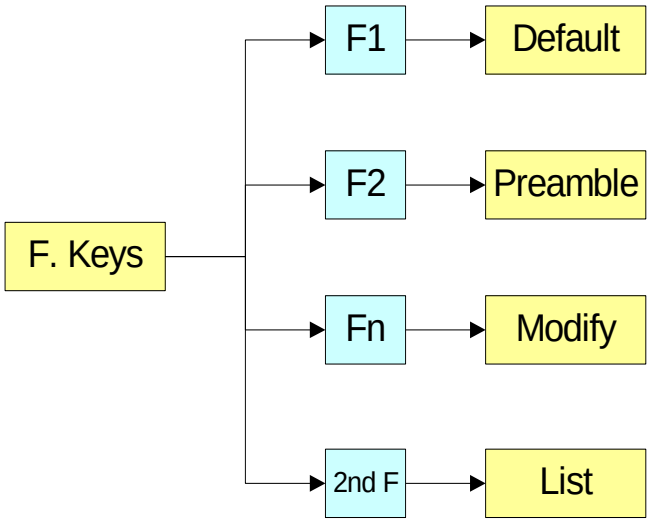
NOTES:

- It's possible to enable/disable all the keys together (including the above-mentioned sequences of keys), by selecting "ENABLE ALL" or "DISABLE ALL" (the confirmation will be requested with the message "SURE?").
- The disabling of the keys will have effect only the WEIGHING PHASE, in other words, not inside the menus, databases, etc…
- The turning off of the instrument (long pressing of the C key) will always be enabled.
- The disabling of the keys will be applied also on the PC keyboard, if connected.

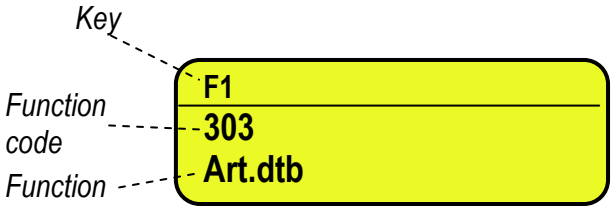
(!) ENABLE ALL, except the sequences of keys "Fn + Fn" and "123 + Fn"

<< F.kEyS >> FUNCTION KEYS COUPLING

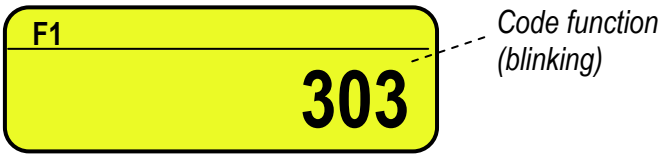
It's possible to modify the function of the F1, F2…..F10 keys, and the combination of these with the **2nd F** or **Fn** keys (i.e. "2nd F + F1", "Fn + F2", etc...).



- select the desired key with F6/F7:



- press ENTER to modify the setting:



- Enter the desired code and confirm with ENTER.

KEYS' FUNCTIONS IN THIS STEP

▼	scrolls forward inside the list of the keys.
▲	scrolls backward inside the list of the keys.
F1	performs the default of the function coupling of the keys.
F2	inserts the preamble.
ENTER	modifies the code of the function in the current key; while entering it confirms the entered code.
2nd F	displays the list of the functions; press ENTER to select the desired function.

NOTE:

By pressing the **. /HELP** key, it's possible to display the list of the keys used inside this step and their functions.
The list is automatically. If one wants to scroll the list of the keys in manual mode, it is possible to use the arrow keys (F6 ▼ and F7 ▲).

CODE	BASIC FUNCTIONS	DEFAULT KEY/S
100	Scale zero (ZERO)	TARE/ZERO pressed at lenght
101	Cyclic zero (0.CYCLE)	2ndF + TARE/ZERO
102	Tare execution (TARE)	TARE/ZERO
103	Enable the printer (PRN-ON)	Fn + 0
104	Simple printout (PRINT)	F5
105	Repetition of last printout (CPY.PRN)	2ndF + F5
106	Change visualization weight (WEI.VIS)	2ndF + F8
107 (*)	Change visualizationLCD display (LCD.VIS)	2ndF + F9
108	LOck/unlock keyboard (L. KEYB)	F1 pressed at lenght
109	Visualization times ten (Disp.10)	F2 pressed at lenght
110	Set time and date (CLOCK)	F3 pressed at lenght
111	Diagnostics menù (Diag.)	F4 pressed at lenght
112	Lock/unlock tare (L. TARE)	F5 pressed at lenght
113 (*)	Input text configuration (txt)	F4
114	Calculator (CALC)	
115	Print and clear partial total (Prn.0.t0)	F8
116	Print and clear general total (Prn.0.t1)	F9
117	Print and clear grand total (Prn.0.t2)	F10
118	Diagnostic peripheral units (P.DIAG)	
119	COM data diagnostics (COM.DAT)	
120	Customized display enabling or change of visualization if already enabled (CST.DSP)	
121	Input text 0 configuration (txt.0)	
122	Input text 1 configuration (txt.1)	
123	Input text 2 configuration (txt.2)	
124	Input text 3 configuration (txt.3)	
125	Input text 4 configuration (txt.4)	
126	Input text 5 configuration (txt.5)	
127	Input text 6 configuration (txt.6)	
128	Input text 7 configuration (txt.7)	
129	Input text 8 configuration (txt.8)	
130	Input text 9 configuration (txt.9)	
131	Input text cancellation: from 0 to 14, 99 erase all the texts (txt.rSt)	
132	Print format sending: from 0 to 30 (Send.P.F)	
OTHER FUNCTIONS		
200 (*)	Format linking to the Simple Printout (Prn.Fmt)	
201	Format Linking to the Totalisation (SND.FMT)	
202 (*)	Setpoint configuration (SETPNT)	
203	Selection remote scale (REM.SCA)	2ndF + 0
204	Selection channel 1 (PLT-1)	2ndF + 1
205	Selection channel 2(PLT-2)	2ndF + 2
206	Selection channel 3 (PLT-3)	2ndF + 3
207	Selection channel 4 (PLT-4)	2ndF + 4
208	Change of data visualized on the display with active zoom (DAT.VIS)	
209	Switch on the next scale	2ndF + 2ndF

SPECIAL FUNCTIONS		
300	Totalisation (totAL)	F6
301	Change seasoning and expiry days (Upd.Day)	
302 (*)	Change price (Upd.Pri)	
303 (*)	Products (Art.dtb)	F1
304	Print and clear product tot (Prn.0.tA)	2ndF + F1
305	Print and clear products tot(Prn.0.tA)	
306	Ingredients (ing.dtb)	F3
307 (*)	Customers database (CUS.dtb)	F2
308 (*)	Tare database (tar.dtb)	Fn + TARE/ZERO
309	Article alpha-betic search	
310	Customer alpha-betic search	
PRINTOUT MENU VISUALIZATIONS		
400	Automatic print partial total (AUt.Prn)	
401	Set number labels (LdL.SEt)	
402	Totaliser additional value (Add.VAL)	
403	Set progress. digits (Prg.1)	
404	Visualizes partial total (V.t-0)	
405	Print partial total (Prn.t-0)	
406	Reset partial total (0.t-0)	
407	Visualizes general total (V.t-1)	
408	Print general total (Prn.t-1)	
409	Reset general total (0.t-1)	
410	Visualizes grand total (V.t-2)	
411	Print grand total (Prn.t-2)	
412	Reset grand total (0.t-2)	
413	Visualizes product tot (V.t-A)	
414	Print product tot (Prn.t-A)	
415	Reset product tot (0.t-A)	
416	Print weighs report (Rpt)	
417	Reset weighs list (0.W.LIST)	
418	Weighs list net (W.LIST.N)	
419	Weighs list gross (W.LIST.G)	
420	Weighs list tare (W.LIST.T)	
421	Reset scale totals (0.t-ALL)	
422	Reset products tot (0.ArtS)	
423	Reading aliby memory (ALIBI)	
SET THRESHOLDS TOTALISATION		
500	Set maxim. threshold (tr.HI)	
501	Set minim. threshold (tr.LO)	
CURRENCIES AND CONV. FACTOR		
600	Currency minimun division (Min.Div)	
601	Decimals currency (Decim.)	
602	Symbol currency (SYMboL)	
603	Set conversion factor (COnv.)	
604	Totaliser function mode (EXE.tot)	
605	Selection price/weight (Pri.Wei)	
606	Set fixed weight /0=cancel (FiX.VAr)	

CANCEL MENU		
700	Cancel last weighs (CAnC. 1)	
701	Cancel weight on scale (CAnC. 2)	
702	Cancel end weighs (CAnC. 3)	
PROGRESS MENU		
800	Set total. progress. (Prg)	
801	Set customer progr. (cuS.Prg)	
802	Set boxes progr. (box.Prg)	
803	Set pallet progr. (plt.Prg)	
804	Set partial progr. (PAr.Prg)	
805	Set general progr. (GEn.Prg)	
806	Set grand t. progr. (GrA.Prg)	
807	Set product progr. (Art.Prg)	

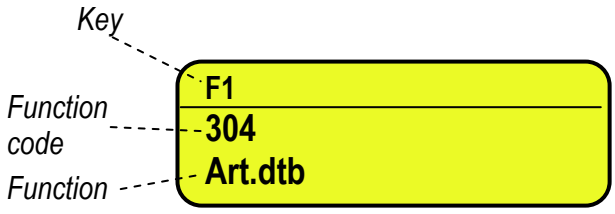
Preamble function

It is possible to associate also a preamble (numeric value) to the F1, F2…F10 keys. In this way, when the key is pressed, the preamble is automatically used as parameter of the function to be executed.
The functions to which can be associated a preamble are:

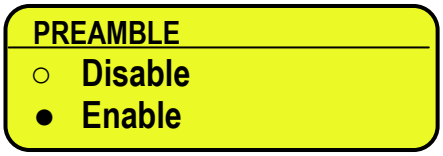
FUNCTIONS	PREAMBLE VALUE
Change visualization LCD display (LCD.VIS)	number of the visualization that is displayed when the zoom is not active
Input text configuration (tXt)	number of the input text that one wants to modify.
Coupling print formats (Prn.Fmt)	number of the format on which one wants to modify the coupling.
Setpoint configuration (SETPNT)	number of the setpoint that one wants to modify.
Change data while in zoom (DAT.VIS)	number of the visualization that is displayed when the zoom is active.
Article database (Art.dtb)	number of the article that is automatically selected

By pressing a key with the function of a database associated (for example articles database) and it is enabled the preamble to the value 9999, it is required to deactivate the record eventually enabled.
EXAMPLE:
9999 + F1(article database), deselect active article.

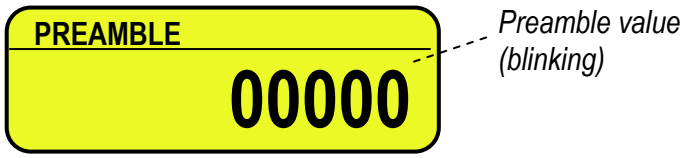
- select the desired key with F6/F7:



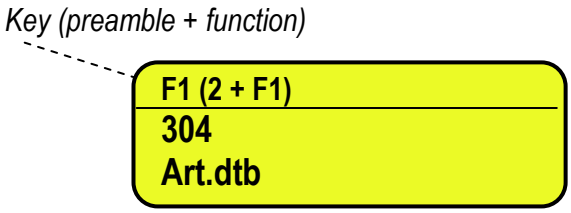
- press F2 to insert the preamble, select enable and confirm with ENTER:



- insert the numeric value to combine with the function and confirm with ENTER



insert the desired value through the numeric keyboard and confirm with ENTER (by confirming the value 0, the preamble is disabled).



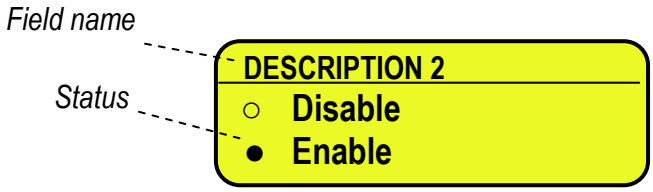
<< dtb >> DATABASES

<< En.dtb >> ENABLING DATABASES

It is possible to enable or disable the databases:
EnAbLE: databases enabled.
diSAbL: databases disabled.
(!) EnAbLE

<< En.A.Fld >> PRODUCT FIELD ENABLING

It's possible to enable one by one the fields necessary for the application.

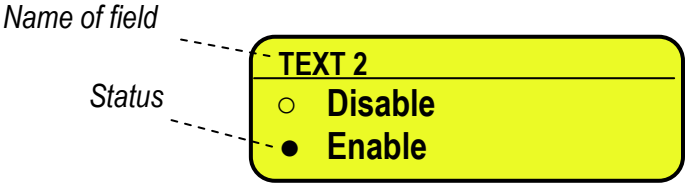


- Press F6/F7 to select "Enable" (enabled) or "Disable" (disabled), and ENTER to confirm.
- Proceed up to the last suggested field, after which it automatically exits the step.

NOTE: The first article description is always enabled.

<<En.C.Fld>> CUSTOMER FIELDS ENABLING

It's possible to enable one by one the fields necessary for the application.



- Press F6/F7 to select "Enable" (enabled) or "Disable" (disabled), and ENTER to confirm.
- Proceed up to the last suggested field, after which it automatically exits the step.

NOTE: The first customer description is always enabled.

<< u.M. >> DATABASE UNIT OF MEASURE

It is possible to set the unit of measure of the ARTICLE database; in relation to the total values: kg, t, lb, g; if the unit of measure is different than the one of the active scale, the displayed or printed total value will be automatically converted with the database's unit of measure.

(!) kg

<< dECiM. >> DATABASE DECIMALS

It is possible to set the number of decimals of the ARTICLE database, in relation to the total values: 1, 2, 3, no decimal; if the number of decimals is less than the one of the active scale, the displayed or printed total value will be automatically rounded off.

(!) 3

<< init. >> INITIALIZE DATABASES and INPUT TEXTS

By pressing **ENTER** one initialises the DATABASES (with the total values) and the INPUT TEXTS: in this way all their contents will be cancelled.

The cancellation is not immediate; the indicator requests a further confirmation (the LCD display shows "RESET DATABASES ? ENTER=YES C=NO"). By pressing **ENTER** one confirms the operation, by pressing **C**, the indicator gives the possibility to cancel all the databases individually in this order: PRODUCTS DATABASE, INGREDIENT DATABASE, TARE DATABASE, INPUT TEXTS, CUSTOMERS DATABASE.

Following the initialisation of the databases, the unit of measure and the decimals are brought back to the default values.

<< totAL >> TOTALISER

<< EXE.tot >> AUTOMATIC/MANUAL TOTALISER

One sets the totalisation mode:

- **Auto** automatic upon weight stability.
- **ManuAL** manual using the **F6** key.

(!) ManuAL

<< tArE >> SELECTION OF THE TARE EXECUTION MODE

- **diSAbL** Disabled.
- **EnAbLE** Enabled.
- **MAnd** Obligatory execution before carrying out a totalisation.
- **A.MAnd** Automatic execution upon weight stability, obligatory before carrying out a totalisation.

See the section 7.9 "SELECTION OF THE TARE EXECUTION MODE" in the user manual for the functioning specifics.

(!) EnAbLE

<< t.tot >> TARE AFTER THE TOTALISATION

- **MAnuAL** Manual execution.
- **Auto** Automatic execution after each totalisation.

See the section "TARE AFTER THE TOTALISATION" in the user manual for the functioning specifics.

(!) MAnuAL

<< dLy.tot >> TOTALISATION DELAY

Only for the automatic totalisation, one sets the time delay which runs between the weight stability and the totalisation.

NOTE: MIN= 000.0sec. ; MAX= 999.9 sec.

(!) 000.0

<<t.rELAY>> TOTALISER ONLY IF ACTIVE RELAY

Pressing enter is possible to enable a condition of totalization for which it is not possible to totalize if the condition is not true. The condition is given by the function of one of the 4 +12 outputs. It will be asked to enter the output number. If it is inserted 0 the control is disabled.

(!) 00

<< tot.tYP >> TOTALISER TYPE

One sets the type of totalisation: in loading (**LoAd**), in unloading (**unLoAd**), and in unloading as well as in unloading (**both**).

(!) LoAd

<< rESEt >> TOTALISER CONFIRM RESET

It is possible to select the automatic resetting of the totals when these are printed (**diSAbL**) or the resetting upon request (**EnAbLE**).

(!) EnAbLE

<< rEACt >> REACTIVATIONS

It is possible to set whether to reactivate the printout and the totalisation with:

- PASSAGE BY ZERO OF THE NET WEIGHT **(PASS. 0)**
- WEIGHT INSTABILITY **(inStAb).**
- ALWAYS ACTIVATE **(ALWAYS).**

(!) PASS. 0

<< rEStAr >> RESTORING TARE AND ZERO AT START-UP

It's possible to set whether to restore or not at start-up the first tare and the active tare before turning off the instrument; furthermore, if the current gross weight and the last stored gross weight before turning off the instrument are greater than zero, the stored zero is restored, otherwise the automatic zero is carried out.

EnAbLE: restoring enabled tare and zero.

diSAbLe: restoring disabled tare and zero.

(!) diSAbLe

See the section "RESTORING TARE AND ZERO AT START-UP" in the user manual for the functioning specifics.

<< LoGo >> TEXT UPON START-UP

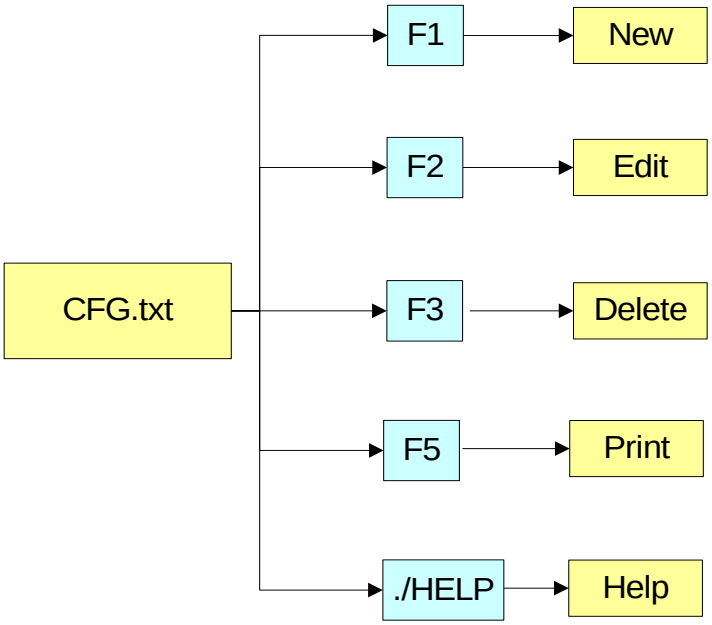
At the start-up of the indicator, the LCD display shows a message of 2 lines of 16 characters, which is set in this step, or a 160x32 pixel photo uploadable from Dinitools™ (" *.bmp "monochromatic format is accepted). For further informations see the Dinitools™ Manual.

(!) DINI ARGEO

<< tXt >> INPUT TEXTS

<< CFG.tXt >> INPUT TEXT CONFIGURATION

Through this step one can enter, modify or cancel the heading of the input texts which will be filled in during the weighing through the F4 key of the indicator; refer to the user manual for further specifications. **(USER MAN.REF.).**



ENTRY

- Press **ENTER** to enter in the step.
- Select the eventual desired position through the arrow ▲ ▼ keys (or with the keyboard digit the position number).
- Press **F1** to enter the text in the desired position, or the first free position, if an already occupied position has been selected.
- The display shows “DESCRIPTION” and one can now enter the heading of the input text (up to 16 characters); press **ENTER** to confirm.
- The display shows “TEXT” and one can enter the contents of the input text (up to 32 characters); press **ENTER** to confirm.
- The display shows “THRESHOLD” and one can enter the maximum number of alphanumeric characters enterable in the field “TEXT”; press **ENTER** to confirm.
- The display shows “MANDATORY INPUT”, if one chooses “Enable” it is possible to exit from the input phase only if the text isn’t null; press **ENTER** to confirm.
- The display shows “ONLY VOID INPUT”; if one chooses “Enable” it is possible to modify the text only if it is null; press **ENTER** to confirm.
- **NOTE**: The threshold entered here defines also the field length for the compilation through the **F4** key in the weighing phase; if no text is inserted, the length is set at 32 characters.

MODIFICATION

- Press **ENTER** to enter in the step.
- Select the storage to be modified through the arrow ▲ ▼ keys (or with the keyboard digit the position number) and press **F2**.
- Modify the desired fields, listed in the previous section.
- **NOTE**: The text entered here defines also the field length for the compilation through the **F4** key in the weighing phase; if no text is inserted, the length is set at 32 characters.

CANCELLATION

- Press **ENTER** to enter in the step.
- Select the storage to be cancelled through the arrow ▲ ▼ keys (or with the keyboard digit the position number) and press **F3**.
- The indicator requests a further confirmation: press **ENTER** to confirm or another key to cancel.

PRINTING

- Press **ENTER** to enter in the step.
- Once inside it, press the **F5** key to print all the input texts. The display shows the message "**PRINT ?**": confirm with the **ENTER** key to print the whole input texts' database.

HELP

By pressing the **./HELP** key, it's possible to see the keys list used in the menu.
The key list is automatically. If you want to see the keys list, in manual mode, use the arrow key (F6 ▼ e F7 ▲).

<< d.thrES >> DATA LENGTH THRESHOLD FROM READER

If one enables the compilation function of the free texts through the bar code reader / badge (see relative manual), In this step one can define a length (from 00 to 31) which conditions the storage of data ready. If the datum has a length less or equal to the predefined one; it is stored in the first input text; otherwise it is stored in the second one.

NOTE: the function has been enabled on the serial port selected in the **SEtuP >> SEriAL >> rEAdEr** step, or on the PC KEYBOARD input, by selecting the "Reader" parameter in the **SEtuP >> PC.KEYb >> KEY.uSE** step.

<< tXt.i >> ENTRY OF HEADINGS

Up to 3 lines x 24 characters of text can be entered that will be printed if programmed in the printout formats (see blocks 406, 407, 408). The text entered will remain stored and printed until it is either cancelled or substituted.

<< CLr.rAM >> CANCELLATION OF THE BUFFERED RAM

The indicator has a buffered RAM memory (not volatile when power is removed) inside which is the database data, the input texts, the print formats, the heading.
The cancellation is not immediate; the indicator requests a further confirmation (the display shows "SurE?): press **ENTER** to confirm; press another key to cancel.
Note: CALIBRATION DATA ARE NOT CANCELLED.

<< dtb.PWd >> SET DATABASE ACCESS PASSWORD

By confirming the **Enable** setting one may insert a password of up to 5 digits, which will inhibit the entry, modification or cancellation of the databases, during the weighing.
The settable values run from 0 to 65534; by setting **Disable**, this password is disabled.
See section 12 in the user manual.
(!)Disable

<< tAMAG >> TAMAGOTCHI

One enters the "NUMBER of MONTHS" passed (2 digits, **MonthS** paramters), and the "NUMBER of the WEIGHS" made (5 digits, **WEiGh.** parameter) **since the last calibration**; after this, one is advised to recalibrate the instrument.
By pressing **ENTER** one passes to a submenu:

- **MonthS** >>> Setting of Months
- **WEiGh.** >>> Setting of Weighs
- **rESEt** >>> Clearing of Months and Weighs from the last calibration

If you set the number of months and the weighing to zero, this function will be disabled; in any case it is possible to activate a choice of the number of months (MAX 99) or the number of weighs (MAX 99999).
By confirming with **ENTER** on the "rESEt" step one sets at zero the number of months and weighs taken place since the last calibration made.
At start-up and every day at 11:00 o'clock, the indicator will be checking for the number of weighing and the number of months that have passed since the last calibration. If one of the values or both are equal or higher than the previously set values, the message "RECALIBRATE THE SCALE" appears in the LCD display and an intermitting sound is emitted. By pressing any key, the indicator will enter in the normal scale functioning mode.

NOTE: The number of weighs is increased when, after passing by the unstability, there is a stable weight and greater than 4 divisions on the scale.
(!) MonthS 00; WEiGh. 00000.

<< SEtuP >> SCALE CONFIGURATION

<< ConFiG >> METRIC PARAMETERS

If various scales are connected (see **nuM.SCA** parameter), the scale number to be configured will be requested; the configurations inside this menu must be made for each connected scale.

<< PArAM. >> PARAMETERS

<< StAbiL >> FILTERING INTEGRATION

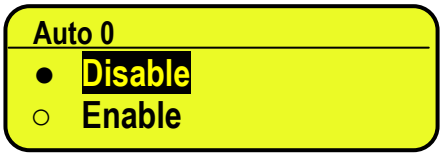
By pressing the **ENTER** key one accesses the selection of the type and degree of filter intervention for the stability of the weight indication:

FLt 0 – 3	simple weighing
h.r.0 – 1	high resolution
dYn.0 – 1	weight in movement (i.e. weighing animals)
doS.0 – 3	dosage
SLW.0 – 3	weight rather unstable
h.r.2 – 7	high resolution
dYn.2 – 3	weight in movement (i.e. weighing animals)

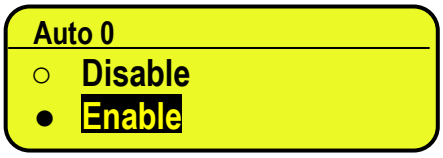
The higher the filter value, and greater is its intervention relative to the type of filter used.
(!) FLt 0
(*) In case of approved instrument, one can select only **FLt 0…3**, **h.r.0, h.r.1, dYn.0**, **dYn.1.**

<< (*) Auto-0 >> AUTOZERO AT START-UP

Automatic acquisition of the gross zero at start-up.



- Disabled



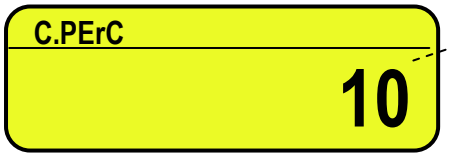
ENTER

Clearing percentage (blinking)

- Enabled

Set the clearing percentage in relation to the capacity (in between +/-1 and +/- 50 %).

ENTER



Clearing percentage (blinking)

- Executed cyclically on all the present scales.

Set the clearing percentage in relation to the capacity (in between +/-1 and +/- 50 %).

This value is not visible if there is just one scale (see the **nuM.SCA** parameter).
See section 3.2 **(USER MAN.REF.)** for details on the functioning.
(*) with approved instrument:
- by confirming the setting of EnAbLE or CYCLIC it is possible to modify the clearing percentage between +/-1 and +/-10 %.
(!) EnAb, +/-10 %

<< (*) 0-PErC >> ZERO FUNCTIONS IN WEIGHING PHASE

Acquisition of the gross zero through the ZERO key.

Clearing percentage (blinking)

Set the clearing percentage in relation to the capacity (in between +/-1 and +/- 50 %).
By entering the 0 value, it's possible to disable the ZERO functions in the weighing phase.
See section 6 **(USER MAN.REF.)** for functioning details.
(*) In case of approved instrument, the settable values are between 0 and 2.
(!) +/-2 %

<< WArMuP >> WARM-UP PHASE

It is possible to set a time in which, during the start-up phase, a short preheating of the instrument's electronics is made, in order to optimise the weighing.
The settable values go from 00 to 60 sec.
The 00 value disables the function.
(!) 00

<< (*) 0.trACk >> ZERO TRACKING

This menu allows setting the zero tracking, in other words, the compensation parameter of the scale's thermal drift.
The set value corresponds to the number of **stable divisions per 1 second** that one desires to compensate.
tr. ¼ +/- one fourth of a division
tr. ½ +/- half division.
tr. 1 +/- one division.
tr. 2 +/- two divisions.
tr. no tracking disabled.
(!) tr. ½
(*) In case of approved instrument, by entering the step one views the set value; by pressing **ENTER** it's possible to modify the parameter and choose one of the following values: **tr. no**, **tr. ½, tr. ¼.**.

<< (*) diV.Stb >> DIVISIONS BY STABILITY

In this step one enters the number of divisions by which the instrument detects the weight stability; the higher the number of divisions, less is the sensitivity, and consequently the stability is more easily detected. The possible values are 0…99; By setting the 0 value, the check is disabled.
(!) 2
(*) In case of approved instrument the parameter is read only.

<< (*) GrAV >> GRAVITY ZONE AND ZONE OF USE

Through this step one selects the gravitational acceleration value **of calibration and of use** of the instrument:
Manual entry of the g value: the instrument is ready for the manual entry of the gravitational acceleration value.
If one enters a wrong g value: the minimum decimal value is proposed (9,75001); by a wrong g value one intends a decimal number not including between 9,75001 and 9,84999 (included).
(!) g = 9,80655
(*) In case of approved instrument the parameter is read only.

<< EquAL. >> EQUALISATION **(§)**

See section 3.3 "SCALE CALIBRATION".
(§) This step is visible only if the scales are connected in a non independent way (see the **tYPE** parameter).

<< CALib. >> SCALE CALIBRATION

See paragraph "3.3 SCALE CALIBRATION".
(*) In case of approved instrument the parameters inside of this step are read only.

<< 0.CALib. >> ZERO CALIBRATION

See paragraph "3.3 SCALE CALIBRATION".

(*) In case of approved instrument the parameter is not displayed.

<< SEriAL >> SERIALS, PRINTOUTS, ETC…

<< PortS >> SERIAL PORTS CONFIGURATION

By pressing ENTER it's possible to choose the most adequate combination for the use of the three serial ports on the indicator hardware (**COM1, COM2, COM3**):

Parametro	COM 1	COM 2	COM 3
PC.Pr.AX (!)	ComPC	ComPrn	ComAux
PC.AX.Pr	ComPC	ComAux	ComPrn
Pr.PC.AX	ComPrn	ComPC	ComAux
Pr.AX.PC	ComPrn	ComAux	ComPC
AX.PC.Pr	ComAux	ComPC	ComPrn
AX.Pr.PC	ComAux	ComPrn	ComPC

<< CoMPrn >> CONFIGURATION OF PRINTER SERIAL

<< bAud >> SET BAUD RATE

By pressing the **ENTER** key one accesses the selection of the data transmission speed (measured in Baud = bit/second). The possible values are: 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200.

(!) 9600

<< PAritY >> SET PARITY

By pressing the **ENTER** key one accesses the selection of the parity bit type. The possible values are: nonE (absent parity bits), odd (uneven parity bits) e EVEn (even parity bits).

(!) nonE

<< Word >> SET WORD

By pressing the **ENTER** key one accesses the selection of the number of data bits. The possible values are: 8 (8 data bits) and 7 (7 data bits).

(!) 8

<< StoPb >> SET STOP BIT

By pressing the **ENTER** key one can then select the number of stop bits. The possible values are: 1 (1-stop bit) and 2 (2 stop bits)

(!) 1

<< CtS.St. >> SYNCHRONISM SIGNAL

On the serial line set as COM.PRN the indicator can manage a synchronism signal.

- by using the dedicated CTS (Clear To Send) signal, if one uses the COM2 port, or
- by using the RX input, if one uses the COM1 or COM3 port (in this case, by enabling the function, this input will be no longer managed for other reception functions).

A device (like a printer) that is slow in processing the data received, can interrupt the transmission temporarily using this signal.

With synchronism signal active for a time greater than 10 seconds the indicator cancel the printing, it shows the message "PRINTER ERROR: CHECK THE CTS!" for a few seconds and returns to the weighing phase

It is possible to select:

no-CtS	Disable	(ITALORA WITTY280 and SMT280)
LoW	CTS active low	(LP522/542, EPSON LX300, TM295, TPR)
hiGh	CTS active high	(DP190)

EMuCtS Emulation of CTS signal: one is asked to enter the number of characters (nChrS) using 3 digits, which will be transmitted upon each transmission; then one should enter the wait time in milliseconds (tiME), using 4 digits, from a transmission and the next one.

XON/XOFF XON/XOFF control for the printer. Is necessary the insertion of the printer reset command (4 characters in decimal) and the decimal value of XON and XOFF character (17 and 19 of default).

(!) LoW

<< SND.CTS >> SECOND CTS SIGNAL (§)

This step decides if enables **(Enable)** second CTS signal used for 2 printers or not **(Disable)**. See the previous step - **<< CtS.St. >>.**

(§) the step is visible only if **COM2** is set on **"PRN"** and **LOW** or **HIGH** signal is enabled inside **"CTS.ST."** step.

