USER MANUAL

MU 7084 EN C

TURBOTRONIQUE

Issue	Date	Nature of modifications	Written by	Approved by
C	2021/12/22	Evolution of the measuring system menu. Control of a reel. Blocking contamination and DSPGI. Viscosity correction %. Presence of a trailer. Import ICOM settings onto SD card. Number of additive injectors in metrological mode. RCT5 remote control.	DSM	FDS

CONTENTS

1 GENERAL PRESENTATION AND DESCRIPTION

The TURBOTRONIQUE is a measuring system that must be fitted on road tankers. It measures liquids other than water such as fuel, diesel, off-road diesel (GNR), ethanol ad-blue and biofuels.

The system is based on a single calculator-indicator MICROCOMPT+ MONO or DUAL and can manage one or two measuring systems.

When the system manages a single TURBOTRONIQUE, it is called EMA.

When the system manages two TURBOTRONIQUE, they are called EMA and EMB.

The equipment depend on the number of TURBOTRONIQUE:

	1 TURBO-TRONIQUE EMA or EMB	**2 TURBO-TRONIQUE EMA and EMB**
MICROCOMPT+ electronic calculator-indicator	1	1
Turbine meter	1	2
Pump (rotary vane pump for example)	1	2
Gas separator	1	2
Filter	1	2
Printer	1	1
Temperature probe, option	1	2
Sight glass just downstream the meter, option	1	2
A set of delivery hose(s) that depends on the measuring system	*1*	*2*
Pneumatic valve in case of double delivery	*1*	*2*
If required, overfill probes	*Depending on the truck*	*Depending on the truck*

The TURBOTRONIQUE performs the following functions:

- ⇨ Measure products when they are delivered to the station, with or without volume preset
- ⇨ Split compartments
- ⇨ Control the product movements (transfer, loading, return, and purge).

Depending on the hydraulic configuration, the system can manage one or two distribution ways:

- ⇨ On EMA: One distribution way full hose or empty hose or two distribution ways: hose 1 and 2
- ⇨ On EMB: One distribution way full hose or empty hose

If the feature is enabled a delivery channel is available for pumped not counted distribution.

According to hardware configuration, it controls up to nine compartments. You can configure 16 different products.

It can be connected to DSPGI anti-contamination systems. DSPGI devices provide product identification for each compartment and update the MICROCOMPT+. This eliminates any mixture of product. Each compartment is equipped with a DSPGI.

The system can control one or two additive injection devices. This injection has to occur upstream the meter.

In option, the system controls the product temperature.

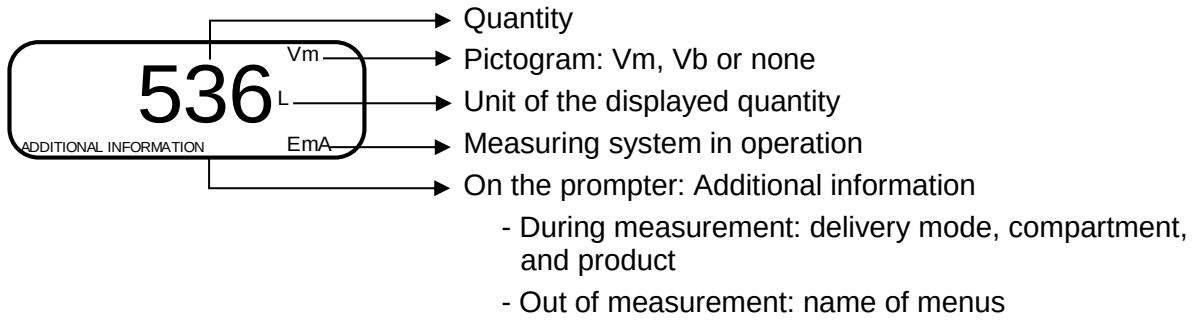
In addition, it may be connected to a printer for delivery tickets, internal totalisers, parameters or diary printings.

NOTE: The information printed by the printer has no metrological value. Only the indications displayed by the indicator shall be considered legally valid.

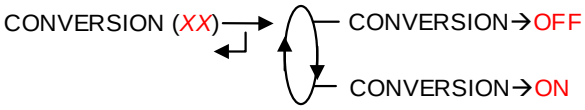
The MICROCOMPT+ has one display:

The displayed quantity depends on the system configuration. The user is informed by a pictogram at the top-right of the display according to the conventions below:

- ⇨ Volume in metering conditions: pictogram Vm
- ⇨ Volume converted to the reference temperature: pictogram Vb
- ⇨ Mass: no pictogram



Configured data are pre-visualized thanks to menus. In the example above, XX corresponds to the value given to the conversion, either OFF or ON.



The MICROCOMPT+ has three pushbuttons:

	Increment a blinking figure or letter Come back to the previous step Stop the measurement
	Select a figure, a letter or a menu
	Validate the data

Use the RFID keys:

	Blue key: Level-User This key is associated to a single MICROCOMPT+. It is used to switch into SUPERVISOR mode
	Green key: Level-Manager Many of these keys can be associated to a single MICROCOMPT+. Likewise, a single key can be associated to one or many MICROCOMPT+. RFID key is used to switch into SUPERVISOR mode. Specific menus are available that allow the manager to configure the MICROCOMPT+ for its communication with the external environment. The specific menus are indicated by green boxes within the ANNEX 1.
	Red key: Level-Maintenance This key doesn't need to be associated to the MICROCOMPT+. It is used to switch into SUPERVISOR mode. Specific menus are available that allow the maintenance operator to change parameters. Those menus are indicated in red boxes

2 CONNECTED FEATURES

The wireless connection enables the MICROCOMPT+ to communicate with an embedded computer or with a PC/tablet/portable device, in hazardous area (ATEX).

The connected functions of the MICROCOMPT+ are the following:

⇨ Incoming data flow processing

⇨ Management of the communication modules below

Communication modules are listed below:

- ⇨ Wi-Fi (IEEE 802.11 b/g/n (2.4GHz) **OR** Bluetooth Low Energy 4.1
- ⇨ GSM (2G, 3G, 4G) / GPS
- ⇨ RFID NFC allowing the reading of an RFID key to switch in SUPERVISOR mode
- ⇨ Ethernet Base 10/100

The GSM module associated to the GPS navigation system allows the device tracking. Two antennas are located outside the MICROCOMPT box.

Three tricolor LED on the MICROCOMPT+ front face are showing the wireless connection status as described in the table below:

	Left-hand LED: Bluetooth or Wi-Fi		Middle LED: GSM / GPS		Right-hand LED: NFC (RFID)	
Steady light	Bluetooth Wi-Fi	Connection OK		Waiting for internet connection		
				Internet connection OK		
		Waiting for initialization		Waiting for initialization		
Flashing light	Bluetooth Wi-Fi	Slow flashing: Waiting for connection	every 2 seconds	GPS OK		Authentication of the RFID key OK
	Bluetooth Wi-Fi	Rapid flashing: Communication in progress		Transfer in progress		RFID key not accepted, but authentication is ok
			every 2 seconds	Coordinates not found		
		Initialization error		Initialization error		Authentication error of the RFID key

3 OPERATING RECOMMENDATIONS

For a use of the TURBOTRONIQUE, make sure to meet the conditions that follow:

⇨ The operator must remain beside the metering system during delivery to stop the flow, if necessary, by closing the API valve on the outlet of the tank compartment.

4 CONFIGURATION, SETTINGS, CALIBRATION

CONFIGURATION: METROLOGICAL mode	SETTINGS: SUPERVISOR mode	SETTINGS, CALIBRATION: SUPERVISOR mode
§ CONFIGURE THE TURBOTRONIQUE: METROLOGICAL MODE	§SET THE TURBOTRONIQUE: SUPERVISOR MODE §ANNEX 1	§SET THE TURBOTRONIQUE: SUPERVISOR MODE §ANNEX 1
You must configure the TURBOTRONIQUE during commissioning and sometimes during metrological controls.	You must set the TURBOTRONIQUE before any operation and sometimes during metrological controls (specific menus)	You must set the TURBOTRONIQUE before any operation. You must control the accuracy of the TURBOTRONIQUE cyclically
NOTE: Only approved persons are permitted to remove the seal	**NOTE**: Only approved persons are permitted to change parameters of the specific menus	**NOTE:** Only approved persons are permitted to change parameters or to make calibration.
- Unseal the cup - Remove the seal	- Put the RFID key at the right side of the display 	- Put the RFID key at the right side of the display 
		

5 SPECIFIC FEATURES

5.1 Use with DSPGI device

If compartments are equipped with DSPGI devices, the DSPGI code associated to the product quality must be set (menu SUPERVISOR>PRODUCT SETTINGS>DSPGI CODE). A specific menu also allows you to assign a DSPGI code to an empty compartment (SUPERVISOR>DSPGI>EMPTY CODE).

Operation with DSPGI may or may not be blocking. If it is blocking, it is possible to suspend the blocking for the current operation. See the menu SUPERVISOR>DSPGI that describes the different features.

The name of the product that is supposed to be in the hose, is displayed in brackets at the right hand of DELIVERY, for example: DELIVERY (GO+). The product's name given by the DSPGI device is also displayed at the compartment selection or a return.

In case of communication failure with the DSPGI device, depending on the configuration, you can switch in manual mode without DSPGI. See the menu SUPERVISOR>DSPGI that describes the different features.

