Countum Group
SATAM
Metering Solutions

Field Batch Controller
EQUALIS S
Depot version
Programing Manual

U517504 – e – Revision 0 – 27/03/2013

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SATAM
Headquarters
Paris Nord II, 47, allée des Impressionnistes
BP 85012 Villepinte, 95931 Roissy CDG Cedex- France
Tel. : +33 (0)1 48 63 02 11
Fax : +33 (0)1 49 38 41 01
Email : info@satam.eu
SAS au capital de 6 037 000 €, RCS Bobigny B 495 233 124
N°TVA : FR 48 495 233 124, SIRET 495 233 124 000 17

Production facility
Avenue de Verdun, CS60129
14700 Falaise, France
Tel. : +33 (0)2 31 41 41 41
Fax : +33 (0)2 31 40 75 61

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Revisions

Date	Rédaction	R0v.	Note
27/03/2013	O.PRESTAVOINE	0	Document équivalent EQUALIS L : ***EQUALIS Dépôt - Manuel de Programmation – U516179 rév.7***. Modifications apportées : PRESENTATION MATERIEL : Mise à jour avec la configuration EQUALIS S DESCRIPTION DES MODULES : Suppression du module TM. Compléments d'information sur ZCAN.

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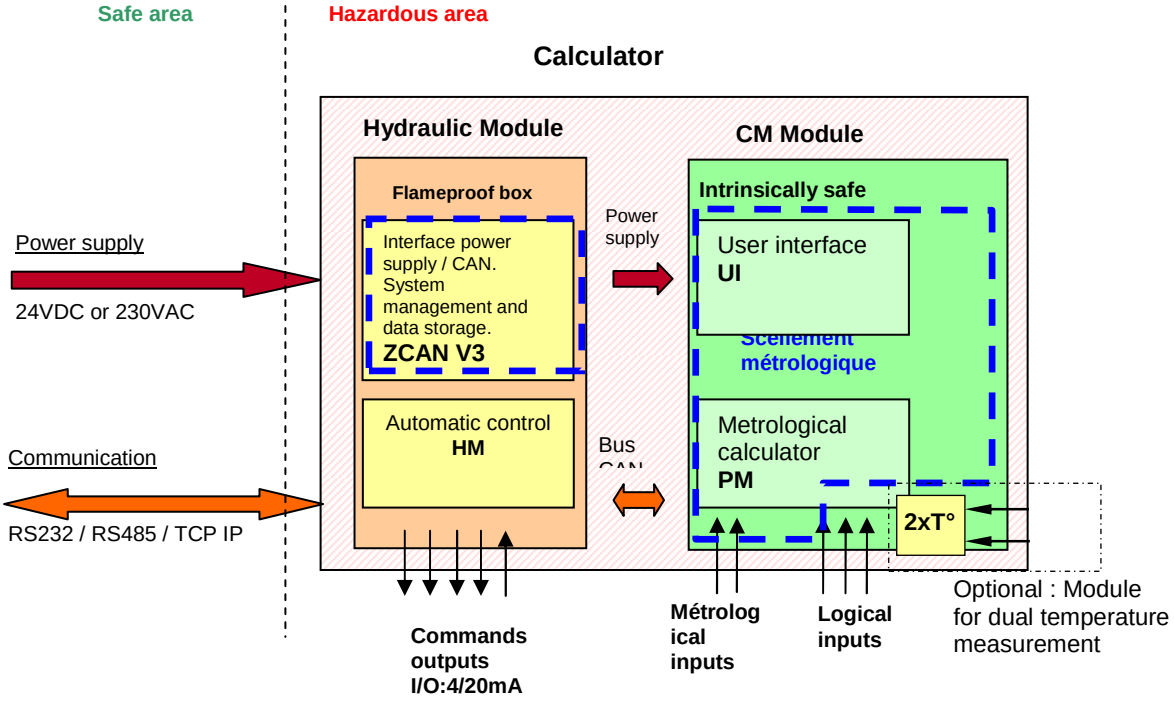
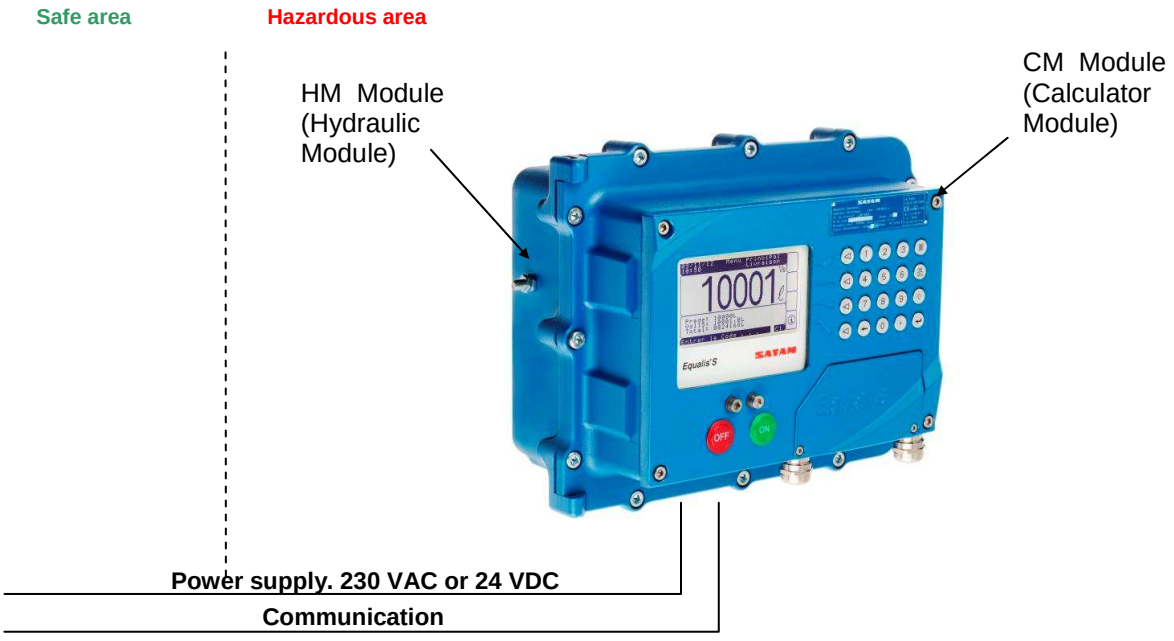
CONTENT

PRESENTATION OF MATERIEL

EQUALIS S calculator is based on a modular concept, as shown hereafter.





Comments :

- The above configuration can be broken down into a particularly suitable for dome gantry, where the calculation module CM is divided into two separated boxes : A blind box dedicated to the PM module and a separate user interface, installed on the gateway.
- The calculation module may receive an additional optional module for acquisition of a double temperature probe. This option is especially dedicated for blending solutions for biofuels.
- The EQUALIS S is able to make blendings as follows :
  o Blending "downstream " : measuring of the pure products
  o Blending "upstream " : measuring of the final product and component with lesser proportion
  In both cases the EQUALIS S know how to manage the products proportions.
- The EQUALIS S can manage 4 additives in a standard configuration, and up to 8 with a secondary HM card.
- The EQUALIS S can measure the quantity of a colorant and ensure the presence and the concentration in the final product.

DESCRIPTION OF MODULES

- **THE HYDRAULIC MODULE : HM + ZCAN**

Energy and CAN interface module:

- It allows to provide to the calculator module a power supply and an interface with the CAN bus, both secured according to ATEX requirements.
- It manages the system, thanks to its built-in microprocessor.
- It provides secure backup of data delivery.
- It connects the EQUALIS S systems to higher level supervision systems.
- It allows to control a printer directly. The metrological data printed on the ticket are recognized by the legal metrology.

The HM module:
This module controls the automatic commands of relays that switch on the medium voltage current or power supply.

- **THE CALCULATOR MODULE : PM + UI**

Metrological calculation module PM :
This module captures the data inputs for metrological pulse and temperature measurement. It performs all the calculations necessary for providing the corrected volume to the whole system, in real time, through the CAN bus. It manages the system's logical inputs.

The UI User Interface module:
This module implements the means of communication between the user and the whole system, through:

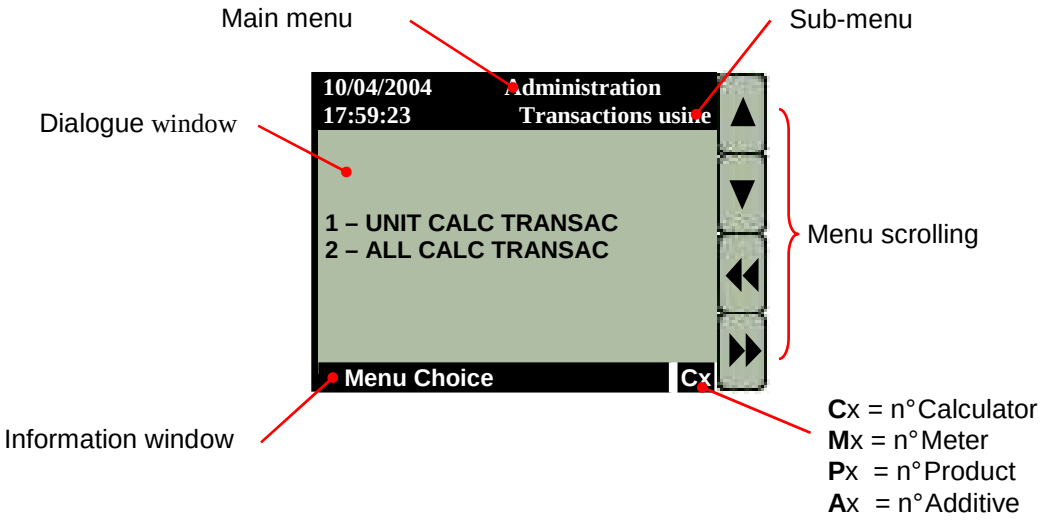
- ***a Graphic Display***: 240x128 backlighted pixels,
- ***a 20-key Keyboard*** *including*: 3 direct access function keys, 4 keys for accessing the menus and an alpha-numeric mode). It also includes
- ***a START button***: to start delivery,
- ***a STOP button***: to stop delivery.

- **THE CAN BUS**

The CAN bus enables the system to exchange operational data of the various modules in real time.

DESCRIPTION OF THE GRAPHIC INTERFACE

1) Description of the main page menu



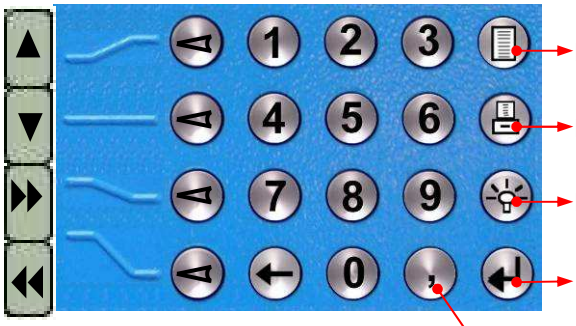
2) Connections between Display and keyboard

Arrow up, or decrementation - 3,2,1…or c, b, a…

Arrow down or incrementation - 1,2,3…or a, b, c…

Confirm and go to next menu (this function can also be carried out by pressing the enter key)

Back to previous menu



Return to Main Menu

Print Menu

Display Back Lighting

Direct Access

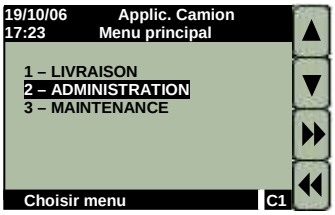
Enter / Confirm

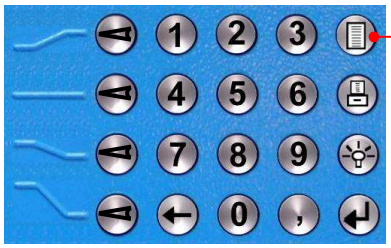
Decimal point

DESCRIPTION OF MENUS

MAIN MENU

The access to the main menu is protected with a code : 2504 (default value)





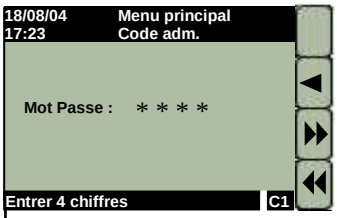
Main menu

DELIVERY

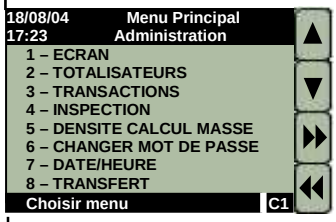
This menu is used for managing delivery. The menu is directly accessible without a password.

ADMINISTRATION

This menu is only accessible using a password and includes all the following system parameters. The password set in factory is **7777**

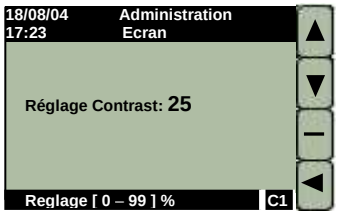


*1- Enter password with **4 figures .***
Use the numerical touch from 0 to 9.
Press on ◀ to cancel the entry of a wrong password, then,
2 – To valid password, press on ▶▶ or ↵



DISPLAY

This enables the user to adjust the display contrast.



Comment : Average value for contrast : 25
(Unit : %)

TOTAL REGISTER

This displays the total register for each calculator connected to the network.
It also displays the total registers per type of products (from 1 to 9).