(!) Disable

<< Err.CtS >> CTS STATUS ERROR

By enabling this error, it is possible to block in advance the print or totalization function, if recalled with an already active synchronism signal (see previous step): the indicator display will shows the message "PRINTER ERROR: CHECK THE CTS!" for a few seconds and return to the weighing phase without carrying out the function.

Press F6/F7 to Enable (enabled) or Disable (disabled), and ENTER to confirm.

(!) Disable

<< PWrPrn >> PRINTER POWER SUPPLY

This step regulates the "AUX" output voltage which is on the board (see the electrical scheme in section 8.1; one may select:

PWrEXt External power supply (AUX output active)

EXtoFF Internal auto-off power supply (AUX output always active; at the beginning of each printout some CR are sent as start-up characters, for a printer in energy saving mode).

PWrint Internal power supply (AUX output active just when printing).

(!) PWrint

<< ProtoC >> SELECTS PROTOCOL

norMAL Print

riPE 6 Dini Argeo 6-digit repeater.

ALibi print/alibi memory

Cont. continuous transmission

For the protocol specifications, see section 5.4

(!) norMAL

<< CoM PC >> PC SERIAL CONFIGURATION

<< bAud >> SET BAUD RATE

By pressing the **ENTER** key one accesses the selection of the data transmission speed (measured in Baud = bit/second). The possible values are: 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200.

(!) 9600

<< PAritY >> SET PARITY

By pressing the **ENTER** key one accesses the selection of the parity bit type. The possible values are: nonE (absent parity bits), odd (uneven parity bits) e EVEn (even parity bits).

(!) nonE

<< Word >> SET WORD

By pressing the **ENTER** key one accesses the selection of the number of data bits. The possible values are: 8 (8 data bits) and 7 (7 data bits).

(!) 8

<< StoPb >> SET STOP BIT

By pressing the **ENTER** key one can then select the number of stop bits. The possible values are: 1 (1-stop bit) and 2 (2 stop bits)

(!) 1

<< CtS.St. >> SYNCHRONISM SIGNAL

On the serial line set as COM.PRN the indicator can manage a synchronism signal CTS (Clear To Send). A device (like a printer) that is slow in processing the data received, can interrupt the transmission temporarily using this signal.

It is possible to select:

NO.CTS Disable
LOW CTS active low
HIGH CTS active high
EMUCTS Emulation of CTS signal: one is asked to enter the number of characters (nChrS) using 3 digits, which will be transmitted upon each transmission; then one should enter the wait time in milliseconds (tiME), using 4 digits, from a transmission and the next one.

(!) NO.CTS

<< Add.485 >> 485 ADDRESS

By pressing the **ENTER** key one accesses the insertion of a code of 2 digits (from 00 to 98) which identify the instrument among those connected in the RS485 transmission mode, on the PC serial port.

NOTE: the 99 code is used as a broadcast address.

(!) 00

<< ProtoC >> SELECTS PROTOCOL

StAnd Standard
AFXX AF0X
riPE 6 Dini Argeo 6-digit repeater
riPLCd lcd repeater (for 3590E version)
Mondir Uni-directional
ALibi Alibi memory
SMA SMA protocol

For the protocol specifications, see section 5.4

(!) StAnd

<< PC.ModE >> TRANSMISSION TYPE

rEquE. On request
Cont. Continuous
StAbiL On stability
- 485 - 485 mode

For the transmission mode specifics, see 5.5 section.

(!) rEquE.

<< CoMAuX >> AUX SERIAL CONFIGURATION

<< bAud >> SET BAUD RATE

By pressing **ENTER** one can select the data transmission speed (measured in Baud = bit/second). The possible values are: 2400, 4800, 9600, 19200, 38400, 57600, 115200.

(!) 9600

<< PAritY >> SET PARITY

By pressing **ENTER** one can select the parity bit type. The possible values are: nonE (absent parity bit), odd (uneven parity bit) and EVEn (even parity bit).

(!) nonE

<< Word >> SET WORD

By pressing **ENTER** one can select the number of data bits. The possible values are: 8 (8 data bits) and 7 (7 data bits).

(!) 8

<< StoP b >> SET STOP BIT

By pressing **ENTER** one accesses the selection of the stop bit number. The possible values are: 1 (1 stop bit) and 2 (2 stop bits).

(!) 1

<< CtS.St. >> SYNCHRONISM SIGNAL

Not used in this application.

<< ProtoC >> SELECTS PROTOCOL

nonE no protocol
Cont. continuous transmission
riPE 6 Dini Argeo 6-digit repeater.
(!) nonE

<< rEM.SCA >> REMOTE SCALE CONFIGURATION **(*)(§)**

This step allows setting the parameters for managing a remote scale
(*) In case of approved instrument the step is not visible.
(§) It's possible to enable the remote scale only if the **SetuP >> SeriAL >> rEAdEr** parameter has not been set on "**CoMAuX**" and the **tYPE** parameter has been set on "ind.Ch.".

<< EnAb. >> ENABLING REMOTE SCALE

Selection/deselection of the remote scale functioning mode:
Enable enabled
Disable disabled
(!) Disable

<< tErM >> REMOTE SCALE TERMINATOR

In this step one enters the ASCII decimal code (up to 2 characters) of the terminator characters of the weight string (I.E. 13 for CR or 10 for LF).

(!) 000

<< WEi.PoS >> REMOTE SCALE WEIGHT POSITION

In this step one sets the position of the first character of the weight value in the string transmitted by the remote scale, knowing that the first character on the left of the string has the 00 position.
A sign is part of the weight value.
For example, if the received string is **spppppppuu + CR + LF:**

Received string	**s**	**p**	**p**	**p**	**p**	**p**	**p**	**p**	**p**	**u**	**u**	**CR**	**LF**
Position of the character	00	01	02	03	04	05	06	07	08	09	10	11	12

Therefore one should set the value 00.
It is possible to set up to 2 characters (from 0 to 99).

(!) 00

<< WEi.LEn >> LENGTH OF REMOTE SCALE WEIGHT VALUE

In this step one enters the number of digits (from 1 to 99) which make up the weight value, including the sign and the non significant digits (for example, if the transmitted string is **spppppppu + CR + LF**, in which **s** is the weight sign, **ppppppp** is the weight value, **u** is the unit of measure, one should set the value 08).

(!) 01

<< W.tYPE>> WEIGHT TYPE

In this step it's possible to choose whether the previously configured weight value is a gross weight or a net weight:
GroSS Gross weight
nEt Net weight
(!) GroSS

NOTES: *The following tare settings are not necessary if the remote scale transmits a string containing both the gross and the tare weights.*

<< *tAr.PoS* >> *TARE WEIGHT POSITION*

In this step one sets the position of the first character of the tare value in the string transmitted from the remote scale, taking into account that the first character on the left of the string has position 00. It's possible to set up to 3 characters (from 000 to 100); by setting 255, the reading of the parameter is disabled.

(!) 255

<< *tAr.Len* >> *LENGTH OF THE TARE WEIGHT STRING*

In this step one enters the number of digits (from 1 to 99) which make up the tare value, including the non significant digits and the decimal point.

(!) 01

<< *tAr.tYP* >> *TARE TYPE POSITION*

In this step one sets the position of the first character of the tare type indication (2 characters), in the string transmitted from the remote scale, knowing that the first character on the left of the string has the position 00; it's possible to set up to 3 characters (from 000 to 100); by setting 255, the reading of the preset tare indication is disabled.

If the value in the indication corresponds to "PT" the previously configured tare is considered as preset; otherwise it is considered as a semiautomatic tare.

(!) 255

EXAMPLE:

if the transmitted string is **spppppppuu, tttttttuu kk + CR + LF**, in which **ttttttt** is the tare value, **uu** is the unit of measure and **kk** is the type of tare:

- ***tAr.PoS:*** *12*
- ***tAr.LEn:*** *08*
- ***tAr.tYP:*** *23*

<< Str.LEn >> REMOTE SCALE STRING LENGTH

In this step one enters the number of digits (from 0 to 99) which make up the entire string transmitted from the serial line scale less the terminator character (for example, if the transmitted string is **spppppppuu + CR + LF**, in which **s** is the weight sign, **ppppppp** is the weight value, **uu** is the unit of measure, one should set the value 11). Configure 0 in case of variable data string length; the position of the weight characters in the data string can't change.

(!) 01

<< CAPAC. >> REMOTE SCALE CAPACITY

Enter the maximum capacity (up to 6 characters, from 1 to 999999) of the remote scale, taking into account the number of decimals of the scale.

(!) 000001

<< dIV. >> REMOTE SCALE'S DIVISION

Enter the scale's division (up to 3 characters, from 1 to 200). In case of it functions in dual or triple range, enter the lower range division.

(!) 001

<< dECiM.>> REMOTE SCALE'S DECIMALS

Enter the number of scale decimals (from 0 to 5).

(!) 0

<< u.M. >> REMOTE SCALE'S UNIT OF MEASURE

Select the unit of measure of the scale from those suggested: g, KG, t, Lb.

(!) g

The two following parameters allow generating the stability of the weight communicated by the remote scale and allow managing the stability indicator on the indicator:

<< StAb. >> NUMBER OF READINGS PER STABILITY

Enter the number of consecutive readings which the indicator must take into consider in order to obtain stability (max 2 characters, from 01 to 20).

By setting **00** is possible the choosing between "INSTAB. STRING", "STAB. STRING" and "IGNORE STABILITY" by scrolling up and down with F6 and F7.

- by pressing **ENTER** it's possible to enable the reading of the instability/stability in the string transmitted from the remote scale; one sets in sequence:

1) the position of the instability indication, in the string transmitted from the remote scale, knowing that the first character on the left of the string has the position 00; it's possible to set up to 3 characters (from 000 to 100); by setting 255, the reading of the instability is disabled and the weight is considered as stable.

2) the instability string, in other words, the characters transmitted from the remote scale when the weight is unstable (up to 3 characters):

If the value in the instability indication corresponds to the set value, the weight is considered to be unstable; otherwise, it is considered as stable.

By pressing **C** the instability check is disabled and the weight is considered to be always stable.

(!) 03

<< StA.int >> WEIGHT DIFFERENCE PER STABILITY

Enter the maximum value (2 characters, from 0 to 20) which can be taken on by the difference between the weights of the consecutive readings, set in the previous step.

If the weight difference between the readings is equal or less than the set value, the weight is considered to be stable (stability indicator off), otherwise the weight is considered to be unstable (stability indicator on).

(!) 02

<< round.S >> ROUNDING

Enable Enabled
Disable Disabled
(!) Disable

EXAMPLE:
WEIGHT SENT BY REMOTE SCALE
" 41.6375 g G 0.5006 g T"
If the parameters are enabled, the displayed weight will be "41,638". display shows
If the parameters are disabled the displayed weight will be "41.637". display shows

<< Zero >> TRANSMISSION OF SCALE ZERO COMMAND FROM THE INDICATOR

In this step one can enable the Zero scale transmission command: the command (not configurable) is **Z** followed by a "CR".

diSAbLe disabled
EnAbLE enabled
(!) Disable

<< tArE >> REMOTE SCALE TARE SENDING

In this step one can enable the transmission of the Tare command from the indicator:

Disable
Enable >> One will be requested to enter the command that is to be transmitted (up to 3 alphanumeric characters) followed by a "CR".
(!) Disable

<< Man.tAr >> REMOTE SCALE MANUAL TARE

In this step one can enable the transmission of the manual Tare command from the indicator:

Disable
VAL.CMd first the value is transmitted and then the tare command
CMd.VAL first the command is transmitted and then the tare value

If one sets **VAL.CMd** or **CMd.VAL** one will be asked to enter the command to be transmitted (up to 3 alphanumeric characters) followed by a "CR".

(!) disable

<< rEq.WEi >> REMOTE SCALE WEIGHT REQUEST

In this step one can enable the serial command which will be used to request the string from the remote scale, when it is transmitted upon request.

Disable disabled
Enable enabled >> It will be possible to set the request interval (001..up to 255 hundredths of sec) and the serial command for reading the weight (up to 4 alphanumeric characters).
(!) Disable

NOTE: For the scale configuration of the remote scale, refer to the relative manual.

<< terM.tX >> TERMINATOR IN TRASMISSION

To the commands of required weight, tare and zero is appended this terminator.

Cr TERMINATOR CR (character 13 from ASCII table)
Cr LF TERMINATOR CR LF (character 13 and character 10 from ASCII table)
LF TERMINATOR LF (character 10 from ASCII table)
no.tErM NO TERMINATOR (for Dini Argeo printers, with standard printing by Dinitools TM)
(!) CR

<< rEAdEr >> READER

Enabling data reception from the external reader (See relative manual)

Disable disabled
CoM.AuX enabled on the ComAux
CoM.Prn enabled on the ComPrn
(!) diSAbLe

<< r71.rEP >> R71 REPEATER

If the R71620 is connected to the indicator, through this step it is possible to enable the dedicated protocol, for the serial ports set with the "**riPE 6**" protocol.

Disable Disabled
Enable Enabled
(!) Disable

<< Prn.FMt >> PRINT CONFIGURATION

Through this step one can configure up to 50 print formats directly from the indicator.
In this step it is possible to choose the number of format to be configured; therefore enter, modify or eliminate the print blocks following the instructions shown in section **7 PROGRAMMING THE PRINTOUTS**.

<< tErMin >> SET TERMINATOR TYPE

When connecting a printer it is possible to define the end of the print line, in the print blocks provides the terminator print (indication +T, see 7.3 section)

Cr TERMINATOR CR (character 13 from ASCII table)
Cr LF TERMINATOR CR LF (character 13 and character 10 from ASCII table)
LF TERMINATOR LF (character 10 from ASCII table)
no.tErM NO TERMINATOR (for Dini Argeo printiers, with standard print by Dinitools TM)
(!)no.tErM

<< dEF.Prn >> PRINTOUT DEFAULT

By pressing **ENTER** one is asked to confirm the activation of the default printouts: the LED display shows "SurE?": press **ENTER** again to confirm or another key to cancel the operation.
The printout default is valid only for TPR printer.
WARNING: By enabling the printouts, all the formatted print formats will be CANCELLED and the first 8 will be SUBSTITUTED by the standard formats which automatically will be linked to the 8 print functions.

<< Anout >> ANALOGUE OUTPUT (OPTIONAL)

If various scales are connected (see **nuM.SCA** parameter), the number of the scale to be configured will be

requested, the configurations inside this menu must be made for each connected scale.

SLot SLOT SELECTION

One selects the SLOT to be used with the analogue output: SLOT 1 or SLOT2.

ModE OPERATING MODE

Ao G = analogue output on the gross weight
Ao n = analogue output on the net weight

AoMA MAXIMUM VALUE

Setting of the maximum value of the analogue output.

AoZE ZERO SCALE VALUE

Setting of the analogue output value when the scale displays zero weight.

AoMi MINIMUM VALUE

Setting of the minimum value of the analogue output.

See the 6 "ANALOGUE OUTPUT" section for configuring.

<< inPutS >> INPUT CONFIGURATION

The indicator has 2 inputs on the main board, 6 on the optional expansion board, which may take on the meaning of a specific function key or of any scale function key, among those available; it is therefore possible to emulate a few keys through the corresponding input.

In. 1 INPUT 1

nonE	NO INPUT
tArE	TARE KEY
2nd F	2nd F KEY
ENTER/Fn	ENTER/Fn KEY
Point	DECIMAL POINT
C	C KEY
F1	F1 KEY
F2	F2 KEY
F3	F3 KEY
F4	F4 KEY
F5	F5 KEY
F6	F6 KEY
F7	F7 KEY
F8	F8 KEY
F9	F9 KEY
F10	F10 KEY
- 0 -	NUMERIC ZERO KEY
- 1 -	ONE KEY
- 2 -	TWO KEY
- 3 -	THREE KEY
- 4 -	FOUR KEY
- 5 -	FIVE KEY
- 6 -	SIX KEY
- 7 -	SEVEN KEY
- 8 -	EIGHT KEY
- 9 -	NINE KEY
PLt – 0	ENABLE REMOTE SCALE
PLt – 1	ENABLE SCALE 1
PLt – 2	ENABLE SCALE 2
PLt – 3	ENABLE SCALE 3
PLt – 4	ENABLE SCALE 4

LoC.in	KEYBOARD LOCK
oFF	TURNING OFF THE INDICATOR
- oK -	OK MESSAGE
Error	ERROR MESSAGE
rEAdY	READY MESSAGE
StArt	START MESSAGE
StoP	STOP MESSAGE
rL.oFF	SETS ALL THE OUTPUTS AT OFF
LnG.KEY	SETS KEY PRESSED AT LENGTH
LEVEL	SETS LEVEL CHECK
MNU.FUN	EXECUTION OF A SPECIFIC FUNCTION Select from a menu the function to execute every time the relative input is activated. The menu lists all the functions contained in the table described at paragraph 3.2 **(<<F.kEyS>>**).
r.StArt	CYCLE MANAGEMENT ON THE OUTPUTS (dosage)
(!) nonE	

The same configurations are valid for:
In. 2 INPUT 2
In. 3 EXPANSION BOARD
In. 4 EXPANSION BOARD
In. 5 EXPANSION BOARD
In. 6 EXPANSION BOARD
In. 7 EXPANSION BOARD
In. 8 EXPANSION BOARD

r.StArt - Dosage cycle management through outputs
Premise: The functioning provides for an input to be set on r.StArt.

The involved outputs are OUT1 and OUT2: in order to function correctly these must be configured with the NC contact on a weight function, for example Set point on the Net or Gross weight.

Upon enabling the input linked to the r.StArt both outputs are enabled; the dosage automatically ends upon reaching the set point linked to OUT2.

Notes:
1) if an input is linked to r.StArt OUT1 and OUT2 are managed in "dosage" even if these are configured in their exclusive functioning;
2) it's possible to execute also dosages in unloading (negative set points) as long as the zeroing or the tare at cycle start is executed (through the input or the key);
3) if input1 is linked to the tare or to the zero, the dosage starts only if the net weight is zero (this allows to execute an initial compulsory zeroing);
4) it's possible to interrupt at any moment the dosage cycle by enabling an input set on rL.oFF.

for example:
rL.1=100 rL.2= 200 in.1=rL.oFF in.2=r.StArt
- enabling in.2: one enables OUT1 and OUT2 and the dosage cycle starts.
- upon reaching 100g the rL.1 disables OUT 1.
- upon reaching 200g the rL.2 disables OUT 2 and the dosage cycle ends.
- by enabling in.1 the dosage cycle resets at any point.

<< output >> OUTPUT CONFIGURATION

The indicator has 4 outputs on the main board and 12 outputs on the optional expansion board; through this step one configures the functioning of each output.See the section 15.4 "FUNCTION OF SET POINTS" in the user manual for the functioning mode specifications.

<< r.ConF >> OUTPUTS' CONFIGURATION

In this step it is possible to configure the normal status, the switching condition and the functioning mode for each output.

rL. 1 OUTPUT 1 (OUT 1)

<< no/nC >> NO/NC CONTACTS

By pressing **ENTER** one sets the status of the output after the instrument start-up: normally open **(n.o.)** or normally closed **(n.C.).**

NOTE: with indicator turned off, the status of the output is normally open.

(!) n.o.

<< onStAt >> SWITCHING CONDITION

By pressing **ENTER** one sets the output activation condition:

drCt **DIRECT**: it is activated as soon as the weight reaches the set threshold, (independently from the stability), and it is deactivated as soon as it goes under the disabling threshold.

StbL **UPON STABILITY**: it is activated in the moment in which the weight, after reaching the set activation thresholds, becomes stable and is disabled in the moment in which the weight, goes below the configured disabling threshold and becomes stable.

(!) drCt

<< rL.iSt >> HYSTERESIS

This step allows selecting the outputs functioning mode with or without hysteresis:

iSt.on functioning with hysteresis

iSt.oFF functioning without hysteresis

(!) iSt.oFF

<< rLFunC >> FUNCTION

This step allows selecting the output functioning mode:

nonE NO FUNCTIONING (disabled relay).

GroSS GROSS SETPOINT (activation of the relay on the gross weight).

nEt NET SETPOINT (activation of the relay on the net weight).

Gro.0 0 GROSS (activation of the relay on the gross weight at 0).

nEt.0 0 NET (activation of the relay on the net weight at 0).

Motion INSTABILITY (activation of the relay upon weight instability).

toAL TOTALISATION (activation of the relay when totalisation is made).

t.W.1 PARTIAL TOTAL (activation of the relay on the net partial total + net weight on the scale).

t.W.2 GENERAL TOTAL (activation of the relay on the net general total + net weight on the scale).

t.W.3 GRAND TOTAL (activation of the relay on the net grand total + net weight on the scale).

nEt.nEG NEGATIVE NET SET POINT (enabling the relaty on the negative net weight).

(!) nonE

The same configurations are valid for:

rL. 2 *OUTPUT 2 (OUT2),*

rL. 3 *OUTPUT 3 (OUT3),*

rL. 4 *OUTPUT 4 (OUT4),*

rL..5 *OUTPUT 5 (OUT5), EXPANSION BOARD*

rL..6 *OUTPUT 6 (OUT6), EXPANSION BOARD*

rL..7 *OUTPUT 7 (OUT7), EXPANSION BOARD*

rL..8 *OUTPUT 8 (OUT8), EXPANSION BOARD*

rL..9 *OUTPUT 9 (OUT9), EXPANSION BOARD*

rL..10 *OUTPUT 10 (OUT10), EXPANSION BOARD*

rL..11 *OUTPUT 11 (OUT11), EXPANSION BOARD*

rL..12 *OUTPUT 12 (OUT12), EXPANSION BOARD*

rL..13 *OUTPUT 13 (OUT13), EXPANSION BOARD*

rL..14 *OUTPUT 14 (OUT14), EXPANSION BOARD*

rL..15 *OUTPUT 15 (OUT15), EXPANSION BOARD*

rL..16 *OUTPUT 16 (OUT16), EXPANSION BOARD*

<< r.ModE >> OUTPUTS' CONFIGURATION

norMAL The check is always made on all the configured outputs; therefore each output is independently (its enabling does not provoke the disabling of the others).

EXCLuS Starting from the last output up to the first its activation excludes the check on the previous ones (the activation provokes the disabling of the previous out puts) and its disabling reenables it.

(!) norMAL

<< inF.rEd >> INPUT CONFIGURATION

Entering the step one can choose one of four types of remote control shown:

- **None** (no remote control enabled)
- **IR 4** (4 keys infrared remote control)
- **IR 18** (18-key infrared remote control)
- **IR 19** (19-key infrared remote control)
- **RD 6** (6 keys radio remote control)
- **RD.BR 6** (6 keys radio broadcast remote control)

The remote control keys repeat the keys' functions (both the ones obtained with a SHORT pressing as well as those with a LONG pressing).

If the weight indicator provides for a **4-key remote control** or a **6-key remote control** (optional) it's possible to personalise the configuration of the keys of the infrared ray remote control; it may be done as follows:

kEy 1 1 key 1 ("ZERO" on remote control)

nonE	NO INPUT
tArE	TARE KEY
ENTER/Fn	ENTER/Fn KEY
C	C KEY
2ndF	2ndF KEY
ENTER/Fn	ENTER/Fn KEY
Point	DECIMAL POINT
F1	F1 KEY
F2	F2 KEY
F3	F3 KEY
F4	F4 KEY
F5	F5 KEY
F6	F6 KEY
F7	F7 KEY
F8	F8 KEY
F9	F9 KEY
F10	F10 KEY
- 0 -	NUMERIC ZERO KEY
- 1 -	ONE KEY
- 2 -	TWO KEY
- 3 -	THREE KEY
- 4 -	FOUR KEY
- 5 -	FIVE KEY
- 6 -	SIX KEY
- 7 -	SEVEN KEY
- 8 -	EIGHT KEY
- 9 -	NINE KEY
PLt – 0	ENABLE REMOTE SCALE
PLt – 1	ENABLE SCALE 1
PLt – 2	ENABLE SCALE 2
PLt – 3	ENABLE SCALE 3
PLt – 4	ENABLE SCALE 4
LoC.in	KEYBOARD LOCK
oFF	TURNING OFF THE INDICATOR

- oK -	OK MESSAGE
Error	ERROR MESSAGE
rEAdY	READY MESSAGE
StArt	START MESSAGE
StoP	STOP MESSAGE
rL.oFF	SETS ALL THE OUTPUTS AT OFF
LnG.KEY	SETS KEY PRESSED AT LENGTH
LEVEL	SETS LEVEL CHECK
MNU.FUN	EXECUTION OF A SPECIFIC FUNCTION

(!) nonE

The same configurations are valid for:
kEy 2 key 2 ("Tare" on the remote control)
kEy 3 key 3 ("F1 Mode" on the remote control)
kEy 4 key 4 ("F2 Print" on the remote control)

If the weight indicator provides for a **18-key remote control** (optional) it's possible to choose the configuration of the keys of the infrared ray remote control (**USER MAN.REF**).

MNU.FUN - Execution of a specific function
Select from a menu the function to execute when pressing the relative key on the remote control. The menu lists all the functions contained in the table described at paragraph 3.2 (<<F.kEyS>>).

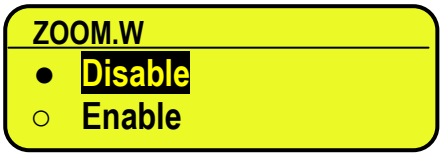
NOTE: The function of the prolonged pressure of the keys is also repeated on the remote control.

<< t.LoCK >> TARE LOCKED/UNLOCKED

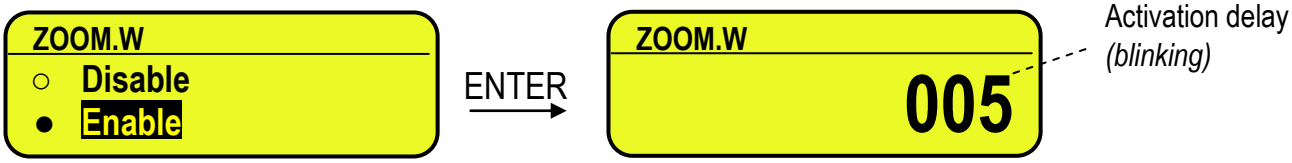
Enable	LOCKED TARE
Disable	UNLOCKED TARE

See the 7.6 "TARE LOCKED/UNLOCKED" **(USER MAN.REF.)** sections for the functioning specifics.
NOTE: during the weighing it is possible to lock / unlock the tare by pressing at length the F5 key.
(!) Enable

<< ZOOM.W >> WEIGHT ZOOM (§)



- **Disable**



- **Enable**

See section 5.1 **(USER MAN.REF.)** for the functioning details.
(!) Enable, 005 sec
(§) This step is visible only in case of CPWE/CPWET indicator.

<< PoW.oFF >> AUTO SWITCH OFF

One enables/disables the auto switch-off after the scale is not used for 5 minutes, with plate unloaded.

EnAbLE	auto switch-off ENABLED
diSAbLe	auto switch-off DISABLED

(!) diSAbLe

<< bt.StAt >> BATTERY LEVEL INDICATION

One selects whether to enable or disable the software check of the battery charge level: each time that the charge goes down of a level, it is notified through the symbols on the display (battery icon). See section 4.2.2 **USER MAN.REF..**

Enable check ENABLED
Disable check DISABLED
(!) Disable

NOTE: by enabling the indication of the battery level, the backlight automatically switches off when there is no keyboard activity for at least 15 seconds.

<< bACkuP >> INSTRUMENT DATA BACKUP

By pressing **ENTER** the indicator display shows **SurE?**: press the **ENTER** key to confirm or **C** to cancel the operation. In the first case, one is asked to enable or not a password.
In the default steps: standard default, technical default, clearing of buffered ram, prints default or keys default, if a backup of the data is present, is asked if one wants to execute the normal default by pressing the **ENTER** key or to restore the saved data by pressing the **F1** key.

<< dFLt >> STANDARD DEFAULT

By pressing **ENTER** the indicator activates the LCD default parameters, (shown in bold and preceded by the exclamation point at the end of each step) and the default printouts; the display shows **SurE?**: press **ENTER** to confirm or **C** to cancel the operation.
NOTE: THE CALIBRATION, THE DATABASES, THE INPUT TEXTS and the HEADING ARE NOT CANCELLED.

<< dFLt.t >> TECHNICAL DEFAULT (*)

By pressing **ENTER** the indicator activates the default parameters (shown in bold and preceded by an exclamation point at the end of each step), the default printouts, initialises the database, cancels the input texts, the heading and **THE CALIBRATION**; the display shows **SurE?**: press the **ENTER** key to confirm or **C** to cancel the operation.
(*) In case of approved instrument the step is not accessible.

<< PWd.SEt >> SET ACCESS PASSWORD TO SET-UP ENVIRONMENT

One configures whether to enable or disable the access password to the technical menu:

Enable password ENABLED
Disable password DISABLED

By selecting EnAbLE, the instrument predisposes itself for the password entry, made up of up to 5 digits; when finished entering confirm with **ENTER**.
The settable values go from 0 to 65534.
See section 3 for the functioning specifics.
(!) Disable

<< ini.AL >> INITIALIZES ALIBI MEMORY (*)

The initialisation cancels all the data stored in the Alibi memory; by pressing **ENTER** one is asked to confirm the operation. The display shows **SurE?**; press **ENTER** again to confirm or another key to cancel.
At the end the " oK " message appears if the operation is made with success; otherwise the "Err" message is displayed.
(*) In case of approved instrument the parameter is not accessible.

<< d.SALE >> DIRECT SALE (*)

- **no** limitations disabled
- **yES** limitations enabled

Refer to the user manual for the functioning description **(USER MAN.REF.).**
(!) no

If limitations are enable, the next step shows:
REM.DSP: REMOTE DISPLAY
no remote display disabled
yES remote display enabled
(!) no
(*) In case of approved instrument the parameter is not accessible.

<<PC.KEYb >> PC KEYBOARD SETUP

<<KEY.uSE >> KEYBOARD PORT USE

norMAL Use of the external PC keyboard (see in the user manual the section 4.1.5.
rEAdEr Enabling data reception from external reader (See relative manual)
(!) norMAL

<<LAYout >> EXTERNAL PC KEYBOARD LANGUAGE

uS.En American/English
dEut German
FrAn French
itAL Italian
(!) uS.En

<< diAG. >> DIAGNOSTICS MENU

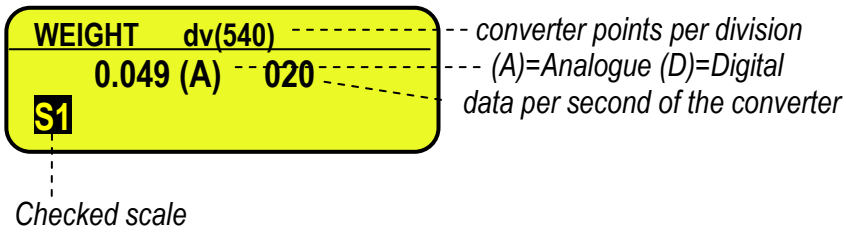
It's a submenu inside of which it is possible to check the software and hardware components of the scale, accessible also during the weighing, keeping the **F4** key pressed at length.

<< PrG.UEr >> FIRMWARE

Software version check.

<< WEiGht >> WEGHT

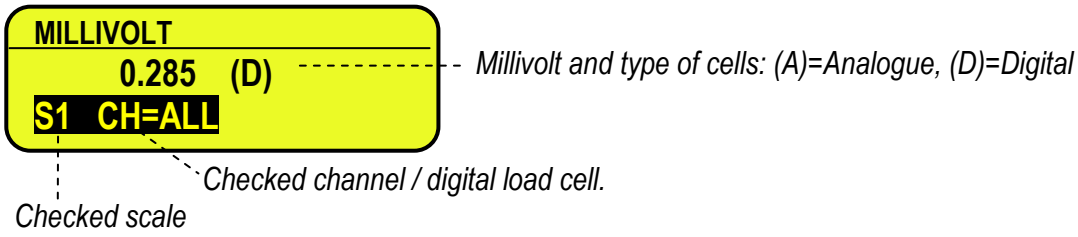
By pressing **ENTER** the display shows:



If various scales are connected independently by pressing the F6 / F7 keys it is possible to select the scale to be checked.

<< MiLLiV >> MILLIVOLT

Check of the load cell signal in millivolts, in three decimals.