The product's name is replaced by warning messages in the following cases:

- DSPGI DEFAULT: The DSPGI is ON and there is a communication problem
- ?????: The DSPGI is ON and its drum is located between two positions
- DSPGI MISMATCH: Inconsistent data in loading plan and DSPGI (product or compartment)

The messages below are printed in the event log:

- DSPGI ERROR: A DSPGI default has been recorded
- DSPGI CONFLICT: When the product selected in degraded mode is different from the product known by the DSPGI.

5.2 Contamination control

According to the nature of the products, the TURBOTRONIQUE calculates the purge volumes in order to ensure a downgrading of the brewing areas in order to never contaminate the noblest product.

The TURBOTRONIQUE memorizes permanently the quality in hose 1, hose 2 and the common pipe. It systematically displays the product contained in all these elements. When the quality is not defined, in case of mixture for example, it displays the first product.

The TURBOTRONIQUE declares if a risk of contamination can occur. There's a mismatch between the selected product and the quality contained in the common pipe and the hose selected for delivery. This alert does not prevent the product selection. However, if the blocking contamination feature is activated CONTAMINATION>BLOCKING C.→ON, this situation requires a purge. It is possible to suspend the blocking for the current operation using the menu MAINTENANCE>CONTAMINATION>WITHOUT (NOT BLOCKING).

5.3 Distribution mode PRESET+PURGE

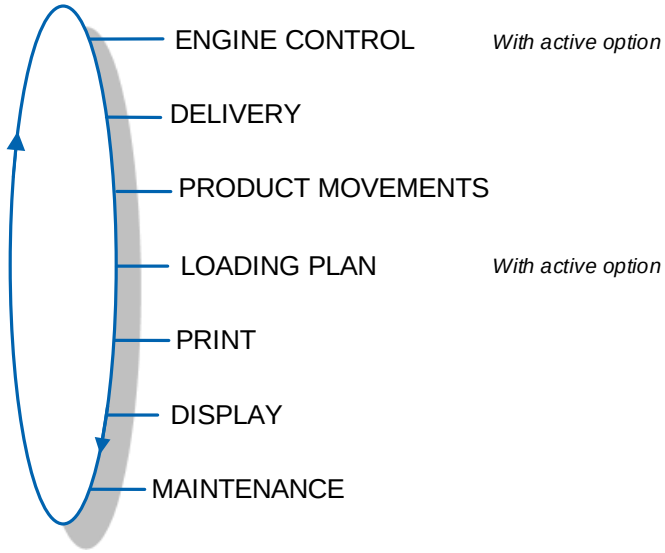
The distribution mode PRESET+PURGE can include a step that forces to select the hose for the next delivery. It is used to determine the volume of purge.

If the delivery has not been completed and if the purge has begun, you must complete the purge before starting the next delivery (menu PRODUCT MOVEMENTS>HOSE PURGE).

The delivery mode PRESET + PURGE is not available:

- If the TURBOTRONIQUE doesn't control the compartment flap
- In pumped not counted distribution mode

6 USE THE TURBOTRONIQUE: USER MODE



The use of the TURBOTRONIQUE depends on the hardware configuration of the truck, the features and the configuration of the equipment carried out during commissioning.

Therefore, the user menu depends on several items:

⇨ The instrumentation of the power take off.
⇨ The number of measuring systems (one or two)
⇨ The number of distribution ways (one or two)
⇨ The remote control
⇨ The number of compartments
⇨ The control of the compartments flaps
⇨ The control of the return product system (SRP)
⇨ The distribution mode (pumped counted, pumped not counted)
⇨ The temperature control (conversion of the volume).

6.1 Menu DELIVERY

There are several distribution modes:

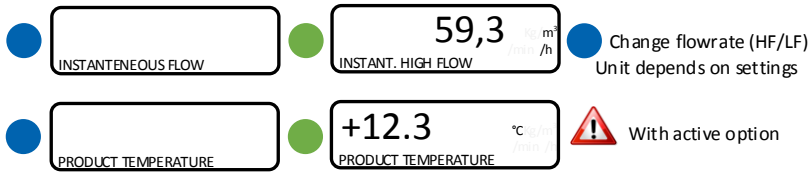
- ⇨ **PRESET**: It allows to deliver a quantity of product previously entered. The delivery is stopped automatically
- ⇨ **PRESET+PURGE**: It allows to deliver a quantity of product previously entered and the purging of the hose. The delivery is stopped automatically
- ⇨ **FREE**: It allows to deliver a quantity of product in low or high flow. A user action is required to stop the delivery.

At rest, the MICROCOMPT displays a flashing number and the product label corresponding to the last quantity delivered.

During measurement, the following information may be displayed:

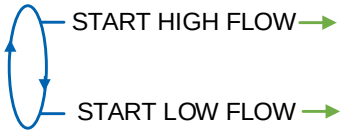
- ⇨ The instantaneous high or low flow rate. The unit depends on settings
- ⇨ The level of liquid in the compartment is use
- ⇨ The temperature (°C) if it is taken into account.

Simply follow the indications below:



Back to normal display is automatic: DO NOT PRESS RED CLEAR BUTTON TO KEEP FROM INTERRUPTING DELIVERY.

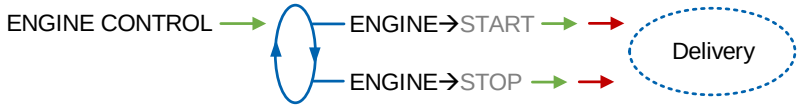
Delivery can be performed in high or low flow. This choice is made for pumped deliveries at the display of the message START HIGH FLOW. The blue MENU BUTTON switches on the display START LOW FLOW. The choice is made by pressing the green OK BUTTON. Switching is possible during the delivery by pressing the blue MENU BUTTON.



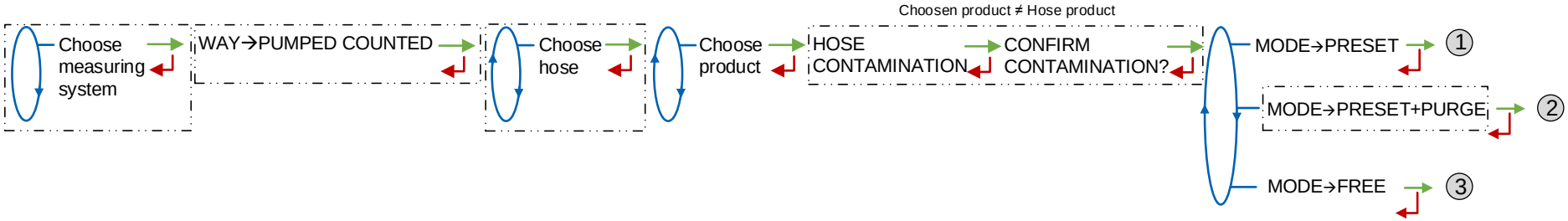
NOTE: In the event of a delivery interruption, improper handling of the pushbuttons may enter the menu DISPLAY (totalisers, memory). Simply press the red button to display DISPLAY and then the blue button to return to DELIVERY STOP. Confirm with the green button to select the next step (see § Finish/Continued delivery).

6.1.1 Pumped counted distribution mode

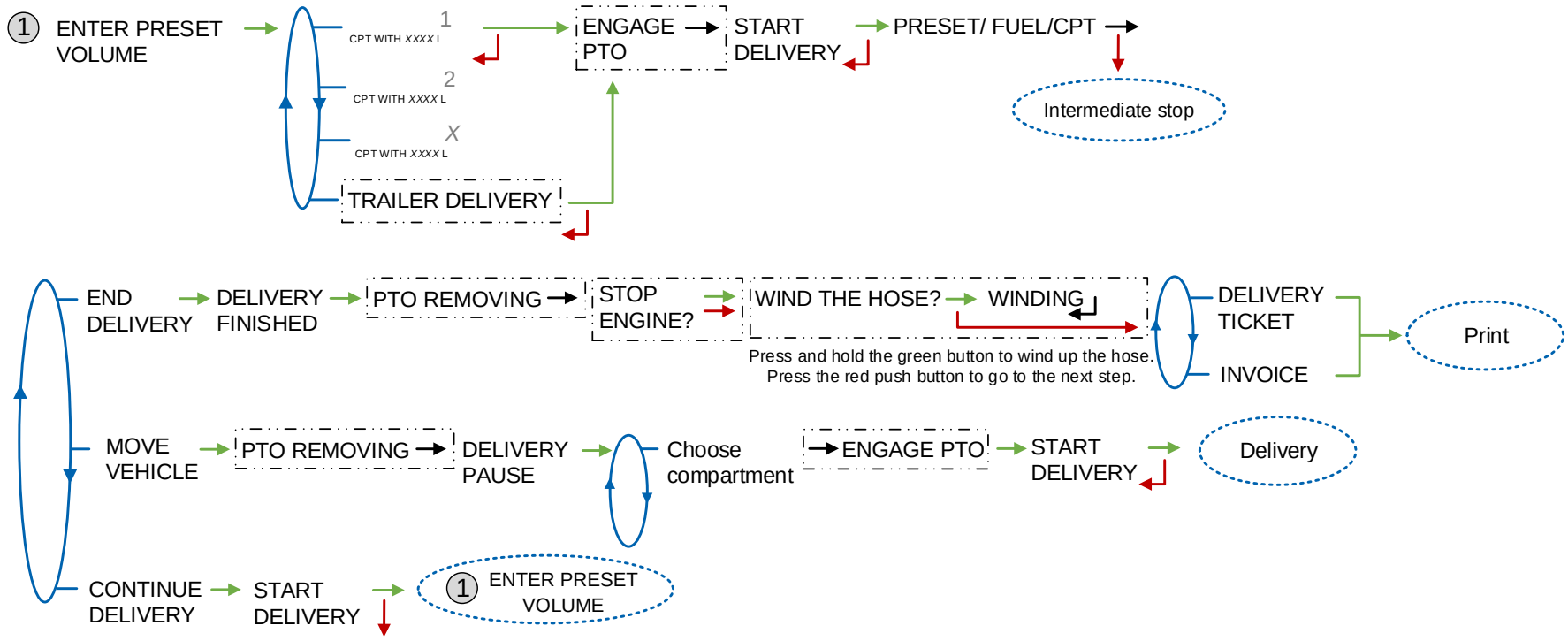
With active option, the commands for the pump clutching/declutching and for the power take-off control are made by the TURBOTRONIQUE at the beginning and at the end of distribution.