TRANSACTIONS

Transaction administration is a set of menus enabling the user to visualise and sort the saved transactions in the TM module (Transaction Storage Module).

It is possible to print a report for each transaction.It prints out what is displayed.

UNIT CALC.(ulator) TRANSACTION

The calculator reference is the calculator number on the network. When this page is displayed, the system automatically proposes the local calculator (the one on which the user is present).

THE LAST TRANSACTION

Display of the last transaction with option of:
Copying (to another peripheral), Printing the displayed transaction.

TRANSACTION NUMBER

The user can display a transaction by entering its reference number.

DATE

Enables the user to see the transactions of the chosen date.
All the transactions included in this window can be viewed, and copied (if USB option is activated) or printed.

ALL CALC(ulator) TRANSACTIONS

The same applies above except that the searches are performed on all calculators connected to the TM module (Transaction Storage Module).

INSPECTION

The ***Inspection*** part of the administration module enables the various logs kept by the TM to be viewed:
Daily report, Error log, Events log,
The reports displayed can also be copied or printed.

DAILY REPORT

ERROR LOG

EVENT LOG

The report includes three levels:

- The parameter report
- The module report (material and software version)
- The user report (access to vital setup parameters in read-only format)

DENSITY FOR MASS CALCULATION

Density of product in kg/m^3 for masse calculation**.**

CHANGE PASSWORD

This menu enables the user to change the access password for the Administration menu and to confirm the new password.

DATE AND TIME

This menu allows the user to set the time and date.

TRANSFERT

This menu is for USB features.

TRANSACTIONS (Daily or Monthly)

This is for filtering and exporting data to a USB key.

USB ACTIVATION

This is to activate the USB functions.

TICKET TRANSFER

This is for importing ticket configuration.

MAINTENANCE

The maintenance menu enables the system parameters to be adjusted:

- **SET UP**

Access to all variables with no relation to metrology (without the need to unseal the calculator). This menu is protected by a specific password : **9999** is the password set in factory

CONFIGURATION PARAMETERS

HOST COMMUNICATION

Host communication = communication with a higher level system (System of PC supervision for managing a Depot):

- ***Stand alone***: the calculator functions alone without a higher system
- ***Modbus (RS485)***: serial link communication with Modbus protocol
- ***Modbus (TCP_IP)*** : Ethernet network communication with Modbus protocol
- ***Rubis / Saphir (RS485)***.

PRINTER

- ***Enable or Disable the use of a printer***
- ***Printer type:*** Current Printer: Epson TM-U295.
  Type1: for another auxiliary printer where relevant.
- ***Automatic printout:*** automatic printout of one or more tickets.
- ***Ticket type:*** Several ticket formats can be printed***.***
  (location of the different printed fields: date, transaction n°, volume…).
- ***Number of copies:*** At the end of delivery, several identical tickets can be printed, the number of tickets can be set using this menu.
- ***Truck ID :*** Can be used for an Info that will appear on the ticket.

DELIVERY OPTION

In this menu, the user can choose the parameters that will be requested when preparing a delivery (each box ticked sets the value that will be requested).
To tick a box, simply select a line and confirm by clicking the double arrow on the right.
Customer: the calculator will request the customer reference when the delivery process is launched.
The same applies for
Driver / User data / Preset / Product / Select meter / Tank number / Loading side.

DATABASE MGT (Management)

- **DATABASE STATUS:** displays characteristics and limits of the data base.
- **DATABASE RELEASE:** Allows the user to clean-up on request the database when it has reached a maximum level. It is not allowed until this limit is reached.

EQUALIS IP ADDRESS : Displays the current IP address.

- **IP ADDRESS TYPE:** allows the user to choose between DHCP or static address mode.
- **SET IP ADDRESS:** allows the user to set-up the address manually.

DISPLAY PARAM(eters)

Displays the values to be permanently displayed during the transaction.

CALCULATOR PARAM(eters)

The calculator reference is the number of the calculator on the network. When this page is displayed, the system automatically proposes the local calculator (the one on which the user is present).

PRODUCT

Number of product configured.
For depots, there is no set additive for a product. It generally varies from one customer delivery to another. If a certain additive is always associated with a product, this menu enables it to be automatically selected.

ADDITIVES

- **CONFIGURATION :** Set-up menu for each product. It allows product by product to chose the type of additivation, to set the pulse weight, assign an input number,…
- **RINSING VOLUME :** Volume of product without additive to be yelded at the end of delivery for rising.
- **NBR. PULSE. ADD. LEAK :** Allows to define the number of pulses allowed before detection of an additive leakage.
- **TIME NO ADDIT ERR :** Allows to define the time between the request for additivation and the actual measurement of additives, before rising up an error.
- **TESTS AND SETTINGS :** Allows to tests and set the Kfactor of an additive block connected to Equalis. This additive block provides to Equalis volume pulses and is controlled by a valve monitored by the Equalis.

DELIVERY LIMITS

PRESET MINIMUM VOLUME
Minimal volume of preset possible (if the user tries to enter a preset below this value, it will be refused).

PRESET MAX. VOLUME
This is the maximum allowed preset value.

FLOW MIN VALUE
Control value for flow rate measured during a delivery (linked to the following parameter).

FLOW MIN CHECK TIME.
Time after which the system generates an error if the flow rate does not reach the minimum set level.

FLOW MAX
Control value of maximum flow rate measured during a delivery.

MAX DELIVERY TIME
Time after which delivery will stop automatically.

NO FLOW TIME (during delivery):
Time after which an alarm is triggered when no product is flowing.

HYDRAULIC INIT

TYPE OF VALVE
Configuration of type of valve + rate of opening (in seconds).

LOW FLOW VOLUMES
Entry of volume at which the valve will function at slow flow rate ***in opening phase***,
before moving to fast flow rate.
Entry of volume at which the valve will function at slow flow rate ***in closing phase***,
after functioning at fast flow rate.

CLOSING DELAY

The Equalis calculates automatically the correction volume necessary to anticipate the valve closing delay. This parameter is the maximum correction applied on the closing delay of the valve.

INPUT CONFIG

This is the local Set-up menu of the actions led by the calculator. The user determines the action to be done by the Equalis based on the input value such as:

- Overfill protect
- Earthbond (local)
- Arm position….

EXT(ension) EQUALIS

This is a menu to be used only when an extension I/O board is connected to the calculator.

SOFTWARE RELEASE

All the software version number of the Equalis card module.

CHANGE PASSWORD

WEIGHT AND MEASUREMENT

The Weight and Measurement menu: enables the user to consult the metrological parameters. (unsealing is required when making any changes but not when simply consulting): only a password is required when accessing this menu. The password set in factory is **8888.**
All the parameters can then be visualised. When the user wishes to modify one of the parameters, the system will ask the user to unseal the calculator to press the weight and measurement button. Once this operation has been carried out, the parameter can be changed.

SET UP

INITIALISATION

- **APPLICATION :** for which the Equalis is used.
- **VOLUME UNIT :** Reference unit for all calculations

TEMPERATURE COMPENSATION

Temperature compensation calculation active or inactive

METER PARAMETERS

Each calculator can be linked to one or two meters which work on the same transaction.

- **PULSER TYPE :** the user must choose between 5V or 12V pulser.
- **METER DIRECTION:** the user must choose between Forward or Backward direction.
- **PULSE VALUE**
  The pulse weight of the meter has to be specified.
  Pulse weight programming mode E.g.: 300 pulses per liter
- **PULSE ERROR ALLOWED**
  Authorised difference between the numbers of pulses from 2 channels pulser.
- **PULSE BACK ALLOWED**
  Authorisation of a back delivery volume without triggering an error
- **PULSE TIMEOUT**
  In the event of detection of a pulse outside an authorised distribution, the calculator will check the number of pulses detected during the time set in this menu
- **MAX GAP**
  Number of pulses allowed during the duration programmed above
- **METER NAME:** Meter ID

PRODUCT PARAMETERS

For each product the Density is entered.

COMMUNICATION

This menu enables the user to set the system communication outputs: RS485 serial output or copy output of volume pulses.

- **RS485**
  Equalis can implement a RS485 serial output in the transaction module (in

the control terminal) and/or in the HM relay module (in the loading arm)

- **HOST LINK**

  Configuration of the TM transaction module RS485 output.

  - **CONFIGURATION:** this allows to set up the communication parameters such as baud rate, number of data bits, stop bit, parity,…
  - **ROUTING**

    TM transaction module RS485 output application: Management of an additivation system or communication system in Modbus format towards the higher level

- **HM LINK**

  Configuration of the RS485 output of the HM relay module.

  - **CONFIGURATION**
  - **ROUTING**

    HM hydraulic module RS485 output application: Management of an additivation system, a system of DTQM-type electronic Sealed Parcel Delivery or for tests.

- **PULSE OUTPUT**

  Implementation of the pulse copy output, with option of adjusting the pulse weight.

- **CALIBRATION**

  Calibration menus enabling gauging to be performed and programming of metrological correction factor: Kfactor.

  - **GAUGE**

    Gauging can be carried out without unsealing the calculator (the user must nevertheless enter the Weight and Measurement password to access this menu). At the end of the gauging process, if the difference between the new metrological parameter and the old one is within the regulatory limits, the cancel button enables the user to leave the metrological conditions set as they are. However, if the user wants the new ratio to be recorded, the weight and measurement button must be pressed.

  - **CORR.(ection) FACTOR PROGRAM**

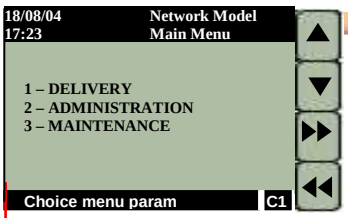
    Menu enabling Kfactor to be manually programmed

- **SOFTWARE IDENTIFICATION:** Identifies the W&M version of the software installed in the calculator by giving the software checksum.

- **TESTS AND SETUP:** this menu enables the user to make an adjustment of PT100 prote.

- **PASSWORD:** This menu enables the user to save a new password

MAIN MENU



"ADMINISTRATION MENU"

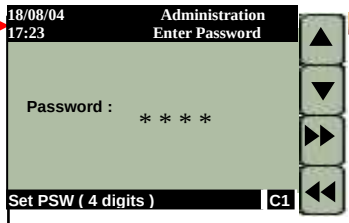
This menu is only accessible with a password.

*1 - To select menu **n°2 ADMINISTRATION***

- press ▼ for the next menu or,

- press ▲ for the previous menu, then,

2 - To confirm your choice press ▶▶



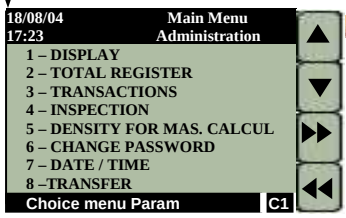
1 - The window for entering the password is displayed

*2 - Enter the **4-digit** password.*
use the number keys 0 to 9

***The password set in production is 7777** then*

3 - To confirm your password press ▶▶

ADMINISTRATION MENU



1 - The main parameters menu window is displayed

2 - Select the menu of your choice

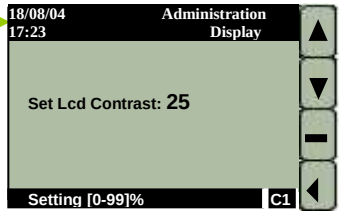
- press ▼ for the next menu or,

- press ▲ for the previous menu, then

3 - To confirm your choice press ▶▶ or « Enter »

DISPLAY

1



1 - You have chosen "Display"
This enables you to adjust the display contrast. (Valid range from 1 to 99)

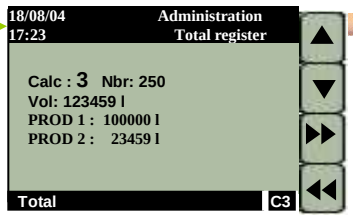
2 - To increase the contrast press ▼

3 - To reduce the contrast press ▲ then

4 - To confirm your choice press "Enter", then it automatically returns you to the previous menu

TOTAL REGISTER

2



1 - You have chosen "Total register"
This displays the Total register from the init, for each calculator connected to the network.