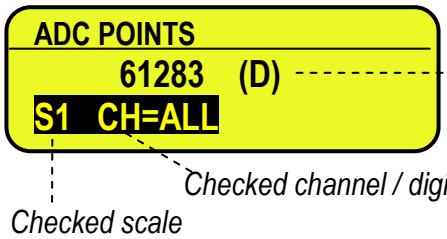


If various scales are connected independently by pressing the F6 / F7 keys it is possible to select the scale to be checked.
In the case the load cell is not connected or faulty, or the A/D converter is faulty, it is possible that floating values are shown, or the message "Err.C.XX" appears (in which XX is the number of channel / digital load cell on which the faulty is detected), if the signal exceed the underload / overload value of the converter.
To check if the A/D converter is faulty, disconnect the channel on which the faulty is detected and make a short between SIG+ and SIG-; with non faulty A/D converter a mV value proxime to 0.000 will be displayed.

<< ADC.Pnt >> CONVERTER POINTS

Check of the A/D converter points.

By pressing **ENTER** the display shows:



If various scales are connected independently by pressing the F6 / F7 keys it is possible to select the scale to be checked.
In the case the load cell is not connected or faulty, or the A/D converter is faulty, it is possible that floating values are shown, or the message "Err.C.XX" appears (in which XX is the number of channel / digital load cell on which the faulty is detected), if the signal exceed the underload / overload value of the converter.
To check if the A/D converter is faulty, disconnect the channel on which the faulty is detected and make a short between SIG+ and SIG-; with non faulty A/D converter a point value close to 0 will be displayed.

<< diSPLA >> DISPLAY

By pressing **ENTER** the instrument shows the display version and the led turns on.
By pressing a key all the leds (in the 3590E version) and LCD display pixels turn on for some seconds, after that the indicator exit automatically from the step.

<< kEyb. >> KEYBOARD

By pressing **ENTER** the instrument displays 0; by pressing the keys one at a time, the relative codes are rebrought to the display. One exits pressing the same key three times.

<<CtS.St. >> CTS STATUS

By pressing **ENTER** the CTS signal type of the connected printer is shown on the display.
If the second CTS is enabled is possible scroll up and down with the rows to see the status of both CTS.

<< B.Level >> BATTERY LEVEL

By pressing **ENTER** one views on the display the value of the battery input on the motherboard, read by the analog-digital converter.

<< Power >> POWER SUPPLY VOLTAGE

By pressing **ENTER** the display shows the value of the power adapter input on the motherboard, read by the analogue-digital converter.

<< rELE >> RELAY TEST

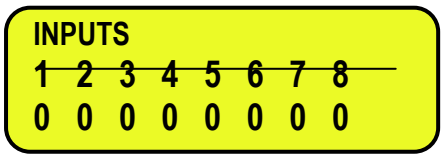
By pressing **ENTER** it is possible to test all the available relays; by selecting these one at a time with the ▲ ▼ arrow keys, these are activated:

RL.01 OUT1

…		Relay of the main board.
RL.04	OUT4	
RL.05	OUT5	
…		Relay of the expansion board (optional).
RL.16	OUT16	

<< inPutS >> INPUT TEST

By pressing **ENTER** it's possible to test the status of the inputs; the display will show:



in which the number on the first line identifies the input:

1	IN1	
…		Inputs of the motherboard
2	IN2	
3	IN3	
…		Inputs of the expansion board
8	IN8	

and the number each input corresponds to its status:
0 = disabled;
1 = enabled.

<< Anout >> ANALOGUE OUTPUT

If the instrument is fitted with the analogue output, through this step one can test if the values of the D/A converter (to be entered at time of calibration) correspond with the relative values of the analogue output (in voltage or in current), see section 6.
By pressing **ENTER** the display shows 0; enter a value between 0 and 65535 and confirm with **ENTER**; the instrument will supply the corresponding analogue value in output.
To exit the test confirm twice with **ENTER** the same entered value.

<< SEr. >> SERIAL PORTS TEST

By pressing **ENTER** it's possible to redirect the data received by any serial port, on other serial ports.

<< SEr.nuM >> SERIAL NUMBER

Diagnostics check for use of the manufacturer.

<< P.TEST >> PRINTOUT TEST

One can choose the number of format to print by inserting the correspondent code. By choosing the format 00 all the formats are printed in succession.

<< EV.LOG >> EVENTS LOG

This function shows and allows also to print, a list of the events generated by the indicator. Events are divided in the following categories:

- metrical: calibration, equalization
- battery: power on, power off, changing of the power supply (battery, mains)
- keyboard: pressed keys
- setup operations: default, restore from backup, setup saving
- firmware update
- network

For each category are present the last 10 events with the indication of the Date/Time of happening. By pressing the F5 key the list is printed.

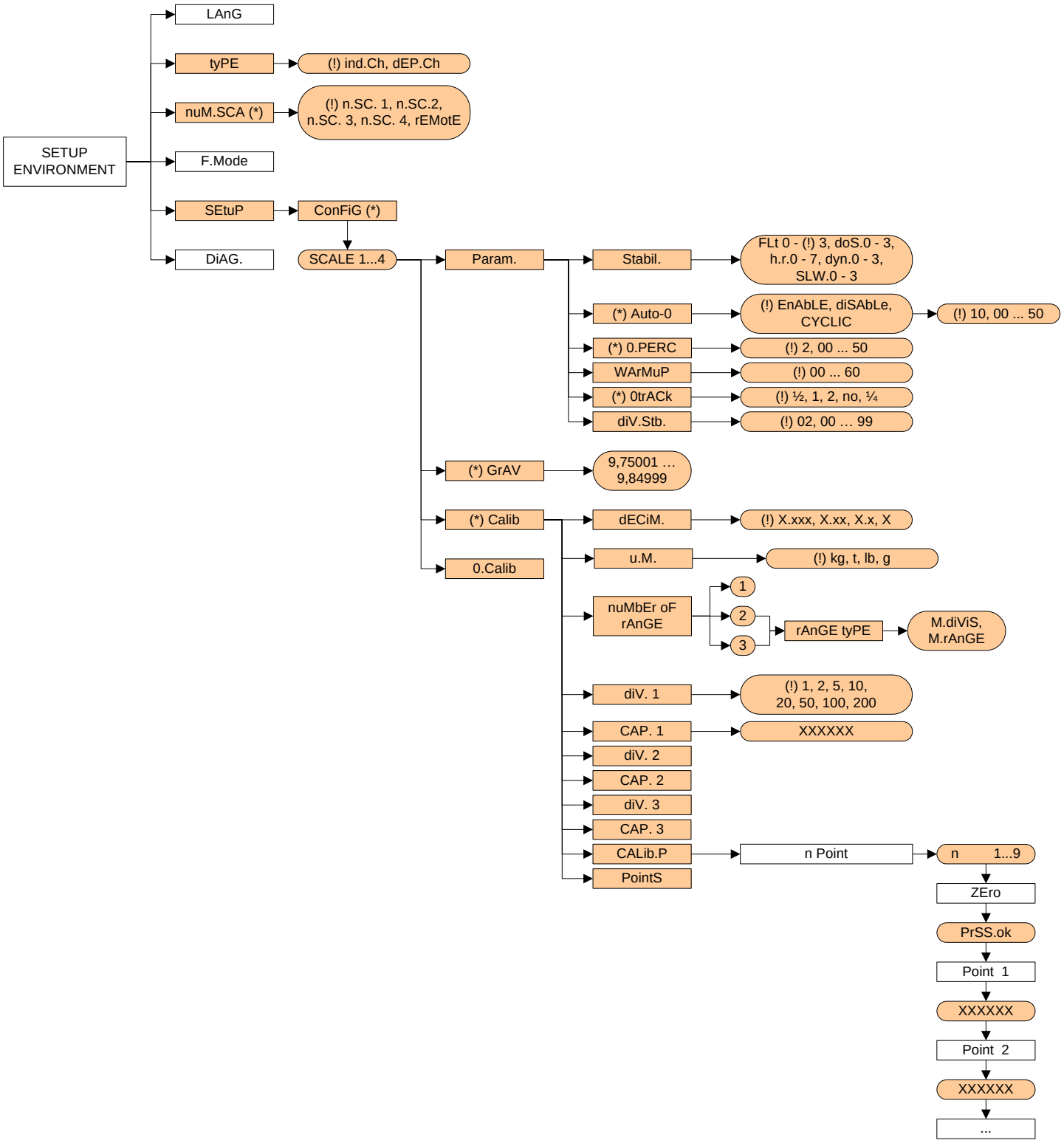
3.3 SCALE CALIBRATION

The instrument offers the possibility of using the 4 channels of the A/D converter in order to obtain 4 independent weighing systems (therefore "independent channels") or 1 weighing system, with digital equalisation of 4 channels (therefore “dependent channels").

With independent channels, each connected system must be calibrated on its own, with its own capacity, division, and unit of measure.

With dependent channels, the weighing system will be connected to 2, 3 or 4 channels of the converter, and besides the calibration, one must carry out the equalisation (useful for managing pallet truck scales or scales with various load cells).

3.3.1 CALIBRATION PROCEDURE



1) Enter the setup of the instrument;
(at start-up, press for an instant **TARE** key while the instrument version is displayed)

2) Select the type of desired system; enter the **tyPE** step and select with the ▼ ▲ keys:
- **ind.Ch**: up to 4 independent weighing systems.
- **dEP.Ch**: 1 weighing system with various cells.
Confirm with ENTER.

3) Set the number of used channels; enter in the **nuM.SCA** step and select with the ▼ ▲ arrow keys:
- **rEMotE**: only for remote scale (calibrations are not carried out)
- **n.SC. 1**
- **n.SC. 2**
- **n.SC. 3**
- **n.SC. 4**

4) Enter in the configuration menu of the calibration in other words **SEtuP >> ConFiG>> CALIB** and press **ENTER**.

5) Select the scale to be configured with the ▼ ▲ keys (only if **tyPE** = **ind.Ch** and **nuM.SCA** > **1**) and press **ENTER**.

6) Execute the equalisation (only if **tyPE** = **dEP.Ch**), as described in section 3.3.5.

7) Select the calibration menu, in other words, **CALib** and press **ENTER;** if the equalisation of point 6 has not been made (only if **tyPE** = **dEP.Ch**), the display will show “no Eq?”, confirm with **ENTER** to carry out the calibration nevertheless.

8) Set the number of calibration decimals: select the **dECiM.** step and press **ENTER**, with the ▼ ▲ keys move the decimal point in the desired position and press **ENTER**.
(!) 0.000

9) Set the unit of measure: select the u.M. step and press **ENTER**, with the ▼ ▲ keys select the unit of measure: grams (G), kilograms (kG), tons (t) or pounds (Lb) and press **ENTER**.
(!) kg

10) Select the number of calibration range and confirm with **ENTER**:
- if there is only one measuring range, select 1 and confirm with **ENTER;**
- with various fields (up to 3), the type of scale will be requested: select M.rAnGE (if a multirange scale) or M.diViS (if a multidivisional scale) and confirm with **ENTER**.

11) Set the division of the scale or the division of the first range: select the **diV. 1** step and press **ENTER**, with the ▼ ▲ keys select the value (1, 2, 5, 10, 20, 50, 100, 200) and press **ENTER**.
(!) 1
NOTE: if the range number set in step 8) is equal to 1, pass directly to point 16)

12) Set the capacity of the scale or the first range: select the **CAP.1** step and press **ENTER**, set the value (minimum 100 maximum 999999) and press **ENTER**.
TAKE NOTE: enter the whole value including the decimal digits; for example if the capacity should be over 6 kg and the division 0.001kg (= 1 g), set 6000, or if the capacity should be 1500 kg and the division 0.5 kg, set 15000.
(!) 0.100

13) Set the division of the second range: select step **diV. 2** and press **ENTER**, with the ▼ ▲ keys select the value (1, 2, 5, 10, 20, 50, 100, 200) and press **ENTER**.
(!) 1

14) Set the second range: select step **CAP.2** and press **ENTER**, set the value (minimum 100 maximum 999999) and press **ENTER**.

NOTE: if the range number set in step 8) is equal to 2, pass directly to point 17)

15) Set the division of the third range: select step **diV. 3** and press **ENTER**, with the ▼ ▲ keys select the value (1, 2, 5, 10, 20, 50, 100, 200) and press **ENTER**.

(!) 1

16) Set the third range: select step **CAP.2** and press **ENTER**, set the value (minimum 100 maximum 999999) and press **ENTER**.

17) Carry out the acquisition of the calibration points: select the **CALib.P** step and press **ENTER**.
The instrument will request the following in this order:

Number of signal linearization points: the "CALIBRATION POINTS" message will appear followed by " 1 " enter the value (from 1 to 8 points, besides ZERO) and press **ENTER**.

ZERO points: the message "UNLOAD THE SCALE AND PRESS ENTER" appears; unload the scale and press **ENTER**.

First linearization point: "Point 1" message will appear followed by the request to enter the value of the calibration weight; enter the value with the numeric keyboard; put the weight on the scale and press **ENTER**.

Following calibration points: as the above

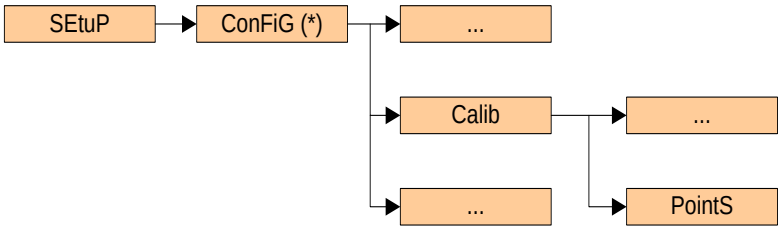
18) After the calibration is made, the message “CALIBRATION MADE” appears on the display;

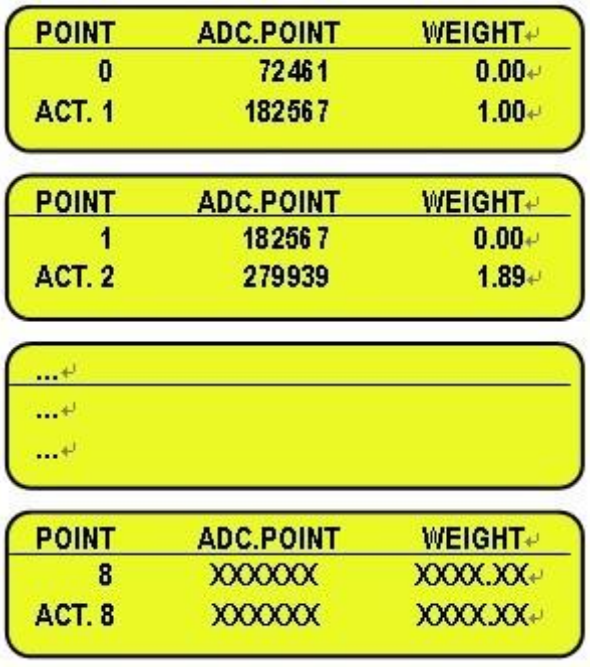
19) If one needs to calibrate other scales, press the C key various times until the display shows “SELECT THE SCALE”; select the following scale that is to be calibrated and repeat all the operations from point 7.

If, on the other hand, the calibration is done, press various times the C key until the instrument asks to save and confirm with **ENTER**.

3.3.2 LINEARISATION POINTS

By entering in the **SEtuP >> ConFiG >> CALib >>** PointS step it’s possible to access a menu which allows to view/modify the linearization points of the last calibration made:





KEYS' FUNCTIONS

F1 inserts a linearization point
F2 deletes a linearization point.
F3 copys a linearization point (waiting stability).
F4 copys ADC.POINT data (waiting stability).
F5 quickly copys ADC.POINT data (without waiting stability).
F6 scrolls forward the points.
F7 scrolls backward the points.
F8 moves cursor from right to left to select parameter, and press **ENTER** key, one is asked to enter desired value.
F9 moves cursor from left to right to select parameter, and press **ENTER** key, one is asked to enter desired value.
2nd F switch from ADC.POINT to mV
HELP show keys function
ENTER modifies a point (weight and converter points); while entering it confirm the values.
C exits the programming; one is asked to save (the display shows ACTIVATE NEW CALIBATION ?"): with **ENTER** one confirms, with another key one exits without saving. While entering a code, it quickly zeros the present value.

3.3.3 ZONE OF USE DIFFERENT THAN THE ZONE OF CALIBRATION:

If the zone of use is different than the calibration zone, one should:

1) Enter in the Set-up of the instrument;
   (upon start-up, press for an instant the **TARE** key while the instrument version is displayed)

2) Enter in the configuration menu of the metric parameters, in other words, **SEtuP >> ConFiG** and press **ENTER**.

3) Set the calibration zone: enter in the **GrAV** step and set the gravitational acceleration value of the CALIBRATION ZONE.

4) Execute the calibration, following the procedure shown in section 3.3.1.

5) Set the zone of use: enter in the **GrAV** step and set the gravity acceleration value of the ZONE OF USE.

6) Press various times the C key until the instrument asks to save and confirm with **ENTER**.

7) The weight error caused by a different gravity attraction value between the zone of calibration and the zone of use is automatically corrected.

3.3.4 QUICK ZERO CALIBRATION

Useful for calibrating only the ZERO point when a permanent tare weight is put on a platform (for example a roller unit).

1) Enter in the instrument set-up;
   (upon start-up, press for an instant the **TARE/ZERO** key while the instrument version is displayed)

2) Enter in the configuration menu of the metric parameters, in other words, **SEtuP >> ConFiG** and press **ENTER**.

3) Select the scale to be configured with the ▼ ▲ keys (if **nuM.SCA** > **1**) and press **ENTER**.

4) Select the **0.CALib** step and press **ENTER**; the message "UNLOAD THE SCALE AND PRESS ENTER" appears.

5) Put the preset tare to be cleared on the scale or unload the scale and press **ENTER**

6) Once calibration is made, the message "ZERO CALIBRATION MADE" will appear on the display; press **ENTER** and the scale returns to the **ParAM** step; in case one needs to calibrate other scales, press the C key, select the following scale to be calibrated and repeat all the operations from point 2.

   If, otherwise, the calibration is done, press various times the C key until the instrument asks to save and confirm with **ENTER**.

3.3.5 CELL EQUALISATION PROCEDURE

NOTE: this procedure may be selected only if **tYPE** = dEP.Ch (dependent channels).
Furthermore, for this procedure it is advisable to use a weight of at least 1/3 of the capacity.

1) Enter in the instrument set-up;
   (upon start-up, press for an instant the **TARE** key while the instrument version is displayed).

2) Enter in the configuration menu of the metric parameters, in other words **SEtuP >> ConFiG** and press **ENTER**.

3) Enter in the equalisation step: select the **EquAL** step and press **ENTER**
   NOTE: the system asks to confirm " **rESEt ?** " before entering in this step because by continuing one will reset the previous memorised equalisation.

4) Select the **Eq 0** step (equalisation of the zero): the message "EQUALISATION ZERO" will appear unload the weighing system and press **ENTER**.

5) Select the **Eq 1** step (equalisation of the first channel): the message "EQUALISATION CHANNEL 1" will appear put a calibration weight on the connected cell and press **ENTER**.

6) Select the **Eq 2** step (equalisation of the second channel): the message "EQUALISATION CHANNEL 2" will appear put **the same calibration weight** on the connected cell and press **ENTER**.

7) Select the **Eq 3** step (equalisation of the third channel): the message "EQUALISATION CHANNEL 3" will appear put **the same calibration weight** on the connected cell and press **ENTER**.

8) Select the **Eq 4** step (equalisation of the fourth channel): the message "EQUALISATION CHANNEL 4" will appear put **the same calibration weight** on the connected cell and press **ENTER**. **(§)**

9) Proceed with the calibration

3.4 REMOTE SCALE CONFIGURATION

Example of configuration with a DFW06 as remote scale set with extended string:

[CC]B,hh,NNNNNNNNNN,YYTTTTTTTTTT,PPPPPPPPPP,uu,(dd/mm/yybbhh:mm:ss|"NO DATE TIME") <CR LF>

in which:

[CC] INSTRUMENT CODE IN THE FORMAT OF TWO ASCII DECIMAL DIGITS
JUST IN CASE THE 485 PROTOCOL IS SELECTED (FOR EXAMPLE 00)

B scale number (always 1).

, Comma character

hh
- UL Underload
- OL Overload
- ST Stability of display
- US Instability of display
- TL Active inclination input

, Comma character

NNNNNNNNNN net weight on 10 characters including possible sign and decimal point

, Comma character

YY "PT" if the tare is manual, otherwise YY = " " (two empty spaces) if the tare is semiautomatic.

TTTTTTTTTT Tare weight on 10 characters including possible sign and decimal point.

, Comma character

PPPPPPPPPP Number of pieces on 10 characters, equal to 0 if the indicator is in a functioning mode other than the counting mode.

, Comma character

uu Unit of measure "Kg" "**b**g" "**b**t" "lb

, Comma character (only with REXD command)

dd/mm/yy Date in the "dd/mm/yy" format (only with REXD command)

bb 2 space characters, 32 decimal ascii characters (only with REXD command)

hh:mm:ss Time in the "hh:mm:ss" format (only with REXD command)

<CR LF> Carriage Return + Line Feed (ascii decimal character 13 and 10).

The insignificant digits of the net, tare, gross tare weights and the pieces' number of the various channels will be filled with spaces (space character, 32 decimal ASCII code characters)
In the case in which the optional "Real Time Clock" board is not detected or it is not set, the weight is transmitted but not the date and time; "NO DATE TIME" is in its place.

Parameters to set in the setup environment:

Parameter	Extended String	
EnAb.	Enable	
tErM	010	
WEi.PoS	05	
WEi.LEn	10	
W.tyPE	NET	
tAr.PoS	18	
tAr.LEn	10	
tAr.tYP	16	
Str.LEn	43	
CAPAC. (#)	XXXXXX	
diV. (#)	XXX	
dECiM. (#)	X	
u.M. (#)	XX	
StAb.	00	
In.Str?	Instability string position	02
	Instability string	US
StA.int	02	
round.S	Disable	
Zero	Enable	
tArE	Enable Tare command >> T	
MAn.tAr	CMD.VAL. Tare command >> W	
rEQ.WEi	Enable	
	Interval of request (csec)	050
	Command for weight request	REXT

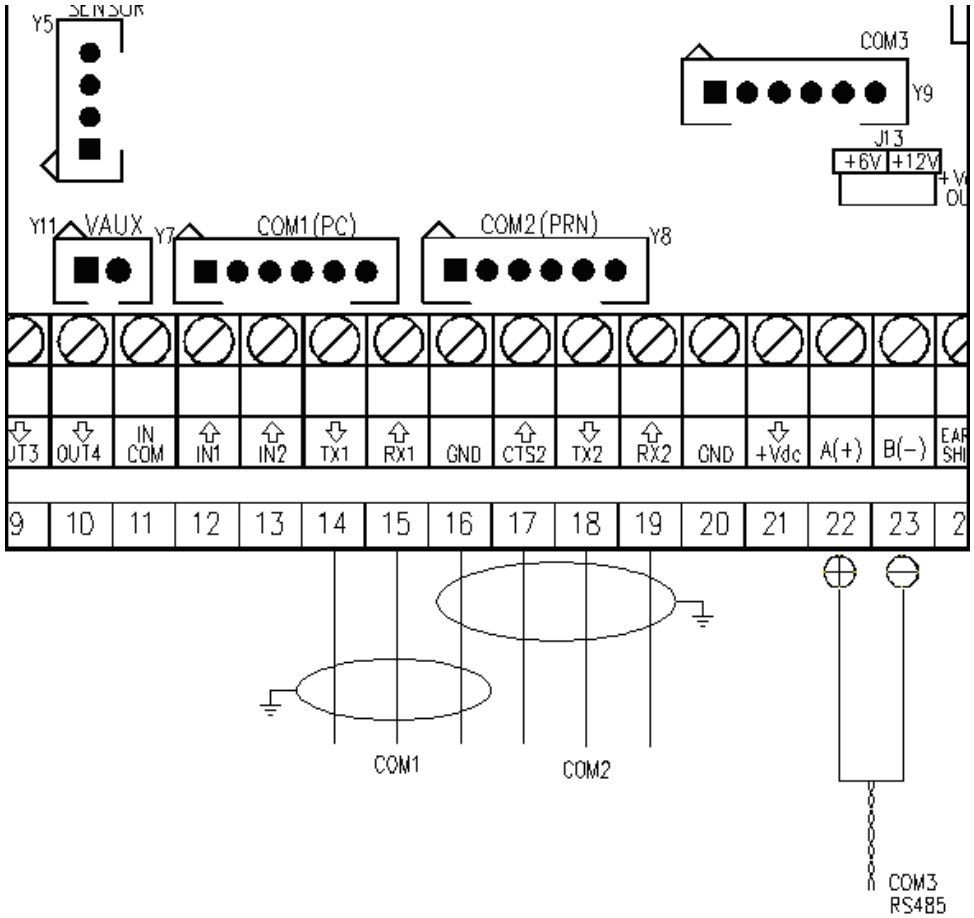
(#) The capacity (**CAPAC.**), the division (**DIV.**), the decimals (**DECIM.**) and the unit of measure (**U.M.**) must be set depending on the configuration of the remote scale.
The communication on the slave must be set in request mode.

4. DISPLAY OF THE SCALE GRAVITY ACCELERATION AND CORRECTION OF THE WEIGHING ERROR DUE TO THE DIFFERENT GRAVITY ACCELERATION BETWEEN THE CALIBRATION AND THE UTILISATION ZONE

This instrument conforms to the laws currently in force regarding non-automatic weighing instruments.
Such g-sensitive instruments are influenced by the gravitational acceleration value "**g**" of the utilisation zone hence it is compulsory to indicate, with a label or on the display, the value of "**g**" of the utilisation zone where the weighing machine can be used.
So a special programme has been created to compensate for any differences in the gravitational attraction between the place where the weighing machine is calibrated and the place of utilisation.
During configuration the "**g**" values relative to the utilisation zone and to the zone of calibration are entered at a certain programming step which eliminates the weight error introduced by the different gravitational attraction value.
The instrument displays, upon start-up by pressing the **2ndF** key, the "g" value relative to the gravitational zone of use for a few seconds, after the name and the installed software version.

5. SERIAL OUTPUTS

The indicator is fitted with two bi-directional serial ports, both having the output in ASCII code compatible with a wide range of printers, remote displays, PCs and other devices; in the set-up it is possible to freely combine these ports to the available configurations ("ComPC", "ComPrn", and "ComAux").



	AMP connector		Terminal board		
SIgnal	**COM1/COM3 (RS232)**	**COM2 (RS232)**	**COM1 (RS232)**	**COM2 (RS232)**	**COM3 (RS485)**
TX	1	1	14	18	22 A(+)
RX	2	2	15	19	23 B(-)
GND	6	6	16	16	-
CTS	2	3	15	17	-

By the step **SEtuP >> SEriAL >> PortS** it is possible select the function of the serial ports:

Parametro	COM 1	COM 2	COM 3
PC.Pr.AX (!)	ComPC	ComPrn	ComAux
PC.AX.Pr	ComPC	ComAux	ComPrn
Pr.PC.AX	ComPrn	ComPC	ComAux
Pr.AX.PC	ComPrn	ComAux	ComPC
AX.PC.Pr	ComAux	ComPC	ComPrn
AX.Pr.PC	ComAux	ComPrn	ComPC

ComPC: data transmission/reception to PC/PLC, printer, repeater.

ComPrn: data transmission to printer, repeater

ComAux data transmission/reception to printer, repeater, remote scale, barcode reader.

!! IMPORTANT !!

THE CONNECTION AND THE SOFTWARE CONFIGURATION OF THE SERIAL PORTS MUST BE MADE BY TECHNICAL PERSONNEL WHO KNOWS THE PROCEDURES ON THE BASIS OF THE USER'S NEEDS.
The data transmission cable must be kept away from the AC power supply lines.

!! REMOVE VOLTAGE BEFORE OPENING THE INSTRUMENT !!

THE STANDARD CONFIGURATION OF THE SERIAL PORTS IS THE FOLLOWING:
Baud rate = 9600, Parity = None, Data word = 8, Stop bit = 1, CTS signal = No Cts. The configuration may be modified in the SET-UP environment in the **<< SERIAL >>** step.

5.1 RS 485 CONNECTION

IMPORTANT:

- **Respect the electrical precautionary measures indicated in section 1.**

Below is the RS485 connection of the indicator in the CoM3:

Meaning	Indicator Serial line
TX-/RX-	23 B(-)
TX+/RX+	22 A(+)

On the same RS 485 line it's possibile to connect up to 32 devices, among indicators, digital load cells, 485/232 signal converter.

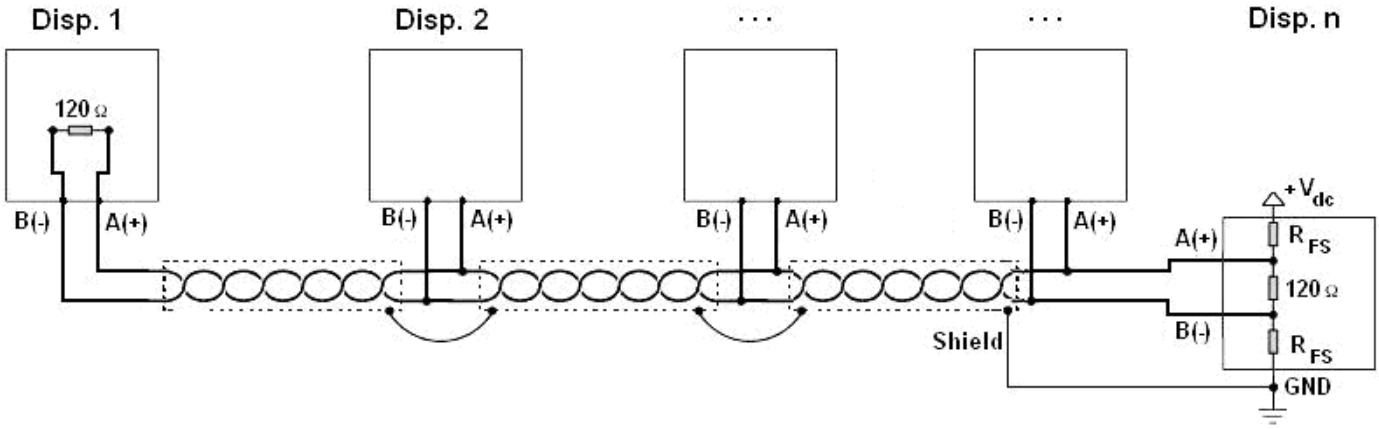


Figure 1: electrical diagram of RS485 connections.

- Use a **STP** (Shielded Twisted Pair) cable in order to make the connection (twisted and shielded pair/s with single shielding for each pair through aluminium band and total shielding through external sheathing).

- The maximum reachable length from the line with the use of the appropriate cable for RS 485 connections, the twisted 2x24 AWG duplex cable, shielded with external sheathing + aluminium band, is of about 1200 meters (see section 1.1.3)

- With very long cables, the cable capacity (normally near 50pF/m) starts being a dominant factor in the power consumption and increases with the increase of speed.
  This implies that **the maximum distance can not be covered with the maximum possible speed**. For an approximate value, one can consult the following table:

Baud rate	Total capacity of the cable (pF)
1200	400000
2400	200000
4800	100000
9600	50000
19200	25000
38400	12000
57600	8000
115200	4000

As a general rule, if one has any doubts, it is always preferable to **choose the cable with a greater section.**

- Verify that the grounding satisfies the requirements of section 1.2. Especially, all the digital masses, as well as the analogue masses, and the power circuits, must be connected to the grounding bar and this last one must be connected to the grounding pole.

- The shielding can be connected into a single point of the entire network (as shown in Figure 1) or both its ends, however it's important that **all the masses have the same potential**, in order to avoid the forming of current rings.

- On the RS485 network normally one connects 2 **termination resistances** equal to the characteristic impedance of the cable (tipically 120 Ω, see Figure 1), **ONLY** on the 2 devices **which are at the 2 ends of the cable**. The terminal resistance is not supplied with the ports of the indicator.

- The difference of potential between the A(+) and B(-) terminals in rest conditions (for example with instrument in set-up phase), **must be of at least 0,2 V**.
  To create a resistive divider which maintains this difference of potential also when all the transmitters are disabled, inert in the RS485 port of the indicator where there are the termination resistances, the **polarisation** or **fail-safe resistences** (R_{FS} in Figure 1). The value of these resistances is between 390 Ω and 2,2 kΩ.

  NOTE: in particular, the value of each of these resistances must be greater than the value calculable through the formula:

$$R_{FS} = \frac{R_{eq}}{2} \times \left(\frac{V_{dc}}{0,2} - 1 \right)$$

in which:

- V_{dc} is the power supply voltage of the line
- R_{eq} is the overall resistance to the A(+) a B(-) heads, supplied by the parallel of the 2 termination resistances and all the input resistances of the devices connected to the bus.