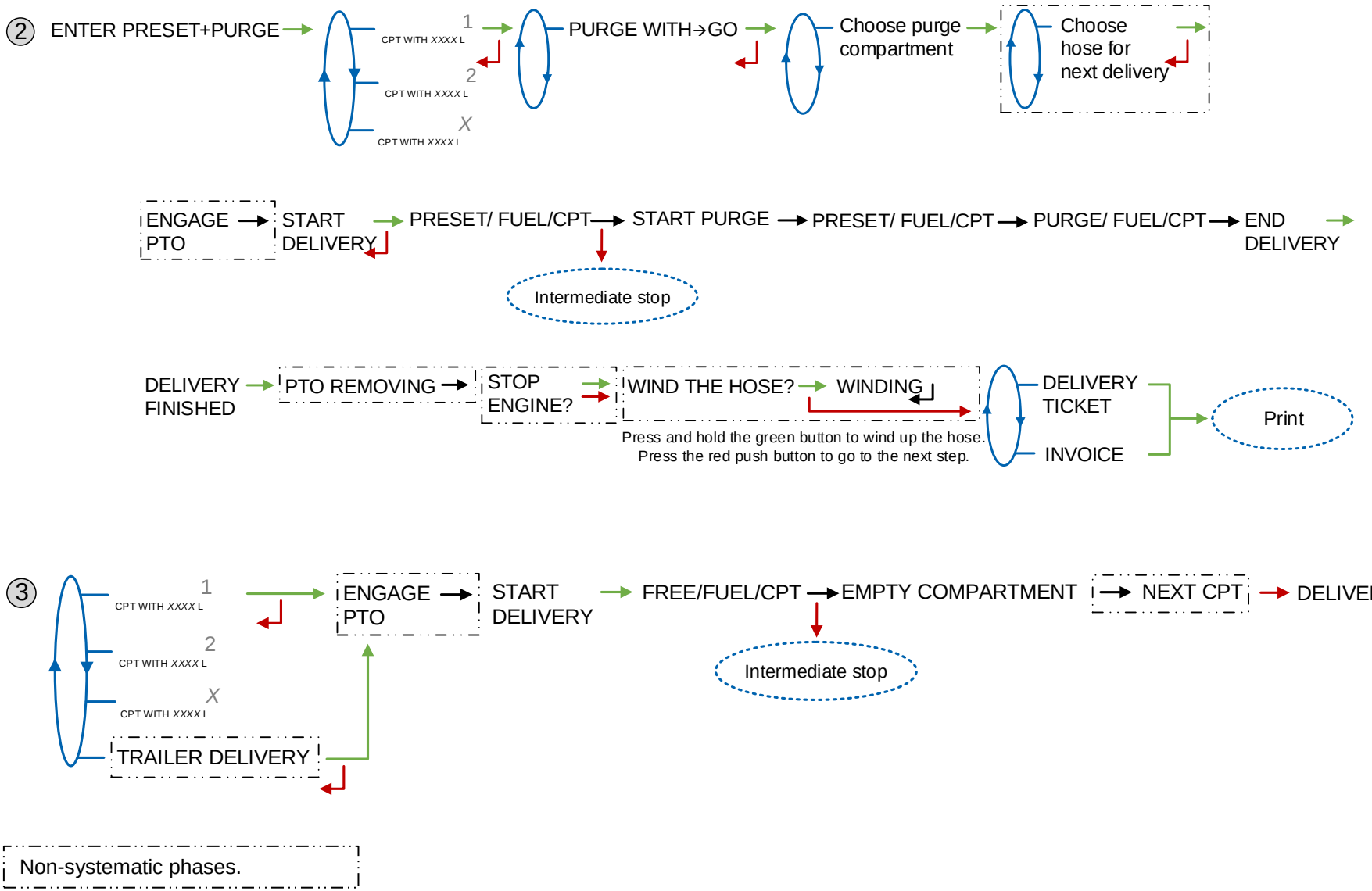
6.1.1.1 Delivery



Non-systematic phases.



Non-systematic phases.

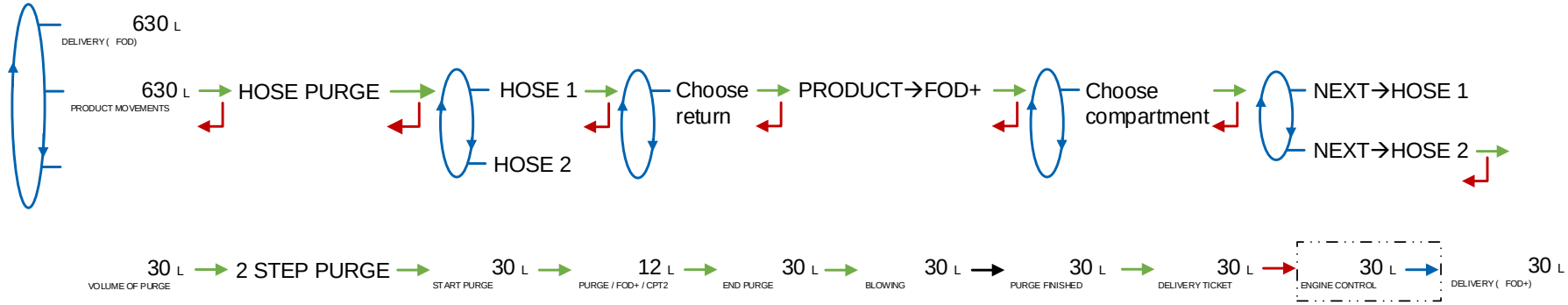

2
ENTER PRESET+PURGE
1
CPT WITH XXXX L
2
CPT WITH XXXX L
X
CPT WITH XXXX L
PURGE WITH→GO
Choose purge compartment
Choose hose for next delivery
ENGAGE PTO
START DELIVERY
PRESET/ FUEL/CPT
START PURGE
PRESET/ FUEL/CPT
PURGE/ FUEL/CPT
END DELIVERY
Intermediate stop
DELIVERY FINISHED
PTO REMOVING
STOP ENGINE?
WIND THE HOSE?
WINDING
Press and hold the green button to wind up the hose.
Press the red push button to go to the next step.
DELIVERY TICKET
INVOICE
Print
3
1
CPT WITH XXXX L
2
CPT WITH XXXX L
X
CPT WITH XXXX L
TRAILER DELIVERY
ENGAGE PTO
START DELIVERY
FREE/FUEL/CPT
EMPTY COMPARTMENT
NEXT CPT
DELIVERY STOP
Intermediate stop
Non-systematic phases.

6.1.1.2 Two step purge

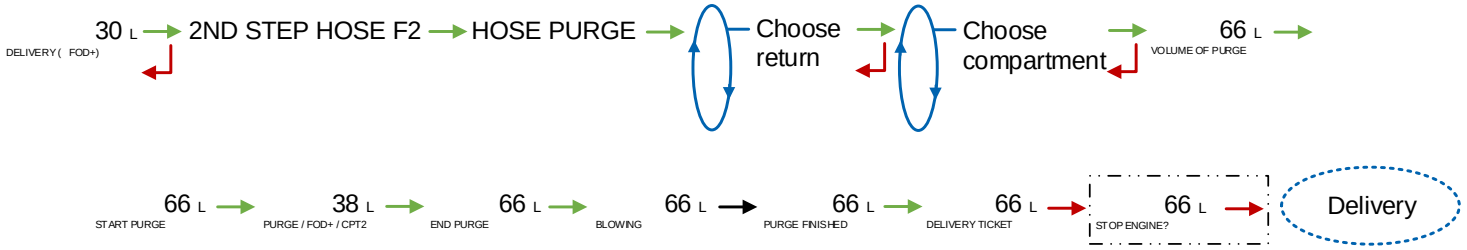
Some delivery scenarios require a two-step purge.

SCENARIO 1: Both hoses and the common pipe are filled with FOD. For the next delivery, we want to deliver FOD+ with hose 2.