*2 - Select the calculator of your choice from 1 to 8 **(e.g.:calc n°3)***

- *The local calculator is displayed by default*
- *Nbr: is the total number of transaction for the calculator*
- *Vol: is the total volume delivered by the calculator*
- *Prod 1 to Prod 9 give the total volume delivered for 9 possible products.*

- press ▼ for incrementing the Calculator number,

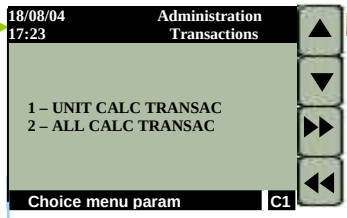
- press ▲ for decrementing it, then,

3 – Press ▶▶ or ◀◀ to return to the Administration menu.

continued on following page ➔

TRANSACTIONS

3



1 - You have chosen the"Transactions" menu

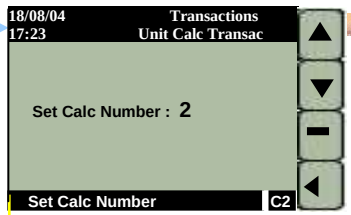
- *Transactions administration is a set of menus enabling the user to visualise and sort the transactions saved in the TM module (Module for Storage of Transactions).*

2 - Select the menu of your choice, then

3 - To confirm your choice press ▶▶

CALCULATOR TRANSACTIONS

1

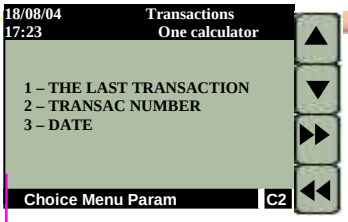


1 - You have chosen "Calculator Transactions"

- *The local calculator reference is displayed by default*
- *The calculator reference is the number of the calculator on the network.*

*2 - To visualise another calculator, replace by the calculator reference desired **(e.g.: 2)** then,*

3 - To confirm your choice press « Enter »



1 - The "Result" menu window is displayed (search criteria)

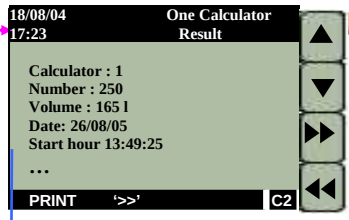
2 - Select the menu of your choice

- *Press* ▼ *for the next menu or,*
- *Press* ▲ *for the previous menu, then,*

3 - To confirm your choice press ▶▶

THE LAST TRANSACTION

1



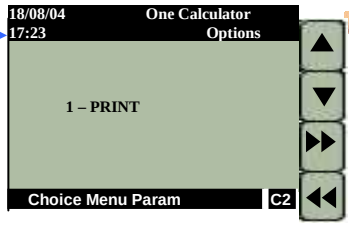
1 - You have chosen "The last Transaction"

2 - The last transaction made is displayed.

*3 - If you wish to **Print** this Transaction to a peripheral:*

- press ▶▶ *to access the Print menus, or:*

4 – Press ◀◀ *to go back to the previous menu.*

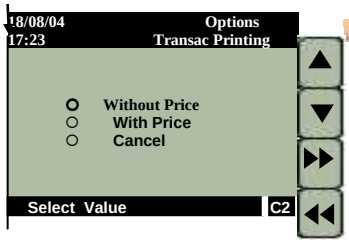


1 - You have chosen the menu options "Print "
a new window is displayed.

2 - To Select your chosen option

- *press* ▼ *for the next menu or,*
- *press* ▲ *for the previous menu, then,*

3 - To confirm your choice press ▶▶



1 - You have chosen the "print" option
a new window is displayed

2 - Select the peripheral of your choice

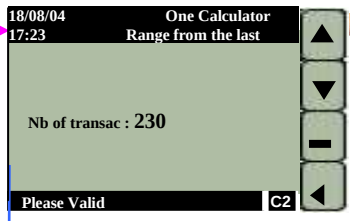
3 - To confirm your choice press ▶▶

4 – It prints out the transaction selected

"Transaction" menu continued

TRANSAC NUMBER

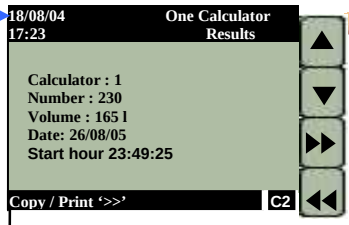
2



1 - You have chosen "Transactions number" menu

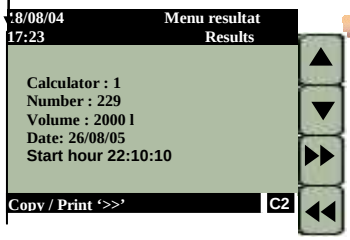
- *Enter the reference number of transactions that you would like to display **(e.g.: 230)***

2 - To confirm your choice press « Enter »



1 - The transaction is displayed,
2 - To access to next transactions, press:

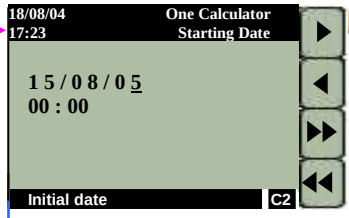
- ▲ *to access the previous transactions*
- ▼ *to access the following transaction*



*1 - Transaction **229** is displayed,*
*2- To **Print** see previously described menu*
3 – Press ◀◀ to go back to the previous menu.

DATE

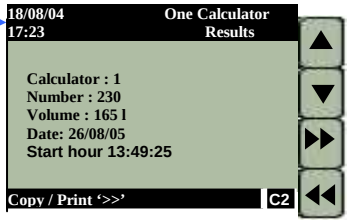
3



1 - You have chosen the "Search by Date" menu,

- *Enables the user to set the dates of the requested Transaction.*

*2 - Enter **date** for the search, (e.g.: 15-Aug-2005)*
3 - To correct your entry press ◀ or ▶ to move the cursor around the window
4 - To confirm your choice press ▶▶



1 - The last transaction is displayed,
2 - To access next transactions, press:

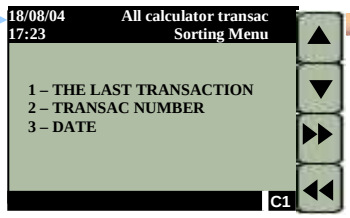
- ▲ *to access the previous transactions*
- ▼ to access the following transaction

continued on following page ➔

"Transaction" menu continued

ALL CALCULATOR TRANSACTIONS

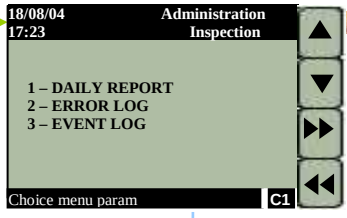
2



The same as for the"Calculator Transaction menu" described above, except that searches are performed on all the calculators connected to the transaction storage module (TM).

INSPECTION

4



1 - You have chosen the "Inspection" menu

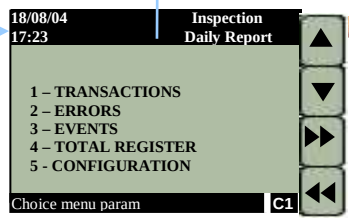
- *The Inspection part of the administration mode enables the user to view the various logs kept by the Transaction storage Module.*

2 - Select the menu of your choice, then

3 - To confirm your choice press ▶▶

DAILY REPORT

1



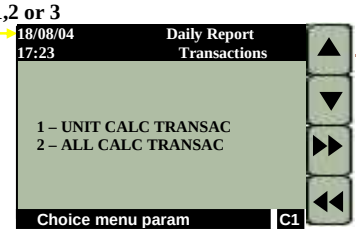
1 - The "Daily Report" window is displayed. This menus only allows the user to print out the reports.

2 - Select the menu of your choice, then

3 - To confirm your choice press ▶▶ (if you choose 4 or 5 it directly prints the report without opening a new window)

TRANSACTIONS, ERRORS or EVENTS

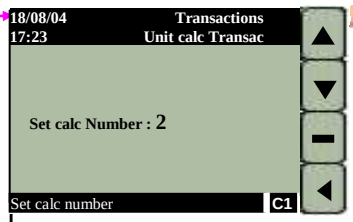
1,2 or 3



1 - Choose between a report for one Unit or for all units

2 - Select the menu of your choice, then

3 - To confirm your choice press ▶▶

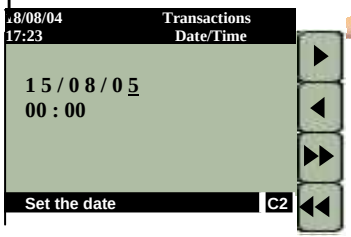


1 - You have chosen "UNIT CALC TANSAC"

- *The local reference calculator is displayed by default*
- *The calculator reference is the number of the calculator on the network.*

*2 - To visualise another calculator, set the calculator reference desired **(e.g.: 2)** then,*

3 - To confirm your choice press « Enter »



*1 - Enter **date** for the search, (e.g.: 15-Aug-2005)*

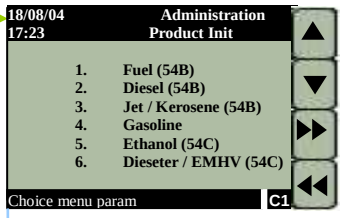
2 - To correct your entry press ◀ *or* ▶ *to move the cursor around the window*

3 - To confirm your choice press ▶▶

continued on following page ➔

DENSITY FOR MASS CALCULATION

5



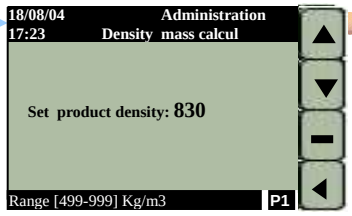
1 - You have chosen the "Density for mass calculation" menu

- *Density of product in Kg/m^3 , enables the user to carry out a mass calculation on the current delivery.*

2 - The product reference window is displayed

*3 - Select the product **(e.g.: 1 for Fuel)** by using the up and down arrow then,*

4 - To confirm press ▶▶



1 - The product reference window is displayed

*2 - Enter the product density **(e.g.: 830 Kg/m^3)***

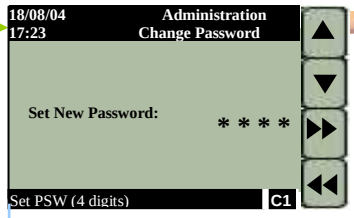
use the number keys 0 to 9 then

3 - To erase a character press ◀

4 – Press « ENTER » *to confirm and to go back to the previous menu.*

CHANGING A PASSWORD

6



1 - You have chosen the "Password" menu

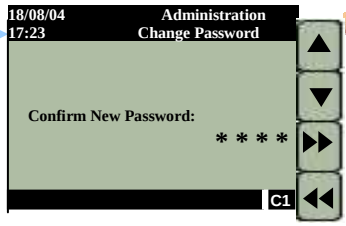
This menu enables you to modify the access password for the Administration menu with confirmation of the new password.

2 - The window for entering the password is displayed

3 - Enter the *4-digit password.**(e.g.:0320)***

use the number keys 0 to 9 then

4 - To confirm press ▶▶



1 - The window for entering the password is displayed

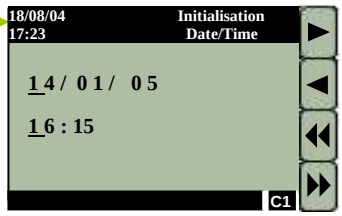
2 - Enter the new password chosen then,

3 - To confirm press ▶▶

4 - Press ◀◀ *to go back to the previous menu.*

DATE / TIME

7



1 - Date / Time

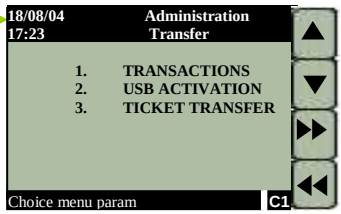
2 - Enter the date and time using the digital keypad, to move the cursor in the window use the ▶ *key or the* ◀ *key to delete a wrong entry.*

(e.g.: Date = Friday 14th January 2005
***Time = 16 hours 15 minutes)**, then*

3 - To confirm press ▶▶

continued on following page ➔

8



1 - You have chosen the "Transfer" menu

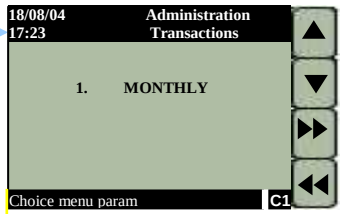
- *This menu is for USB features*

2 - The actions for USB features are displayed

3 - Select the menu of your choice, then,

4 - To confirm press ▶▶

1



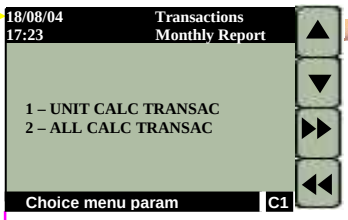
1 - You have chosen the "Transactions" menu

- *This menu allows the user to make a selection of transactions on a periode and export it on a USB key.*
- ***This menu is only available if you have taken the option USB activation for your Equalis. It can supplied after installation.***

3 - Select the menu of your choice, then,

4 - To confirm press ▶▶

1

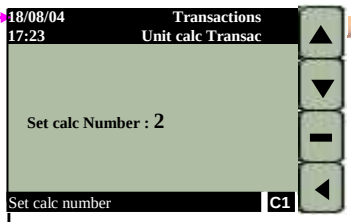


1 - Choose between a report for one Unit or for all units

2 - Select the menu of your choice, then

3 - To confirm your choice press ▶▶

1

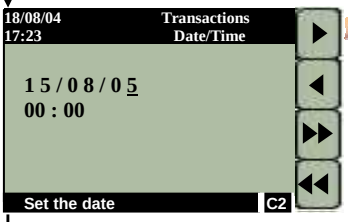


1 - You have chosen "UNIT CALC TANSAC"

- *The local reference calculator is displayed by default*
- *The calculator reference is the number of the calculator on the network.*

*2 - To visualise another calculator, set the calculator reference desired **(e.g.: 2)** then,*

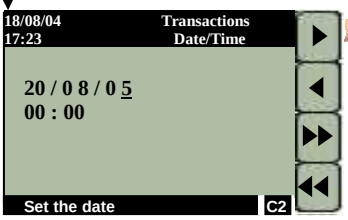
3 - To confirm your choice press « Enter »



*1 - Enter the initial **date** of the selection, (e.g.: 15-Aug-2005)*

2 - To correct your entry press ◀ *or* ▶ *to move the cursor around the window*

3 - To confirm your choice press ▶▶



*1 - Enter the final **date** of the selection, (e.g.: 20-Aug-2005)*

2 - To correct your entry press ◀ *or* ▶ *to move the cursor around the window*

3 - To confirm your choice press ▶▶

2

Same process if you selected "all calc transact". You will export the transactions made by all calculators connected the considered TM

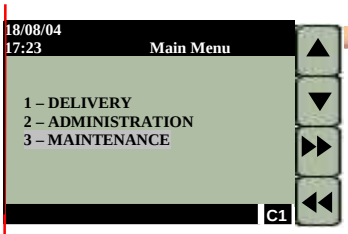
This menu allows the activation of the data transfer on USB Key. This activation can only be made with a key delivered by SATAM. Please contact us.