FOR EXAMPLE:
Presuming that a connection has 120 Ω as termination resistance and 32 connected devices, each having an input impedance of 12 kΩ. The V_{dc} power supply is 5 V.
One calculates R_{eq} , equal to about 52 Ω, and R_{FS} which must be at least equal to 624 Ω.

- **The connection between the indicator and the digital load cells is made with RS485 protocol in the COM3 configured as CoMAuX.** The indicator can be connected with up to 16 digital load cells.

- It's possible to connect the indicator to digital load cells with 485 4-wire protocol through 422/232 converter. In this case one is required to connect the double TX of RS422 cable to TX+ and TX- converter's pins and the double RX of RS422 cable to RX+ and RX- converter's pins

- In case of connection with non Dini Argeo devices, there may be different ways of line marking: generally one presumes that the A/B indication corresponds to the +/- and HI/LO markings, but this is not always true. Therefore, if the device does not function, one should try inverting the connections even if everything seems to be correct.

- For the correct functioning of the digital load cells, one should, in any case respect all the rules given in the relatvive specific manuals.

5.2 PC CONNECTION

9 PIN CONNECTOR

INDICATOR	9 pin Collector	Color
TX	3	Yellow
RX	2	Pink
GND	5	Grey

RJ45 CONNECTOR

INDICATOR (RJ45 connector)	9 pin Collector	Color
TX 6	3	Orange
RX 3	2	Blue/White
GND 5	5	Green/White

5.3 PRINTER CONNECTION

	WTY280 /SMT80 9pin (female)	TMU295 /LX300 25pin (female)	LP542 Plus /TTP243/SMTPLUS 9pin (female)	Standard cable
TX	3	3	3	Pink
CTS	4	20	8	Brown
GND	7	7	5	Grey

TPR	STANDARD CABLE
GND	Black
CTS	Yellow
RX	Grey

TPR printer power supply		
	STANDARD CABLE	Terminal box
+VP e +VC	Red and Orange	5 Vaux
GND e GND	Black and Black	16 GND

5.4 TRANSMISSION PROTOCOLS

STANDARD [available for ComPc, ComPrn, ComAux]

The weight data transmission on the serial port happens in the following format:

[CC]HH,KK,PPPPPPPP,UM<CR LF>

in which:

[CC] = instrument code, es.00 (only with RS485 protocol)

HH =
- UL Underload
- OL Overload
- ST Weight stability
- US Weight instability
- , Comma character

KK =
- NT Net Weight
- GS Gross Weight
- , Comma character

PPPPPPPP = Weight (8 digits including the possible sign and decimal point)

, Comma character

UM = Unit of measure (Kg, g, t, lb)

<CR LF> Carriage Return + Line Feed (ASCII Characters 13 and 10)

AFOX STRING [available for ComPc]

The weight data transmission on the serial port happens in the following format:

[CC]SS,B,LLLLLLLLLUM,YYTTTTTTUM,KKKKKKKA,XXXXXXXP<CR LF>

in which:

[CC] = instrument code, es.00 (only with RS485 protocol)

SS
- UL Underload
- OL Overload
- ST Weight stability
- US Weight instability

, Comma character

B Scale Number

, Comma character

LLLLLLLLL Gross weight (10 digits including the possible sign and decimal point).

UM = Unit of measure (Kg, g, t, lb)

, Comma character

YY
- 2 spaces if the tare is semiautomatic, or
- PT if a tare is pre-set or set manually

TTTTTTTTT Tare weight (10 digits including the possible sign and decimal point).

UM = Unit of measure (Kg, g, t, lb)

, Comma character

KKKKKKK Current amount (7 characters, including an eventual decimal point)

A Indicates that the previous data is the current price amount

, Comma character

XXXXXXX Active product price (7 characters, including an eventual decimal point)

P Indicates that the previous data is the price

<CR LF> Carriage Return + Line Feed ASCII 13 and 10

DINI ARGEO REPEATER [available for ComPc, ComPrn, ComAux]

Transmission protocol for connection to a Dini Argeo weight repeater. It transmits the weight value shown to the Dini Argeo weight display.
In this case, the setting of the **PC.Mode** "TRANSMISSION TYPE" parameter has no relevance.

LCD REPEATER [available for ComPc]

With this transmission protocol, it is possible to repeat the messages shown on the LCD display.
The data is transmitted in the following format:

XXXXXXXXXXXXXXXXYYYYYYYYYYYYYYYY + CR + LF

In which: **XXXXXXXXXXXXXXXX** = Data shown on the first line of the LCD display

YYYYYYYYYYYYYYYY = Data shown on the second line of the LCD display

CR = Carriage Return

LF = Line Feed

MONODIRECTIONAL [available for ComPc]

Through this communication protocol the serial command management is excluded, in order to avoid possible responses to data received from the port in case of use of the 485 serial line; it can be useful when one uses the port for transmitting a printout, and various devices are connected on the same 485 line. With this protocol the data and serial command reception is disabled.

ALIBI MEMORY [available for ComPc, ComPrn]

If the indicator is fitted with the alibi memory, one should set this parameter in order to store the weighs using the print key and transmitting the string through the PC serial port; see the protocol specifications in the "ALIBI MEMORY" section in the user manual.
NOTE: in the ComPrn the string will not be transmitted.

SMA [available for ComPc]

Serial communication protocol of the Scale Manufacturers Associations (SMA). See relative manual.

PROFIBUS [available for ComPc]

Standard protocol, see relative manual.

MODBUS [available for ComPc]

Standard protocol, see relative manual.

NO PROTOCOL" [available for ComAux]

Set in case of connection to remote scale or badge / bar code reader (serial ports).

"PRINT" [available for ComPrn]

The weight data transmission on the serial port depends on the print functions of the indicator.
For further details see section 7 "PROGRAMMING THE PRINTOUTS" and section 14 "PRINTOUTS" **USER MAN.REF.**

5.5 TRANSMISSION MODES

Data transmission from PC Serial Port can be done in **4** different ways:

TRANSMISSION ON REQUEST
It requires an external command from the PC to send the data requested. Transmission can take place at any time requested.

CONTINUOUS TRANSMISSION
- ComPC: Continuous transmission of the standard string (**ProtoC** = **StAnd** step) or of the extended AF0X string (**ProtoC** = **AF0X** step) or continuous transmission of the customised string.
  This mode is used for interfacing to the computer, remote displays, and other devices which require a constant update of the data independently from the weight stability (10 transmissions per second with a Baud rate at 9600 and stable weight).
- ComPrn: The indicator transmits continuously the data configured in the 01 print format.
  Alternatively, by setting only the "300" block in the 01 print format, it is possible to transmit the STANDARD STRING (or the AF0X STRING, if configured for the PC port).
  For configuration details of the print formats, see section 7.
- ComAux: The weight transmission on the serial port takes place with the STANDARD protocol.

TRANSMISSION ON STABILITY
Transmission is automatic each time the weight put on the platform reaches stability ("~" pilot light off); the minimum transmission limit is of 10 divisions with a NON APPROVED instrument and 20 divisions with an APPROVED instrument. The reactivation of the transmission takes place depending on how the **F.modE >> rEACt** "REACTIVATIONS" parameter of the SET-UP environment has been set (passage by zero of the net weight or weight instability).

RS485 TRANSMISSION
On request an RS485 Half Duplex serial output can be installed, enabling the possibility of bi-directional communication up to 32 indicators to just one computer.
The transmission protocol is the same as that of transmission upon request, with the adding of a code that identifies the weight indicator (i.e. "00READ <CR LF>").

5.6 SERIAL COMMANDS FORMAT

LEGEND	
[CC] o <II>	instrument code, e.g. 00 (only with RS485 protocol)
<CR LF>	Carriage Return + Line Feed (ASCII characters 13 and 10)
<ESC>	ASCII character ASCII 27
<STX>	ASCII character ASCII 02
B	space character, ASCII 32.

SERIAL ERRORS	
Upon each serial command received the instrument transmits a string containing the answer (see the command description) or it transmits one of the following indications:	
OK<CR LF>	it is shown when a correct command is transmitted from the PC to the indicator. The OK answer does not imply that the instrument executes the zero.
ERR01<CR LF>	it is shown when a correct command is transmitted from the PC to the indicator however it is followed by letters inserted involuntarily (I.E.: READF, TARES…).
ERR02<CR LF>	it is shown when a correct command is transmitted from the PC to the indicator, but containing wrong data.
ERR03<CR LF>	it is shown when a non allowed command is transmitted. It may be a command not used in the selected functioning mode or the command reaches the indicator in the instant in which the keyboard buffer is already occupied by another command
ERR04<CR LF>	it is shown when an inexistent command is transmitted.
NOTE: The instrument doesn't transmit any indication with the short commands, like the ones made up of only one letter and then the possible parameter.	

COMMANDS

Version reading: **[CC]VER<CR LF>**
Instrument response: [CC]VER,vvv,E-AF05**bb**<CR LF>
In which: vvv is the firmware version

Data reading: **[CC]READ<CR LF> or: [CC]R<CR LF>**
Instrument response: see Transmission Protocol

Semiautomatic tare: **[CC]TARE<CR LF> or: [CC]T<CR LF>**

Preset tare: **[CC]TMANTTTTTT <CR LF >or: [CC]WTTTTTT<CR LF>**
in which: W=command
TTTTTT = tare in ASCII, max 6 characters
Example: W10.0 <CR LF>

Checked tare: **[CC]TAREB<CR LF>**
Instrument's answer: [CC]OK<CR LF>: tare executed
[CC]KO<CR LF>: tare is not allowed (tare disabled, weight instability, weight in overload, etc.)

Zero: **[CC]ZERO<CR LF> or: [CC]Z<CR LF>**

Checked zero: **[CC]ZEROB<CR LF>**
Instrument's answer: [CC]OK<CR LF>: zero executed
[CC]KO<CR LF>: zero is not allowed (weight instability, weight in overload, etc.)

Clear: **[CC]CLEAR<CR LF> or: [CC]C<CR LF>**

Reading of extended weight string: **[CC]REXT<CR LF>**
Instrument's answer:
[CC]B,hh,NNNNNNNNNN,YYTTTTTTTTTT,PPPPPPPPPP, MMMMMMMMMM,uu<CR LF>

in which:
- [CC] = INSTRUMENT CODE IN THE FORMAT OF TWO ASCII DECIMAL DIGITS ONLY WHEN THE 485 PROTOCOL IS SELECTED (FOR EXAMPLE 00)
- B = scale number (zero for the remote scale)
- ,= Comma character (ASCII decimal 44)
- hh = UL Underload; OL Overload; ST Stability of the display; US Instability of the display
- ,= Comma character (ASCII decimal 44)
- NNNNNNNNNN = net weight on 10 characters including sign and decimal point
- ,= Comma character (ASCII decimal 44)
- YY = "PT" if the tare weight is entered with the keyboard, otherwise YY = " " (two space characters) if the tare weight is weighed
- TTTTTTTTTT = tare weight on 10 characters including sign and decimal point
- ,= Comma character (ASCII decimal 44)
- PPPPPPPPPP = number of pieces on 10 characters, pieces equal to 0 if the indicator is not in a counting functioning mode
- ,= Comma character (ASCII decimal 44)
- MMMMMMMMMM = A.P.W.
- ,= Comma character (ASCII decimal 44)
- uu = Unit of measure "Kg" "**b**g" "**b**t" "lb
- CR = Carriage Return (ascii character decimal code 13)
- LF = Line Feed (ascii character decimal code 10)

NOTE: With **remote scale** in error only with AFXX or ALIBI protocol in the place of the UL/OL/ST/US heading flags it will put responds with ER; this is valid for all the weight reading commands which contain the status flags; for example: READ /R /RALL /REXT.

Net/Gross change: **[CC]NTGS<CR LF>**

Print: **[CC]PRNT<CR LF> or [CC]P<CR LF>**

Checked print: **[CC]PRNTB<CR LF>**
Instrument's answer: [CC]OK<CR LF>: print executed
[CC]KO<CR LF>: print is not allowed (weight instability, print not reactivation, cts error, etc.)

Scale switch: **[CC]CGCHn<CR LF> or[CC]Qn<CR LF>**
in which: n = scale number (from 1 to 4)
Example:Q1+CR

Viewing temporarily message on the display:
[CC]DISPNNVVVVVV<CR LF>
in which: NN: display number of the indicator, (00 for 3590E display / CPWE-CPWET weight section, 01 for 3590E LCD display / CPWE-CPWET data section)
V: character to be shown (at least 1, cut off at the number of characters visualised by the shown display)
Instrument's answer: [CC]OK<CR LF>
The message remains for the time which set with the DINT command; if one selects to view the message permanently on a display and one wants to cancel the operation, send the DISPNN command without any message: the display, specified in the command, (NN) goes back to viewing the usual information relative to the selected functioning mode.

Setting display visualisation interval:
[CC]DINTXXNNNN<CR LF>
in which: XX: code which identifies the display (00 for 3590E display/ CPWE-CPWET weight section, 01 for 3590E LCD display / CPWE-CPWET data section) NNNN: visualisation interval (in milliseconds), N is an ascii hex character; for example, to set a visualisation time of 2 seconds (therefore 2000 milliseconds), which converted in hex become 07D0, the command becomes DINT07D0<CR><LF>.

By setting NNNN = 0000, the transmitted message with the DISP command (see above), remains permanently shown on the selected display.
Instrument's answer: [CC]OK<CR LF>

With approved instrument
- For the 00 display (00 for 3590E LED display / CPWE-CPWET weight section the maximum settable time is 5 seconds (5000 milliseconds).
- One should wait for the end of the current visualisation before being able to view the next one.

Reading of converter points relative to the weight: **[CC]RAZF<CR LF>**
Instrument's answer: [CC]SS,RZ,RRRRRRRRRR,vv<CR LF>
In which:
SS UL Underload
OL Overload
ST Stability of the weight
US Instability of the weight
RRRRRRRRRR Value of converter points (10 characters)

Reading of microvolts relative to the weight: **[CC]MVOL<CR LF>**

Instrument's answer: [CC]SS,VL,MMMMMMMMMM,uv<CR LF>

In which:

SS UL Underload
OL Overload
ST Stability of the weight
US Instability of the weight

MMMMMMMMMM Value of microvolts (10 characters)

Reading of net weight with sensitivity times 10: **[CC]GR10<CR LF>**

Instrument's answer: [CC]SS,GX,VVVVVVVVVV,UM<CR LF>

In which:

SS UL Underload
OL Overload
ST Stability of the weight
US Instability of the weight
GX Weighing times 10 status

VVVVVVVVVV Value of net weight times 10 (10 characters)

UM Unit of measure (Kg, g, t, lb)

NOTE: The instrument does not transmit the OK answer to the short commands (R, T, Z, P….).

Modification of GR10 command response: **[CC]GR10X<CR LF>**

in which:

GR10= command
X→ **E** enabled
X→ **D** disabled
Example: GR10E<CR LF>

If enabled, it modifies the format of the GR10 command response string: it responds to the GR10 command with the number of the active scale in the place of the "GX – weighing status x 10").

The setting is valid when the indicator is turned off. To save it permanently in the instrument one should transmit the command in the set-up status.

Setpoint command: **[CC]STPTntxxxxxxtyyyyyy<CR LF>**

in which:

n, expressed in hexadecimals, indicates the number of SETPOINTS (1, 2, 3, 8, 9, A, B, C, D, E, F).
t → **F** if the following weight value indicates the DISABLING of the relays (OFF).
t → **O** if the following weight value indicates the ENABLING of the relays (ON).
xxxxxx e yyyyyy take on the enabling or disabling setpoint value: the digits must be entered WITHOUT decimal point, omitting the NON significant zeros.

Example in case of instrument with 10,000 kg capacity and 1 g division:
Command : **STPT1F5000O6500** (Disabling of first relay at 5 kg and enabling at 6,5 kg)
Answer: **OK**

NOTE: The negative answer of the instrument (NO), takes place in the following conditions:
- One of the two entered values surpasses the capacity.
- One of the two entered values has a minimum division which is incongruent with the one set in the instrument.
- The disabling value surpasses the enabling one.

AFXX type string reading and scale information: **[CC]RALL<CR LF>**

Instrument answer:
[AFXX string]B,NNNNNNNUM,LLLLLLUM,PPPPPPPN,SSS,AAA,CCC,TTT,XXXXX-YYYYYY<CR LF>
in which:

[String AFXX] See the "AF0X type protocol" in the paragraph "TRANSMISSION PROTOCOLS".

B Number of platform on which the totalisation has been made.
, Comma character (ASCII decimal 44)
NNNNNNNUM Last net weight totalized with unit of measure.
, Comma character (ASCII decimal 44)

LLLLLLLUM	Last gross weight totalized with unit of measure.	
,	Comma character (ASCII decimal 44)	
PPPPPPP	Last pieces totalized with N character (ASCII decimal 78).	
,	Comma character (ASCII decimal 44)	
SSS	Scale status:	000 start-up
		001 weighing
		002 selection of functioning mode
		003 generic menu
		004 set-up menu
		005 user menu
		006 exit from set-up
		007 Update Firmware status
		008 setting of user default
		009 setting of technical default
		010 switch channel
		011 setting of technical default
		012 Test of the PC serial ports
		013 Test of the PRN serial ports
,	Comma character (ASCII decimal 44)	
AAA	Counter of pressed keys.	
,	Comma character (ASCII decimal 44)	
CCC	Code of last key pressed.	
,	Comma character (ASCII decimal 44)	
TTT	Counter of totalisations.	
XXXXX	Last rewriting number stored in the Alibi memory.	
-	ASCII decimal 45 character	
YYYYYY	Last weigh number stored in the Alibi memory.	

Bridge data between serial port: **[CC]BRIDGEX<CRLF>**
BRIDGE=command
X→1 = COMPC→COMPRN
X→2 = COMPC→COMAUX
EXAMPLE: BRIDGE1
Instrument's answer: [CC]OK<CR LF>

This serial command allows to create a bridge from the pc port to another. After 10 seconds of silence the instrument back to the state before sending the command.
In the state of bridge between the serial, the instrument shows "BRIDGE" on the LED display, and the bridge serial ports on the LCD display (ex. "COM1 <-> COM2").

LEGEND
[CC]= instrument code, i.e. 00 (only with RS485 protocol).
<CR LF>= Carriage Return + Line Feed (ASCII characters 13 and 10).

Reading of the instrument's serial number: **[CC]SN<CRLF>**
Instrument's answer: [CC]SN: XXXXXXX<CRLF>
In which:

XXXXXX	serial number (can have more than 6 digits)

Reading of the board's information: **[CC]BOARD<CRLF>**
Instrument's answer:
[CC]LOADER: aaa, BOARD ID: bbb, BOARD REV: ccc, HWCFG: ddd, SN: xxx, BOARD NAME: nnn<CRLF>

In which:		
	aaa	loader version in hex form (e.i. 203 for loader 2.03)
	bbb	board ID (numeric value)
	ccc	board revision (numeric value)
	ddd	hardware config. (numeric value)
	xxx	serial number
	nnn	board name (up to 8 characters)

BINARY COMMANDS FOR THE PROFIBUS PROTOCOL

Request for scale configuration:	**[CC]GETC<CR LF>**
Instrument answer:	N.bytes:
485 address in ASCII	2
Number of configured channels	2
Range 1	4
Range 2	4
Range 3	4
Div.1	2
Div.2	2
Div.3	2
Decimals	2
Unit of measure (1 = g, 2 = kg, 3 = t, 4 = lb)	2
APW Decimals	2
APW Unit of measure	2
CRC Checksum as Modbus	2

NOTE: The answer from “Range 1” to “APW unit of measure” is repeated for each configured channel.

5.7 ADVANCED COMMANDS

[GKBB] Reading of the data in the keyboard buffer:

This following command allows for **the reading of the data in the keyboard buffer (max 20 keys)** (only if the transmission of the pressed keys code is disabled):

Syntax

Format	**<CC>GKBB<CR LF>**
Parameters	**-**
Answer	**- <CC>OK<CR LF> if the buffer is empty** **- If the buffer is not empty, two hexadecimal characters for each key, in the order in which these have been pressed, from left to right.**
Example	**01GKBB<CR LF>**
Result	**If for example, with empty keyboard buffer, the 1, 2, 3, 4, 5, 6 keys have been pressed, the instrument answer will be the following**: **<ESC>0B**0C**0D**0E**0F**10**<CR LF>**

NOTE: the reading of the keyboard buffer causes the cancellation.

[EKBB] Cancellation of the data inside the keyboard buffer:

With this command it is possible to **cancel the contents of the keyboard buffer** (only in the case in which the transmission of the pressed keys' code is disabled):

Syntax

Format	**<CC>EKBB<CR LF>**
Parameters	**-**
Answer	**<CC>OK<CR LF>**
Example	**01EKBB<CR LF>**
Result	**Cancellation of the keyboard buffer**

[OUTP] Enabling/disabling of the relay output:

Syntax

Format	**<CC> OUTPNVVVV <CC> OUTPNNVVVV <CR LF>**
Parameters	**- N = output number (expressed in hexadecimals)** **- 0 to enable simultaneously all the outputs** **- from 1 to 4 to identify the single output of the motherboard from 8 to F to identify the same output (only up to OUT11) of the expansion board** **- NN= output number (expressed in hexadecimals)** **- 00 to enable simultaneously all the outputs** **- from 01 to 0 to identify the single output of the motherboard and from 08 to 0F to identify the single output (up to OUT11) of the expansion board** **- 10 to enable the 12 outputs (OUT12) of the expansion board.** **- VVVV = enabling/disabling code**; **- for the single output, V = 0000 disabled, while V = 0001 enabled.** **- all the outputs (in other words, N = 0), the value identifies the outputs to be enabled (expressed in hexadecimals);**
Response	**<CC>OK<CR LF>** **The response does not imply that the command has been made.**
Example	**01OUTP00412<CRLF>or01OUTP000412<CR LF>**
Result	**Configuration of the outputs (see below the suggested explanation)**

A bit is ascribed to each output:

Expansion board outputs (optional)												**Motherboard outputs**			
OUT 16	OUT 15	OUT 14	OUT 13	OUT 12	OUT 11	OUT 10	OUT 9	OUT 8	OUT 7	OUT 6	OUT 5	OUT 4	OUT 3	OUT 2	OUT 1
Bit 15	Bit 14	Bit 13	Bit 12	Bit 11	Bit 10	Bit 9	Bit 8	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0

The bit at 1 is interpreted as active output, while the bit at 0 as disabled output.

If, for example, one wants to enable the **OUT5** and **OUT11** outputs of the optional board and **OUT2** of the motherboard the binary combination will be

Expansion board outputs (optional)												**Motherboard outputs**			
OUT 16	OUT 15	OUT 14	OUT 13	OUT 12	OUT 11	OUT 10	OUT 9	OUT 8	OUT 7	OUT 6	OUT 5	OUT 4	OUT 3	OUT 2	OUT 1
Bit 15	Bit 14	Bit 13	Bit 12	Bit 11	Bit 10	Bit 9	Bit 8	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0

Which, in hexadecimals, corresponds to the number 0412; therefore the command will be OUTP00412 + CR + LF or OUTP000412 + CR + LF.

NOTES:
- The outputs enabling command does not work neither in the set-up environment nor in the weighing phase; if the set point mode has been selected and the output function is different than "nonE". (ref. output step, rLFunC parameter).

[INPU] optoisolated input reading:
INPUN + CR + LF

Sintax

Format	**<CC>INPU<N><CR LF>**
Parameters	**N = input number (expressed in hexadecimals):** **- 0 to simultaneously read all the inputs.** **- from 1 to 2 to identify the single input of the Motherboard and from 3 to 8 to identify the single input of the Expansion board.**
Answer	**<CC>INPUNVVVV <CR LF>** **N = input number (expressed in hexadecimals), described previously** **VVVV = input \ inputs status:** **- for the single input, V = 0000 means input not active, while V = 0001 active input.** **- for all the inputs (in other words N = 0), the returned value corresponds to the hexadecimal codification of the status of the inputs**
Example	**01INPU0 <CR LF>**
Result	**Reading of indicator's inputs' status (see the following explanation).**

A bit is ascribed to each input:

Unhandled bits								**Expansion board inputs** (optional)						**Motherboard inputs**	
								in.8	**in.7**	**in.6**	**In.5**	**in.4**	**in.3**	**in. 2**	**in. 1**
Bit 15	**Bit 14**	**Bit 13**	**Bit 12**	**Bit 11**	**Bit 10**	**Bit 9**	**Bit 8**	**Bit 7**	**Bit 6**	**Bit 5**	**Bit 4**	**Bit 3**	**Bit 2**	**Bit 1**	**Bit 0**

Therefore if the INPU00026 string is received, the hexadecimal value, converted into binary, indicates that the status of the inputs is the following:

Unhandled bits								**Expansion board inputs** (optional)						**Motherboard inputs**	
								in.8	**in.7**	**in.6**	**in.5**	**in.4**	**in.3**	**in.2**	**in.1**
Bit 15	**Bit 14**	**Bit 13**	**Bit 12**	**Bit 11**	**Bit 10**	**Bit 9**	**Bit 8**	**Bit 7**	**Bit 6**	Bit 5	**Bit 4**	**Bit 3**	Bit 2	Bit 1	**Bit 0**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1	**0**	**0**	1	1	**0**

The active inputs are therefore **in.6**, **in.3** of the optional board and **in.2** of the motherboard.

NOTES:
- With the bits 8 to 15, no input is assigned, and are fixed at zero
- The reading command of the inputs works also in the set-up environment

[INUN] Request of a numeric value entry on the 3590E LED display (only for 3590e version):

Syntax

Format	**<CC>INUN<X>,<M>,<H>,< I >,<L>,<D>,<P><CR LF>**
Parameters	**X = numeric or alphanumeric character (0 – 9 ; A – Z ; a – z) displayable in the digit on the extreme left of the 3590E LED display / CPWE weight section (not modifiable);** **M = minimum enterable value in decimals (0 ≤ M ≤ H)** **H = maximum enterable value in decimals (0 ≤ H ≤ 999'999'999'999'999'999,18 digits).** **I = value displayed initially in decimals, substituted then by the entered one (M ≤ I ≤ H); if the entered value is less than the enterable minimum value (M), the minimum value will initially be displayed (M).** **L = maximum number of enterable characters in decimals (0 ≤ L ≤ 18)** **D = number of decimal digits (in decimals)** **P = initial position in decimals of the blinking digit (in other words the position of the first value to be modified).** **- if P = 0, the blinking digit is the least significant one** **- if P = 1, the blinking digit is the most significant one**
Answer	**<CC>OK<CR LF>**
Example	**01INUNt,0,10000,0,5,3,0<CR LF>**
Result	**The t 00.000 message appears on the 3590E LED display weight section with the least significant digit blinking, while waiting for the entry of a numeric value**

If the entered value is greater or less respectively to the maximum or minimum set value, the instrument will emit an error sound signal.

[INUA] Request of a numeric value entry on the 3590E LCD display / CPWE-CPWET data section:

Syntax

Format	**<CC>INUA<PP><LL><I><CR LF>**
Parameters	**PP = decimal position from which the entry of the numeric data starts, from left to right.** **LL = number of characters in decimals which make up the numeric data to be entered** **I = selection/unselection of the display of an initial value, previously entered in the user buffer (using the WUBU command described later on):** **- I = 0 not displayed** **- I = 1 displayed**
Answer	**<CC>OK<CR LF>**
Example	**01INUA08071<CR LF>**
Result	**If preceded by the 01WUBU1234567<CR LF> command, it causes the 1234567 message to be shown on the 3590E LCD display / CPWE-CPWET data section, with the character 1 blinking, starting from the position 08 of the 3590E LCD display / CPWE-CPWET data section (in other words the digit 8). At this point it is possible to set 8 numerical digits which will substitute the displayed ones.**

NOTE: If an alphanumeric string is in the buffer, a number of blank spaces corresponding to the number of digits set in LL will be shown on the display, starting from the set cursor position.

[IALA] Request of alphanumeric text entry on the 3590E LCD display / CPWE-CPWET data section:

Syntax

Format	**<CC>IALA<PP><LL><I><CR LF>**
Parameters	**PP = decimal position from which the entry of the numeric data starts, from left to right.** **LL = number of characters in decimals which make up the numeric data to be entered** **I = selection/unselection of the display of an initial value, previously entered in the user buffer (using the WUBU command described later on):** **- I = 0 not displayed** **- I = 1 displayed**
Answer	**<CC>OK<CR LF>**
Example	**01IALA08071<CR LF>**
Result	**If preceded by the 01WUBUABCDEFG<CR LF> command, it causes the ABCDEFG message to be shown on the 3590E LCD display / CPWE-CPWET data section, with the character 1 blinking, starting from the position 08 of the 3590E LCD display / CPWE-CPWET data section (in other words the digit 8). At this point it is possible to set 8 numerical digits which will substitute the displayed ones.**

When exiting the entry phase, the displayed data is frozen on the 3590E LCD display / CPWE-CPWET data section and it remains until a new serial command does not switch the visualisations (for example a DISP command or a new visualisation entered with the INUA or IALA commands, previously described).
The turning off causes the restoration of the standard weight data.

[GINR] Reading of entered data:

GINR + CR + LF

Syntax

Format	**<CC>GINR<CR LF>**
Parameters	**-**
Answer	**Entry of value on the 3590E LCD display / CPWE-CPWET data section case:** **- - 1 if one exits from the entry phase with the C key;** **- Entered value in decimals and confirmed with ENTER;** **Entry of value on 3590E LCD display / CPWE-CPWET data section case:** **- 2 if one exits from the entry phase with the C key;** **- 1 if the value has been entered and confirmed with ENTER** **To read the entered string, use the <ESC>RUBU<STX> command described later on**
Example	**01GINR<CR LF>**
Result	**Reading of the user buffer and transmission of the data read on the PC**

Reading and writing of the user buffer:

Premise: the user buffer is the memory area in which the temporary storage of entered data is used (using the indicator keyboard) by the user or made visible by the user.
The previous request commands on the display of data entry, taking advantage of this buffer.

[WUBU] Reading of the user buffer:

Syntax

Format	**<CC>WUBU<AAA…A><CR LF>**
Parameters	**AAA…A is the numeric and/or alphanumeric string (UP TO 32 characters) which are entered in the user buffer**
Answer	**<CC>OK<CR LF>**
Example	**01WUBU<ABCDE><CR LF>**
Result	**The ABCDE string is stored in the user buffer**

IMPORTANT: do not modify the user buffer while the instrument is waiting for the data entry: this operation can cause system malfunctioning, which is eliminated only when the instrument is turned off.

[RUBU] Reading of the user buffer:

Syntax

Format	**<CC>RUBU<CR LF>**
Parameters	**-**
Answer	**<CC>AAA…A <CR LF>** **In which AAA…A is the numeric and/or alphanumeric string (UP TO 32 Characters), read in the user buffer. If the number of characters is less than 32, blank spaces will be added in order to complete the 32 transmitted characters.**
Example	**01RUBU<CR LF>**
Result	**01STRING <CR LF>**

[TOPR] Transmission of numeric and/or alphanumeric string to printer:

Syntax

Format	**<CC>TOPR<XXX…X> <CR LF>**
Parameters	**XXX…X = numeric and/or alphanumeric string which one wants to print**
Answer	**<CC>OK<CR LF>** **The answer does not imply that the command has been made.**
Example	**01TOPRABCDE<CR LF>**
Result	**The ABCDE string will be printed**

TECHNICAL NOTE: The reception and transmission buffers of the indicator are of 256 bytes; knowing that each transmitted character is equal to one byte, the maximum number of characters which can be transmitted is 248. This value changes depending on the transmitted data.

NOTES:

- It is possible to print numeric and alphanumeric characters (A…Z, a…z, 0…9), for example TOPRABCabc123 + CR + LF
- It is possible to print ASCII characters by entering the corresponding decimal code (on three digits) preceded by the \ character; for example, if one wants to print the message <!!ATTENTION!!>, the command will be the following: TOPR\060\033\033ATTENTION\033\033\062+ CR + LF;
- It is possible to print the print blocks by entering the block number preceded by the \M abbreviation; for example, if one wants to print the block 301 NET WEIGHT (see section **7.3 LIST OF PRINT BLOCKS**), 302 GROSS WEIGHT, 303 TARE, the command will be the following: TOPR\M301\M302\M303 + CR + LF

[OIN] Key with which one has exit from the user input

With this command it is possible to know which key the user used to exit the input (ENTER or C).