First step: Purge hose 1 with menu PRODUCT MOVEMENTS>HOSE PURGE



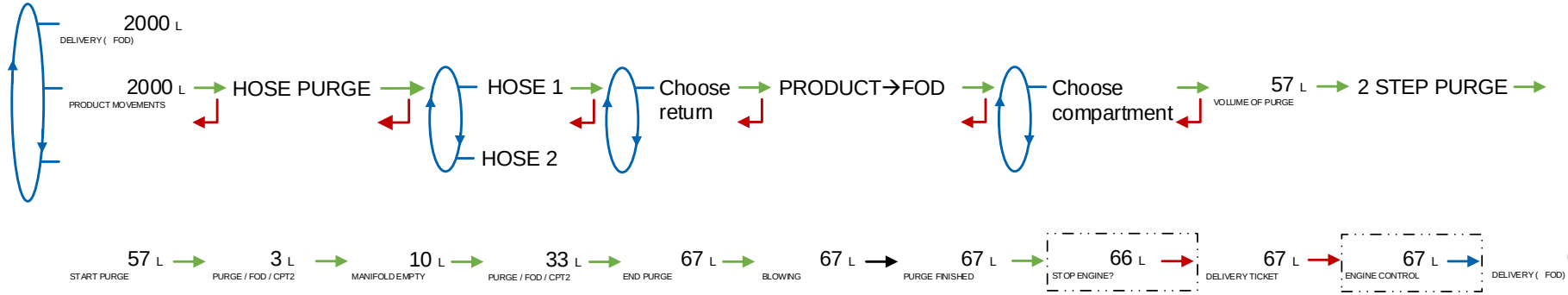
Second step: Purge hose 2 and common pipe with menu DELIVERY



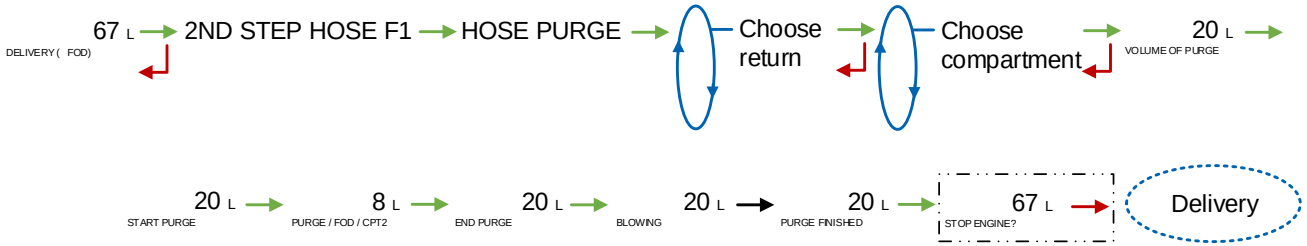
Non-systematic phases.

SCENARIO 2: Hose 1 is full of FOD, hose 2 and the common pipe are filled with FOD+. For the next delivery, we want to deliver FOD with hose 1.

First step: Purge common pipe with menu PRODUCT MOVEMENTS>HOSE PURGE



Second step: Purge hose 1 with menu DELIVERY



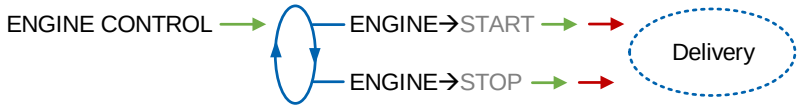
Non-systematic phases.

6.1.2 Pumped not counted distribution mode

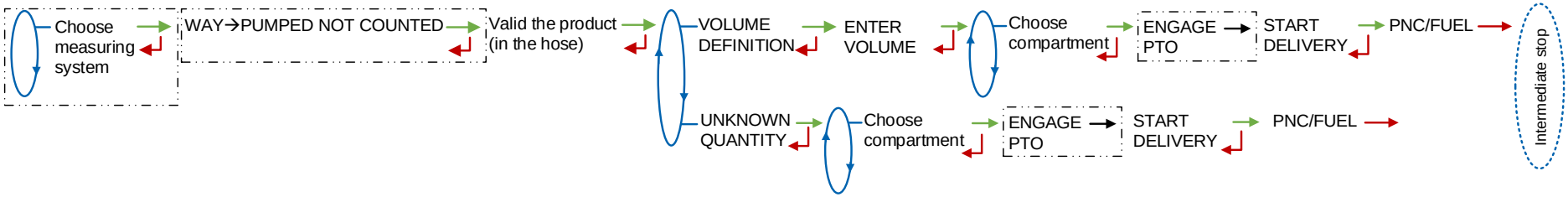
This delivery mode is used with two distribution outlets: upstream and downstream the meter. In METROLOGICAL mode, choose CONFIGURATION>INSTRUMENTATION>PUMPED NOT COUNTED.

To prevent any contamination, the delivery is made with the product in the line. To use another product, purge the line and repeat the operation

With active option, the commands for the pump clutching/declutching and for the power take-off control are made by the TURBOTRONIQUE at the beginning and at the end of distribution.

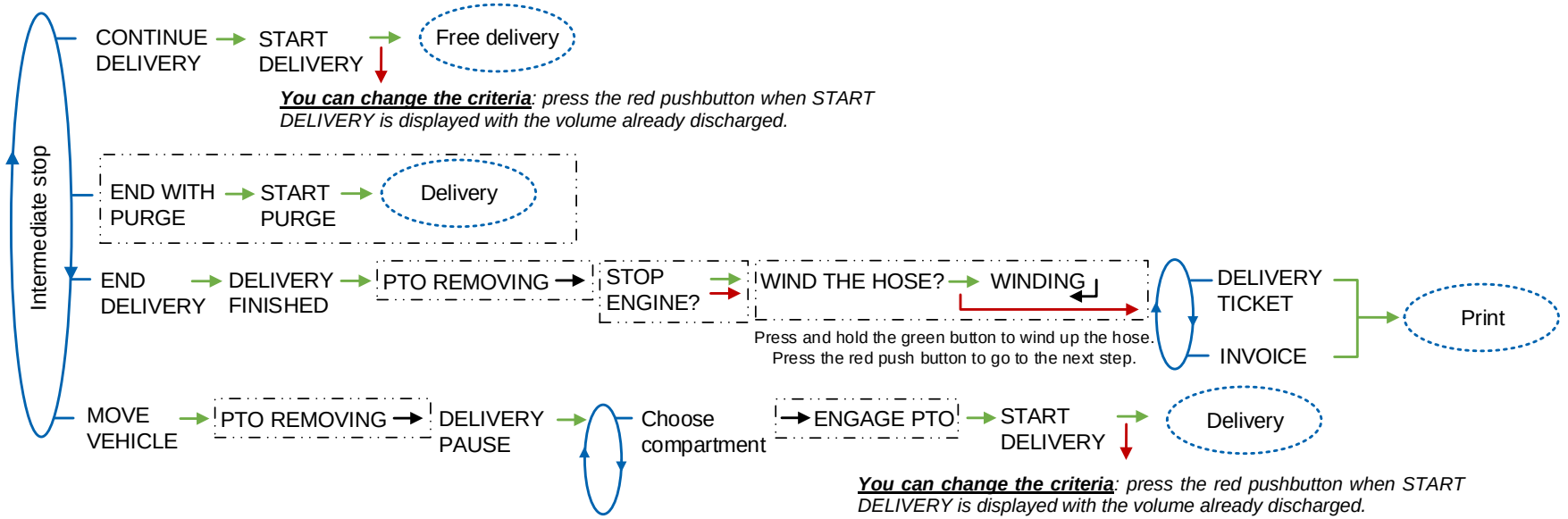


6.1.2.1 Delivery



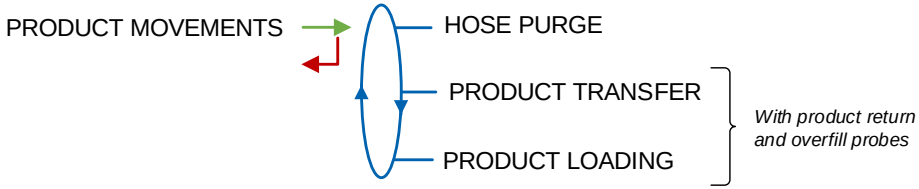
6.1.3 Intermediate stop of the delivery

If it's necessary to move the vehicle, the distribution has to be stopped for a moment, then choose the MOVE VEHICLE item. The TURBOTRONIQUE switches off the power take-off, clutches the engine and freezes the display on DELIVERY PAUSE. Press green OK BUTTON to continue distribution.