2

This menu allows the implementation or the replacement of a printing ticket format with a USB key. This format is prepared by SATAM on request.

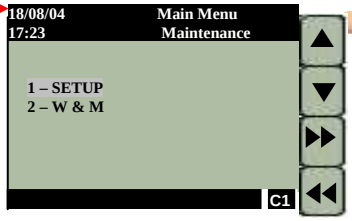
3

MAINTENANCE



The MAINTENANCE MENU enables the system parameters to be adjusted.

To access variables with no relation to Metrology, choose the "SETUP Menu"

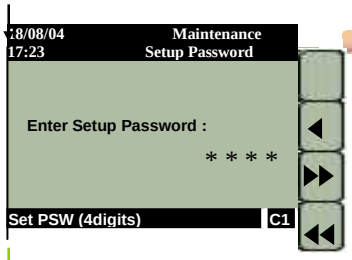


*1 – To choos between the "**SET UP or Weight & Mesure**" menu*

- press ▼ for the next menu or,

- press ▲ for the previous menu

2 – To confirm your choice press ▶▶



1 - The window for entering the password is displayed

*2 - Enter the **4-digit password.***

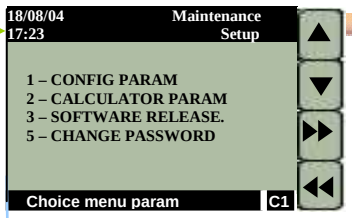
use the number keys 0 to 9

The password set in production is 9999

3 - To confirm your password press ▶▶

SET UP

1



1 - The "General Parameters" window is displayed

2 - Select the menu of your choice

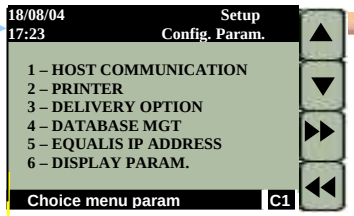
- press ▼ for the next menu or,

- press ▲ for the previous menu

2 – To confirm your choice press ▶▶

CONFIGURATION PARAMETERS

1



1 - You have chosen "Config Param"

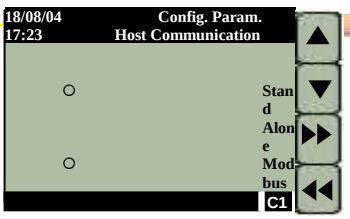
2 - The parameters menu window is displayed

3 - Select the menu of your choice, then

4 - To confirm your choice press ▶▶

HOST COMMUNICATION

1



1 – The "Host communication" window is displayed

*2 - Select the com. mode of installation **(e.g.: TCP/IP)***

- press ▼ for the next menu or,

- press ▲ for the previous menu, then,

3 - To confirm your choice press ▶▶

4 - Press ◀◀ to go back to the previous menu.

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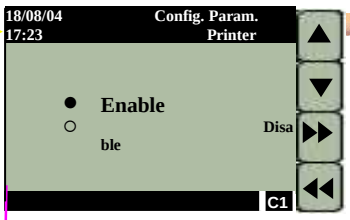
PRINTER

2



1 - The "Printer" window is displayed

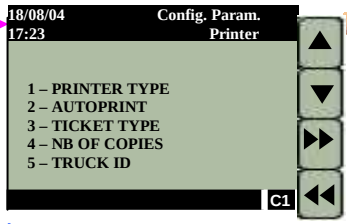
- *Launch or non-launch of a printer*

*2 - Select **Enable** if the installation has a printer*

*3 - Select **Disable** if no printer is present*

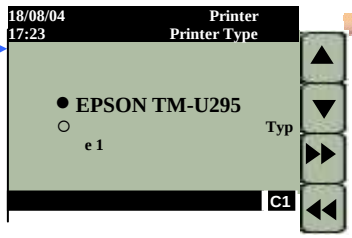
4 - To confirm your choice press ⏩

5 – Press ⏪ to go back to the previous menu.



*1 - If the **Enable** parameter is selected, the printer parameters window is displayed. All functions linked to this printer must therefore be set. The Truck ID parameter is in fact a string that will be displayed on the ticket it can be a truck ID or a location ID for instance.*

1



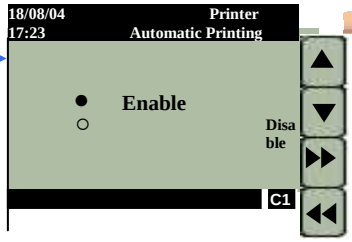
1 - "Type of printer"

2 - Select EPSON TMU-295 Standard printer (Type1: for an auxiliary printer)

3 - To confirm your choice press ⏩

4 - Press ⏪ to go back to the previous menu

2



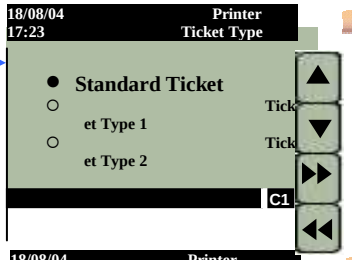
1 - "Automatic Printout"

*2 - Select **Enable** if you would like an automatic ticket printout at the end of each transaction.*

3 - To confirm your choice press ⏩

4 - Press ⏪ to go back to the previous menu

3



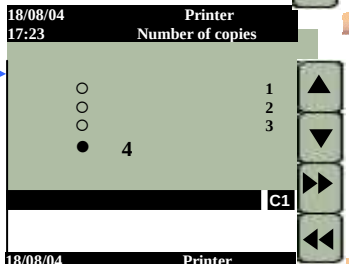
1 - "Ticket type"

*2 - Select the ticket format that you want to print at the end of the transaction. **(e.g.: Standard ticket)***

3 - To confirm your choice press ⏩

4 - Press ⏪ to go back to the previous menu

4

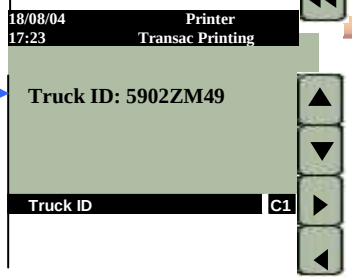


1 - "Number of copies"

*2 - Select the same ticket number that you want to print at the end of each transaction **(e.g.:4)***

3 - To confirm your choice press ⏩

4 – Press ⏪ to go back to the previous menu



5

1 - You have chosen "Trunk ID"

- *The Truck ID parameter is in fact a string that will be displayed on the ticket it can be a truck ID or a location ID for instance*

2 - Position the cursor with ◀ and ▶ and set eatch character with ▲ and ▼

3 - To confirm your choice press « Enter »

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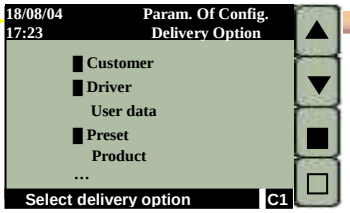
DELIVERY OPTION

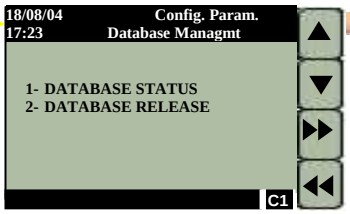
3



1 - "Delivery Options"
*2 - Select the parameters requested before making a transaction.**(e.g:customer, Driver Additive).***
3 - To tick a box, simply select a line, then press ■ to confirm your choice and repeat the operation for each parameter chosen. Press □ to cancel your choice
5 – Press « Enter » to return to the previous menu.

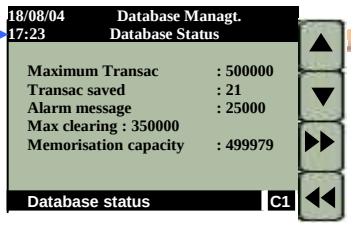
DATABASE MGT (Management)

4



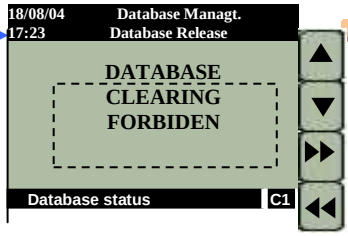
1 - You have chosen "Database Management"
2 - The parameters menu window is displayed
3 - Select the menu of your choice, then
4 - To confirm your choice press ▶▶

1



1 - You have chosen "Database Status"
2 - The database limits are displayed
4 - To return to previous menu press ▶▶ or ◀◀

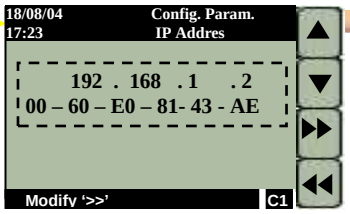
2



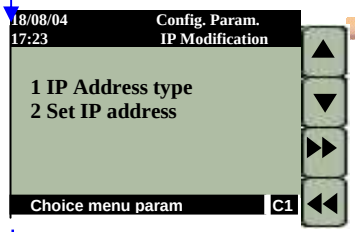
1 - You have chosen "Database Release"
You can only release memory space if you have reached a memory remaining space corresponding to the alarm message value. Then the memory space that you can release corresponds to "Max cleaning" value.
2 - To return to previous menu press ▶▶ or ◀◀

EQUALIS IP ADDRESS

5

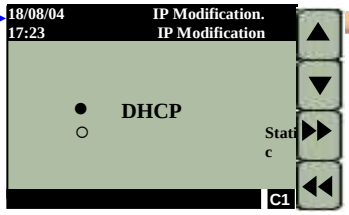


1 - Displays the current IP address
2 - To modify the IP address, simply press ▶▶
3 – Press ◀◀ to go back to the previous menu.



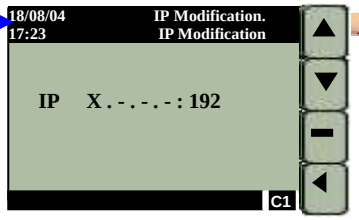
1 - You have chosen to modify the IP address
2 - The parameters menu window is displayed
3 - Select the menu of your choice, then
4 - To confirm your choice press ▶▶

1



1 - You have chosen to select the IP address type
2 - The parameters menu window is displayed
3 – Make your choice, then
4 - To confirm your choice press ▶▶

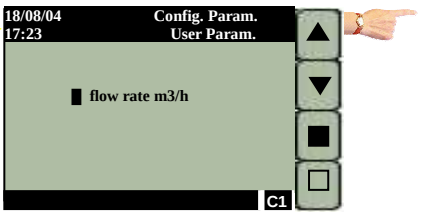
2



1 - You have chosen to set manually the IP address
2 – For area of IP address the current value is given
You can modify this value using ◀ *, and press "Enter" when the set value is OK*
3 – Repeat 4 times the operation

DISPLAY PARAMETERS

6

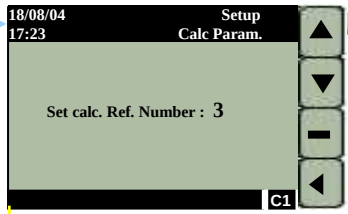


1 - "Display parameters"
*2 - Select the parameters requested that you want to be displayed.**(e.g. Flow rate m3/h).***
3 - To tick a box, simply select a line, then press ■ *to confirm your choice and repeat the operation for each parameter chosen. Press* □ *to cancel your choice*
5 – Press « Enter » *to return to the previous menu.*

continued on following page ➔

CALCULATOR PARAMETERS

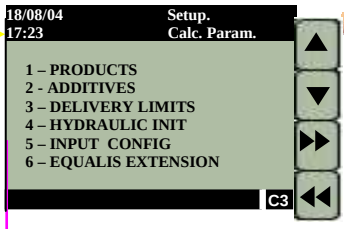
2



1 - You have chosen "Calculator Parameters"

- *The local calculator is displayed by default*

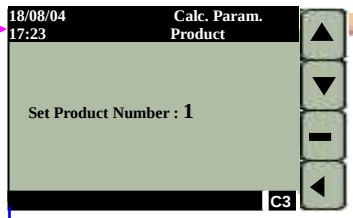
2 - Enter the calculator reference to be set (from 1 to 8)
***(e.g.: calculator n°3)** then*
3 - To confirm your choice press "Enter"



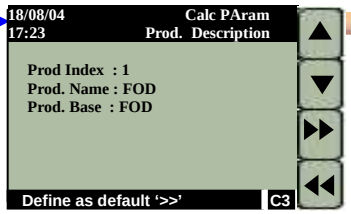
1 - The "Calculator Parameters n°3" menu window is displaye d
2 - Select the menu of your choice, then
3 - To confirm your choice press ▶▶

PRODUCT PARAMETERS

1



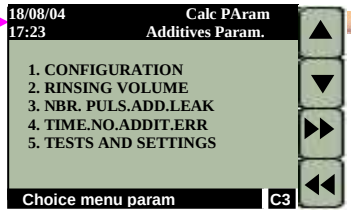
1 - You have chosen "Product"
*2 - Enter the set product reference **(e.g.: 1 for FOD)** then,*
3 - To confirm press « Enter »