Syntax

Format	**<CC>OIN<CR LF>**
Parameters	**-**
Answer	**<CC>OIN[<KEY> | NO]<CR LF>**
Key	**ENT Exited with the Enter key** **CLR Exited with the Clear key**
Example	**01OIN<CR LF>**
Result	**01OINENT<CR LF>**

If the command is wrong one will have the <ESC><II>OINNO<STX> message.

Simulation of key pressing:

[CC]KEYPXX<CR LF>

in which XX is the code of the pressed key:

CODE	PRESSED KEY
00	**F1** key
01	**F2** key
02	**F3** key
03	**F4** key
04	**F5** key
05	**F6** key
06	**F7** key
07	**F8** key
08	**F9** key
09	**F10** key
0A	**'0'** numeric key
0B	**'1'** numeric key
0C	**'2'** numeric key
0D	**'3'** numeric key
0E	**'4'** numeric key
0F	**'5'** numeric key
10	**'6'** numeric key
11	**'7'** numeric key
12	**'8'** numeric key
13	**'9'** numeric key
14	**(.)** point key
15	**ZERO** key
16	**ENTER/Fn** key
17	**2ndF** key
18	**C** key

Response of the instrument: OK<CR LF>: command accepted

If the simulated key has two linked functions (key briefly pressed or at length, like the TARE key), if the KEYP command is followed by the key release command (KEYR) within a maximum time of 1,5 seconds, the simple function will be executed (key briefly pressed); otherwise the second function will be executed (key pressed at length).

Key release simulation:

[CC]KEYR<CR LF>

Response: [CC]OK<CR LF>

LEGEND

[CC]= instrument code, i.e. 00 (only with 485 protocol).

<CR LF>= Carriage Return + Line Feed (ASCII characters 13 and 10).

Selecting / Deselecting an element of database:

[CC]SREC,X,NNNN<CR LF>

Instrument's answer : [CC]SREC,X,NNNN,EE<CR LF>

In which:

X database index:
- 0 product database
- 1 ingredients database
- 2 free text database
- 3 tare database
- 4 customer database

NNNN Position Number to select in the database (9999 to deselect the element)

EE
- OK in case of executed command
- KO in case of not executed command

Read selected positon in database:

[CC]GREC,X<CR LF>

Instrument's answer: [CC]GREC,X,PPPP<CR LF>

In which:
- X database index:
  - 0 product database
  - 1 ingredients database
  - 2 free text database
  - 3 tare database
  - 4 customer database
- PPPP Position number selected in the database (NULL if no position selected)

Read compiled position and total number of positions in database:

[CC]NREC,X<CR LF>

Instrument's answer: [CC]NREC,X,CCCC,TTTT<CR LF>

In which:
- X database index:
  - 0 product database
  - 1 ingredients database
  - 2 free text database
  - 3 tare database
  - 4 customer database
- CCCC Number of compiled position in the database
- TTTT Total number of available position in the database

Reading text sections of custom language tool:

[CC]TSECT<CR LF>

Instrument answer: [CC]12<CR LF>

in which: 12 = the indicator have 12 text sections (only for customlanguage software).

If "TSECT" is followed by 2 digits (from 00 to 10), it will show index name of each text section.

5.8 CUSTOMISATION OF THE STRING [available for ComPc, ComPrn]

Personalise string configuration on the ComPC:

the instrument is able to transmit, continuously or in response to the READ command on the port linked to the ComPC, a data string configurable in the print format 100 through Dinitools™. To restore the transmission of the strings of the instrument, set only the block "300".

NOTE: format 100 contain up to 50 macros**.**

Configuration of the customised string on the ComPrn:

The instrument is able to transmit, continuously on the port linked to the ComPrn, a data string configurable in the 01 print format.

For further details in regards to configuring the print formats through Dinitools ™ see the relative manual.

6. ANALOGUE OUTPUT (OPTIONAL)

Through an optional interface, it is possible to use an analogue output a 16 bit configurable at 0 – 10V, 0 – 20 mA or 4 – 20 mA.

The voltage and the output current from the interface are proportional to the gross weight or net weight present on the scale. In regards to the electrical connection scheme, see section 8.

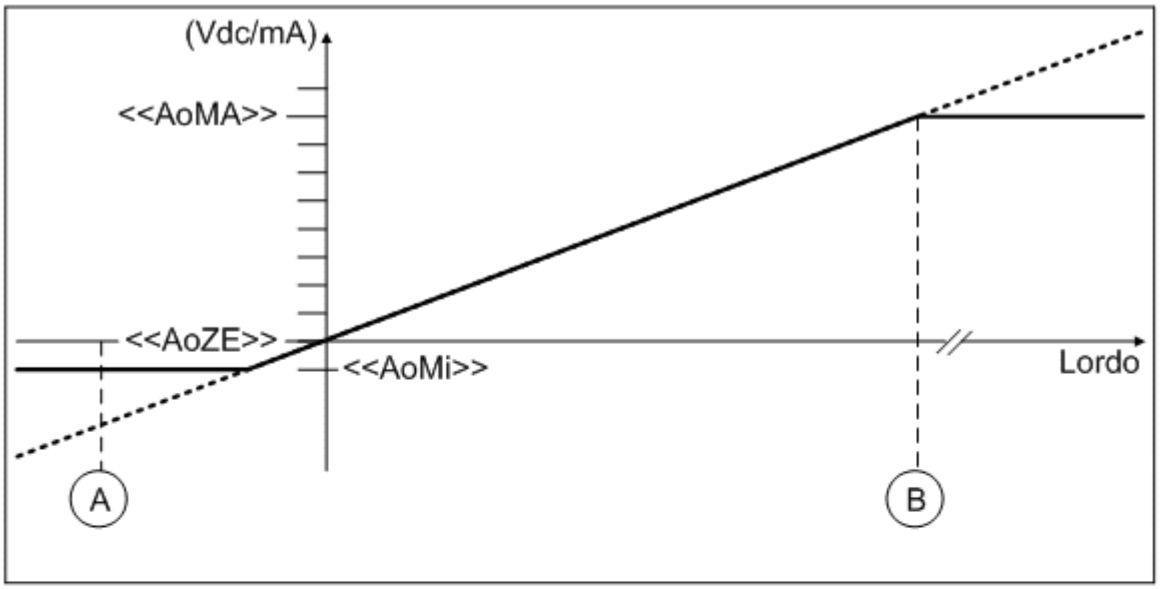
6.1 OPERATING MODES

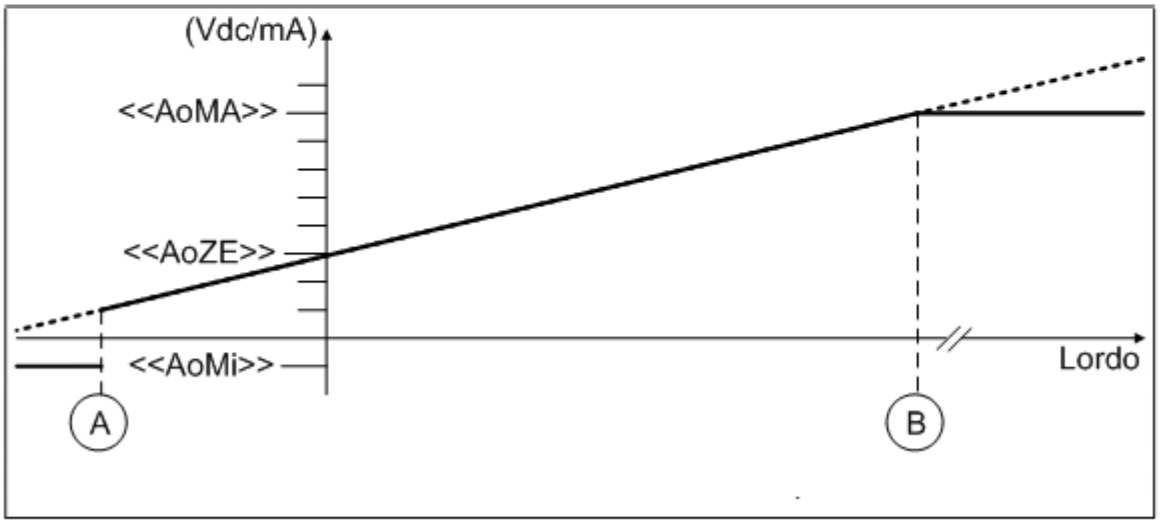
6.1.1 OUTPUT ON THE GROSS WEIGHT

The value of the analogue output grows proportionally to the gross weight on the scale in relation to the configured value for the gross weight at 0 (AO ZE), and the one configured for the gross weight equal to the capacity (AO MA).

When the gross weight is equal or greater than the capacity, the output takes on the value set for AO MA, while in the underload condition (gross weight <= -100d with approved instrument) the output takes on the value set for AO MI.

Trend examples (approved instrument)





A Lordo = -100d

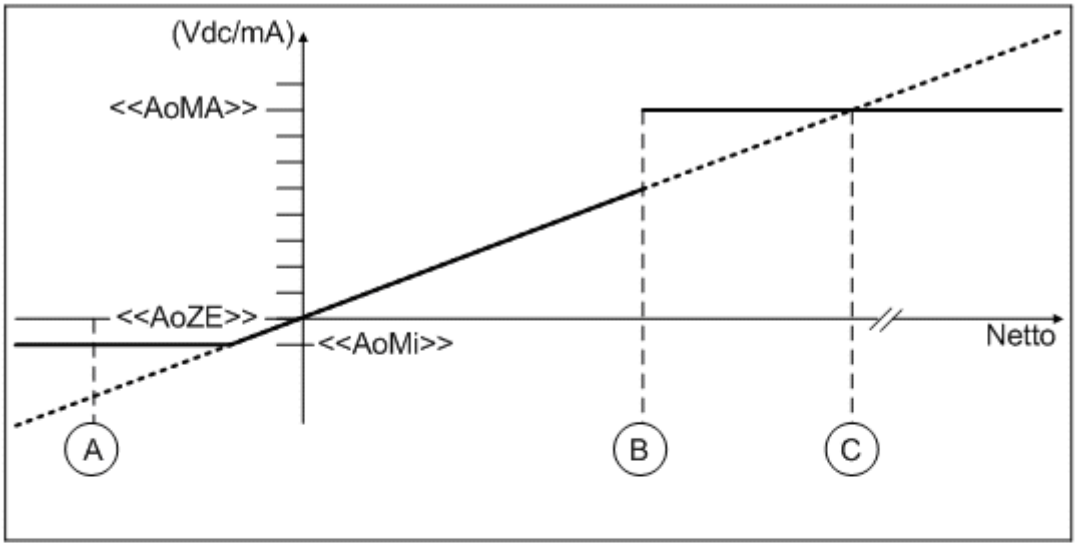
B Lordo = Portata

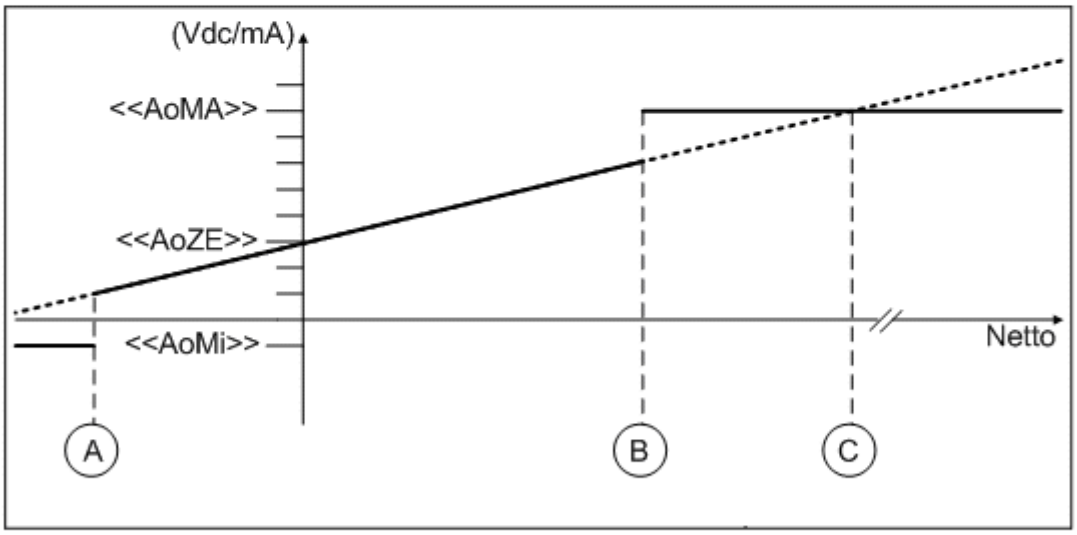
6.1.2 OUTPUT ON THE NET WEIGHT

The value of the analogue output grows proportionally to the net weight on the scale in relation to the value configured for the net weight at 0 (AO ZE), and the one configured fo the net weight equal to the capacity (AO MA).

When the gross weight is equal or greater than the capacity + 9e, the output takes on the value set for AO MA, while in the underload condition (gross weight <= -100d with approved instrument) the output takes on the value set for AO MI.

Trend examples (approved instrument)





(A) Lordo = -100d

(B) Lordo = Portata + 9e

(C) Netto = Portata

6.2 CONFIGURATION

In order to configure the parameters, one needs to enter the SET-UP environment in the **Anout** step inside the **SEtuP** menu:

If various scales are connected (see the **nuM.SCA** parameter), the number of the scale to be configured, will be requested; the configurations within this menu must be carried out for each connected scale.

SLot SLOT SELECTION
One selects the SLOT to be used with the analogue output: SLOT 1 or SLOT2; it is possible to indifferently use either SLOT.

ModE OPERATING MODE
*A*O G = analogue output on gross weight
AO n = analogue output on net weight

Once the functioning mode is confirmed, one sets the values of the analogue output useful for the calculation in the weighing phase, of the value that the output must take on proportionally; in other words, the digital/analogue converter values are entered (between 0 and 65535) to which corresponds a certain output value in voltage or in current.
In this configuration the instrument keys take on the following meanings (functions):

ENTER	By pressing once after a value is entered, it activates the corresponding output analogue value, (allowing the check) but the step still remains inside in case of a new modification. By pressing a second time (on the same entered value) it confirms and exits the step.
C	Allows to quickly zero the present value.
NUMERICAL KEYS	Allow entering values, from right to left.

AoMA MAXIMUM VALUE
By entering this step, one sets the maximum value of the analogue output, in other words the corresponding value of the full scale capacity. This value can be anywhere between 0 and 65535 (values of the digital/analogue converter); if a higher digit is entered, the instrument emits a prolonged sound, after which it zeros the value just entered.

AoZE SCALE ZERO VALUE
By entering this step, one sets the analogue output value when the scale displays zero weight. This value can be anywhere between 0 and 65535 (values of the digital/analogue converter); if a higher digit is entered, the instrument emits a prolonged sound, after which it zeros the value just entered.

AoMi MINIMUM VALUE
By entering this step, one sets the minimum value of the analogue output. This value can be anywhere between 0 and 65535 (values of the digital/analogue converter); if a higher digit is entered, the instrument emits a prolonged sound, after which it zeros the value just entered.

<u>APPROXIMATE</u> VALUES BETWEEN THE D/A CONVERTER AND ANALOGUE OUTPUT

D/A CONVERTER VALUES	VOLTAGE VALUE (V)	CURRENT VALUE (mA)
1070	0	
1375		0
11500		4
52010		20
62450	10	

7. PROGRAMMING THE PRINTOUTS

It is possible to programme 30 different formats to be linked to the print functions.
Each print vector is linked to a specific print function, for example:
- "S.F.01" function 1 >> print key
- "S.F.02" function 2 >> totalisation
- "S.F.03" function 3 >> partial total
- …

For the complete list of the functions and the linking of the formats, see the "PRINTOUTS" section of the **USER MANUAL**.

When the printing is requested, the indicator uses the format linked to the vector linked to that printout.

It is possible to configure the formats:
- **through the Dinitools™ software** for PC, and transmitted to the indicator through the serial line; it is necessary that the print format number ("Print Format Number") is a value between 1 and 30 to indicate the format to be overwritten. Once the formats are configured one should carry out the linkages of those functions. **(USER MAN.REF.).**
- **manually from the indicator** by entering in the **SetuP** >> **SeriAL** >> **Prn.FMt** step inside the SET-UP environment.

MANUAL CONFIGURATION OF THE PRINT FORMATS

Each format is made up of a maximum of 2048 memory storages (which will be called "lines", from 0 to 2047; only the first 1000 are manually modifiable from the indicator), which, when programmed, these will produce the desired printout; in each line one can enter (through a 3-digit code, from 300 onwards) a command named "print block", which will produce a certain type of printout, for example:
PRINT NET WEIGHT (code 301), which will print the net weight value, the unit of measure and the CR or CR LF to go to the next line.
Or it is possible to print a single alphanumeric character, entering the relative ASCII code in the line (from 0 to 255).
To configure a print format:
- Enter in the **SetuP** >> **SeriAL** >> **Prn.FMt** parameter.
- The display shows:

C.F. XX in which:

XX indicates the number of the format to be modified (from 01 to 30)

- Select the print format to be configured using the arrow keys ▲ ▼ and press the **ENTER** key
- Once entered in a format (for example C.F. 01), the display shows:

XXX.YYY in which:

XXX is number of the line which one is programming.
YYY is the entered code (from 0 to 255 the ASCII code is printed, from 300 onwards the relative block is printed).

- Select the line to be programmed using the arrow keys ▲ ▼ , or by typing the line number through the numeric keyboard, and press the **ENTER** key.
- The display shows "CHANGE" for an instant and onwards:

Prn.FMt XXX in which:

XXX is the value to be modified.

- Enter a value and press the **ENTER** key to confirm; the **C** key clears the entered value and if pressed again it cancels the operation.
- If a print block with parameters from 600 onwards has been entered, after having pressed the **ENTER** key the displays shows:

Prn.FMt XXX in which:

XXX is the value to be modified.

- Enter a valid value and press the **ENTER** key to confirm.
- Once programmed all the desired lines one should enter in the last line block 300 (PRINT END);
- Press the **C** key to exit; the display will show the saving request; press the **ENTER** key to confirm or another key to cancel.

KEYS' FUNCTIONS

▲	scrolls forward inside the lines of the print format.
▼	scrolls backward inside the lines of the print format.
F1	enters a print block or an ASCII character in the selected line moving the consecutive blocks of one place;
F2	cancels the current line compacting the blocks that follow.
F3	enters a print end in the current line.
ENTER	modifies the code in the current line; while entering it confirms the entered code.
C	exits the programming; if a format has been modified, one is asked to save (the display shows "SAVE?"): with **ENTER** one confirms, with another key one exits without saving. While entering a code, it quickly zeros the present value.
NUMERICAL KEYBOARD	allows entering a code inside of the selected printing line.
HELP	displays the list of the keys used inside this step and their functions. To scroll the list of the keys in manual mode one can use the arrow keys (**F6** ▼ and **F7** ▲).

NOTES

- For the complete list of the ASCII codes and the print blocks, see the sections "ASCII CODE TABLE" and "LIST OF PRINT BLOCKS".
- To terminate the programming of a format, it is necessary that the last command be "Print end": one should enter the code 300 (or press the **F3** key) in the last line of the format.

PRINTING ON THE PC SERIAL PORT

By programming a print format correctly, it is possible to direct the printout onto the PC serial port, in order to then bring it to the printer port; the blocks which are used are:
327 (PRINTING ON PC PORT), 328 (PRINTING ON PRINTER PORT), 329 (FORCE PRINTING).
The correct syntax within the format is the following:

- **327 PRINTING ON PC PORT**
- print block or ASCII character
- …
- **329 FORCE PRINTOUT**
- **328 PRINTS ON PRINTER PORT**
- print block or ASCII character
- …
- **329 FORCES PRINTOUT**
- 300 PRINT END

The"Force printout" block executed the transmission of all the blocks or ASCII characters entered BEFORE the block itself; by reading block 329, the printout is directed onto the PC port.

All the blocks or ASCII characters entered here are transmitted through the printer serial port.

7.1 PROGRAMMING EXAMPLE

One programmes a format to be linked to a PRINT key vector (**S.F.01** vector) in this way:

MARIO ROSSI SRL	MARIO ROSSI SRL
Date – time	1/02/2005 – 19:00:00
Gross weight	GROSS 2.000kg
Tare weight	TARE 0.000kg
Net weight	NET 2.000kg
3 blank lines	
Print end	

After having entered in the SET-UP environment, follow the procedures below:

- Go to step "**Prn.F.1**", inside the "SERIAL" parameter of the "SETUP" step and press **ENTER**: the display shows "**Prn.FMt 000.xxx"** (first line number, macro code).
- Press **ENTER**, the display shows "**Prn.FMt xxx (macro code)**": enter the 077 code (ASCII relative to the "M" letter), confirm with **ENTER**.
- The display now shows "**001.xxx** " (second line number, fine macro code), press **ENTER** and enter the 065 code (ASCII relative to the letter "A"); confirm with **ENTER** to pass to the third line.
- Repeat the operations by entering the following codes:

082 (letter "R")
073 (letter "I")
079 (letter "O")
032 (space)
082 (letter "R")
079 (letter "O")
083 (letter "S")
083 (letter "S")
073 (letter "I")
013 (terminator CR)
032 (space)
013 (terminator CR)
379 (prints date – time)
013 (terminator CR)
032 (space)
013 (terminator CR)
302 (prints gross weight)
013 (terminator CR)
301 (prints net weight)
013 (terminator CR)
303 (prints tare weight)
013 (terminator CR)
032 (space)
013 (terminator CR)
032 (space)
013 (terminator CR)
032 (space)
013 (terminator CR)
300 (print end) **** It is possible to enter the print end also with the F3 key ****

- Press the **C** key to exit the programming: the display shows "SAVE?", confirm with **ENTER** (one goes back into the "SERIAL" parameter).
- Exit the SETUP environment of the instrument by pressing the **C** key various times: the display shows "SAVE?", confirm the changes made with **ENTER** (the instrument returns to weighing).
- Link the configured format to the print key function (see the "PRINTOUTS" section of the user manual).

7.2 ASCII CODE TABLE

7.2.1 CODE PAGE 1252 WINDOWS LATIN 1

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
00	NUL 0000	STX 0001	SOT 0002	ETX 0003	EOT 0004	ENQ 0005	ACK 0006	BEL 0007	BS 0008	HT 0009	LF 000A	VT 000B	FF 000C	CR 000D	SO 000E	SI 000F
10	DLE 0010	DC1 0011	DC2 0012	DC3 0013	DC4 0014	NAK 0015	SYN 0016	ETB 0017	CAN 0018	EM 0019	SUB 001A	ESC 001B	FS 001C	GS 001D	RS 001E	US 001F
20	SP 0020	! 0021	" 0022	# 0023	$ 0024	% 0025	& 0026	' 0027	(0028	) 0029	* 002A	+ 002B	, 002C	- 002D	. 002E	/ 002F
30	0 0030	1 0031	2 0032	3 0033	4 0034	5 0035	6 0036	7 0037	8 0038	9 0039	: 003A	; 003B	< 003C	= 003D	> 003E	? 003F
40	@ 0040	A 0041	B 0042	C 0043	D 0044	E 0045	F 0046	G 0047	H 0048	I 0049	J 004A	K 004B	L 004C	M 004D	N 004E	O 004F
50	P 0050	Q 0051	R 0052	S 0053	T 0054	U 0055	V 0056	W 0057	X 0058	Y 0059	Z 005A	[005B	\ 005C	] 005D	^ 005E	_ 005F
60	` 0060	a 0061	b 0062	c 0063	d 0064	e 0065	f 0066	g 0067	h 0068	i 0069	j 006A	k 006B	l 006C	m 006D	n 006E	o 006F
70	p 0070	q 0071	r 0072	s 0073	t 0074	u 0075	v 0076	w 0077	x 0078	y 0079	z 007A	{ 007B	| 007C	} 007D	~ 007E	DEL 007F
80	€ 20AC		‚ 201A	ƒ 0192	„ 201E	… 2026	† 2020	‡ 2021	ˆ 02C6	‰ 2030	Š 0160	‹ 2039	Œ 0152		Ž 017D	
90		‘ 2018	’ 2019	“ 201C	” 201D	• 2022	– 2013	— 2014	˜ 02DC	™ 2122	š 0161	› 203A	œ 0153		ž 017E	Ÿ 0178
A0	NBSP 00A0	¡ 00A1	¢ 00A2	£ 00A3	¤ 00A4	¥ 00A5	¦ 00A6	§ 00A7	¨ 00A8	© 00A9	ª 00AA	« 00AB	¬ 00AC	- 00AD	® 00AE	¯ 00AF
B0	° 00B0	± 00B1	² 00B2	³ 00B3	´ 00B4	µ 00B5	¶ 00B6	· 00B7	¸ 00B8	¹ 00B9	º 00BA	» 00BB	¼ 00BC	½ 00BD	¾ 00BE	¿ 00BF
C0	À 00C0	Á 00C1	Â 00C2	Ã 00C3	Ä 00C4	Å 00C5	Æ 00C6	Ç 00C7	È 00C8	É 00C9	Ê 00CA	Ë 00CB	Ì 00CC	Í 00CD	Î 00CE	Ï 00CF
D0	Ð 00D0	Ñ 00D1	Ò 00D2	Ó 00D3	Ô 00D4	Õ 00D5	Ö 00D6	× 00D7	Ø 00D8	Ù 00D9	Ú 00DA	Û 00DB	Ü 00DC	Ý 00DD	Þ 00DE	ß 00DF
E0	à 00E0	á 00E1	â 00E2	ã 00E3	ä 00E4	å 00E5	æ 00E6	ç 00E7	è 00E8	é 00E9	ê 00EA	ë 00EB	ì 00EC	í 00ED	î 00EE	ï 00EF
F0	ð 00F0	ñ 00F1	ò 00F2	ó 00F3	ô 00F4	õ 00F5	ö 00F6	÷ 00F7	ø 00F8	ù 00F9	ú 00FA	û 00FB	ü 00FC	ý 00FD	þ 00FE	ÿ 00FF

7.2.2 CODE PAGE 1251 WINDOWS CYRILLIC

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
00	NUL 0000	STX 0001	SOT 0002	ETX 0003	EOT 0004	ENQ 0005	ACK 0006	BEL 0007	BS 0008	HT 0009	LF 000A	VT 000B	FF 000C	CR 000D	SO 000E	SI 000F
10	DLE 0010	DC1 0011	DC2 0012	DC3 0013	DC4 0014	NAK 0015	SYN 0016	ETB 0017	CAN 0018	EM 0019	SUB 001A	ESC 001B	FS 001C	GS 001D	RS 001E	US 001F
20	SP 0020	! 0021	" 0022	# 0023	$ 0024	% 0025	& 0026	' 0027	(0028	) 0029	* 002A	+ 002B	, 002C	- 002D	. 002E	/ 002F
30	0 0030	1 0031	2 0032	3 0033	4 0034	5 0035	6 0036	7 0037	8 0038	9 0039	: 003A	; 003B	< 003C	= 003D	> 003E	? 003F
40	@ 0040	A 0041	B 0042	C 0043	D 0044	E 0045	F 0046	G 0047	H 0048	I 0049	J 004A	K 004B	L 004C	M 004D	N 004E	O 004F
50	P 0050	Q 0051	R 0052	S 0053	T 0054	U 0055	V 0056	W 0057	X 0058	Y 0059	Z 005A	[005B	\ 005C	] 005D	^ 005E	_ 005F
60	` 0060	a 0061	b 0062	c 0063	d 0064	e 0065	f 0066	g 0067	h 0068	i 0069	j 006A	k 006B	l 006C	m 006D	n 006E	o 006F
70	p 0070	q 0071	r 0072	s 0073	t 0074	u 0075	v 0076	w 0077	x 0078	y 0079	z 007A	{ 007B	| 007C	} 007D	~ 007E	DEL 007F
80	Ђ 0402	Ѓ 0403	‚ 201A	ѓ 0453	„ 201E	… 2026	† 2020	‡ 2021	€ 20AC	‰ 2030	Љ 0409	‹ 2039	Њ 040A	Ќ 040C	Ћ 040B	Џ 040F
90	ђ 0452	‘ 2018	’ 2019	“ 201C	” 201D	• 2022	– 2013	— 2014		™ 2122	љ 0459	› 203A	њ 045A	ќ 045C	ћ 045B	џ 045F
A0	NBSP 00A0	Ў 040E	ў 045E	Ј 0408	¤ 00A4	Ґ 0490	¦ 00A6	§ 00A7	Ё 0401	© 00A9	Є 0404	« 00AB	¬ 00AC	- 00AD	® 00AE	Ї 0407
B0	° 00B0	± 00B1	І 0406	і 0456	ґ 0491	µ 00B5	¶ 00B6	· 00B7	ё 0451	№ 2116	є 0454	» 00BB	ј 0458	Ѕ 0405	ѕ 0455	ї 0457
C0	А 0410	Б 0411	В 0412	Г 0413	Д 0414	Е 0415	Ж 0416	З 0417	И 0418	Й 0419	К 041A	Л 041B	М 041C	Н 041D	О 041E	П 041F
D0	Р 0420	С 0421	Т 0422	У 0423	Ф 0424	Х 0425	Ц 0426	Ч 0427	Ш 0428	Щ 0429	Ъ 042A	Ы 042B	Ь 042C	Э 042D	Ю 042E	Я 042F
E0	а 0430	б 0431	в 0432	г 0433	д 0434	е 0435	ж 0436	з 0437	и 0438	й 0439	к 043A	л 043B	м 043C	н 043D	о 043E	п 043F
F0	р 0440	с 0441	т 0442	у 0443	ф 0444	х 0445	ц 0446	ч 0447	ш 0448	щ 0449	ъ 044A	ы 044B	ь 044C	э 044D	ю 044E	я 044F

7.2.3 CODE PAGE 1253 WINDOWS GREEK

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
00	NUL 0000	STX 0001	SOT 0002	ETX 0003	EOT 0004	ENQ 0005	ACK 0006	BEL 0007	BS 0008	HT 0009	LF 000A	VT 000B	FF 000C	CR 000D	SO 000E	SI 000F
10	DLE 0010	DC1 0011	DC2 0012	DC3 0013	DC4 0014	NAK 0015	SYN 0016	ETB 0017	CAN 0018	EM 0019	SUB 001A	ESC 001B	FS 001C	GS 001D	RS 001E	US 001F
20	SP 0020	! 0021	" 0022	# 0023	$ 0024	% 0025	& 0026	' 0027	(0028	) 0029	* 002A	+ 002B	, 002C	- 002D	. 002E	/ 002F
30	0 0030	1 0031	2 0032	3 0033	4 0034	5 0035	6 0036	7 0037	8 0038	9 0039	: 003A	; 003B	< 003C	= 003D	> 003E	? 003F
40	@ 0040	A 0041	B 0042	C 0043	D 0044	E 0045	F 0046	G 0047	H 0048	I 0049	J 004A	K 004B	L 004C	M 004D	N 004E	O 004F
50	P 0050	Q 0051	R 0052	S 0053	T 0054	U 0055	V 0056	W 0057	X 0058	Y 0059	Z 005A	[005B	\ 005C	] 005D	^ 005E	_ 005F
60	` 0060	a 0061	b 0062	c 0063	d 0064	e 0065	f 0066	g 0067	h 0068	i 0069	j 006A	k 006B	l 006C	m 006D	n 006E	o 006F
70	p 0070	q 0071	r 0072	s 0073	t 0074	u 0075	v 0076	w 0077	x 0078	y 0079	z 007A	{ 007B	| 007C	} 007D	~ 007E	DEL 007F
80	€ 20AC		‚ 201A	ƒ 0192	„ 201E	… 2026	† 2020	‡ 2021		‰ 2030		‹ 2039				
90		‘ 2018	’ 2019	“ 201C	” 201D	• 2022	– 2013	— 2014		™ 2122		› 203A				
A0	NBSP 00A0	΅ 0385	Ά 0386	£ 00A3	¤ 00A4	¥ 00A5	¦ 00A6	§ 00A7	¨ 00A8	© 00A9		« 00AB	¬ 00AC	- 00AD	® 00AE	― 2015
B0	° 00B0	± 00B1	² 00B2	³ 00B3	΄ 0384	µ 00B5	¶ 00B6	· 00B7	Έ 0388	Ή 0389	Ί 038A	» 00BB	Ό 038C	½ 00BD	Ύ 038E	Ώ 038F
C0	ΐ 0390	Α 0391	Β 0392	Γ 0393	Δ 0394	Ε 0395	Ζ 0396	Η 0397	Θ 0398	Ι 0399	Κ 039A	Λ 039B	Μ 039C	Ν 039D	Ξ 039E	Ο 039F
D0	Π 03A0	Ρ 03A1		Σ 03A3	Τ 03A4	Υ 03A5	Φ 03A6	Χ 03A7	Ψ 03A8	Ω 03A9	Ϊ 03AA	Ϋ 03AB	ά 03AC	έ 03AD	ή 03AE	ί 03AF
E0	ΰ 03B0	α 03B1	β 03B2	γ 03B3	δ 03B4	ε 03B5	ζ 03B6	η 03B7	θ 03B8	ι 03B9	κ 03BA	λ 03BB	μ 03BC	ν 03BD	ξ 03BE	ο 03BF
F0	π 03C0	ρ 03C1	ς 03C2	σ 03C3	τ 03C4	υ 03C5	φ 03C6	χ 03C7	ψ 03C8	ω 03C9	ϊ 03CA	ϋ 03CB	ό 03CC	ύ 03CD	ώ 03CE	

7.3 LIST OF PRINT BLOCKS

LEGEND:

b indicates a space character (ASCII 32 decimal character).
UM unit of measure of the active scale (kg, **b**g, **b**t, lb).
UMD unit of measure of the database (kg, **b**g, **b**t, lb).
+ T terminator: depending on the setting of the **SEtuP** >> **SEriAL** >> **tErMin** "SET TERMINATOR TYPE" step of the SET-UP environment, a CR or CRLF, LF or no terminator is added.
XXX* These blocks do not work without the alibi memory (optional).