6.2 Menu PRODUCT MOVEMENTS

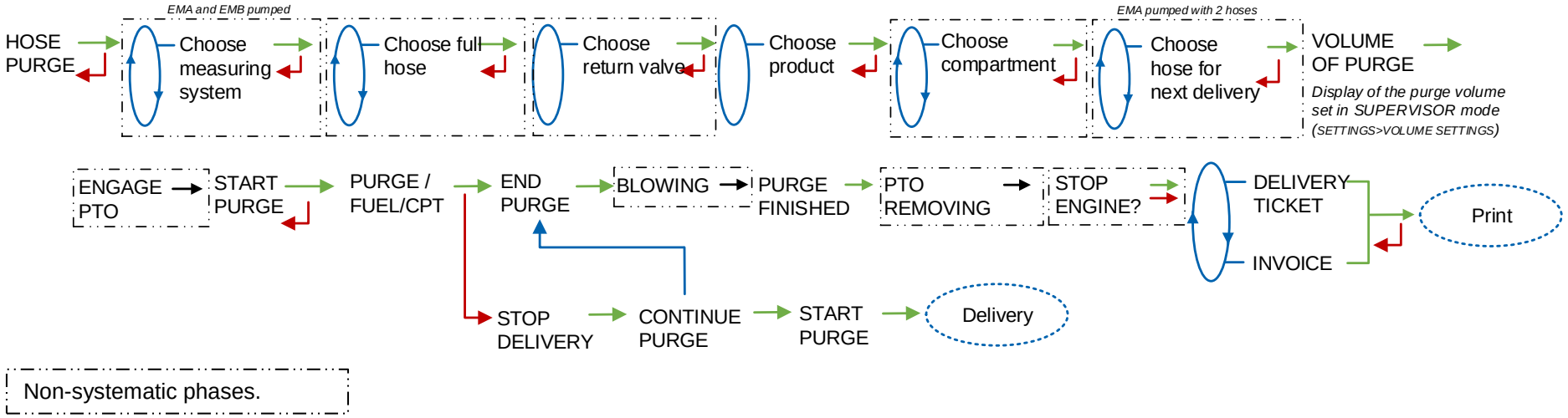
Product movements HOSE PURGE, PRODUCT TRANSFER and PRODUCT LOADING are performed in low flow rate.



6.2.1 Sub-menu HOSE PURGE

This menu allows purging the hose in order to change the quality of the product. This operation is permitted with pumped measuring systems only.

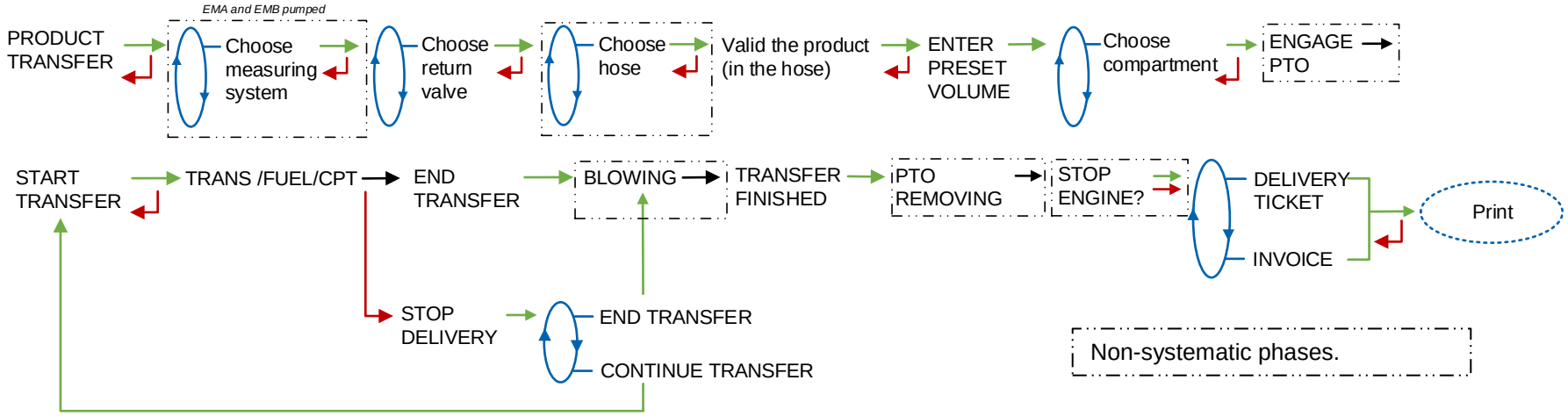
Operating with blocking contamination (configuration SUPERVISOR>SETTINGS>VOLUME SETTINGS>BLOCKING CONTAMINATION), the hose purge must have been completed before starting a new delivery.



6.2.2 Sub-menu PRODUCT TRANSFER

This menu is used to transfer product from one compartment to another; transfer is performed in low flow rate. This operation is permitted with pumped measuring systems only. It is available when at least one line is set with full hose, product return and overfill probe.

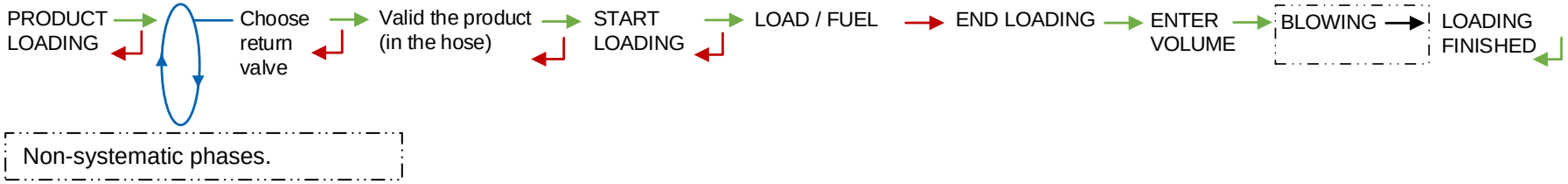
To prevent any contamination, the delivery is made with the product in the line. To use another product, purge the line and repeat the operation



6.2.3 Sub-menu PRODUCT LOADING

This menu is used to do a loading via a product return with the overfill probes set.

To prevent any contamination, the delivery is made with the product in the line. To use another product, purge the line and repeat the operation



6.3 LOADING PLAN

Depends on METROLOGICAL configuration. Not used if the function has not been activated.

The LOADING PLAN menu is used to display the quality and the quantity of the products available in each compartment according to the information received from the embedded computing or entered manually. The volumes per compartment are be updated as the deliveries and product movements continue. They will be displayed at the compartment selection.

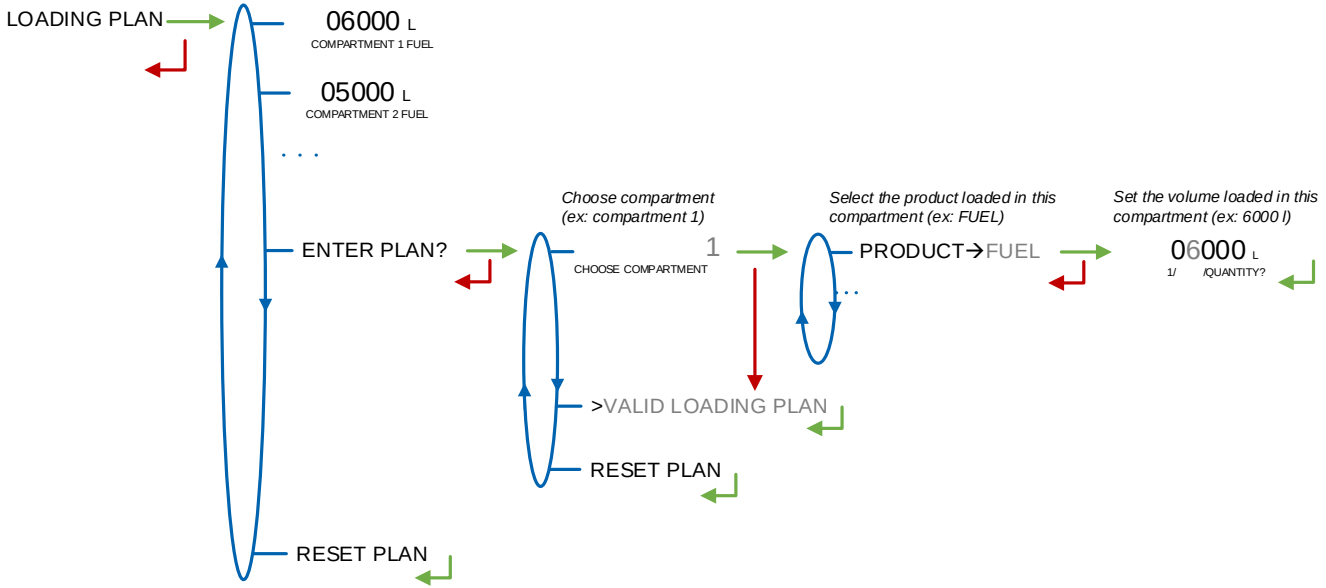
In case of a blocking function, an empty compartment won't be available for a delivery until you enter a new product quality via this menu.

The loading plan can be entered manually:

ENTER PLAN: For each compartment, select the product name and set the loaded volume. With DSPGI, the product name is blank. Then you must validate the loaded plan

VALID LOADING PLAN: This step validates the manually entered loading plan.

RESET PLAN: The loading plan can be cancelled by this menu.