1 - The "Product Description" window is displayed
2 - Select product by scrolling using ▼ *or* ▲
3 - To set as producty by default press ▶▶

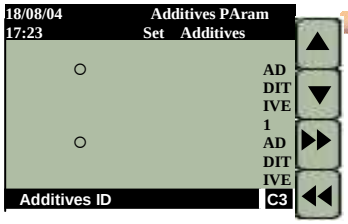
ADDITIVES

2



1 - The "Additives Parameters" window is displayed
2 - Select the menu of your choice
- press ▼ *for the next menu or,*
- press ▲ *for the previous menu*
3 – To confirm your choice press ▶▶

1



1 - You have chosen "Configuration"
2 - Select the additive you want
- press ▼ *for the next one,*
- press ▲ *for the previous one*
3 – To confirm your choice press ▶▶

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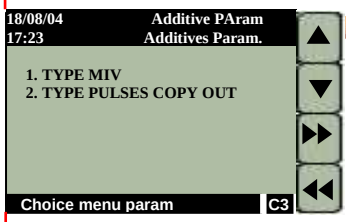
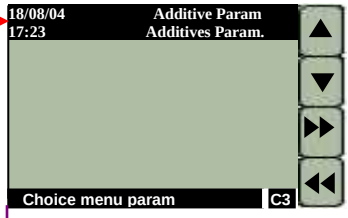


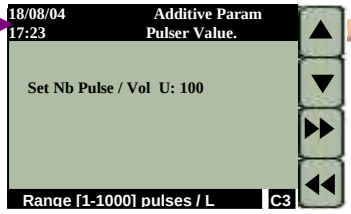
1 - You have chosen an additive
2 - Select the type of additivation system you want
- press ▼ for the next one,
- press ▲ for the previous one
3 – To confirm your choice press ▶▶

1



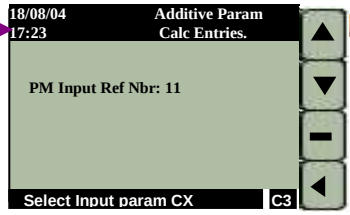
1 - You have chosen "Type MIV"
Remarque: Type MIV corresponds to any type additive block made from a combination of a meter providing pulses and a solenoide valve.
2 - Select menu of your choice ▼ *for the next one* ▲ *for the previous one*
3 – To confirm your choice press ▶▶

1



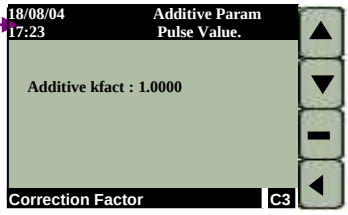
1 - You have chosen "Pulse value" menu
2 - Set the number of pulses per volume unit for the meter of the additive block
3 – To confirm your choice press ↵

2



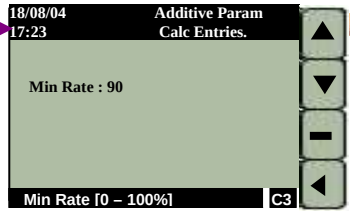
1 - You have chosen "PM Input associated" menu
2 - Set the reference number of the input receiving volume pulses for the considered the additive block
3 – To confirm your choice press ↵

3



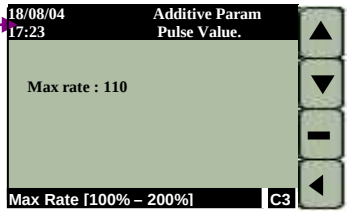
1 - You have chosen "Kfactor" menu for additive
2 - Set the value of the Kfactor to used for the considered the additive block
3 – To confirm your choice press ↵

4



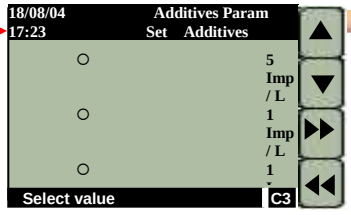
1 - You have chosen "Min Rate" menu
2 - Set the value of acceptable error below the nominal additive rate for the considered the additive block ***(e.g.: 80%)***
3 – To confirm your choice press ↵

5



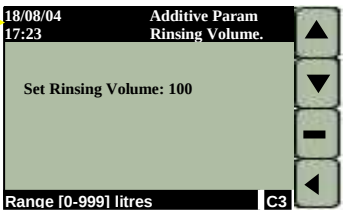
1 - You have chosen "Kfactor" menu for additive
2 - Set the value of acceptable error above the nominal additive rate for the considered the additive block ***(e.g.: 120%)***
3 – To confirm your choice press ↵

2



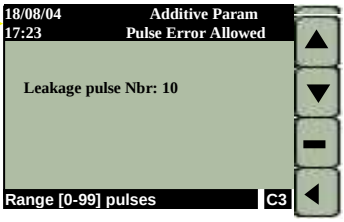
1 - You have chosen "Type pulse copy out" additive block
2 - Select the additive pulse value of the additive bock
- press ▼ for the next one,
- press ▲ for the previous one
3 – To confirm your choice press ▶▶

2



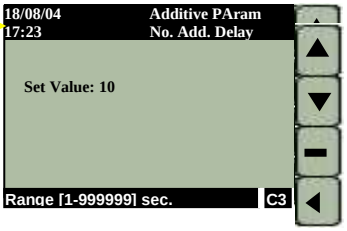
1 - You have chosen "Rinsing Volume" menu for additive
2 - Set the value of rinsing product (Product without additive) that you whant to have at the end of delivery ***(e.g.: 100 L)***
3 – To confirm your choice press ↵

3



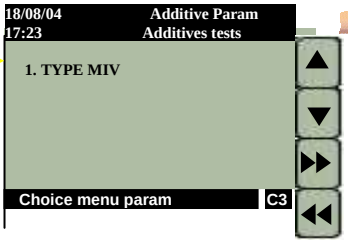
1 - You have chosen "Number of pulse for additive leakage" menu for additive
2 - Set the number of additive pulses before rising up an error when these pulses are detected out of a delivery ***(e.g.: 10 pulses)***
3 – To confirm your choice press ↵

4

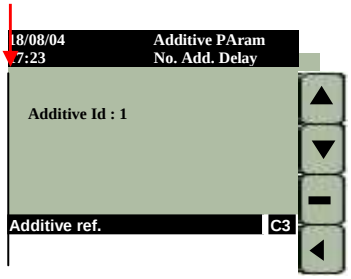


1 - You have chosen "Time for no Additive Error" menu
2 - Set the time before rising up an error when there is no pulse detected during a delivery ***(e.g.: 10 seconds)***
3 – To confirm your choice press ↵

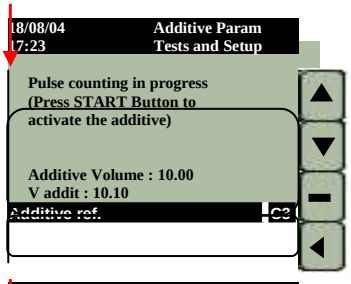
5



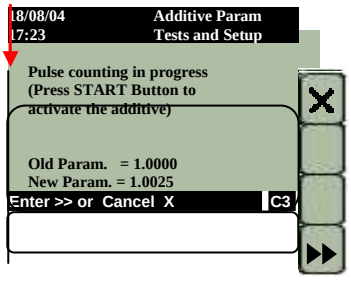
1 - You have chosen "Tests and Setting" menu
Remarque: Type MIV corresponds to any type additive block made from a combination of a meter providing pulses and a solenoide valve.
2 - Select menu of your choice ▼ *for the next one* ▲ *for the previous one*
3 – To confirm your choice press ▶▶



1 - You have chosen "Type MIV" menu
2 - Set the reference number of the additive to be tested ***(e.g.: 1)***
3 – To confirm your choice press ↵



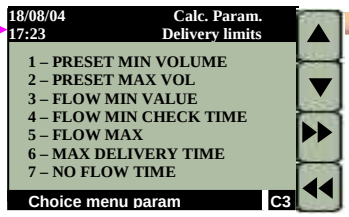
1 - You have chosen "Type MIV" menu
2 - This menu is dedicated to the test and adjustment of an additive block. You start manually a delivery with a gauge on the additive. At the end of the delivery, you have to enter the volume of additive measured in your gauge
3 – To confirm your choice press ↵



1 - You have chosen "Type MIV" menu
2 - Base on the tests above, the Equalis calculates a Kfactor for the additive, proposed as "New param". Then you can validate it : this new value will be implemented, or cancel. Then you will keep the previous Kfactor
3 – To validate your tests press ▶▶ *or* ✕ *to cancel*

"Calculator Parameters" continued

DELIVERY LIMITS PARAMETERS



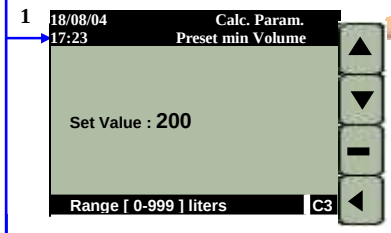
1 - You have chosen the "Delivery limits" menu

- *All these menus determine how the calculator works in "volume preset" mode.*

2 - Select each of the menus offered,

3 - Enter the parameter requested, then confirm.
(after each confirmation, the system returns to this menu)

4 – Press ◀◀ to go back to the previous menu.

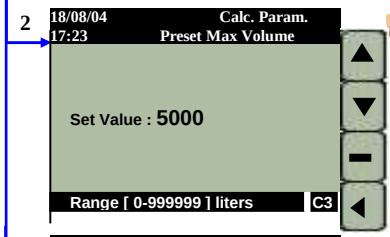


1 - "Min Volume Pred." menu selected.

- *Minimal volume of preset possible. If the user attempts to enter a preset below this value, it will be refused.*

2 - Enter value (e.g.: 200 liters) then,

3 - To confirm press « Enter »

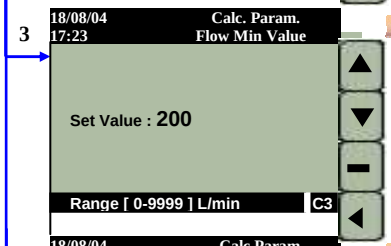


1 - "Min Volume Pred." menu selected.

- *Volume of predetermination by default.*

*2 - Enter value **(e.g.: 5000 liters)** then,*

*3 - To confirm press **« Enter »***

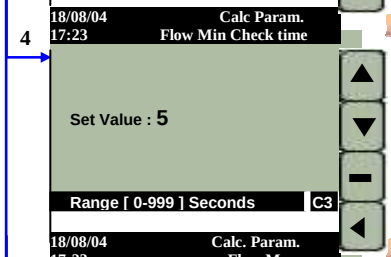


1 - "Min. Flow Rate" menu selected

- *Control value of minimum flow rate measured during a delivery (associated with the following parameter).*

*2 - Enter value **(e.g.: 200 l/min)** then,*

*3 - To confirm press **« Enter »***



1 - "Flow Min Check Time" menu selected

- *Time after which the system generates an error if the flow rate does not reach the defined minmum flow rate value.*

*2 - Enter value **(e.g.: 5 seconds)** then,*

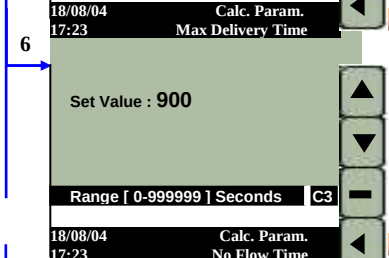
3 - To confirm press « Enter »

1 - "Flow Max" menu selected

- *Control value of maximum flow rate. measures during a delivery.*

*2 - Enter value **(e.g.: 400 l/min)** then,*

3 - To confirm press « Enter »

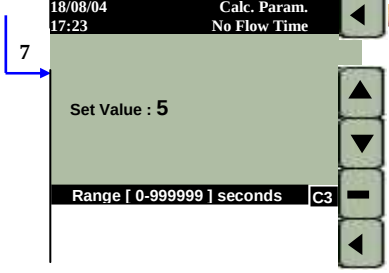


1 - "Max Delivery Time" menu selected

- *Time after which delivery will stop automatically.*

*2 - Enter value **(e.g.: 900 seconds)** then,*

3 - To confirm press « Enter »



1 - "No Flow Time" Menu selected

- *Time after which an alarm is triggered when no product is flowing.*

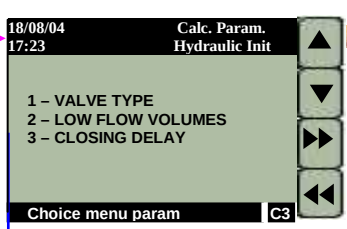
*2 - Enter value **(e.g.: 5 seconds)** then,*

*3 - To confirm press **« Enter »***

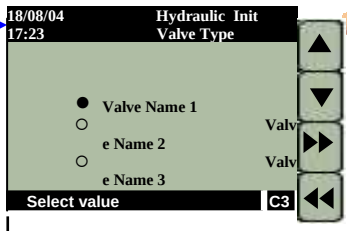
Continued on following page ➔

"Calculator Parameters" continued

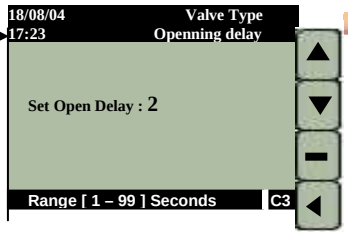
HYDRAULIC INIT : INITIALISATION OF COMMAND PARAMETERS



1 - You have chosen the "Hydraulic Init" menu
2 - Select each of the menus offered,
3 - Enter the parameter requested, then confirm.