The weight field expands from right to left, with many spaces (ASCII 32 decimal character) for completing the field length.

7.3.1 ORDER BY KIND

CODE		PRINT FORMAT
	GENERIC	
300	PRINT END	
318	DOTTED LINE	-- -- -- -- -- -- -- -- -- -- -- -- -- -- -- + T
319	PRINTS 3 CRLF	
532	PRINTS TERMINATOR	CR, CRLF, LF or NO TERMINATOR
320	DATE / TIME FOR DP24/DP190	**b**HH:MM**b**DD-MM-YY + T
321	MAXIMUM TOTALISATION THRESHOLD VALUE	XXXXXXXXXX
322	MINIMUM TOTALISATION THRESHOLD VALUE	XXXXXXXXXX
323	DATE	DD/MM/YY + T
324	TIME	HH:MM + T
325	DATE TIME	DD/MM/YY**b**HH:MM + T
326	FOLLOWING MACRO TERMINATOR SKIPS	
327	PRINTS ON PC PORT	
328	PRINTS ON PRINTER PORT	
329	FORCES PRINTOUT	
330	ACTIVE SCALE NUMBER in which X is the active scale number (0..4)	SCALE**b**NUMBER**b**X + T
331	JUST ACTIVE SCALE NUMBER in which X is the active scale number (0..4)	X
406	HEADING 1 in which XXXXXXXXXXXXXXXX are the 24 characters of the first line of the heading; just the entered characters are printed, from left to right.	XXXXXXXXXXXXXXXXXXXXXXXX + T
407	HEADING 2	XXXXXXXXXXXXXXXXXXXXXXXX + T
408	HEADING 3	XXXXXXXXXXXXXXXXXXXXXXXX + T
421	SCALE UNIT OF MEASURE	UM + T
422	DATABASE UNIT OF MEASURE	UM + T
455	INDICATOR DATE IN DD-MM-YY FORMAT	DD-MM-YY
458	GIULIAN CALENDAR DAYS	XXX
459	INDICATOR DATE IN YYMMDD FORMAT	YYMMDD
462	INDICATOR DATE IN MM-DD-YY FORMAT	MM-DD-YY
463	INDICATOR DATE IN MMDDYY FORMAT	MMDDYY
464	INDICATOR DATE IN YYMM FORMAT	YYMM
465	CURRENT YEAR IN X FORMAT (for example 2001 = 1, 2002 = 2, etc…)	X
466	CURRENT YEAR IN LITERAL FORMAT (for example 1999 = D, 2000 = E etc…)	L
467	LAST TWO DIGITS OF CURRENT YEAR	XX
468	INDICATOR TIME ON TWO DIGITS	HH
477	MAIN CURRENCY SYMBOL	X
478	SECONDARY CURRENCY SYMBOL	X

479 ONLY NUMBER OF SELECTED TARE STORAGE XXX
the field expands from right to left; the non significant zeros are printed anyways.
480 PRINT XXXXXXXXXX
481 PRINT FIRST DATUM ENTERED XXXXXX
525 PRINT SECOND DATUM ENTERED XXXXXX
526 PRINT OPERATION SYMBOL X
"+" in case of addition, "-" in case of subtraction, "x" in case of multiplication.
The blocks 480, 481, 525 and 526 refer to the operation made with the "calculator" function described in the section 15.1, **USER MAN.REF.**
506 EAN/UCC CHECKDIGIT ON THE 5 FOLLOWING C DIGITS
Notes:
- **The checkdigit is calculated if "C" is set in the compilation of the article, or fixed if a value is set between 0 and 9.**
- **One must provide for a space before the five digits for the entry of the checkdigit, and enter the macro AFTER the digits to be checked.**

For example:
input string >> ***b**12345*
output string >> *C12345*

507 EAN/UCC CHECKDIGIT ON THE 12 PREVIOUS DIGITS C
Notes:
- **The checkdigit is always calculated.**
- **One must enter the macro AFTER the digits to be checked.**

For example:
input string >> *123456789012*
output string >> *123456789012C*

516 ONLY CURRENT DATE YEAR GG
517 ONLY CURRENT MONTH DATE MM
518 EAN/UCC CHECKDIGIT ON THE 13 PREVIOUS DIGITS C
Notes:
- **The checkdigit is always calculated.**
- **One must enter the macro AFTER the digits to be checked.**

For example:
input string >> *1234567890123*
output string >> *1234567890123C*

524 JUST MINUTES VALUE MM

WEIGHT

301 NET WEIGHT NET=**b**XXXXXXXXXXUM + T
in which XXXXXXXXXX is the weight value on 10 digits including the comma.
302 GROSS WEIGHT GROSS=XXXXXXXXXXUM + T
303 TARE WEIGHT TARE**b**=XXXXXXXXXXUM + T
304 TOTALISATION NET N.YYY**b**NET**bbb**XXXXXXXX**b**UM + T
in which YYY indicates the weighs number, XXXXXXX is the weight value in 8 digits including the comma; the weigh number is reset upon the resetting of the partial total.
305 TOTALISATION GROSS N.YYY**b**GROSS**b**XXXXXXXX**b**UM + T
306 TOTALISATION TARE N.YYY**b**TARE**bb**XXXXXXXX**b**UM + T
348 NET OR AMOUNT ON 5 DIGITS WITH CHECKDIGIT CXXXXX
429 LAST NET TOTALISED XXXXXXXXXX
in which XXXXXXXXXX indicates the weight value in 10 digits including the comma.
430 LAST TOTALISED GROSS XXXXXXXXXX
431 LAST TOTALISED TARE XXXXXXXXXX
432 NET / AMOUNT ON 5 DIGITS XXXXX
436 ONLY NET IN POUNDS XXXXXXXXXX
437 ONLY TARE IN POUNDS XXXXXXXXXX
438 ONLY GROSS IN POUNDS XXXXXXXXXX
440 ONLY NET IN POUNDS ON 5 DIGITS, ROUNDED
TO 2 DECIMALS XXXXX

454 ONLY NET IN POUNDS ON 6 DIGITS, ROUNDED TO 2 DECIMALS XXXXXX

PARTIAL TOTAL

307 NET PARTIAL TARE N.YYY**b**T1.N.XXXXXXXX**b**UM
in which YYY indicates the weighs number, XXXXXXXX the weight value in 8 digits including the comma.

310 GROSS PARTIAL TOTAL N.YYY**b**T1.G.**b**XXXXXXXX**b**UM + T
in which YYY indicates the weighs number, XXXXXXXXXX the weight value on 8 digits including the comma.

410 JUST NET PARTIAL TOTAL XXXXXXXXX

411 JUST GROSS PARTIAL TOTAL XXXXXXXXX

418 JUST PARTIAL TOTAL TARE XXXXXXXXX

433 NET PARTIAL TOTAL / AMOUNT ON 5 DIGITS XXXXX

434 NET PARTIAL TOTAL / AMOUNT ON 6 DIGITS XXXXXX

435 NET PARTIAL TOTAL / AMOUNT ON 5 DIGITS WITH CHECKDIGIT CXXXX

483 NET PARTIAL TOTAL IN POUNDS XXXXXXXXX

GENERAL TOTAL

308 NET GENERAL TOTAL N.YYY**b**T2.N.**b**XXXXXXXX**b**UM + T

311 GROSS GENERAL TOTAL N.YYY**b**T2.G.**b**XXXXXXXX**b**UM + T

413 JUST GENERAL NET TOTAL XXXXXXXXX

414 JUST GENERAL GROSS TOTAL XXXXXXXXX

419 JUST GENERAL TOTAL TARE XXXXXXXXX

484 NET GENERAL TOTAL IN POUNDS XXXXXXXXX

GRAND TOTAL

309 NET GRAND TOTAL N.YYY**b**T3.N.**b**XXXXXXXX**b**UM + T

312 GROSS GRAND TOTAL N.YYY**b**T3.G.**b**XXXXXXXX**b**UM + T

416 JUST NET GRAND TOTAL XXXXXXXXX

417 JUST GROSS GRAND TOTAL XXXXXXXXX

420 JUST GRAND TOTAL TARE XXXXXXXXX

485 NET GRAND TOTAL IN POUNDS XXXXXXXXX

PROGRESSIVES

409 JUST WEIGHS PARTIAL TOTAL XXXXXXX
the field expands from right to left, with many spaces for completing the field length.

412 JUST GENERAL TOTAL WEIGHS XXXXXXX

415 JUST WEIGHS GRAND TOTAL XXXXXXX

447 TOTALISATION PROGRESSIVE XX..XX
It is set through function **800,** combinable with the desired key (**<< F.KEYS >>** step)
The field expands from right to left, with many spaces for completing the field length.

448 CUSTOMER PROGRESSIVE XX..XX
It is set through function **801,** combinable with the desired key (**<< F.KEYS >>** step)

449 BOX PROGRESSIVE XX..XX
It is set through function **802,** combinable with the desired key (**<< F.KEYS >>** step)

450 PARTIAL TOTAL RESETTINGS PROGRESSIVE XX..XX
It is set through function **804,** combinable with the desired key (**<< F.KEYS >>** step)

451 GENERAL TOTAL RESETTINGS PROGRESSIVE XX..XX
It is set through function **805,** combinable with the desired key (**<< F.KEYS >>** step)

452 GRAND TOTAL RESETTINGS PROGRESSIVE XX..XX
It is set through function **806,** combinable with the desired key (**<< F.KEYS >>** step)

453 PRODUCT TOTAL RESETTINGS PROGRESSIVE XX..XX
It is set through function **807,** combinable with the desired key (**<< F.KEYS >>** step)

523 PALLET PROGRESSIVE XX..XX
It is set through function **803,** combinable with the desired key (**<< F.KEYS >>** step)

	JUST TEXTS	
334	JUST “TARE” TEXT	TARE
335	JUST “PRICE” TEXT	PRICE
336	ONLY “DD SEASONING” TEXT	DD**b**SEASONING
337	ONLY “DD EXPIRY” TEXT	DD**b**EXPIRY
338	JUST “NET TOTAL” TEXT	NET**b**TOTAL
339	JUST “TARE TOTAL” TEXT	TARE**b**TOTAL
340	“WEIGHS TOTAL” TEXT	WEIGHS**b**TOTAL
341	“GROSS TOTAL” TEXT	GROSS**b**TOTAL
527	ONLY “ARTICLE TOTAL” TEXT	ARTICLE**b**TOTAL
528	ONLY “PARTIAL TOTAL” TEXT	PARTIAL**b**TOTAL
529	ONLY “GENERAL TOTAL” TEXT	GENERAL**b**TOTAL
530	ONLY “GRAND TOTAL” TEXT	GRAND**b**TOTAL
531	ONLY “AMOUNT” TEXT	AMOUNT
533	ONLY “NET” TEXT	NET**b**
534	ONLY “GROSS” TEXT	GROSS**b**
535	ONLY “TARE” TEXT	TARE**b**
536	ONLY “WEIGH” TEXT	WEIGH
537	ONLY “WEIGHS” TEXT	WEIGHS
508	JUST CONDITIONED TARE TEXT XXXXXX becomes TARE in case of semiautomatic tare or PT**bbbb** in case of manual tare.	XXXXXX
509	JUST CONDITIONED PT TEXT XX becomes **bb** in case of semiautomatic tare or PT in case of manual tare.	XX

	ADDITIONAL VALUE	
313	PARTIAL TOTAL ADDITIONAL VALUE in which the XXXXXXXXXX is the additional value, linked to the partial total, on 10 digits; it will be zeroed with the clearing of the partial total.	T1**b**ADD.**b**XXXXXXXXXX + T
314	GENERAL TOTAL ADDITIONAL VALUE in which the XXXXXXXXXX is the additional value, linked to the general total, on 10 digits; it will be zeroed with the clearing of the general total.	T2**b**ADD.**b**XXXXXXXXXX + T
315	GRAND TOTAL ADDITIONAL VALUE in which the XXXXXXXXXX is the additional value, linked to the grand total, on 10 digits; it will be zeroed with the clearing of the grand total.	T3**b**ADD.**b**XXXXXXXXXX + T
442	ENTERED ADDITIONAL VALUE	XXXXX
443	ONLY ADDITIONAL PARTIAL TOTAL VALUE in which XXXXXXXXXX is the additional value, linked to the partial total, on 10 digits; it is reset upon the zeroing of the partial total. The field is completed with spaces on the left.	XXXXXXXXXX
444	ONLY ADDITIONAL GENERAL TOTAL VALUE in which XXXXXXXXXX is the additional totalised value, linked to the general total, on 10 digits; it is reset upon the zeroing of the general total. The field is completed with spaces on the left.	XXXXXXXXXX
445	ONLY ADDITIONAL GRAND TOTAL VALUE in which XXXXXXXXXX is the additional totalised value, linked to the grandl total, on 10 digits; it is reset upon the zeroing of the general total. The field is completed with spaces on the left.	XXXXXXXXXX
446	ONLY ADDITIONAL ARTICLE TOTAL VALUE in which XXXXXXXXXX is the additional totalised value, linked to the article total, on 10 digits; it is reset upon the zeroing of the general total. The field is completed with spaces on the left.	XXXXXXXXXX

	PRODUCT	
316	ARTICLE NET TOTAL	N.YYY**b**TA.N.**b**XXXXXXX**b**UM + T
317	ARTICLE GROSS TOTAL	N.YYY**b**TA.L.**b**XXXXXXX**b**UM + T
332	ACTIVE ARTICLE MEMORY NUMBER the field is expressed with three digits, with the zeros to complete the field length.	XXX
333	JUST 1st ARTICLE DESCRIPTION in which XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX are the 30 description characters; just the entered characters are printed, which expand from left to right.	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

342	ONLY EAN ARTICLE CODE VALUE	XXXXXX
	If less than six digits are entered, some spaces on the right are entered to complete the field.	
343	ONLY ARTICLE CHECKDIGIT VALUE	X
	The value is printed if different from “C”.	
349	ONLY ARTICLE SEASONING DAYS	XXXX
350	ONLY ARTICLE EXPIRY DAYS	XXXX
351	JUST ARTICLE NET TOTAL	XXXXXXXXXX
352	JUST ARTICLE TARE TOTAL	XXXXXXXXXX
353	JUST ARTICLE WEIGHS TOTAL	XXXXX
	The field expands from right to left, with many spaces for completing the field length.	
354	JUST ARTICLE GROSS TOTAL	XXXXXXXXXX
439	ONLY ARTICLE NET TOTAL IN POUNDS	XXXXXXXXXX
441	NET ARTICLE TOTAL / AMOUNT ON 5 DIGITS WITH CHECKDIGIT	CXXXXX
456	ACTIVE ARTICLE EXPIRY DATE IN DD-MM-YY FORMAT	DD-MM-YY
457	ACTIVE ARTICLE SEASONING DATE IN DD-MM-YY FORMAT	DD-MM-YY
460	ACTIVE ARTICLE EXPIRY DATE IN YYMMDD FORMAT	YYMMDD
461	ACTIVE ARTICLE SEASONING DATE IN YYMMDD FORMAT	YYMMDD
510	ONLY ACTIVE ARTICLE SEASONING DAY	DD
511	ONLY ACTIVE ARTICLE SEASONING MONTH	MM
512	ONLY ACTIVE ARTICLE SEASONING YEAR	YY
513	ONLY ACTIVE ARTICLE EXPIRY DAY	DD
514	ONLY ACTIVE ARTICLE EXPIRY MONTH	MM
515	ONLY ACTIVE ARTICLE EXPIRY YEAR	YY
519	JUST 1st ARTICLE DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
	in which XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX are the 30 description characters; just the entered characters are printed, which expand from left to right.	
520	JUST 2nd ARTICLE DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
521	JUST 3rd ARTICLE DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
522	JUST 4th ARTICLE DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

INPUT TEXTS

361	JUST INPUT 0 TEXT HEADING	XXXXXXXXXXXXXXX
	in which XXXXXXXXXXXXXXX are 16 characters of the input 0 text heading; just the entered characters are printed, from left to right.	
362	JUST INPUT 1 TEXT HEADING	XXXXXXXXXXXXXXX
363	JUST INPUT 2 TEXT HEADING	XXXXXXXXXXXXXXX
364	JUST INPUT 3 TEXT HEADING	XXXXXXXXXXXXXXX
365	JUST INPUT 4 TEXT HEADING	XXXXXXXXXXXXXXX
366	JUST INPUT 5 TEXT HEADING	XXXXXXXXXXXXXXX
367	JUST INPUT 6 TEXT HEADING	XXXXXXXXXXXXXXX
368	JUST INPUT 7TEXT HEADING	XXXXXXXXXXXXXXX
369	JUST INPUT 8 TEXT HEADING	XXXXXXXXXXXXXXX
370	JUST INPUT 9 TEXT HEADING	XXXXXXXXXXXXXXX
371	JUST INPUT 10 TEXT HEADING	XXXXXXXXXXXXXXX
372	JUST INPUT 11 TEXT HEADING	XXXXXXXXXXXXXXX
373	JUST INPUT 12 TEXT HEADING	XXXXXXXXXXXXXXX
374	JUST INPUT 13 TEXT HEADING	XXXXXXXXXXXXXXX
375	JUST INPUT 14 TEXT HEADING	XXXXXXXXXXXXXXX
376	JUST THE INPUT 0 TEXT CONTENTS	YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY
	in which YYYYYYYYYYYYYYYY are 32 characters of the input 0 text contents; just the entered characters are printed, from left to right.	
377	JUST THE INPUT 1 TEXT CONTENTS	YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY
378	JUST THE INPUT 2 TEXT CONTENTS	YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY
379	JUST THE INPUT 3 TEXT CONTENTS	YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY
380	JUST THE INPUT 4 TEXT CONTENTS	YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY
381	JUST THE INPUT 5 TEXT CONTENTS	YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY

382	JUST THE INPUT 6 TEXT CONTENTS	YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY
383	JUST THE INPUT 7 TEXT CONTENTS	YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY
384	JUST THE INPUT 8 TEXT CONTENTS	YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY
385	JUST THE INPUT 9 TEXT CONTENTS	YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY
386	JUST THE INPUT 10 TEXT CONTENTS	YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY
387	JUST THE INPUT 11 TEXT CONTENTS	YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY
388	JUST THE INPUT 12 TEXT CONTENTS	YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY
389	JUST THE INPUT 13 TEXT CONTENTS	YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY
390	JUST THE INPUT 14 TEXT CONTENTS	YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY
391	INPUT 0 TEXT	XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
	in which XXXXXXXXXXXXXXXX are 16 characters of the heading and YYYYYYYYYYYYYYY are 32 characters of the input 0 text contents, just the entered characters are printed, from left to right.	
392	INPUT 1 TEXT	XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
393	INPUT 2 TEXT	XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
394	INPUT 3 TEXT	XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
395	INPUT 4 TEXT	XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
396	INPUT 5 TEXT	XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
397	INPUT 6 TEXT	XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
398	INPUT 7 TEXT	XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
399	INPUT 8 TEXT	XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
400	INPUT 9 TEXT	XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
401	INPUT 10 TEXT	XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
402	INPUT 11 TEXT	XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
403	INPUT 12 TEXT	XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
404	INPUT 13 TEXT	XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
405	INPUT 14 TEXT	XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T

ALIBI MEMORY

423*	LAST GROSS WEIGHT ON ALIBI MEMORY	XXXXXXXXXX
	in which XXXXXXXXXX indicates the weight value on 10 digits including the comma	
424*	LAST TARE ON ALIBI MEMORY	XXXXXXXXXX
425*	ACTIVE SCALE NUMBER WITH ALIBI MEMORY	XX
426*	PRINTS ALIBI MEMORY WEIGH NUMBER	XXXXXX
	in which XXXXXX indicates the weigh number on 6 digits, including the comma; the field expands from right to left.	
427*	ALIBI MEMORY UNIT OF MEASURE	UM
	this block prints the unit of measure of the weigh saved in the alibi memory.	
428	JUST NUMBER OF ALIBI MEMORY REWRITINGS	XXXXX
	The field expands from right to left and the non significant zeros are not printed.	
482*	LAST NET ON ALIBI MEMORY	XXXXXXXXXX

PRICE AMOUNT

344	ONLY PRICE VALUE IN MAIN CURRENCY	XXXXXXXXXX
	10 digits excluding a possible decimal point, independently of whether the functioning is by price or weight	
538	ONLY PRICE VALUE IN MAIN CURRENCY CONVERTED FROM ARCHIVE UNIT OF MEASURE TO ACTIVE SCALE UNIT OF MEASURE	XXXXXXXXXX
	10 digits excluding a possible decimal point, independently of whether the functioning is by price or weight.	
345	ONLY PRICE VALUE IN SECONDARY CURRENCY	XXXXXXXXXX
	10 digits excluding a possible decimal point, independently of whether the functioning is by price or weight	
539	ONLY PRICE VALUE IN SECONDARY CURRENCY CONVERTED FROM ARCHIVE UNIT OF MEASURE TO ACTIVE SCALE UNIT OF MEASURE	XXXXXXXXXX
	10 digits excluding a possible decimal point, independently of whether the functioning is by price or weight.	
346	ONLY AMOUNT VALUE IN MAIN CURRENCY	XXXXXXXXXX
	10 digits including a possible decimal point; the amount is printed independently of whether the functioning is by price or weight.	
347	ONLY PRICE AMOUNT VALUE IN SECONDARY CURRENCY	XXXXXXXXXX
	10 digits including a possible decimal point; the amount is printed independently of whether the functioning is by price or weight.	

469	PARTIAL TOTAL AMOUNT IN MAIN CURRENCY	XXXXXXXXXX
470	GENERAL TOTAL AMOUNT IN MAIN CURRENCY	XXXXXXXXXX
471	GRAND TOTAL AMOUNT IN MAIN CURRENCY	XXXXXXXXXX
472	ARTICLE TOTAL AMOUNT IN MAIN CURRENCY	XXXXXXXXXX
473	PARTIAL TOTAL AMOUNT IN SECONDARY CURRENCY	XXXXXXXXXX
474	GENERAL TOTAL AMOUNT IN SECONDARY CURRENCY	XXXXXXXXXX
475	GRAND TOTAL AMOUNT IN SECONDARY CURRENCY	XXXXXXXXXX
476	ARTICLE TOTAL AMOUNT IN SECONDARY CURRENCY	XXXXXXXXXX

CUSTOMER		
355	ACTIVE CUSTOMER STORAGE NUMBER	XXX
	the field is expressed in three digits, with some zeros to complete the length of the field.	
356	1ST DESCRIPTION OF ACTIVE CUSTOMER	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
357	2ND DESCRIPTION OF ACTIVE CUSTOMER	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
358	3RD DESCRIPTION OF ACTIVE CUSTOMER	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
359	4TH DESCRIPTION OF ACTIVE CUSTOMER	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
360	5TH DESCRIPTION OF ACTIVE CUSTOMER	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T

INGREDIENTS		
486	1° LINKED INGREDIENT DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
487	2° LINKED INGREDIENT DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
488	3° LINKED INGREDIENT DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
489	4° LINKED INGREDIENT DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
490	5° LINKED INGREDIENT DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
491	6° LINKED INGREDIENT DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
492	7° LINKED INGREDIENT DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
493	8° LINKED INGREDIENT DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
494	9° LINKED INGREDIENT DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
495	10° LINKED INGREDIENT DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
496	11° LINKED INGREDIENT DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
497	12° LINKED INGREDIENT DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
498	13° LINKED INGREDIENT DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
499	14° LINKED INGREDIENT DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
500	15° LINKED INGREDIENT DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
501	16° LINKED INGREDIENT DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
502	17° LINKED INGREDIENT DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
503	18° LINKED INGREDIENT DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
504	19° LINKED INGREDIENT DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
505	20° LINKED INGREDIENT DESCRIPTION	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T

Note:
Through the macro 650 is possible to print the ingredient description with numeric index passed as parameter.

7.3.2 NUMERICAL ORDER

CODE		**PRINT FORMAT**
300	PRINT END	
301	NET WEIGHT	NET=**b**XXXXXXXXXXUM + T
	in which XXXXXXXXXX is the weight value on 10 digits including the comma.	
302	GROSS WEIGHT	GROSS=XXXXXXXXXXUM + T
303	TARE WEIGHT	TARE**b**=XXXXXXXXXXUM + T
304	TOTALISATION NET	N.YYY**b**NET**bbb**XXXXXXXX**b**UM + T
	in which YYY indicates the weighs number, XXXXXXX is the weight value in 8 digits including the comma; the weigh number is reset upon the resetting of the partial total.	
305	TOTALISATION GROSS	N.YYY**b**GROSS**b**XXXXXXXX**b**UM + T
306	TOTALISATION TARE	N.YYY**b**TARE**bb**XXXXXXXX**b**UM + T
307	NET PARTIAL TARE	N.YYY**b**T1.N.XXXXXXXX**b**UM
	in which YYY indicates the weighs number, XXXXXXXX the weight value in 8 digits including the comma.	

308 NET GENERAL TOTAL N.YYY**b**T2.N.**b**XXXXXXXX**b**UM + T

309 NET GRAND TOTAL N.YYY**b**T3.N.**b**XXXXXXXX**b**UM + T

310 GROSS PARTIAL TOTAL N.YYY**b**T1.G.**b**XXXXXXXX**b**UM + T

in which YYY indicates the weighs number, XXXXXXXXXX the weight value on 8 digits including the comma.

311 GROSS GENERAL TOTAL N.YYY**b**T2.G.**b**XXXXXXXX**b**UM + T

312 GROSS GRAND TOTAL N.YYY**b**T3.G.**b**XXXXXXXX**b**UM + T

313 PARTIAL TOTAL ADDITIONAL VALUE T1**b**ADD.**b**XXXXXXXXXX + T

in which the XXXXXXXXXX is the additional value, linked to the partial total, on 10 digits; it will be zeroed with the clearing of the partial total.

314 GENERAL TOTAL ADDITIONAL VALUE T2**b**ADD.**b**XXXXXXXXXX + T

in which the XXXXXXXXXX is the additional value, linked to the general total, on 10 digits; it will be zeroed with the clearing of the general total.

315 GRAND TOTAL ADDITIONAL VALUE T3**b**ADD.**b**XXXXXXXXXX + T

in which the XXXXXXXXXX is the additional value, linked to the grand total, on 10 digits; it will be zeroed with the clearing of the grand total.

316 ARTICLE NET TOTAL N.YYY**b**TA.N.**b**XXXXXXXX**b**UM + T

317 ARTICLE GROSS TOTAL N.YYY**b**TA.G.**b**XXXXXXXX**b**UM + T

318 DOTTED LINE -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- + T

319 PRINTS 3 CRLF

320 DATE / TIME FOR DP24/DP190 **b**HH:MM**b**DD-MM-YY + T

321 MAXIMUM TOTALISATION THRESHOLD VALUE XXXXXXXXXX

322 MINIMUM TOTALISATION THRESHOLD VALUE XXXXXXXXXX

323 DATE DD/MM/YY + T

324 TIME HH:MM + T

325 DATE TIME DD/MM/YY**b**HH:MM + T

326 FOLLOWING MACRO TERMINATOR SKIPS

327 PRINTS ON PC PORT

328 PRINTS ON PRINTER PORT

329 FORCES PRINTOUT

330 ACTIVE SCALE NUMBER SCALE**b**NUMBER**b**X + T

in which X is the active scale number (0..4)

331 JUST ACTIVE SCALE NUMBER X

in which X is the active scale number (0..4)

332 ACTIVE ARTICLE MEMORY NUMBER XXX

the field is expressed with three digits, with the zeros to complete the field length.

333 JUST 1st ARTICLE DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

in which XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX are the 30 description characters; just the entered characters are printed, which expand from left to right.

334 JUST “TARE” TEXT TARE

335 JUST “PRICE” TEXT PRICE

336 ONLY “DD SEASONING” TEXT DD**b**SEASONING

337 ONLY “DD EXPIRY” TEXT DD**b**EXPIRY

338 JUST “NET TOTAL” TEXT NET**b**TOTAL

339 JUST “TARE TOTAL” TEXT TARE**b**TOTAL

340 “WEIGHS TOTAL” TEXT WEIGHS**b**TOTAL

341 “GROSS TOTAL” TEXT GROSS**b**TOTAL

342 ONLY EAN ARTICLE CODE VALUE XXXXXX

If less than six digits are entered, some spaces on the right are entered to complete the field.

343 ONLY ARTICLE CHECKDIGIT VALUE X

The value is printed if different from “C”.

344 ONLY PRICE VALUE IN MAIN CURRENCY XXXXXXXXXX

10 digits excluding a possible decimal point, independently of whether the functioning is by price or weight

345 ONLY PRICE VALUE IN SECONDARY CURRENCY XXXXXXXXXX

10 digits excluding a possible decimal point, independently of whether the functioning is by price or weight

346 ONLY AMOUNT VALUE IN MAIN CURRENCY XXXXXXXXXX

10 digits including a possible decimal point; the amount is printed independently of whether the functioning is by price or weight.

347 ONLY PRICE AMOUNT VALUE IN SECONDARY CURRENCY XXXXXXXXXX
10 digits including a possible decimal point; the amount is printed independently of whether the functioning is by price or weight.

348 NET OR AMOUTN ON 5 DIGITS WITH CHECKDIGIT CXXXXX

349 ONLY ARTICLE SEASONING DAYS XXXX

350 ONLY ARTICLE EXPIRY DAYS XXXX

351 JUST ARTICLE NET TOTAL XXXXXXXXXX

352 JUST ARTICLE TARE TOTAL XXXXXXXXXX

353 JUST ARTICLE WEIGHS TOTAL XXXXX
The field expands from right to left, with many spaces for completing the field length.

354 JUST ARTICLE GROSS TOTAL XXXXXXXXXX

355 ACTIVE CUSTOMER STORAGE NUMBER XXX
the field is expressed in three digits, with some zeros to complete the length of the field.

356 1ST DESCRIPTION OF ACTIVE CUSTOMER XXXXXXXXXXXXXXXXXXXXXXXXXXXX + T

357 2ND DESCRIPTION OF ACTIVE CUSTOMER XXXXXXXXXXXXXXXXXXXXXXXXXXXX + T

358 3RD DESCRIPTION OF ACTIVE CUSTOMER XXXXXXXXXXXXXXXXXXXXXXXXXXXX + T

359 4TH DESCRIPTION OF ACTIVE CUSTOMER XXXXXXXXXXXXXXXXXXXXXXXXXXXX + T

360 5TH DESCRIPTION OF ACTIVE CUSTOMER XXXXXXXXXXXXXXXXXXXXXXXXXXXX + T

361 JUST INPUT 0 TEXT HEADING XXXXXXXXXXXXXXXX
in which XXXXXXXXXXXXXXXX are 16 characters of the input 0 text heading; just the entered characters are printed, from left to right.