6.4 Menu PRINT

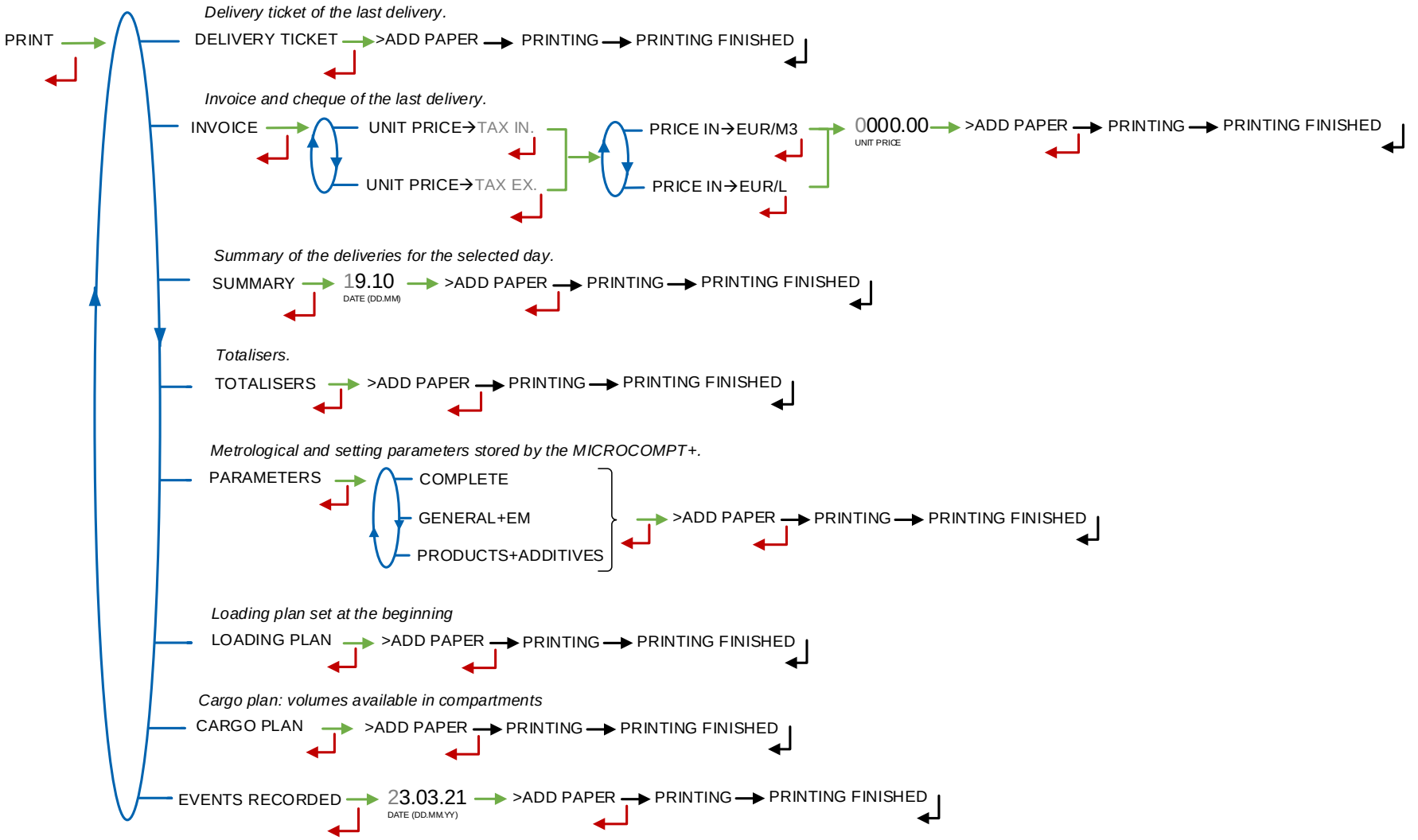
Printings depend on the system configuration.

According to the needs, the **PARAMETERS** menu prints all or part of the parameters. Choose the menu:

COMPLETE: The general parameters are printed first, then remove the sheet and add another one to print the parameters of the measuring system (EM), and do the same to print the product and additive parameters. Between each sheet, the message PRINTING FINISHED is displayed. An example is attached.

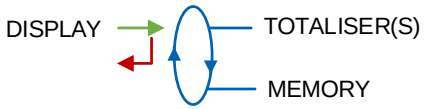
GENERAL+EM: The general parameters are printed first, then remove the sheet and add another one to print the parameters of the measuring system (EM). Between each sheet, the message PRINTING FINISHED is displayed.

PRODUCTS+ADDITIVES: Printing of the product and additive parameters


PRINT
Delivery ticket of the last delivery.
DELIVERY TICKET
>ADD PAPER
PRINTING
PRINTING FINISHED
Invoice and cheque of the last delivery.
INVOICE
UNIT PRICE→TAX IN.
UNIT PRICE→TAX EX.
PRICE IN→EUR/M3
PRICE IN→EUR/L
0000.00
UNIT PRICE
>ADD PAPER
PRINTING
PRINTING FINISHED
Summary of the deliveries for the selected day.
SUMMARY
19.10
DATE (DD.MM)
>ADD PAPER
PRINTING
PRINTING FINISHED
Totalisers.
TOTALISERS
>ADD PAPER
PRINTING
PRINTING FINISHED
Metrological and setting parameters stored by the MICROCOMPT+.
PARAMETERS
COMPLETE
GENERAL+EM
PRODUCTS+ADDITIVES
>ADD PAPER
PRINTING
PRINTING FINISHED
Loading plan set at the beginning
LOADING PLAN
>ADD PAPER
PRINTING
PRINTING FINISHED
Cargo plan: volumes available in compartments
CARGO PLAN
>ADD PAPER
PRINTING
PRINTING FINISHED
EVENTS RECORDED
23.03.21
DATE (DD.MM.YY)
>ADD PAPER
PRINTING
PRINTING FINISHED

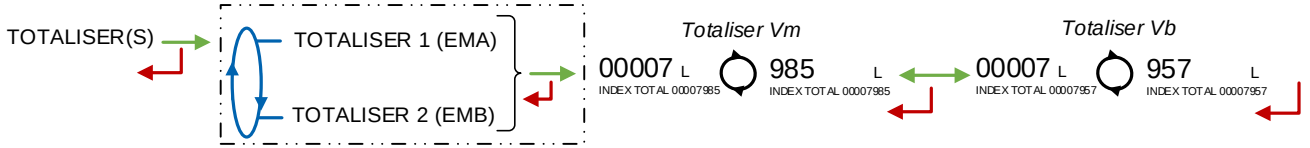
6.5 Menu DISPLAY

This menu is available in stand-by mode or during an intermediate stop. It allows the proofreading of totalisers and measurement results.



6.5.1 Sub-menu TOTALISER(S)

Display the totalisers of the measuring systems.



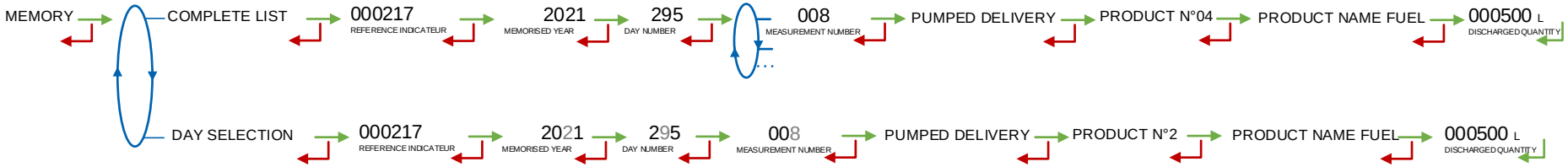
6.5.2 Sub-menu MEMORY

You can read all the measurement results stored by the TURBOTRONIQUE. That can be done in two ways:

COMPLETE LIST: Display all the measurement details recorded, from the newest to the oldest, sorted by day then by measurement number.

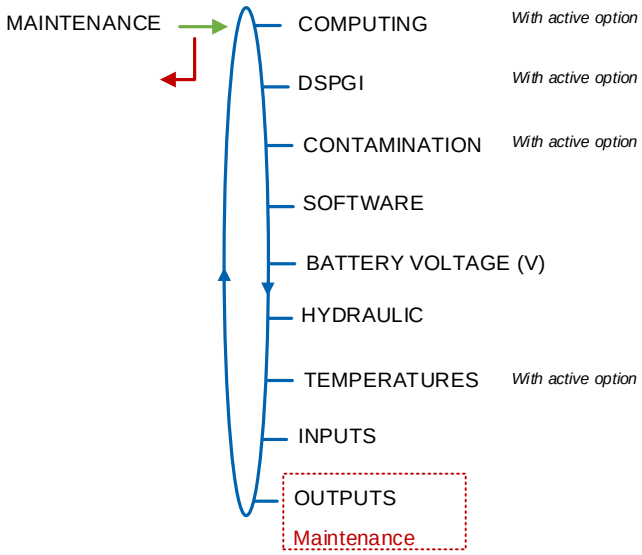
DAY SELECTION: Display a specific measurement by selecting the day number.

For each measurement, are displayed: the product number, the name of the product, the measured quantity.



6.6 Menu MAINTENANCE

This menu depends on the configuration of the measuring system

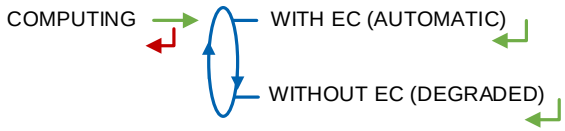


The access to the red boxes menus is restricted to the Maintenance with a red key.

6.6.1 Sub-menu COMPUTING

With active option: SUPERVISOR>COMPUTING→ON

In case of embedded computing failure, choose COMPUTING>WITHOUT EC (DEGRADED) to operate without embedded computing

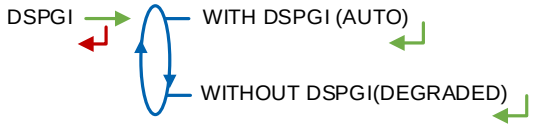


6.6.2 Sub-menu DSPGI

With active option:

SUPERVISOR>DSPGI→ON>DSPGI BLOCKING→ON>ON→WITH DEGRADED.