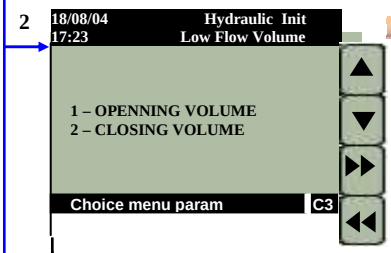


1 - "Valve type" menu selected.
2 - Choose the type of predetermination value used in your equipment.
(e.g.: Name 1,) then,
3 - To confirm press ▶▶



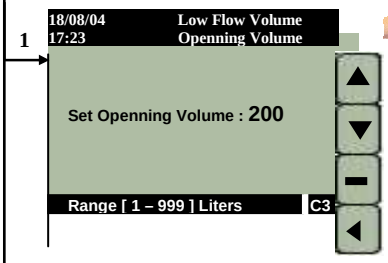
1 - The "Opening delay" window is displayed
- *Delay for valve to open when start is pressed.*

*2 - Enter value **(e.g.: 2 seconds)** then,*
3 - To confirm press "Enter"



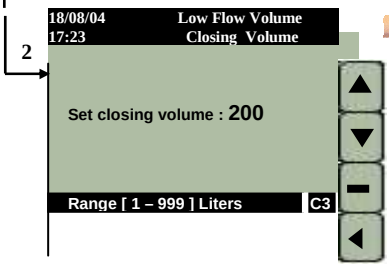
1 - "Low flow volume" menu selected.
- *Configuration of the low flow valve on opening and closing of the predetermination.*

2 - Select each of the menus offered,
3 - Enter the parameter requested, then confirm.



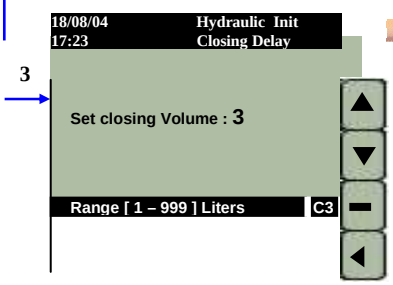
1 - "Opening volume" Menu selected
- *Volume at which the valve will function at low flow rate, before switching to high flow rate.*

*2 - Enter value **(e.g.: 200 liters)** then,*
3 - To confirm press *« Enter »*
.



1 - "Closing volume" menu selected
- *Volume at which the valve will run at low flow rate during closing phase, after having run at high flow.*

*2 - Enter value **(e.g.: 200 liters)** then,*
*3 - To confirm press **« Enter »***



1 - "Closing delay" menu selected
- *The Equalis calculates automatically the correction volume necessary to anticipate the valve closing delay. This parameter is the maximum correction applied on the closing delay of the valve.*

*2 - Enter value **(e.g.: 3 liters)** then,*
*3 - To confirm press **« Enter »***

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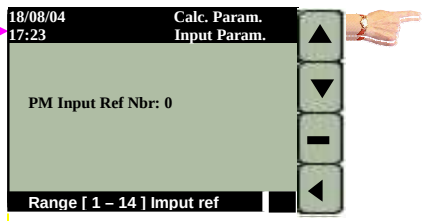
"Calculator Parameters" continued
INPUT CONFIGURATION

5

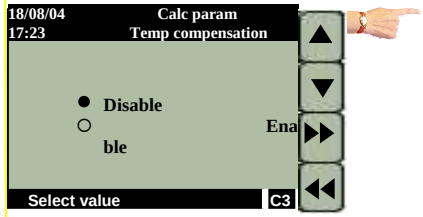


1 - You have chosen the "Input Configuration" menu

- *Selection of the input of the calculator to be set up*

*2 - Press ▼ or ▲ , or enter the reference number of the input to be set **(e.g.: input 1)** then*

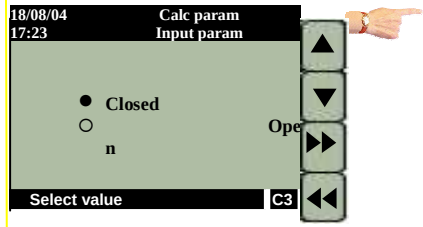
3 – Press « Enter » to go back to the previous menu.



1 - Enable or Desable the selected input

*2 - Press ▼ or ▲ , to select the option **(e.g.: desable)** then*

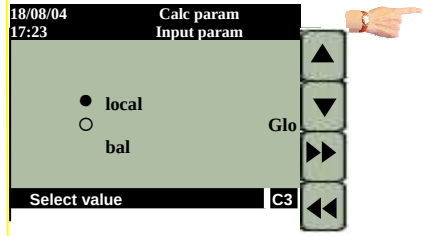
3 – Press « Enter » or ▶▶ to go back to the next step



1 - Configure the selected input

*2 - Press ▼ or ▲ , to select the option **(e.g.: closed)***
Closed : Input = 1 if the contact is closed
Open : Input = 1 if the contact is open

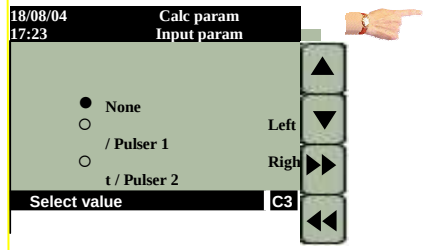
3 – Press « Enter » or ▶▶ to go back to the next step



1 - Configure the type selected input

*2 - Press ▼ or ▲ , to select the option **(e.g.: local)***
Local : Input only management by the local calculator
Global : Input taken into accont by all the calculator connected to the same TM Module

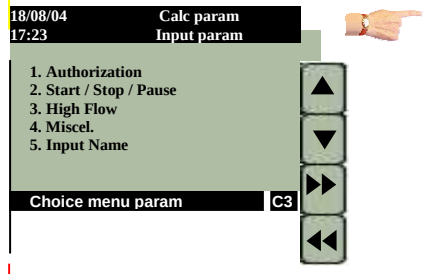
3 – Press « Enter » or ▶▶ to go back to the next step



1 - Configure the type selected input

*2 - Press ▼ or ▲ , to select the option **(e.g.: None)***
None : Input always taken into account
Left / Pulser 1 : input taken into account if the left side of the gantry is used, or the pulser 1 in case of 2 meters application
Right / Pulser 2 : Input taken into account if the right side of the gantry is used, or the pulser 2 in case of 2 meters application

3 – Press « Enter » or ▶▶ to go back to the next step



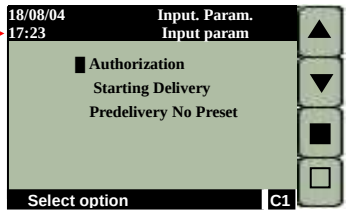
1 - Configure the type selected input

2 - Press ▼ or ▲ , to select the type of action if the input = 1

3 – Press « Enter » or ▶▶ to go back to the next step

continued on following page ➔

1



1 – "Autorization" Menu

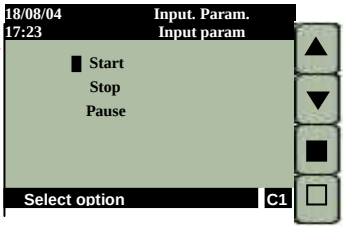
- *Autorization : Without this input the delivery can not be started*
- *Starting delivery : Autorisation and starting delivery*
- *Predelivery No Preset : all necessary actions to start the flow without preset*

2 - To enable or desable :

- *Use ▼ or ▲ to sélect the option then ,*
- *Use ■ or □ to enable or desable the option*

3 - Press ↵ to validate all your selections

2



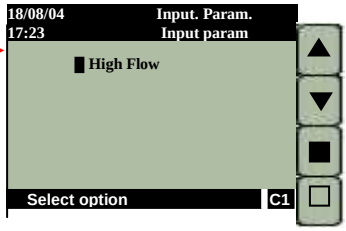
1 – "Start / Stop / Pause" Menu

- *Start : This input will start the delivery*
- *Stop : This input will stop the delivery*
- *Pause : This input will suspend the flow*

2 - To enable or desable these options : See above

3 - Press ↵ to validate all your selections

3



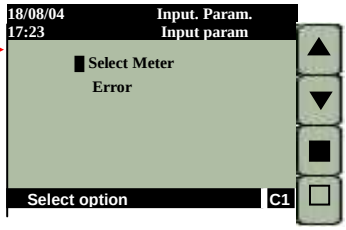
1 – "High Flow" Menu

- *High Flow : This input will allow to switch to high flow*

2 - To enable or desable these options : See above

3 - Press ↵ to validate all your selections

4



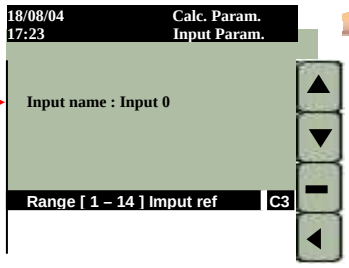
1 – "Miscellaneous" Menu

- *Select Meter : in case of a two meters configuration, this input will select the meter to be used*
- *Error : This input will rise up an error message*

2 - To enable or desable these options : See above

3 - Press ↵ to validate all your selections

5



1 - You have chosen the "Input Name" menu

- *This menu allows you to give a name to the selected input. This name displaied to the user if Input is dedicated to an error handling*

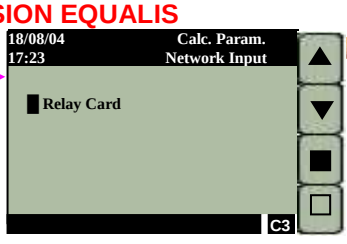
*2 - Press ▼ or ▲ , or enter the reference number of the input to be set **(e.g.: input 0)** then*

3 – Press to go back to the previous menu.

↵

EXTENSION EQUALIS

6



1 - You have chosen the "Extension Equalis" menu

2 - I you want to use an extension relay card with Equalis, selection this option

3 – Press ↵ to return to the previous menu.

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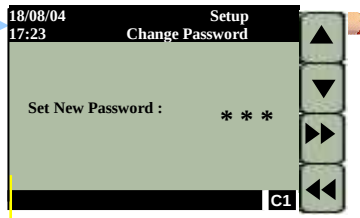
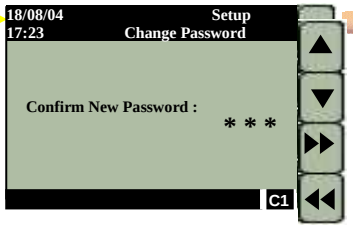
"Calculator Parameters" continued

CONFIGURATION CHANGE PASSWORD

4



1 - You have chosen the "Change Password" menu
2 - The window for entering the new password is displayed
3 - Enter the *4-digit password* ***(ex :0101)***.
use the number keys 0 to 9 then
4 - To confirm press ⏩

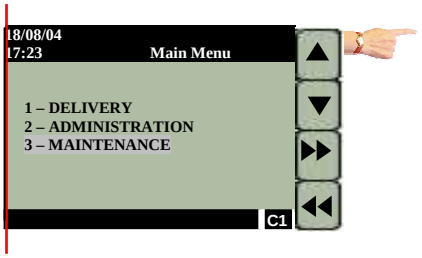


1 - The window for confirming the new password is displayed
2 - Enter the new password chosen then,
3 - To confirm press ⏩
4 - Press ⏪ *to return to the previous menu*

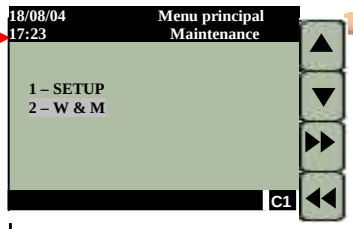
To go back to the Main Menu: *press the direct access key on the keypad (at the top right of the display)*

End of Configuration Menu

MAINTENANCE



In the MAINTENANCE menu, the "WEIGHT AND MEASUREMENT" menu enables the user to Enter, Change or Consult all the system's metrological parameters. When a user wishes to change one of these parameters, the system will ask him to unseal the calculator to press the Weight and Measurement switch. Once this operation has been carried out, the parameter can be changed.