362 JUST INPUT 1 TEXT HEADING XXXXXXXXXXXXXXXX

363 JUST INPUT 2 TEXT HEADING XXXXXXXXXXXXXXXX

364 JUST INPUT 3 TEXT HEADING XXXXXXXXXXXXXXXX

365 JUST INPUT 4 TEXT HEADING XXXXXXXXXXXXXXXX

366 JUST INPUT 5 TEXT HEADING XXXXXXXXXXXXXXXX

367 JUST INPUT 6 TEXT HEADING XXXXXXXXXXXXXXXX

368 JUST INPUT 7TEXT HEADING XXXXXXXXXXXXXXXX

369 JUST INPUT 8 TEXT HEADING XXXXXXXXXXXXXXXX

370 JUST INPUT 9 TEXT HEADING XXXXXXXXXXXXXXXX

371 JUST INPUT 10 TEXT HEADING XXXXXXXXXXXXXXXX

372 JUST INPUT 11 TEXT HEADING XXXXXXXXXXXXXXXX

373 JUST INPUT 12 TEXT HEADING XXXXXXXXXXXXXXXX

374 JUST INPUT 13 TEXT HEADING XXXXXXXXXXXXXXXX

375 JUST INPUT 14 TEXT HEADING XXXXXXXXXXXXXXXX

376 JUST THE INPUT 0 TEXT CONTENTS YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY
in which YYYYYYYYYYYYYYYY are 32 characters of the input 0 text contents; just the entered characters are printed, from left to right.

377 JUST THE INPUT 1 TEXT CONTENTS YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY

378 JUST THE INPUT 2 TEXT CONTENTS YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY

379 JUST THE INPUT 3 TEXT CONTENTS YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY

380 JUST THE INPUT 4 TEXT CONTENTS YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY

381 JUST THE INPUT 5 TEXT CONTENTS YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY

382 JUST THE INPUT 6 TEXT CONTENTS YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY

383 JUST THE INPUT 7 TEXT CONTENTS YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY

384 JUST THE INPUT 8 TEXT CONTENTS YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY

385 JUST THE INPUT 9 TEXT CONTENTS YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY

386 JUST THE INPUT 10 TEXT CONTENTS YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY

387 JUST THE INPUT 11 TEXT CONTENTS YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY

388 JUST THE INPUT 12 TEXT CONTENTS YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY

389 JUST THE INPUT 13 TEXT CONTENTS YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY

390 JUST THE INPUT 14 TEXT CONTENTS YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY

391 INPUT 0 TEXT XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
in which XXXXXXXXXXXXXXXX are 16 characters of the heading and YYYYYYYYYYYYYYYY are 32 characters of the input 0 text contents, just the entered characters are printed, from left to right.

392 INPUT 1 TEXT XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T

393 INPUT 2 TEXT XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T

394 INPUT 3 TEXT XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
395 INPUT 4 TEXT XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
396 INPUT 5 TEXT XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
397 INPUT 6 TEXT XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
398 INPUT 7 TEXT XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
399 INPUT 8 TEXT XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
400 INPUT 9 TEXT XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
401 INPUT 10 TEXT XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
402 INPUT 11 TEXT XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
403 INPUT 12 TEXT XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
404 INPUT 13 TEXT XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
405 INPUT 14 TEXT XXXXXXXXXXXXXXXX**b**YYYYYYYYYYYYYYYYYYYYYYYYYYYYYY + T
406 HEADING 1 XXXXXXXXXXXXXXXXXXXXXXXX + T
in which XXXXXXXXXXXXXXXX are the 24 characters of the first line of the heading; just the entered characters are printed, from left to right.
407 HEADING 2 XXXXXXXXXXXXXXXXXXXXXXXX + T
408 HEADING 3 XXXXXXXXXXXXXXXXXXXXXXXX + T
409 JUST PARTIAL TOTAL WEIGHS XXXXXXXX
the field expands from right to left, with many spaces for completing the field length.
410 JUST NET PARTIAL TOTAL XXXXXXXXXX
411 JUST GROSS PARTIAL TOTAL XXXXXXXXXX
412 JUST GENERAL TOTAL WEIGHS XXXXXXXX
The field expands from right to left, with many spaces for completing the field length.
413 JUST GENERAL NET TOTAL XXXXXXXXXX
414 JUST GENERAL GROSS TOTAL XXXXXXXXXX
415 JUST WEIGHS GRAND TOTAL XXXXXXXX
The field expands from right to left, with many spaces for completing the field length.
416 JUST NET GRAND TOTAL XXXXXXXXXX
417 JUST GROSS GRAND TOTAL XXXXXXXXXX
418 JUST PARTIAL TOTAL TARE XXXXXXXXXX
419 JUST GENERAL TOTAL TARE XXXXXXXXXX
420 JUST GRAND TOTAL TARE XXXXXXXXXX
421 SCALE UNIT OF MEASURE UM + T
422 DATABASE UNIT OF MEASURE UM + T
423 LAST GROSS WEIGHT ON ALIBI MEMORY XXXXXXXXXX
in which XXXXXXXXXX indicates the weight value on 10 digits including the comma
424 LAST TARE ON ALIBI MEMORY XXXXXXXXXX
425 ACTIVE SCALE NUMBER WITH ALIBI MEMORY XX
426 PRINTS ALIBI MEMORY WEIGH NUMBER XXXXXX
in which XXXXXX indicates the weigh number on 6 digits, including the comma; the field expands from right to left.
427 ALIBI MEMORY UNIT OF MEASURE UM
this block prints the unit of measure of the weigh saved in the alibi memory.
428 JUST NUMBER OF ALIBI MEMORY REWRITINGS XXXXX
The field expands from right to left and the non significant zeros are not printed.
429 LAST NET TOTALISED XXXXXXXXXX
in which XXXXXXXXXX indicates the weight value in 10 digits including the comma.
430 LAST TOTALISED GROSS XXXXXXXXXX
431 LAST TOTALISED TARE XXXXXXXXXX
432 NET / AMOUNT ON 5 DIGITS XXXXX
433 NET PARTIAL TOTAL / AMOUNT ON 5 DIGITS XXXXX
434 NET PARTIAL TOTAL / AMOUNT ON 6 DIGITS XXXXXX
435 NET PARTIAL TOTAL / AMOUNT ON 5 DIGITS WITH CHECKDIGIT CXXXX
436 ONLY NET IN POUNDS XXXXXXXXXX
437 ONLY TARE IN POUNDS XXXXXXXXXX
438 ONLY GROSS IN POUNDS XXXXXXXXXX
439 ONLY ARTICLE NET TOTAL IN POUNDS XXXXXXXXXX
440 ONLY NET IN POUNDS ON 5 DIGITS, ROUNDED

	TO 2 DECIMALS	XXXXX
441	NET ARTICLE TOTAL / AMOUNT ON 5 DIGITS WITH CHECKDIGIT	CXXXXX
442	ENTERED ADDITIONAL VALUE	XXXXX
443	ONLY ADDITIONAL PARTIAL TOTAL VALUE in which XXXXXXXXXX is the additional value, linked to the partial total, on 10 digits; it is reset upon the zeroing of the partial total. The field is completed with spaces on the left.	XXXXXXXXXX
444	ONLY ADDITIONAL GENERAL TOTAL VALUE in which XXXXXXXXXX is the additional totalised value, linked to the general total, on 10 digits; it is reset upon the zeroing of the general total. The field is completed with spaces on the left.	XXXXXXXXXX
445	ONLY ADDITIONAL GRAND TOTAL VALUE in which XXXXXXXXXX is the additional totalised value, linked to the grandl total, on 10 digits; it is reset upon the zeroing of the general total. The field is completed with spaces on the left.	XXXXXXXXXX
446	ONLY ADDITIONAL ARTICLE TOTAL VALUE in which XXXXXXXXXX is the additional totalised value, linked to the article total, on 10 digits; it is reset upon the zeroing of the general total. The field is completed with spaces on the left.	XXXXXXXXXX
447	TOTALISATION PROGRESSIVE It is set through function **800,** combinable with the desired key (**<< F.KEYS >>** step) The field expands from right to left, with many spaces for completing the field length.	XX..XX
448	CUSTOMER PROGRESSIVE It is set through function **801,** combinable with the desired key (**<< F.KEYS >>** step)	XX..XX
449	BOX PROGRESSIVE It is set through function **802,** combinable with the desired key (**<< F.KEYS >>** step)	XX..XX
450	PARTIAL TOTAL RESETTINGS PROGRESSIVE It is set through function **804,** combinable with the desired key (**<< F.KEYS >>** step)	XX..XX
451	GENERAL TOTAL RESETTINGS PROGRESSIVE It is set through function **805,** combinable with the desired key (**<< F.KEYS >>** step)	XX..XX
452	GRAND TOTAL RESETTINGS PROGRESSIVE It is set through function **806,** combinable with the desired key (**<< F.KEYS >>** step)	XX..XX
453	ARTICLE TOTAL RESETTINGS PROGRESSIVE It is set through function **807,** combinable with the desired key (**<< F.KEYS >>** step)	XX..XX
454	ONLY NET IN POUNDS ON 6 DIGITS, ROUNDEDTO 2 DECIMALS	XXXXXX
455	INDICATOR DATE IN DD-MM-YY FORMAT	DD-MM-YY
456	ACTIVE ARTICLE EXPIRY DATE IN DD-MM-YY FORMAT	DD-MM-YY
457	ACTIVE ARTICLE SEASONING DATE IN DD-MM-YY FORMAT	DD-MM-YY
458	GIULIAN CALENDAR DAYS	XXX
459	INDICATOR DATE IN YYMMDD FORMAT	YYMMDD
460	ACTIVE ARTICLE EXPIRY DATE IN YYMMDD FORMAT	YYMMDD
461	ACTIVE ARTICLE SEASONING DATE IN YYMMDD FORMAT	YYMMDD
462	INDICATOR DATE IN MM-DD-YY FORMAT	MM-DD-YY
463	INDICATOR DATE IN MMDDYY FORMAT	MMDDYY
464	INDICATOR DATE IN YYMM FORMAT	YYMM
465	CURRENT YEAR IN X FORMAT (for example 2001 = 1, 2002 = 2, etc…)	X
466	CURRENT YEAR IN LITERAL FORMAT (for example 1999 = D, 2000 = E etc…)	L
467	LAST TWO DIGITS OF CURRENT YEAR	XX
468	INDICATOR TIME ON TWO DIGITS	HH
469	PARTIAL TOTAL AMOUNT IN MAIN CURRENCY	XXXXXXXXX
470	GENERAL TOTAL AMOUNT IN MAIN CURRENCY	XXXXXXXXX
471	GRAND TOTAL AMOUNT IN MAIN CURRENCY	XXXXXXXXX
472	ARTICLE TOTAL AMOUNT IN MAIN CURRENCY	XXXXXXXXX
473	PARTIAL TOTAL AMOUNT IN SECONDARY CURRENCY	XXXXXXXXX
474	GENERAL TOTAL AMOUNT IN SECONDARY CURRENCY	XXXXXXXXX
475	GRAND TOTAL AMOUNT IN SECONDARY CURRENCY	XXXXXXXXX
476	ARTICLE TOTAL AMOUNT IN SECONDARY CURRENCY	XXXXXXXXX
477	MAIN CURRENCY SYMBOL	X
478	SECONDARY CURRENCY SYMBOL	X

479 ONLY NUMBER OF SELECTED TARE STORAGE XXX
the field expands from right to left; the non significant zeros are printed anyways.
480 PRINT XXXXXXXXXX
481 PRINT ENTERED DATA XXXXXX
The 480, 481 blocks refer to the operation made with the “calculator” function described in the section 15.1, **USER MAN.REF.**
482* LAST NET ON ALIBI MEMORY XXXXXXXXXX
483 NET PARTIAL TOTAL IN POUNDS XXXXXXXXX
484 NET GENERAL TOTAL IN POUNDS XXXXXXXXX
485 NET GRAND TOTAL IN POUNDS XXXXXXXXX
486 1° LINKED INGREDIENT DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
487 2° LINKED INGREDIENT DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
488 3° LINKED INGREDIENT DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
489 4° LINKED INGREDIENT DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
490 5° LINKED INGREDIENT DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
491 6° LINKED INGREDIENT DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
492 7° LINKED INGREDIENT DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
493 8° LINKED INGREDIENT DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
494 9° LINKED INGREDIENT DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
495 10° LINKED INGREDIENT DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
496 11° LINKED INGREDIENT DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
497 12° LINKED INGREDIENT DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
498 13° LINKED INGREDIENT DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
499 14° LINKED INGREDIENT DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
500 15° LINKED INGREDIENT DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
501 16° LINKED INGREDIENT DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
502 17° LINKED INGREDIENT DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
503 18° LINKED INGREDIENT DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
504 19° LINKED INGREDIENT DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
505 20° LINKED INGREDIENT DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX + T
506 EAN/UCC CHECKDIGIT ON THE 5 FOLLOWING C DIGITS
Notes:
- **The checkdigit is calculated if “C” is set in the compilation of the article, or fixed if a value is set between 0 and 9.**
- **Provide for a space before the five digits for the entry of the checkdigit, and enter the macro AFTER the digits to be checked.**

For example:
input string >> ***b**12345*
output string >> *C12345*

507 EAN/UCC CHECKDIGIT ON THE 12 PREVIOUS DIGITS C
Notes:
- **The checkdigit is always calculated.**
- **Enter the macro AFTER the digits to be checked.**

For example:
input string >> *123456789012*
output string >> *123456789012C*

508 JUST CONDITIONED TARE TEXT XXXXXX
XXXXXX becomes TARE in case of semiautomatic tare or PT**bbbb** in case of manual tare.
509 JUST CONDITIONED PT TEXT XX
XX becomes **bb** in case of semiautomatic tare or PT in case of manual tare.
510 ONLY ACTIVE ARTICLE SEASONING DAY DD
511 ONLY ACTIVE ARTICLE SEASONING MONTH MM
512 ONLY ACTIVE ARTICLE SEASONING YEAR YY
513 ONLY ACTIVE ARTICLE EXPIRY DAY DD
514 ONLY ACTIVE ARTICLE EXPIRY MONTH MM
515 ONLY ACTIVE ARTICLE EXPIRY YEAR YY
516 ONLY CURRENT DATE YEAR GG

517 ONLY CURRENT MONTH DATE MM

518 EAN/UCC CHECKDIGIT ON THE 13 PREVIOUS DIGITS C

Notes:

- **The checkdigit è sempre calcolato.**
- **Enter the macro AFTER the digits to be checked.**

For example:

input string >> *1234567890123*

output string >> *1234567890123C*

519 JUST 1st ARTICLE DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

in which XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX are the 30 description characters; just the entered characters are printed, which expand from left to right.

520 JUST 2nd ARTICLE DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

521 JUST 3rd ARTICLE DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

522 JUST 4th ARTICLE DESCRIPTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

523 PALLET PROGRESSIVE XX..XX

It is set through function **803,** combinable with the desired key (**<< F.KEYS >>** step)

524 JUST MINUTES VALUE MM

525 PRINT SECOND DATUM ENTERED XXXXXXX

526 PRINT OPERATION SYMBOL X

"+" in case of addition, "-" in case of subtraction, "x" in case of multiplication.

The blocks 480, 481, 525 and 526 refer to the operation made with the "calculator" function described in the section 15.1, **USER MAN.REF.**

527 ONLY "ARTICLE TOTAL" TEXT ARTICLE**b**TOTAL

528 ONLY "PARTIAL TOTAL" TEXT PARTIAL**b**TOTAL

529 ONLY "GENERAL TOTAL" TEXT GENERAL**b**TOTAL

530 ONLY "GRAND TOTAL" TEXT GRAND**b**TOTAL

531 ONLY "AMOUNT" TEXT AMOUNT

532 PRINTS TERMINATOR CR, CRLF, LF or NO TERMINATOR

533 ONLY "NET" TEXT NET**b**

534 ONLY "GROSS" TEXT GROSS**b**

535 ONLY "TARE" TEXT TARE**b**

536 ONLY "WEIGH" TEXT WEIGH

537 ONLY "WEIGHS" TEXT WEIGHS

538 ONLY PRICE VALUE IN MAIN CURRENCY CONVERTED FROM ARCHIVE UNIT OF MEASURE TO ACTIVE SCALE UNIT OF MEASURE XXXXXXXXXX

10 digits excluding a possible decimal point, independently of whether the functioning is by price or weight.

539 ONLY PRICE VALUE IN SECONDARY CURRENCY CONVERTED FROM ARCHIVE UNIT OF MEASURE TO ACTIVE SCALE UNIT OF MEASURE XXXXXXXXXX

10 digits excluding a possible decimal point, independently of whether the functioning is by price or weight.

7.4 BLOCKS WITH PARAMETERS

When entering the following blocks manually in a print ticket, these require that an additional numeric value be entered (specified in detail in the block's description) in order to define the print ticket which one wants to obtain.

EXAMPLE

Entry of the 600 "PRINT n TERMINATORS" block:

- Enter the 600 block in a ticket and confirm with OK/menu.
- The indicator does not pass by the block present in the following line, but shows "P 000".
- Enter a value between 001 and 050; for values outside this interval the indicator shows "-Error-", restoring the block before entering the block 600.
- By entering a valid value, the block will print a number of terminators equal to the one previously entered.

600 PRINTS n TERMINATORS Values valid from 001 to 050

601 PRINTS n LF CHARACTERS Values valid from 001 to 050

602 PRINTS n TAB CHARACTERS Values valid from 001 to 050

603 PRINTS n SPACE CHARACTERS Values valid from 001 to 050

604 PRINTS n "_" CHARACTERS Values valid from 001 to 050

605 LEFT MARGIN FOR LX300 Values valid from 001 to 255

606 NET WEIGHT ON X DIGITS Values valid in the **nXX** format

607 GROSS WEIGHT ON X DIGITS Values valid in the **nXX** format

608 TARE WEIGHT ON X DIGITS Values valid in the **nXX** format

in which **n** can be:

0 Value with decimal point and spaces
1 Value with decimal point and zeros in the place of spaces
2 Value without decimal point and zeros in the place of spaces

XX is the field length (maximum enterable value is 20); if the weight value is greater than the number of entered digits, the complete value is printed anyways.

################
EXAMPLE
With a weight value of 100.01, if one wants a length of 10 characters, in the three cases one will have:

Parameter	Result
010	100.01
110	0000100.01
210	0000010001

################

609 SET ACCUMULATOR VALUE Values valid in the **nXX** format

in which **XXX** can be:

000 Net weight
001 Gross weight
002 Tare weight
003 Article net total
004 Partial net total
005 General net total
006 Grand net total
007 Article gross total
008 Partial gross total
009 General gross total
010 Grand gross total
011 Article tare total
012 Partial tare total
013 General tare total
014 Grand tare total
015 Article weighs total
016 Partial total weighs
017 General total weighs
018 Grand total weighs
019 Additional article totale value
020 Additional partial total value
021 Additional general total value
022 Additional grand total value
023 Article total amount in main currency
024 Partial total amount in main currency
025 General total amount in main currency
026 Grand total amount in main currency
027 Totalisation progressive
028 Customer progressive
029 Box progressive
030 Pallet progressive
031 Partial total resettings progressive
032 General total resettings progressive

033 Grand total resettings progressive
034 Article total resettings progressive
035 First tare value
036 Switches the configured value with the comparison value (see Macro Attachment)

610 SETS DECIMALS' VALUE OF THE ACCUMULATOR Values valid in the **XXX** format
in which **XXX** can be:
000 No decimals
001 1 decimal
002 2 decimals
003 3 decimals
004 4 decimals
NOTE: if decimals are not set, the ones of the scale are used.

611 SETS UNIT OF MEASURE CONVERSION VALUE OF THE ACCUMULATOR Values valid in the **XXX** format
in which **XXX** can be:
000 g
001 kg
002 t
003 lb
NOTE: if the unit of measure is not set, the one of the scale is used.

612 PRINTS ACCUMULATOR VALUE Values valid in the **nXX** format
in which **n** can be:
0 Value with decimal point and spaces
1 Value with decimal point and zeros in the place of the spaces
2 Value without decimal point and zeros in the place of the spaces

XX is the length of the field (maximum enterable value is 20); if the weight value is greater than the number of entered digits, the complete value is printed anyways.

################
EXAMPLE
The scale is at three decimals and the unit of measure is the kg; if one wants to print the net weight with two decimals converted in pounds, expressed on 7 digits without decimal point, with non significant zeros filling the eventual spaces.

One should set the following macros:
…
609 >>> enter parameter 000
610 >>> enter parameter 002
611 >>> enter parameter 003
612 >>> enter parameter 207
….
If the net weight of the scale corresponds to 2,480 kg, the printed value will be **0000547**
################

613 SET OUTPUT FUNCTIONING Values valid in the **nXX** format
In which **n** is the output status:
0 OFF
1 or 2 ON
XX is the number of the output to be enabled, from 00 to 15.

If one needs to manage various printers using the available outputs (connecting the transmission of the printer port on the common of the outputs), follow the example in macro 631:

614 MAIN CURRENCY AMOUNT ON X DIGITS Values valid in the **nXX** format

615 SECONDARY CURRENCY AMOUNT ON X DIGITS Values valid in the **nXX** format

616 NET WEIGHT OR AMOUNT IN MAIN CURRENCY ON X DIGITS Values valid in the **nXX** format

617 NET WEIGHT OR AMOUNT IN SECONDARY CURRENCY ON X DIGITS Values valid in the **nXX** format

618 EAN/UCC CHECKDIGIT ON PREVIOUS X DIGITS Values valid in the **XX** format

619 CONVERSION OF THE "." (POINT) CHARACTER IN THE "," (COMMA) CHARACTER IN THE PREVIOUS X DIGITS Values valid in the **XX** format

NOTE: if one uses the 618 and 619 blocks, one should enter the block 331 "FORCES PRINTING" before the blocks that need to be converted.

621 PRINT DIRECTION FOR MASTER / SLAVE SYSTEM Valid values **000, 001, 002**

000 → Prints only on the SLAVE.
001 → Prints only on the MASTER.
002 → Prints only on the indicator which is being used.

622 SETTING THE THRESHOLD OF PRINT START OR THE NUMBER OF CHARACTERS TO BE PRINTED FOR THE INPUT TEXT CONTENTS Values valid in the **nXX** format

This macro allows to define which part of the contents of an input text which is to be printed in the 624 macro.

n can be:
0 for setting the threshold beginning;
1 for setting the characters to be printed.

XX is the threshold beginning if **n** = 0 or the characters to be printed if **n** = 1.
See the example in the 624 macro.

624 PRINTING OR CLEARING INPUT TEXT CONTENTS Values valid in the **nXX** format

This macro allows to print a part of an input text content defined in the 622 macro or to clear the contents of the input text content.

n can be:
0 to print;
1 to clear.

XX is the number of the input text (XX = 01 to print or clear the text contents of input 0, XX=15 to print or clear the contents of the text of input 14, XX=00 to clear all the contentx of the input texts).

################
EXAMPLE
If one wants to print from the 1st to the 6th letter of the contentx of input text 0 and clear the contents.
One should set the following macros:
…
622 >>> enter parameter 000 Setting the start of the printing from the 1st character
622 >>> enter parameter 106 Setting the number of characters to be printed at 6.
624 >>> enter parameter 001 Printing the contentx of the input 0 text with the set margins.
624 >>> enter parameter 101 Clearing the contents of the input 0 text.
….
################

625 SETTING THE ALIGNMENT AND NUMBER OF FORMATTING CHARACTERS Values valid in the **nXX** format

This macro, followed by 626, allows to align to the right or to the left, the contents of the following macro in regards to the defined number of characters.
n can be:
0 to set the alignment to the right
1 to set the alignment to the left
XX is the number of formatting characters.
See the example in the 626 macro.

626 SETTING THE FILLING CHARACTER OF THE FOLLOWING MACRO Values valid in the **XXX** format.

This macro allows to set the filling character of the following macro.
XXX corresponds to the ASCII decimal character (from 001 to 255).

################
EXAMPLE
If one wants to print on the right the contents of the 330 macro (NUMBER OF ACTIVE SCALE) one puts the "-" character (ASCII decimal 045) as filling on the left.
The macro contains 17 characters; therefore if the print line is 24 one should set the following macros:
…
625 >>> enter parameter 024
626 >>> enter parameter 045
330
….
################

627 CONFIRMATION "WAIT" FROM PC OR BY PRESSING OF **C** KEY Values valid in the **XXX** format

This macro allows to block the indicator and view the message "WAIT" on the LED display, after having forced the printing of the previous macros, and waiting for the character confirming that the reception has been made by the PC. In any case it's possible to unlock the indicator by pressing the **C** key.
Once unlocked, the indicator will print the eventual following macros.
XXX corresponds to the ASCII decimal character to be received in order to unlock the indicator (from 001 to 255, or 000 in case one wants to wait for the "PCOK" command).
NOTE: It's possible to enter more than one confirmation "wait" in the same print format.

################
EXAMPLE
One wants to lock the indicator after printing a series of data; then one waits for the "-" confirmation character (ASCII decimal 045) and, once received, transmit other data.
One should set the following macros:
…
301
302
303
627 >>> enter parameter 045 Setting the wait of the "-" character (ASCII decimal 045)
304
305
306
…
################

628 SETS THE VALUE OF THE SET POINT IN THE MACRO 609 Values valid in the **XXX** format

Parameter	ON Threshold (setpoint)
000 ~ 003	OUT1 ~ 4 (Mother board)
004 ~ 015	OUT5 ~ 16 (Expansion board)

Parameter	OFF Threshold (hysteresis)
000 ~ 003	OUT1 ~ 4 (Mother board)
004 ~ 015	OUT5 ~ 16 (Expansion board)

631 FORCES PRINTING AND TIME DELAY Values valid in the **XXX** format

Besides the print forcing function it also functions as a time delay.
XXX Time delay (up to 200dsec); for example "001" equals to 0,1 seconds; "010" equals to 1 second.

################

EXAMPLE

With the need to manage various printers through the available outputs (by connecting the transmission of the printer port on the common of the outputs), as follows:
PRINTING OF THE NET WEIGHT ON OUTPUT 1, GROSS ON OUTPUT2, TARE ON OUTPUT 3.

One should set the following macros:
...
613 >>> enter parameter 100 (OUT 1 ON)
613 >>> enter parameter 001 (OUT 2 OFF)
613 >>> enter parameter 002 (OUT 3 OFF)
631 >>> enter parameter 001 (0,1 seconds)
301 (Net weight)
631 >>> enter parameter 001 (0,1 seconds)
613 >>> enter parameter 000 (OUT 1 OFF)
613 >>> enter parameter 101 (OUT 2 ON)
613 >>> enter parameter 002 (OUT 3 OFF)
631 >>> enter parameter 001 (0,1 seconds)
302 (Gross weight)
631 >>> enter parameter 001 (0,1 seconds)
613 >>> enter parameter 000 (OUT 1 OFF)
613 >>> enter parameter 001 (OUT 2 OFF)
613 >>> enter parameter 102 (OUT 3 ON)
631 >>> enter parameter 001 (0,1 seconds)
303 (Tare weight)
631 >>> enter parameter 001 (0,1 seconds)
...

644 SETS THE VALUE FOR ENABLE OR DISABLE PRINT TERMINATOR Values valid **000 or 001**
000→ Enable print Terminator
001→ Disable print Terminator

645 SIMULATES THE PRESSURE OF A KEY

- 0xx simulates the pressure of the key with xx code.
- 1xx simulates the long pressure of the key with xx code.

CODE	PRESSED KEY
00	**F1** key
01	**F2** key
02	**F3** key
03	**F4** key
04	**F5** key
05	**F6** key
06	**F7** key
07	**F8** key
08	**F9** key
09	**F10** key
10	Numeric key **'0'**
11	Numeric key **'1'**
12	Numeric key **'2'**
13	Numeric key **'3'**
14	Numeric key **'4'**
15	Numeric key **'5'**
16	Numeric key **'6'**
17	Numeric key **'7'**
18	Numeric key **'8'**
19	Numeric key **'9'**
20	Dot key **(.)**
21	**ZERO** key
22	**Fn/ENTER** key
23	**2nd F** key
24	**C** key

646 WAIT THE PRESSURE OF A KEY

- 0xx set the visualization of WAIT message and "block" the instrument, it remain on waiting of the pressure of the key with xx code.
- 1xx "block" the instrument, it remain on waiting of the pressure of the key with xx code.

647 WAIT THE STATUS OF THE INSTRUMENT

- 0xx set the visualization of WAIT message and "block" the instrument, it remain on waiting of xx status.
- 1xx "block" the instrument, it remain on waiting of xx status.

648 SET THE LEVEL OF THE FUNCTION

0xx set the menu level of the function that one want to perform.

649 SET THE FUNCTION

0xx set the code of the function that one want to perform.

Example:
To execute the function 311 is necessary insert in the format the macro 643 with 003 parameter (that set the menu level) and the macro 644 with 011 parameter (number of the function).

650 PRINT OF AN INGREDIENT Values valid in the **XX** format

It allows the printing of a specific ingredient of the selected product.

XX position of the ingredient in the product; 00 is the first ingredient of the product and 49 is the last.

651 REDIRECTION OF THE PRINT Values valid **000**, **001** or **002**

- 000 print on Print port
- 001 print on Pc port
- 002 print on Aux port

Note: parameter 255 forces printing.

652 SET ACCUMULATOR WITH PRINT BUFFER VALUE OR DECREASE PRINT BUFFER — Values valid in the **nXX** format

In which n can be:
0 sets the accumulator with the character that is in the following position of the print buffer:
current position – XX characters; the character will be stored in ASCII decimal code.
1 decreases the print buffer of XX characters.
2 increases the print buffer of XX characters.
##################
EXAMPLE
One wants to get only the number of the active scale from the macro 330 ("ACTIVE SCALE NUMBER") and set it in the accumulator (in ASCII decimal value), without printing.
One should set the following macros:
…
330 "Scale**n**Number**nnnn**Xt" (X is the number of the scale)
650 >>> enter parameter 002 (sets the number of the scale in the accumulator)
Considering that the cursors start from the end of the string the accumulator will get the number of the scale "X"
650 >>> enter parameter 118 (decreases the print buffer of 18 characters)
…
##################

653 SET CHARACTER THRESHOLD OF THE INGREDIENT — Values valid in the **nXX** format

Print a maximum of **XX** characters of an ingredient (separated by a character setted in the macro 654).
n can be:
- 0 doesn't make the cutting of the words of one ingredient
- 1 makes the cutting of the words of an ingredient when it reaches the maximum number of characters.

If XX is equal to 0, the ingredient index and the character index come to zero.

EXAMPLE:

The first ingredient is: **eggs,milk,flour,water,tomatoes** and the second is **yeast, chocolate, sugar** but you want set it in some lines of 20 character maximum:
654 >>> enter parameter 044 (ascii code for the separator ",")
653 >>> enter parameter 020 (doesn't make the cutting of the words but the first line is 20 character maximum)
653 >>> enter parameter 020 (doesn't make the cutting of the words but the second line is 20 character maximum)
653 >>> enter parameter 020 (doesn't make the cutting of the words but the third line is 20 character maximum)
653 >>> enter parameter 020 (doesn't make the cutting of the words but the fourth line is 20 character maximum)

The result of the printout is:
eggs,milk,flour,
water,tomatoes,
yeast,chocolate,
sugar

654 SET THE SEPARATOR OF THE INGREDIENTS — Values valid in the **XXX** format

See the macro 653. With this macro one can set the character to separate one ingredient from the other.

655 REDIRECTION BUFFER — Values valid in the **XXX** format

In which **XXX** can be:
- 001 inserts in the redirection buffer all the data that follow the macro and prints them
- 002 inserts in the redirection buffer all the data that follow the macro (without printing them)
- 003 prints the data of the redirection buffer
- 004 cancels all the data in the buffer

7.5 USE OF THE PRINT PREFORMAT

When one use TOTALIZATION formats particularly voluminous, it is possible that the print execution may be a bit slow; to improve the printing speed, one can program the totalization format in two parts: the FIXED part (e.i. with the label size, with the alignment, etc…) in the PRINT PREFORMAT, and the VARIABLE part (with the variable information as the weight, the article description etc…) in the TOTALIZATION FORMAT itself.
The print preformat is transmitted to the labeller IMMEDIATELY AFTER THE INDICATOR IGNITION, AFTER THE SELECTION OF AN ARTICLE and AFTER EACH PRINT.
As the totalization format results “thinner” of the all fixed part already sent, the execution will be much faster.