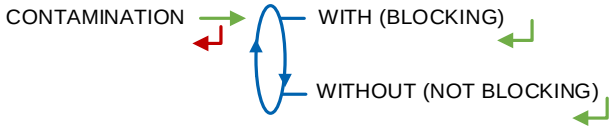
When the DSPGI is faulty, choosing WITHOUT DSPGI (DEGRADED) is used to temporarily force a non-blocking DSPGI operation in order to perform or complete an operation. At the end of this operation, the initial situation is restored.



6.6.3 Sub-menu CONTAMINATION

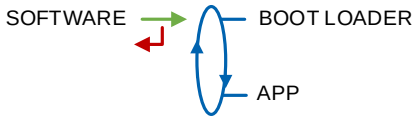
With active option: SUPERVISOR>SETTINGS>VOLUME SETTINGS>CONTAMINATION> BLOCKING C.→ON>ON→WITH DEGRADED.

In case of a hose contamination, choosing WITHOUT (NOT BLOCKING) is used to temporarily force a non-blocking operation in order to perform or complete an operation. At the end of this operation, the initial situation is restored.



6.6.4 Sub-menu SOFTWARE

Display the software version of the boot loader and the app.

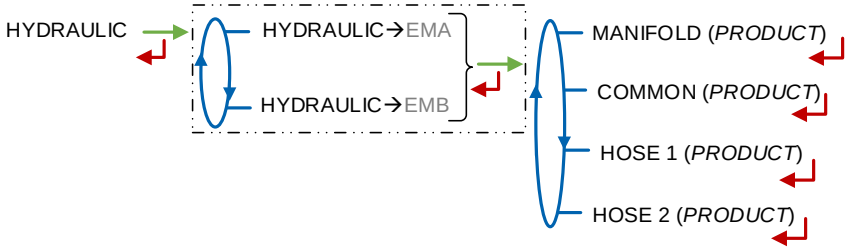


6.6.5 Sub-menu BATTERY VOLTAGE

Display the voltage of the battery.

6.6.6 Sub-menu HYDRAULIC

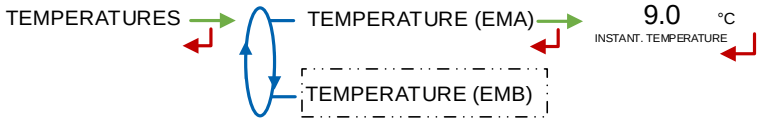
This menu is used to display the product quality contained in the different parts of the pipe.



6.6.7 Sub-menu TEMPERATURES

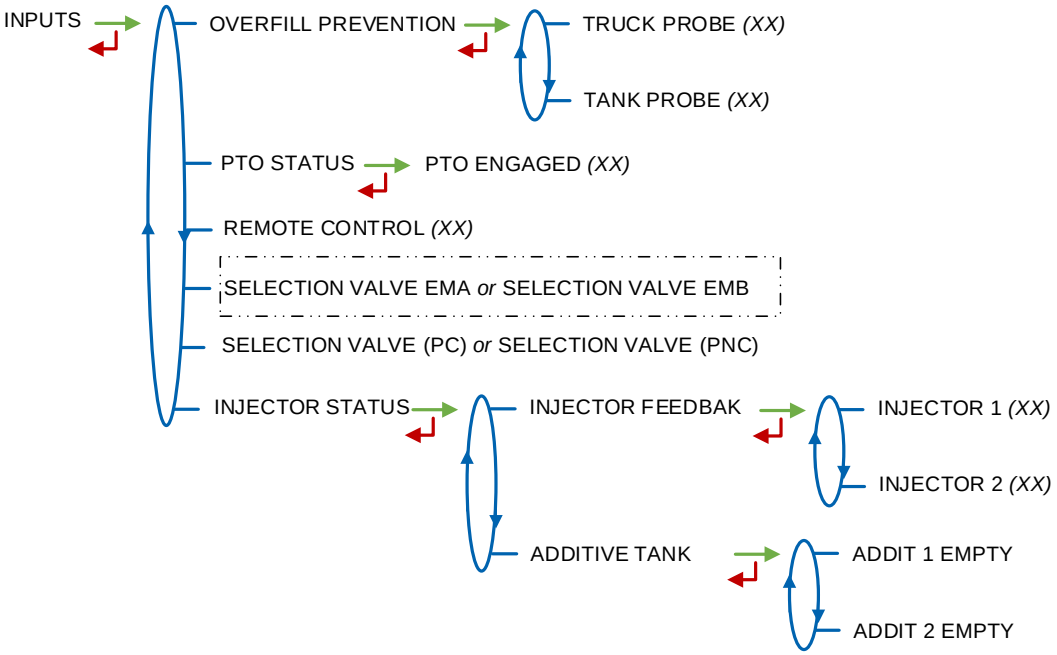
With active option: METROLOGICAL>EMX>TEMPERATURE→ON

Gives the product instantaneous temperature for EMA or for EMA and EMB.



6.6.8 Sub-menu INPUTS

Display the status of the inputs to ease maintenance.



OVERFILL PREVENTION:

- **TRUCK PROBE**: Status of the truck overfill probe. With the METROLOGICAL option: CONFIGURATION>INSTRUMENTATION>OVERFILL PREVENTION>TRUCK PROBE>CONTROL→LOCAL
- **CUSTOMER TANK**: Status of the customer overfill probe. With the METROLOGICAL option: CONFIGURATION>INSTRUMENTATION>OVERFILL PREVENTION>CUSTOMER TANK→ON

PTO STATUS: Status of the power take-off. With the METROLOGICAL option: CONFIGURATION>INSTRUMENTATION>PTO

REMOTE CONTROL: Status of the remote control. STANDBY, ES: Emergency stop, LF-HF: low flow-high flow or R-S: run-stop

SELECTION VALVE EMA or SELECTION VALVE EMB For DUAL only and PTO→EMA+EMB. Position of the measuring system selection valve: on EMA or EMB

SELECTION VALVE (PC) or SELECTION VALVE (PNC): Only with the pumped counted/pumped mode activated on a measuring system. Position of the selection valve on pumped counted or pumped not counted

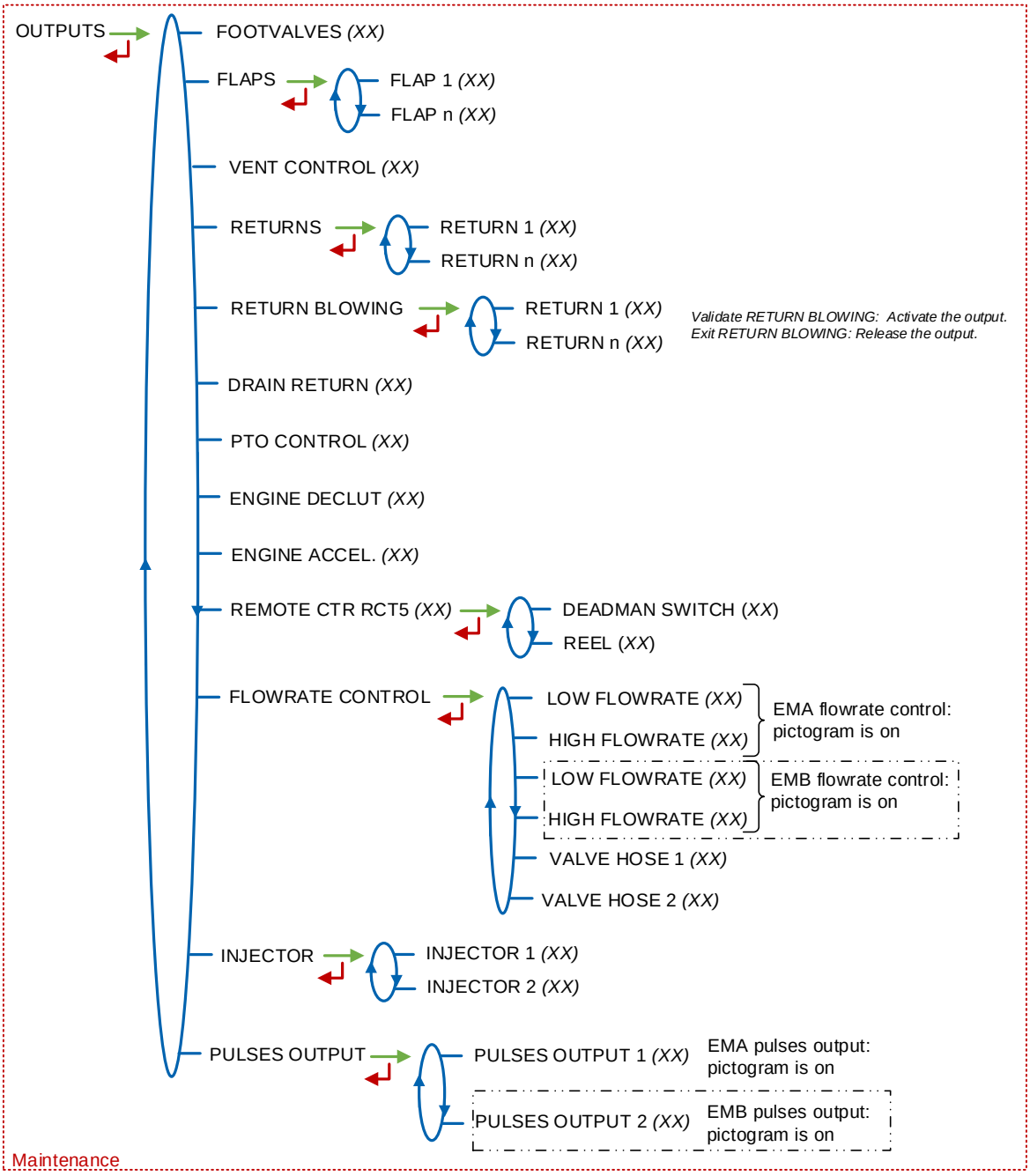
INJECTOR STATUS:

- **INJECTOR FEEDBACK**: Status of the injectors feedback: OFF/ON
- **ADDITIVE TANK**: Empty additive tanks: OFF/ON.