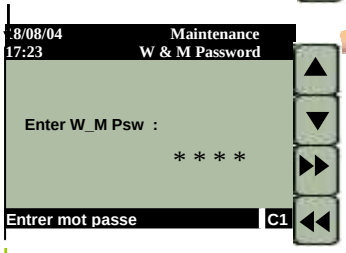


1 – To select menu ***n°2 "WEIGHT AND MEASUREMENT"***

- press ▼ for the next menu or

- press ▲ for the previous menu, then,

2 - To confirm your choice press ▶▶



1 - The window for entering the password is displayed

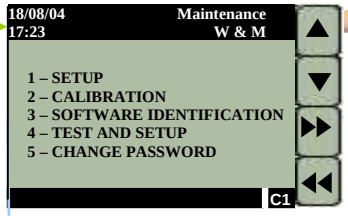
2 - Enter the specific Weight and Measurement password ***(4 digits).***
use the number keys 0 to 9 ***(e.g.:0100)***

The password set in production is 8888 *then*

2 - To confirm your password press ▶▶

WEIGHT AND MEASUREMENT MENU

2



1 - The main Weight and Measurement menu window is displayed

2 - Select the menu of your choice

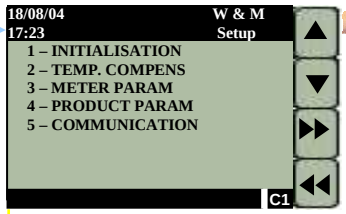
- press ▼ for the next menu or

- press ▲ for the previous menu, then,

3 - To confirm your choice press ▶▶

SETUP

1



1 - You have chosen "Setup"

2 - The system setup menu window is displayed,

3 - Select each of the menus offered, then

4 - To confirm your choice press ▶▶

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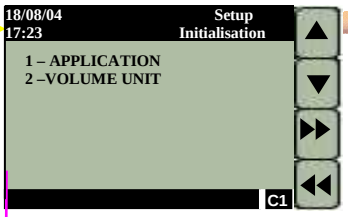
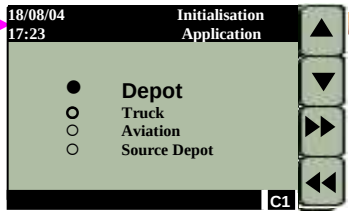
INITIALISATION

1



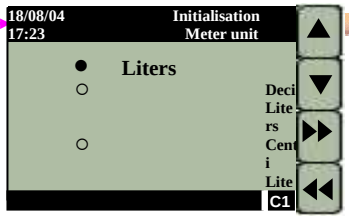
1 - You have chosen the "Initialisation" menu
2 - The initial parameters menu window is displayed,
3 - Select each of the menus offered,
4 - Enter the parameter requested, then
5 - To confirm your choice press ▶▶
(after confirming the system returns to this menu)

1



1 - Application
*2 - Select the parameter of your choice **(e.g.: Depot)**,*
Rem : Source Depot corresponds to bottom loadins arms
3 - To confirm your choice press ▶▶

2

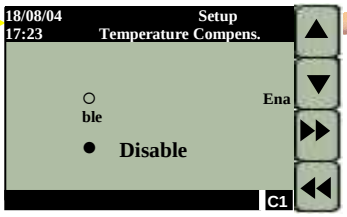


1 - Meter Unit
- *Reference unit for all calculations and volume display.*

*2 - Select the parameter of your choice **(e.g: Liter)**, then*
3 - To confirm your choice press ▶▶

TEMPERATURE COMPENSATION

2



1 - You have chosen the "Temperature compensation" menu
- *Temperature compensation calculation active or inactive*

*2 - Select the parameter of your choice **(e.g: Disable)**, then*
3 - To confirm your choice press ▶▶

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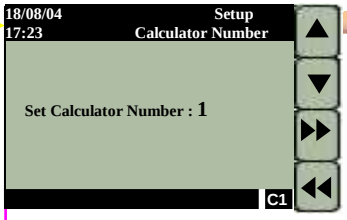
METER PARAMETER

3

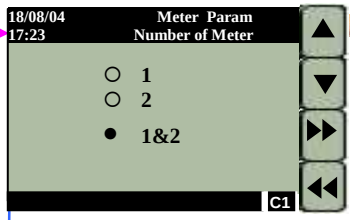


1 - You have chosen the "Meter Parameter" menu

- *Each calculator can be linked to one or two meters (which are not necessarily the same type) working on the same transaction: only one calculation is made from all the volume pulse received.*

*2 - Enter the calculator reference **(e.g: calculator 1**), then*

3 - To confirm your choice press ⏩



1 - The "Meter Number" window is displayed

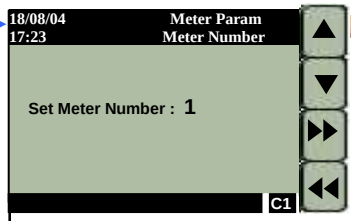
*2 - Enter the number of meters connected to calculator 1 **(e.g: 1&2 meters)**, then*

1 : Meter connected to input N°1

2 : Meter connected to input N°2

1&2 : 2 Meters connected to the calculator

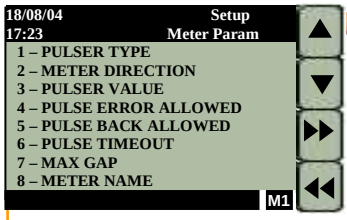
3 - To confirm press ⏩



1 - The "Meter Number" window is displayed

*2 - Enter the n°of meters connected to calculator 1 **(e.g: meters n°1)** , then*

3 - To confirm press ⏩



1 - The "Meter 1 Setup" window is displayed

2 - Select each of the menus offered,

3 - Enter the parameter requested, then

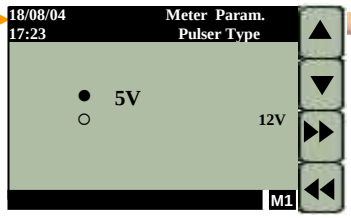
4 - To confirm your choice press ⏩

(after confirming the system returns to this menu)

5 – When Meter n°1 is programmed,

press ⏪ to return to the meter n°1 window and configure meter n°2

1



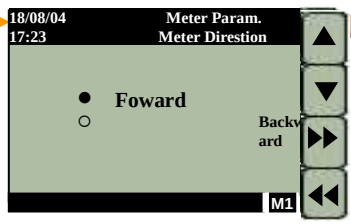
1 - Type of pulser

- *Electrical voltage of pulser.*

*2 - Select the parameter of your choice **(e.g: 5 volts)**, then*

3 - To confirm your choice press ⏩

2



1 - Meter direction

*2 - Select the parameter of your choice **(e.g: Foward)**, then*

3 - To confirm your choice press ⏩

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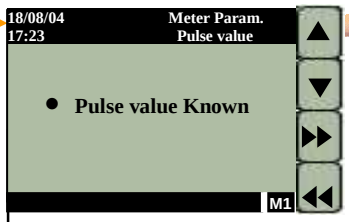
continued in "Meter Parameters"

3

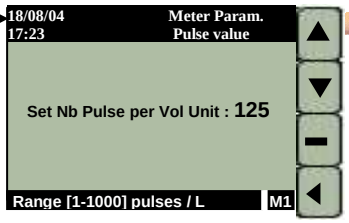


1 - Pulse value

- *Based on this pulse value of the meter, the calculator will calculate the Kfactor.*

2 - Select the parameter of your choice, then

3 - To confirm your choice press ▶▶



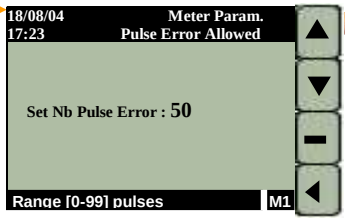
1 - You have chosen to setup Pulse Value

2 - The Number of Pulse window is displayed

*3 - Enter your value **(e.g.: 125 pulses/liter)**, then*

4 - To confirm your choice press « Enter »

4



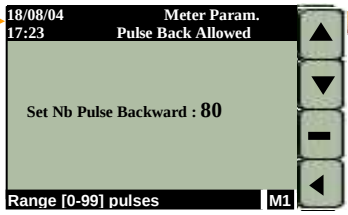
1 - Pulse error allowed

- *Authorised difference between the numbers of pulses from both pulse channels.*

*2 - Enter your value **(e.g: 50 pulses)** then,*

3 - To confirm your choice press« Enter »

5



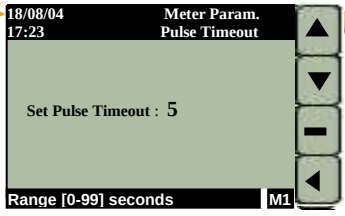
1 - Number of back pulses allowed

- *Authorisation of a back volume without triggering an error.*

*2 - Enter your value **(e.g: 80 pulses)** then,*

3 - To confirm your choice press« Enter »

6



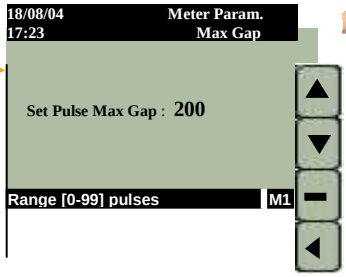
1 - Pulse Timeout

- *In the event of a detection of a pulse outside an authorised distribution, the calculator will check the number of pulses detected during the time set in this menu.*

*2 - Enter your value **(e.g: 5 seconds)** then,*

3 - To confirm your choice press« Enter »

7



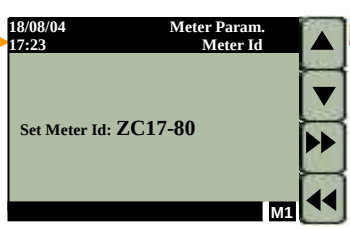
1 – Maximum number of pulses before error

- *Maximum number of pulses allowed during the duration programmed above.*

*2 - Enter your value **(e.g: 200 pulses)** then,*

3 - To confirm your choice press « Enter »

8



1 - Meter ID

*2 - Enter the ID n°for meter 1 **(e.g.: ZC17-80)**, then*

3 - To confirm your choice press ▶▶

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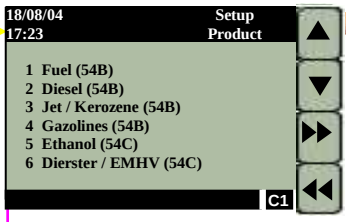
PRODUCT SETUP

4

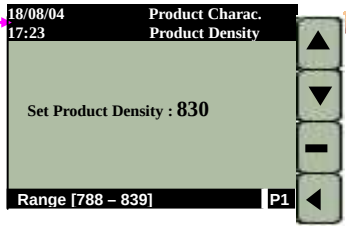


1 - You have chosen the "Product" menu

- *Set the type of base product which is distributed by the meter*

3 - Enter the product number, ***(e.g: 3 Jet / Kerozene (54B),)*** *then*

4 - To confirm your choice press ⏩



1 - Product Density

2 - Enter the density of the product concerned
(e.g: 830Kg/m3)

then,*3 - To confirm your choice press* « Enter »

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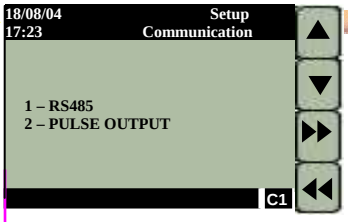
COMMUNICATION CONFIGURATION

7



1 - You have chosen the "Communication Setup" menu

- *This menu enables the user to configure the system's communication output:*
  - *RS485 serial output or*
  - *pulse volume copy output.*

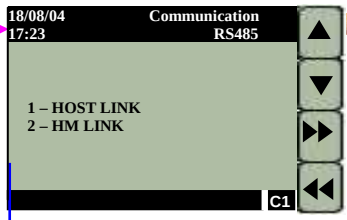
2 - The Communication menu window is displayed

3 - Select the menu of your choice, then

4 - To confirm your choice press ⏩

RS485 SETUP

1



1 - You have chosen the "RS485 Communication" menu

- *Implementation of a RS485 serial output in the TM transaction module (in the control terminal) and/or in the HM relay module (in the loading arm)*

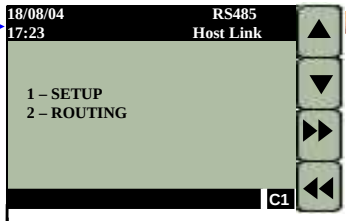
2 - The RS485 Communication menu window is displayed

3 - Select the menu of your choice, then

4 - To confirm your choice press ⏩

CONFIGURATION OF TM LINK MODULE

1

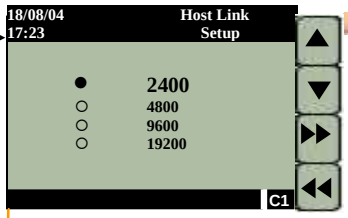


1 - You have chosen the "TM links module" menu

2 - Select the "Configuration" menu, then

3 - To confirm your choice press ⏩

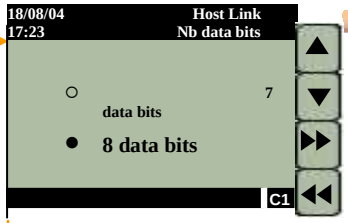
1



1 - The Speed of communication window is displayed

2 - Select one of the parameters proposed
***(e.g: 2400 bauds)**, then*

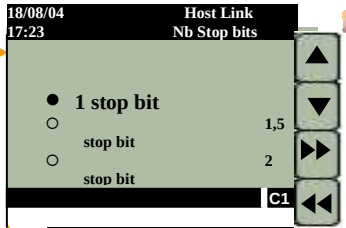
3 - To confirm your choice press ⏩



1 – The Number of Data Bits window is displayed

2 – Select one of the parameters proposed
***(e.g. 8 bits)**, then*

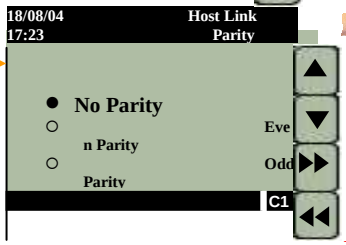
3 - To confirm your choice press ⏩



1 - The Number of Stop bits window is displayed

2 - Select one of the parameters proposed
***(e.g: 0 stop bits)** , then*

3 - To confirm your choice press ⏩



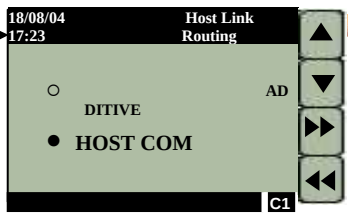
1 - The "Parity" window is displayed

2 - Select one of the parameters proposed
***(e.g: No parity)**, then*

3 - To confirm your choice press ⏩

(the system returns to the "TM link module")