NOTES

- **The preformat is valid only for the TOTALIZATION format.**
- **Since the preformat is sent after each print, it will be necessary to put before the all formats that don’t use the preformat (all excluded the totalization one) a command (specific for the used labeller) that DELETE THE PREFORMAT in the labeller memory; otherwise will be printed the preformat also when is not necessary, causing an error in the executed print.**

EXAMPLE WITH ITALORA SMT280TT LABELLER

1) Originary totalization format:

```
?67&0
?07&100
?51&0
?27&
?81&0
?08&75
?43&0
?44&1
?60&1
?76&00000000
?68&0
?06&-67
?83&0,0,0
?83&0,1,0
?83&0,2,0
?83&0,3,0
?83&1,0,0
?83&1,1,0
?83&1,2,0
?83&1,3,0
?83&1,4,0
?83&1,5,0
?20&2,0
?20&3,0
?12&1
?22&0,420,1,1,0
?52&10,55,0,2,11;@[333]
?15&54,19,659,2,3
?15&710,23,398,0,2
?09&2
?10&1
?11&3
?13&2
?15&110,23,398,0,3
?52&00,62,25,2,21;@[378]
?52&10,130,26,1,33;@[486]
?52&10,130,48,1,33;@[487]
?52&10,130,70,1,33;@[488]
```

```
?52&10,130,92,1,33;@[489]
?52&10,130,114,1,33;@[490]
?52&10,130,136,1,33;@[491]
?52&10,130,158,1,33;@[492]
?52&10,130,180,1,33;@[493]
?52&10,130,202,1,33;@[494]
?52&10,130,224,1,33;@[495]
?15&116,246,591,2,3
?52&10,130,255,1,22;SCAD:
?52&10,303,255,1,22;STAG:
?52&10,475,255,1,22;CONF:
?15&116,270,591,2,3
?52&10,130,277,1,22;LOTTO:
?52&10,350,277,1,22;COD PART.
?15&116,290,591,2,3
?52&10,136,293,0,22;PREZZO
?52&10,134,364,0,22;TARA kg
?52&10,319,364,0,22;NETTO kg
?52&10,532,364,0,22;IMPORTO @[477]
?52&10,205,277,1,22;@[376]
?52&10,466,277,1,22;@[377]
?52&10,137,317,2,12;@[344] @[477]/kg
?52&10,117,386,2,12;@[608;7]
?52&10,299,386,2,12;@[606;7]
?52&10,510,386,2,12;@[346]
?52&10,190,255,1,22;@[456]
?52&01,725,53,3,98;@[342]@[348]
?52&10,365,255,1,22;@[457]
?52&10,536,255,1,22;@[455]
?14&1
@[300]
```

2) The print preformat will be:

```
?00&            [Command of Italora for the buffer zeroing]
?67&0
?07&100
?51&0
?27&
?81&0
?08&75
?43&0
?44&1
?60&1
?76&00000000
?68&0
?06&-67
?83&0,0,0
?83&0,1,0
?83&0,2,0
?83&0,3,0
?83&1,0,0
?83&1,1,0
?83&1,2,0
?83&1,3,0
?83&1,4,0
?83&1,5,0
?20&2,0
```

?20&3,0
?12&1
?22&0,420,1,1,0
?52&10,55,0,2,11;@[333]
?15&54,19,659,2,3
?15&710,23,398,0,2
?09&2
?10&1
?11&3
?13&2
?15&110,23,398,0,3
?52&00,62,25,2,21;@[378]
?52&10,130,26,1,33;@[486]
?52&10,130,48,1,33;@[487]
?52&10,130,70,1,33;@[488]
?52&10,130,92,1,33;@[489]
?52&10,130,114,1,33;@[490]
?52&10,130,136,1,33;@[491]
?52&10,130,158,1,33;@[492]
?52&10,130,180,1,33;@[493]
?52&10,130,202,1,33;@[494]
?52&10,130,224,1,33;@[495]
?15&116,246,591,2,3
?52&10,130,255,1,22;SCAD:
?52&10,303,255,1,22;STAG:
?52&10,475,255,1,22;CONF:
?15&116,270,591,2,3
?52&10,130,277,1,22;LOTTO:
?52&10,350,277,1,22;COD PART.
?15&116,290,591,2,3
?52&10,136,293,0,22;PREZZO
?52&10,134,364,0,22;TARA kg
?52&10,319,364,0,22;NETTO kg
?52&10,532,364,0,22;IMPORTO @[477]
@[300]

3) So the new totalization format will be:
?52&10,205,277,1,22;@[376]
?52&10,466,277,1,22;@[377]
?52&10,137,317,2,12;@[344] @[477]/kg
?52&10,117,386,2,12;@[608;7]
?52&10,299,386,2,12;@[606;7]
?52&10,510,386,2,12;@[346]
?52&10,190,255,1,22;@[456]
?52&01,725,53,3,98;@[342]@[348]
?52&10,365,255,1,22;@[457]
?52&10,536,255,1,22;@[455]
?14&1
@[300]

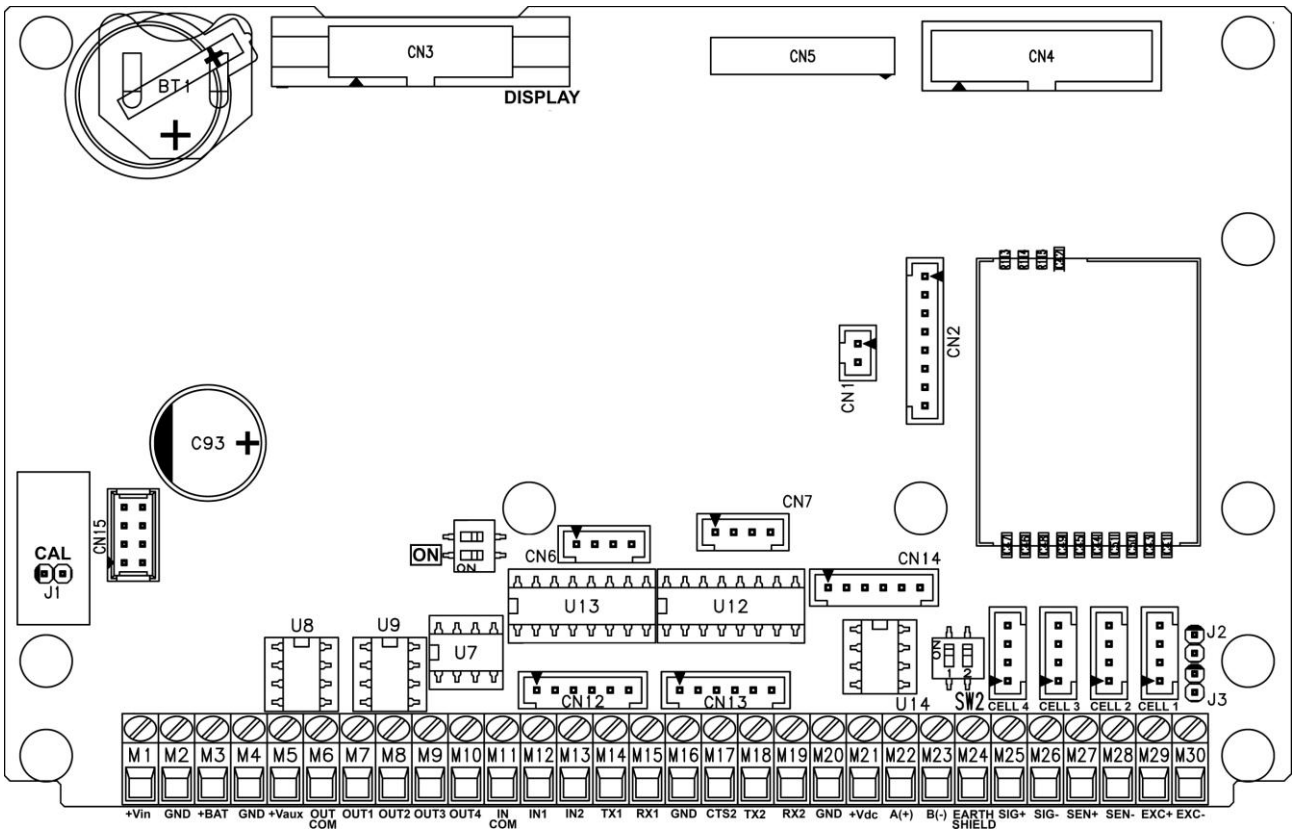
4) All other formats (except the totalization one) will have as initial command:
?00& [Command of Italora for the buffer zeroing]

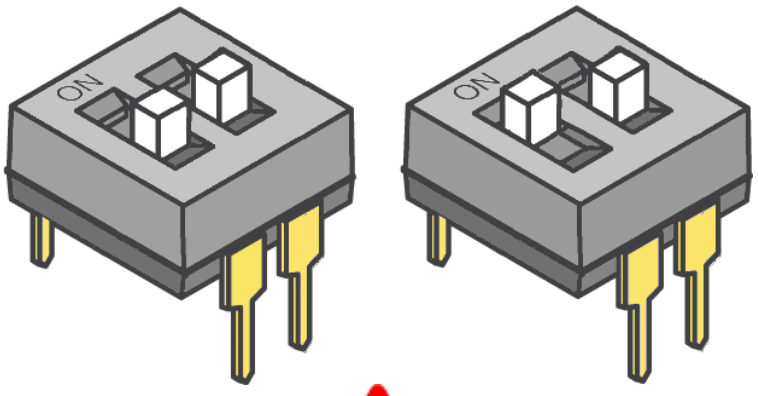
8. DISPLAY CUSTOMIZATION

It's possible to program the lines of the customizable display. In each line up to 22 characters can be displayed.
The print format that allows to program the customizable display is the number 99.
The terminator to be used in this format must be CR.
One can configure this format through the Dinitools™ software (for the management of the print formats, see the manual of the software).
The programming of the lines of the display can be executed by using the print macros described in the sections "LIST OF PRINT BLOCKS" and "BLOCKS WITH PARAMETERS".

9. ELECTRICAL CONNECTION SCHEMES

9.1 MOTHER BOARD





There aren't differences between two switches, doesn't matter which is "ON", is enough activate only one

ON SW:
- If closed, one can automatically turn on the instrument, as soon as the power voltage is supplied, one must also turn off the instrument by removing the mains voltage.
- If open, one can turn the instrument on and off by just pressing the ON key.

J2, J3 (SENSE): if closed, REFERENCE + and POWER SUPPLY +, REFERENCE - and POWER SUPPLY – are jumpered on the board

J1: if opened it enables the access to the metrological parameters, when configuring.

SERIAL PORTS (refer to section 5)

COM 1	**COM 2**	**COM 3**
Connector AMP CN12: serial 232 Terminals 14-15-16: serial 232	Connector AMP CN13: serial 232 Terminals 16-17-18-19: serial 232	Connector AMP CN14: serial 232 Terminals 22-23: serial 485 (U14)

IMPORTANT:
In the case of RS485 connection, read carefully and apply what is described in chapter 5.1.

POWER SUPPLY

6 Vdc BATTERY POWER SUPPLY	**+Vdc POWER SUPPLY**	**V-AUX AUXILIARY POWER SUPPLY**	**+Vdc (OUT) POWER SUPPLY**
4 GND (0 Vdc) 3 +BAT (+ 6 Vdc)	2 GND (0 V) 1 +Vdc (+12 Vdc, 8 ÷ 36 Vdc with I/O expansion board connected)	4 GND (0 V) 5 +Vaux (5,3 –8 Vdc 400 mA max)	20 GND (0 V) 21 +Vdc (+12V only if connected to the power supply)

CELL LOAD RECEIVER (terminal board connection)

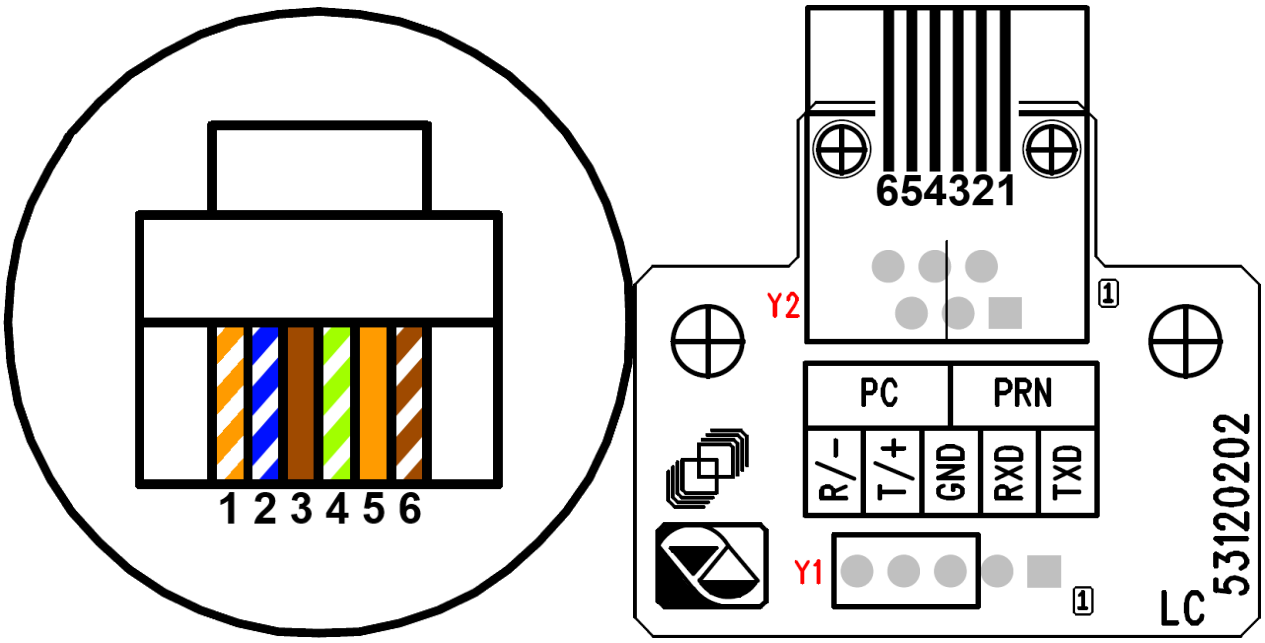
25	**SIG+**	SIGNAL +
26	**SIG-**	SIGNAL -
27	**SENS+**	SENSE +
28	**SENS-**	SENSE -
29	**EXC+**	EXCITATION +
30	**EXC-**	EXCITATION -

INPUTS (OPTOISOLATOR PHOTOCOUPLERS)
Power supply: 12 Vdc ÷ 24 Vdc max 20 mA.

PHOTOMOSFET OUTPUTS
Maximum power: 48 Vac or 60 Vdc, 150 mA max., 10 ohm max

!! IMPORTANT!!
The optoisolation of the inputs and outputs is obtained by powering the common of the outputs and/or of the inputs by using a voltage outside the instrument.

RS232 SERIAL PORT (RJ45 CONNECTOR) (*)



PLUG6 CONNECTIONS:

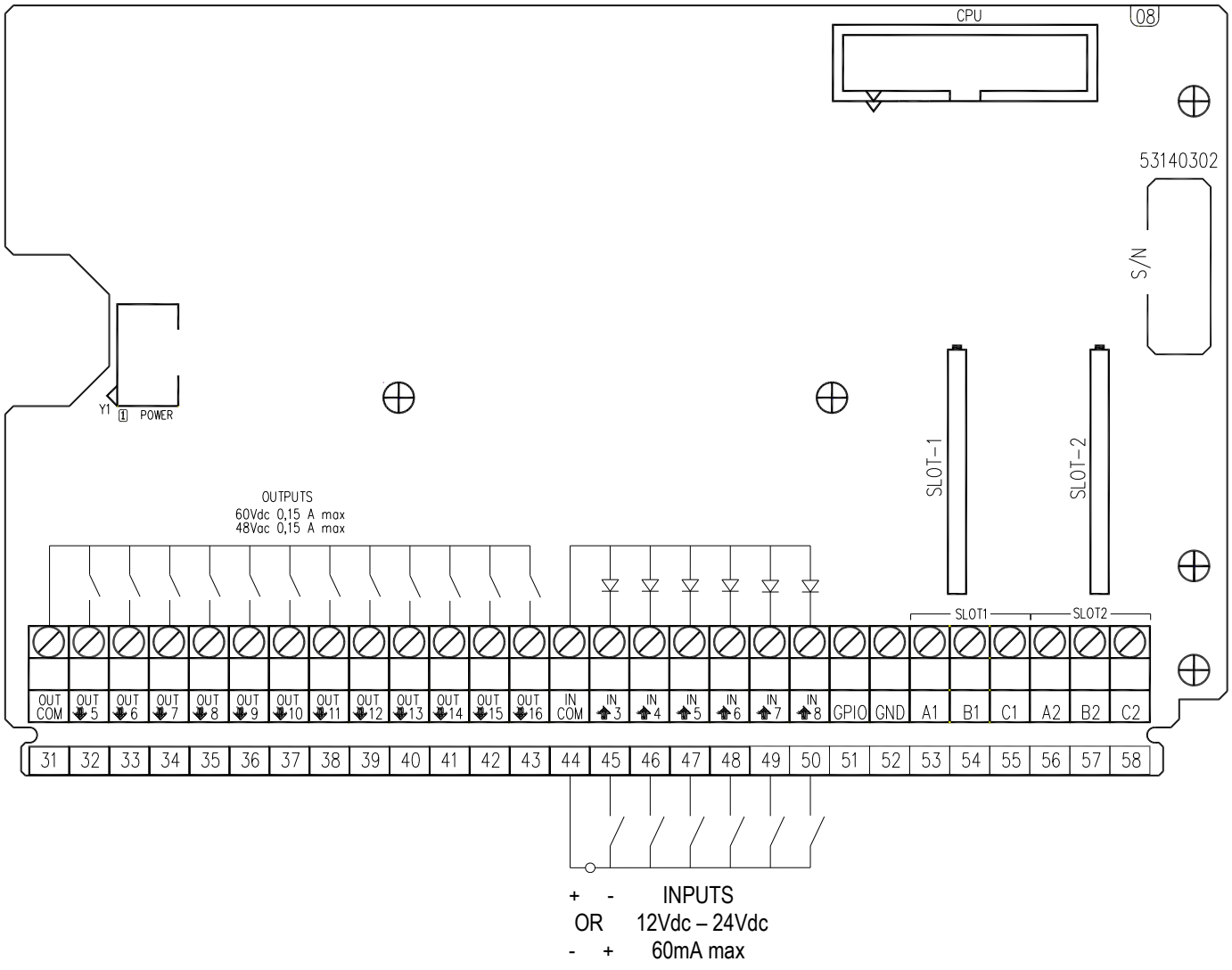
Y2	PLUG6	DB9	COLOR		MEANING
1	1		ORANGE	WHITE	
2	2	3	BLUE	WHITE	RX
3	3		BROWN		
4	4	5	GREEN	WHITE	GND
5	5	2	ORANGE		TX
6	6		BROWN	WHITE	

(*) May be present depending on the model.

!! IMPORTANT !!

Use 6-pin RJ12 connector, because the 8-pin connector doesn't fit into the hole of the weight indicator.

9.2 I/O EXPANSION BOARD (fitted with 3590EXT in IO version or CPWE)



ANALOGUE OUTPUT

I/O1 (SLOT 1):			I/O2 (SLOT 2):		
53	I+ (A1)	+ 20 mA	56	I+ (A2)	+ 20 mA
54	COM- (B1)	0 mA / V	57	COM- (B2)	0 mA / V
55	V+ (C1)	+ 10 V	58	V+ (C2)	+ 10 V

Note: the maximum resistance applicable on the output current is 350 Ohm and the minimum resistance applicable on the output voltage is 10 kohm.

INPUTS (OPTOISOLATOR PHOTOCOUPLERS)

Power supply: 12 Vdc ÷ 24 Vdc max 20 mA.

PHOTOMOSFET OUTPUTS

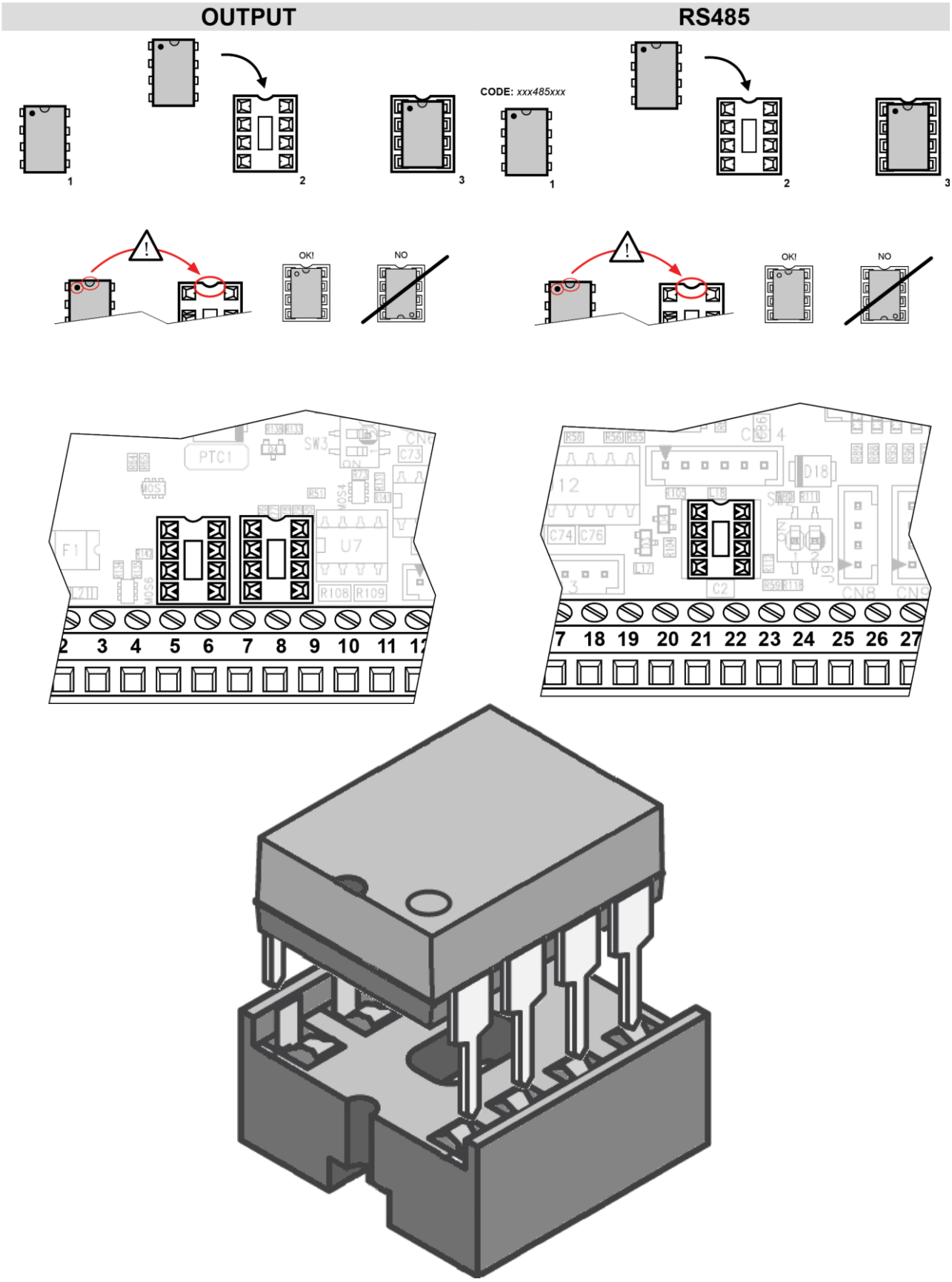
Maximum power: 48 Vac or 60 Vdc, 150 mA max., 10 ohm max

!! IMPORTANT!!

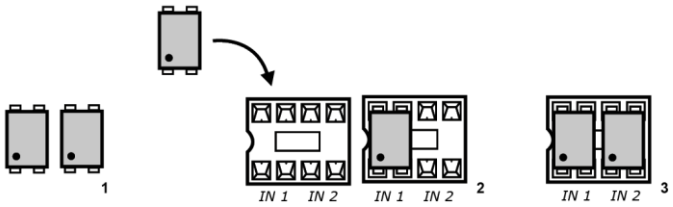
The optoisolation of the inputs and outputs is obtained by powering the common of the outputs and/or of the inputs by using a voltage outside the instrument.

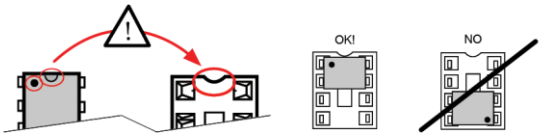
9.3 INTEGRATED CIRCUITS INSTALLATION

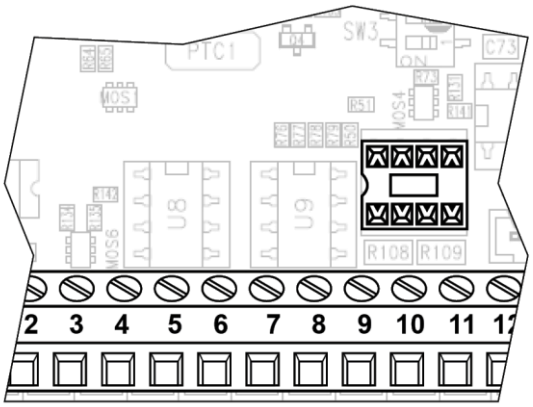
It is necessary follow this procedure to install Input, Output and RS485 integrated circuits:

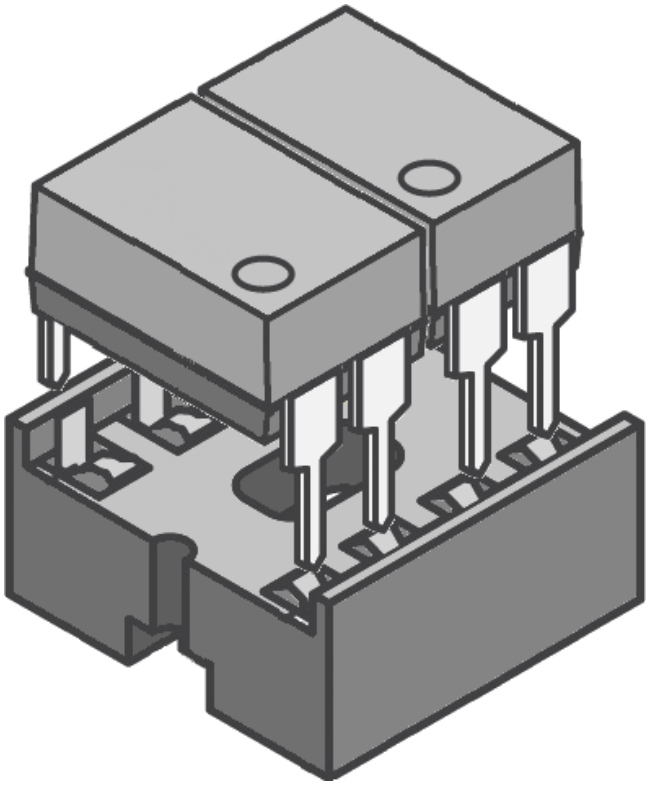


INPUT

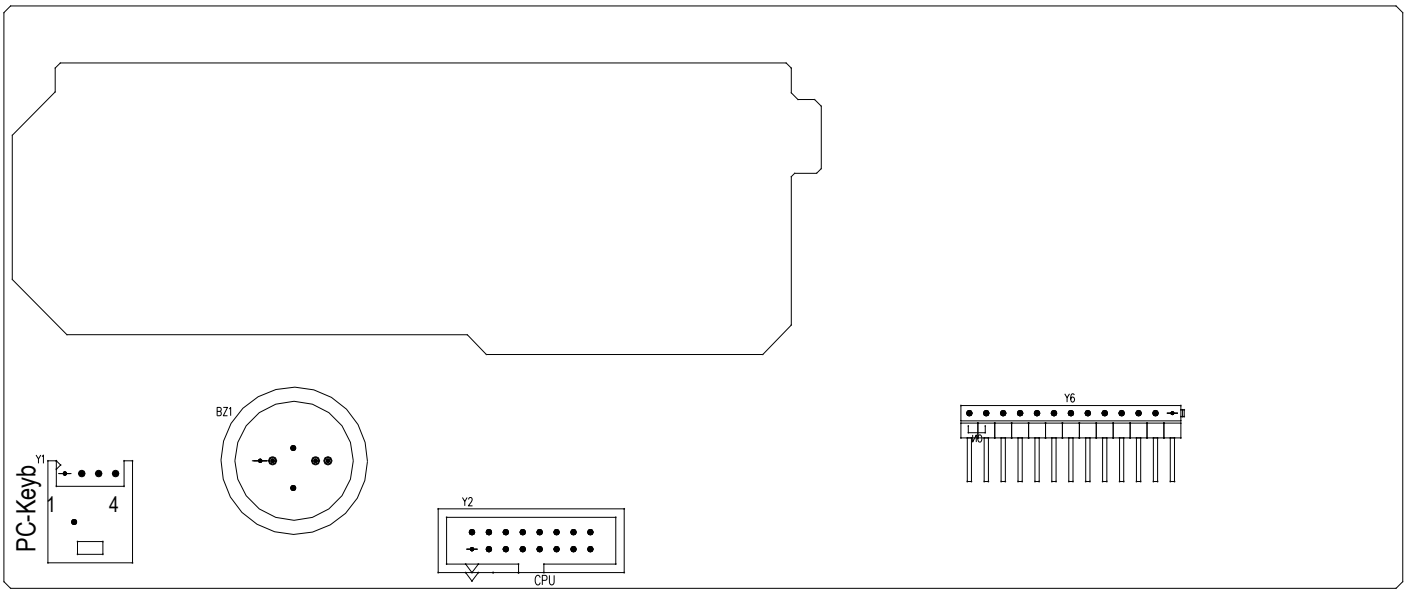

1
IN 1 IN 2
IN 1 IN 2
2
IN 1 IN 2
3


OK!
NO


PTC1
SW3
C73
U8
U9
R108
R109
2 3 4 5 6 7 8 9 10 11



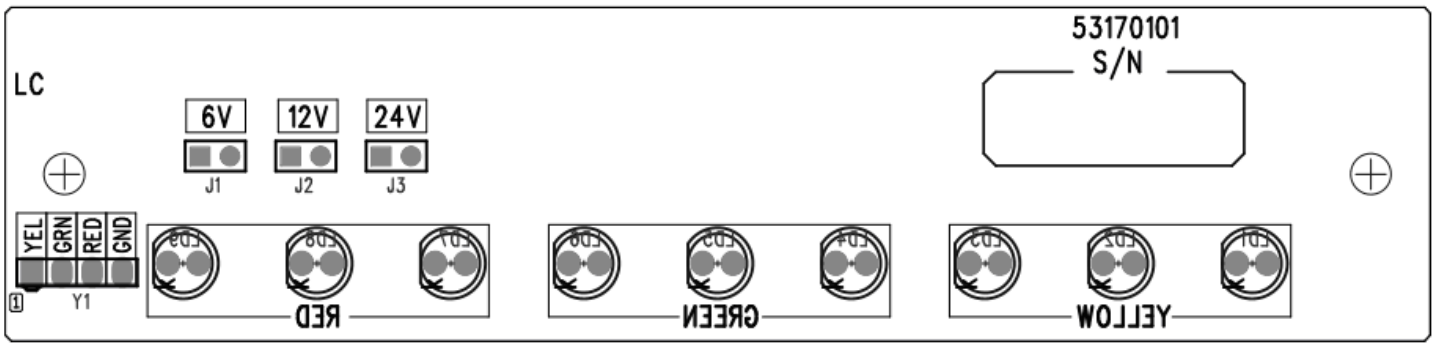
9.4 DISPLAY BOARD



PC-Keyb – PC KEYBOARD CONNECTOR
Keyboard emulation input, usable for the connection of the instrument to the PC keyboard or the badge/bar code reader.

PC-KEYB		PS/2
1	+5V	4
2	GND	3
3	DATA	1
4	CLK	5

9.5 CONTROL LIGHT
(only for CPWET)



J1: if closed, allows to set the power supply of the control light to **6V**.
J2: if closed, allows to set the voltage of the control light to **12V**.
J3: not used

!!WARNING!!
Only one jumper must be closed at time

Y1	MEANING	COLOUR	MOTHERBOARD
1 (YEL)	OUT1	YELLOW	7
2 (GRN)	OUT2	GREEN	8
3 (RED)	OUT3	BROWN	9
4 (GND)	GND	WHITE	20