2



1 - You have selected the " Routing" menu

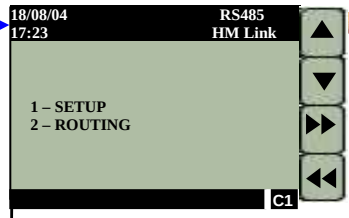
2 - Select one of the applications proposed
***(e.g: Host com)**, then*

3 - To confirm your choice press ⏩

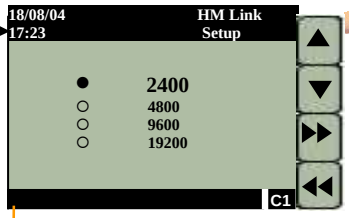
continued on following page ➔

Communication Setup continued

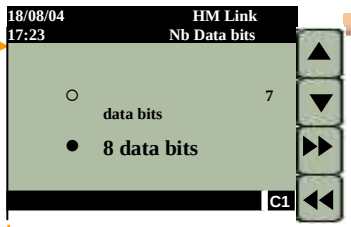
HM LINKS MODULE SETUP



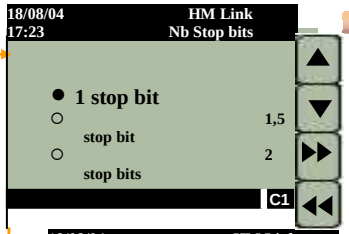
1 - You have chosen the "HM links module" menu
2 - Select the "Setup" menu, then
3 - To confirm your choice press ▶▶



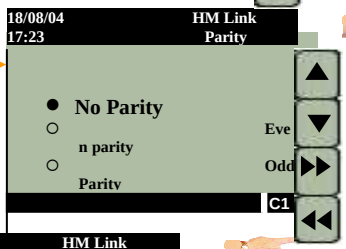
1 - The Speed of communication window is displayed
2 - Select one of the parameters proposed
***(e.g: 2400 bauds)**, then*
3 - To confirm your choice press ▶▶



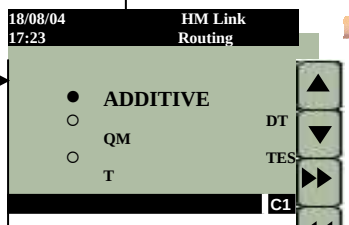
1 - The number of data bits window is displayed
2 - Select one of the parameters proposed
***(e.g: 8 bits)** , then*
3 - To confirm your choice press ▶▶



1 - The number of Stop bits window is displayed
2 - Select one of the parameters proposed
***(e.g: 8 bits)** , then*
3 - To confirm your choice press ▶▶

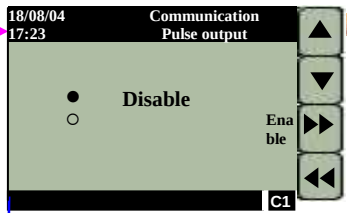


1 - The "Parity" window is displayed
2 - Select one of the parameters proposed
***(e.g: no parity)**, then*
3 - To confirm your choice press ▶▶
(the system returns to the "HM link module")



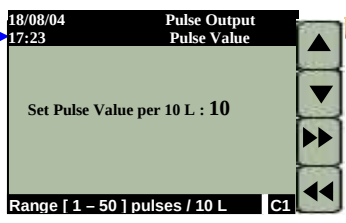
1 - You have selected the " Application" menu
2 - Select one of the applications proposed
***(e.g: Additivation)**, then*
3 - To confirm your choice press ▶▶

CONFIGURATION OF PULSE OUTP[illegible]S



1 - You have selected the "Pulse Output" menu
- *Implementation of the pulse copy output, with option of adjusting the pulse weight.*

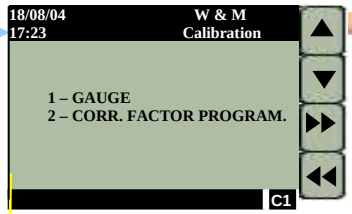
2 - To implement the pulse copy function, select
***Enable**, then*
3 - To confirm your choice press ▶▶



1 - The Pulse Value window is displayed
2 - Enter the adjustment value per 10 L
(e.g.: 10 pulses per 10 liters) then
3 - To confirm your choice press ▶▶

CALIBRATION

2



1 - You have chosen the"Calibration" menu

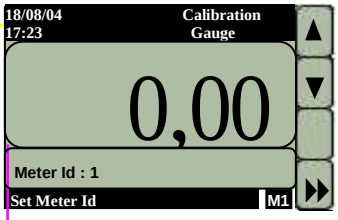
- *Calibration menus enabling gauging to be performed and programming of metrological correction (Kfactor).*

2 - Select the menu of your choice, then

3 - To confirm your choice press ⏩

GAUGING

1



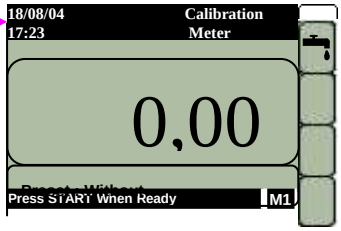
1 - You have chosen the"Gauging" menu

- *Gauging can be carried out without unsealing the calculator (the user must nevertheless enter the **Weight & Measurement** password to access this menu). At the end of the gauging process, if the difference between the new metrological parameter and the old one is within the regulatory limits, the cancel button enables the user to leave the metrological conditions set as they are. However, if the user wants the new ratio to be recorded, the weight and measurement button must be pressed.*

2 - The select meter window is displayed

*3 - Enter the reference of the meter to be gauged **(e.g: Meter 1)**, then*

4 - To confirm your choice press ⏩

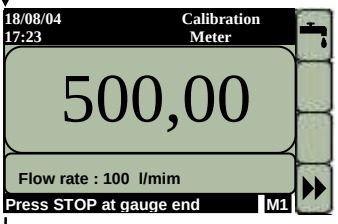


The gauging window is displayed

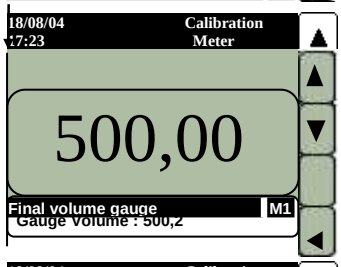
❶ *- Press the start button to start gauging*

Allow the user to switch low flow at any time.

Allow the user to switch back a normal distribution

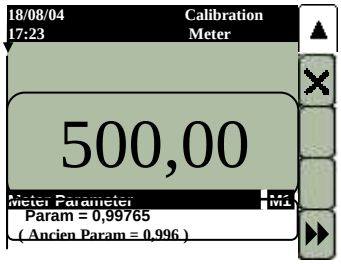


❷ *- Press the stop button when the gauge is full*



❸ *- Enter the exact value of the volume indicated by the gauge*
(e.g.: 500.2 l),
If necessary use ◀ *to correct then*

❹ *4 - To confirm your entry, press* ⏩



❺ *- At the end of the gauging process, the calculator indicates the new Kfactor value, as well as the old value. If the difference between these two Kfactors remains within the regulatory limits, it is not necessary to modify this parameter. Press **X** to delete the gauging carried out.*

❻ *- If a modification in Kfactor is required:*

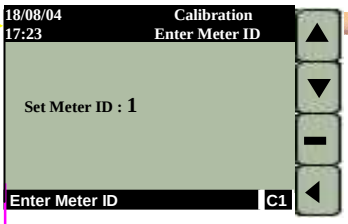
1 - press the Weight and Measurement button, then

2 - press ⏩ *to record this new value.*

continued on following page
➔

PROGRAMMING K FACTOR

2



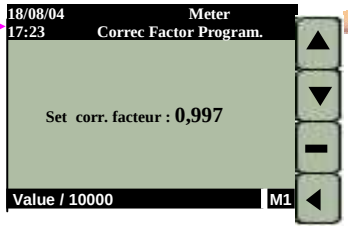
1 - You have chosen the "Programming KFactor" menu. The choice of meter window is displayed

- Menu enabling Kfactor to be manually programmed

2 - The "Meter" window is displayed

*3 - Select the meter of your choice **(e.g: Meter 1), then***

4 - To confirm your choice press « Enter »



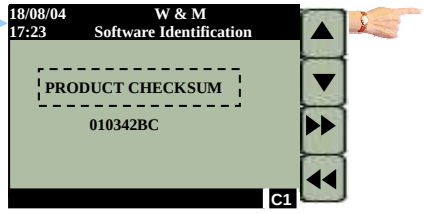
1 - "Programming Kfactor" window is displayed

*2 - Enter the new Kfactor value **(e.g: 0.997)**, then*

3 - To confirm your choice press« Enter »

SOFTWARE IDENTIFICATION

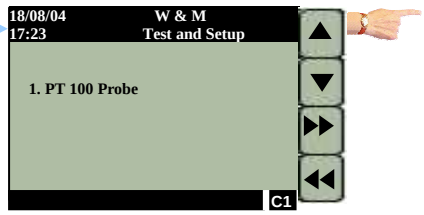
3



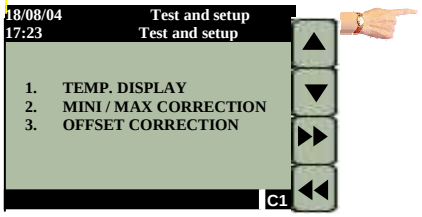
1 - You have chosen the "Software Identification" menu
This menu displays the W&M software identitification
2 - Select the menu of your choice, then
3 - To confirm your choice press ▶▶

TEST AND SETUP

4

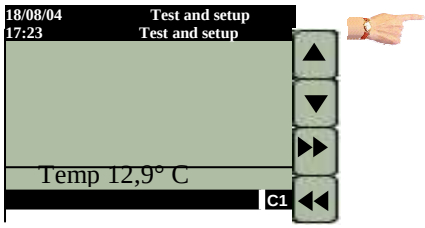


1 - You have chosen the "TEST and SETUP" menu
2 - Select the menu of your choice, then
3 - To confirm your choice press ▶▶



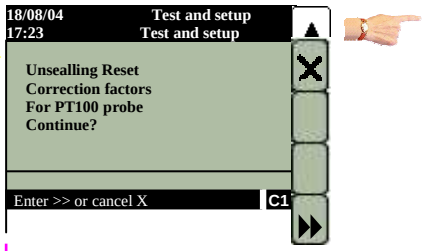
1 - You have chosen the "PT100 probe" menu
2 - Select the menu of your choice, then
3 - To confirm your choice press ▶▶

1

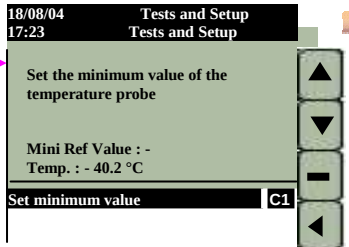


1 - You have chosen the "Temperature display" menu
The current temperature is displaid
2 - To confirm your choice press ▶▶

2

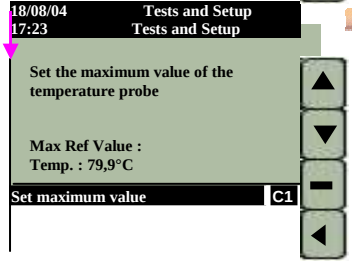


1 - You have chosen the "Min/Max Correction" menu
The implement this adjustment process, you need to disconnect PT100 probe, and connect to temperature input reference resistors corresponding to minimum and maximum temperature.
2 - To proceed press ▶▶ *or* *to cancel* ✕



1 – Setup for Minimum Temperature menu
For this task you need to have implemented reference resistor corresponding to minimum temperature.
2 – Use *for negative value and* ◀ *to correct*

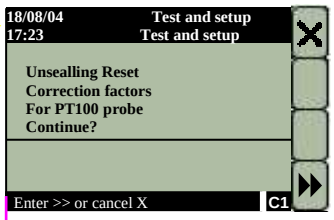
−



1 – Setup for Maximum Temperature menu
For this task you need to have implemented reference resistor corresponding to maximum temperature.
2 – Use *for negative value and* ◀ *to correct*

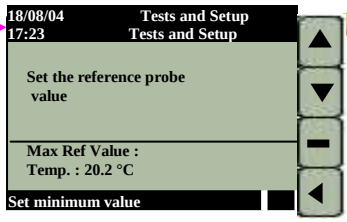
−

3



1 - You have chosen the "Offset Correction" menu
This Offset correction process consist in adjusting the PT100 probe measurement against a reference thermometer

2 - To proceed press ▶▶ or to cancel ✕

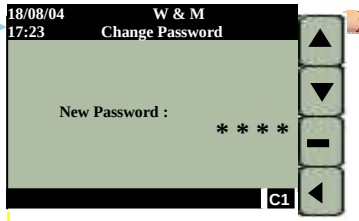


1 – Setup for Temperature
For this task you just have to set the measured temperature from the reference thermometer, corresponding to the displaid Temperature from PT100

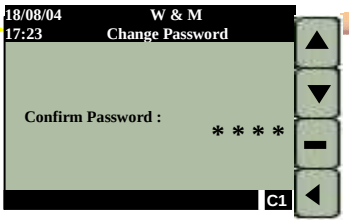
2 – Use for negative value and ◀ to correct

PASSWORD

5



1 - You have chosen the "Change Password" menu
2 - The window for entering the new password is displayed
3 - Enter the *4-digit password* ***(ex :0101)***.
use the number keys 0 to 9 then
4 - To confirm press ▶▶



To return to the Main Menu: *press the direct access key on the keypad (at the top right of the display)*

End of Weight and Measurement menu