6.6.9 Sub-menu OUTPUTS

Access restricted to the Maintenance with red key.

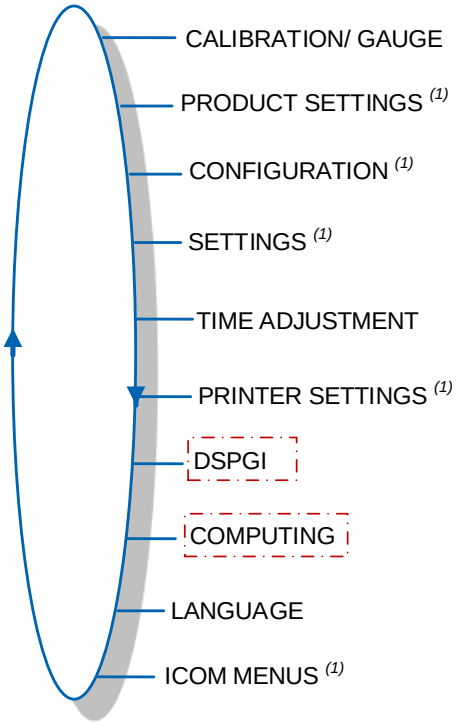
According to the configuration: display and driving of the outputs. Press the green pushbutton to change the output status OFF/ON.



6.7 List of alarms

		DISPLAY	MEANING	ACTION
USER	COMMON	DELIVERY STOP	Intentional interruption of the discharge	Continue, stop or finish delivery or product return
		EMERGENCY SHUTDOWN	Emergency stop triggered by remote control	Continue, stop or finish delivery or product return
		EC COMM.DEFAULT	Communication problem with the embedded computing	Try again and switch to degraded mode if the problem persists. COMPUTING→WITHOUT EC (DEGRADE)
		PRINTER DEFAULT	Communication with the printer lost	Make sure the connections are ok: cable, on-off switch and fuse
		The ticket is jammed	Jammed paper in the printer	Use the RELEASE button to eject the paper
		POWER SUPPLY PROBLEM	Power outage during operation	Check the cause / Restore power supply
		PTO DEFAULT	Inconsistency PTO return / run command	Check the power take-off status in the driver's cab
		DSPGI DEFAULT	Communication problem with the DSPGI	Make sure the DSPGI device is in operation
	COMMON PUMPED	INCOHERENCE WAY A/B	Inconsistent choice for EMA/EMB circuit	Make sure the manual selection valves are well-positioned
		INCOHERENCE WAY C/NC	Inconsistent choice for Pumped Counted/Pumped Not Counted circuit	Make sure the manual selection valves are well-positioned
		OVERFILL DEFAULT	Overfill detected on a compartment	Transfer the product in another compartment
		PURGE NOT FINISHED	The purge sequence is not finished	Finish the purge of the manifold (and/or hose)
		FLOW PUMP DEFAULT	No flow after switching on the pump	If necessary, adjust the timer parameter
		ADDITIVATION FAULT	Problem with the additive system (cannot be managed properly)	Check the additive system
		ADDITIVE Y LOW LEVEL	(Y=1 or 2) Low level of the additive tank	Fill the additive tank
		ADDITIVE Y CONTROL	(Y=1 or 2) Non-guaranteed injection of the additive rate	Check the hydraulic system
		OVERFILL CLIENT DEF.	Overfill detected on the customer tank	End delivery
	EMX (X=A or B)	EMX LOW FLOW DEFAULT	Flow<Qmin consecutively during 0,2*MMQ	Check the parameters and the hydraulic system (valve, strainer, nozzle…)
		EMX HIGH FLOW DEFAULT	Flow>Qmax consecutively during 3 sec	Check the parameters / Reduce flowrate
REPARATOR		EMX METERING PROBLEM	Inconsistency of metering channels	Make sure the pulse emitter indicators are blinking and the wiring is well done / Change the pulse emitter if required
		EMX PULSES PROBLEM	Problem with the metering pulses	Make sure the pulse emitter indicators are blinking and the wiring is well done / Change the pulse emitter if required
		EMX TEMPER. DEFAULT	Temperature determination failure T<Tmin or T>Tmax	If steady alarm, see a reparator for trouble shooting
		EMX K-FACTOR DEFAULT	Deviation between coefficients K1 and K2 greater than 0.5%	Change the low-flow coefficient (K1)
		EMX TOTALISER LOST	Totalisers integrity problem	Substitution of the backup battery
		EMX CONVER. DEFAULT	Problem during volume conversion	Make sure the set density is consistent
	COMMON	LEAK DETECTED	Metering detection without measurement	Make sure the check valve is tight
		DISPLAY DEFAULT	Integrity problem between the display and the display RAM proofreading	If steady alarm, substitution of the display card
		WATCHDOG DEFAULT	Triggering the watchdog function	Switch on-off the MICROCOMPT+ If steady alarm, substitution of the faulty card If steady alarm, substitution of the faulty card
		DATE AND TIME LOST	Problem with the clock	Set date and time
		DIARY DEFAULT	The events diary is lost	Acknowledge the alarm, make sure the date is ok If steady alarm, substitution of the backup battery
		MEMORY LOST	The measurements diary is lost	Acknowledge the alarm (enter then exit the metrological mode) If steady alarm, substitution of the backup battery Acknowledge the alarm (enter then exit the metrological mode) If steady alarm, substitution of the backup battery
		MEMORY OVER LOADED	Measurement storage area saturated (too many registrations over 90 days)	Acknowledge the alarm (enter then exit the metrological mode) If steady alarm, substitution of the backup battery
		BOOT LOADER DEFAULT	Inconsistency between the app and the version of the boot loader	Match the application software with the boot loader
		PARAMETER LOST	No more integrity of a secured memory area (SUPERVISOR parameters, preset end coeff...)	Acknowledge the alarm If steady alarm, substitution of the backup battery
		EEPROM MEMORY FAIL	Loss of metrological parameters	Substitution of the AFSEC+ electronic card
		SAVE MEMORY DEFAULT	Integrity problem with memorized data	Substitution of the AFSEC+ electronic card
		FRAME WORK DEFAULT	Integrity problem with software	Substitution of the AFSEC+ electronic card

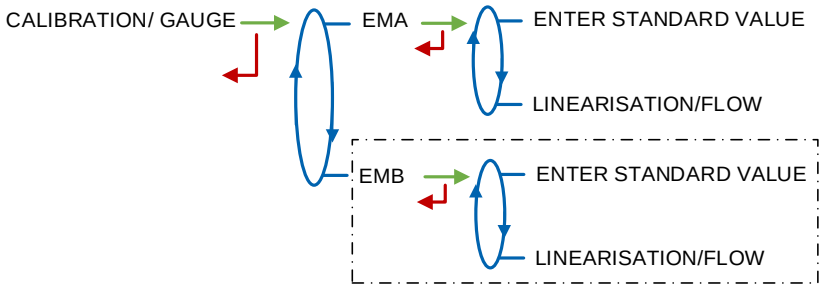
7 SET THE TURBOTRONIQUE: SUPERVISOR MODE



The access to the red boxes menus is restricted to the Maintenance with a red key.

(1): The sub-menus are different according to the level of access: Level-User, Level-Manager and Level-Maintenance.

7.1 Menu CALIBRATION/ GAUGE



7.1.1 Sub-menu ENTER STANDARD VALUE

This menu allows you to check the accuracy of the measuring system by calculating the measuring device error, the new corrected coefficient and the average flow.

If the system manages two measuring systems, choose the relevant one: EMA or EMB.

First, make a discharge (USER mode) in high or low flow with predetermination of the volume to fill a tank prover or through a master meter.

Switch to SUPERVISOR mode, select CALIBRATION/GAUGE>ENTER STANDARD VALUE and validate.

Enter the reference volume (read on the gauge and corrected), then validate. The MICROCOMPT+ displays the information that follows:

- The signed error in percent (%)
- The coefficient revised as a function of the error
- The average flow of the delivery.

7.1.2 Sub-menu LINEARISATION/FLOW

This menu is used to make a flow-correction for two measuring points (at low and high flowrate). The MICROCOMPT+ stores flowrate and coefficient calibrated values in order to define both correction points at low and high flowrate.

When you validate the menu, the calibrated values are displayed; you need to unseal the MICROCOMPT+ to switch in METROLOGICAL mode and enter the values via the EM>METER COEFFICIENT menu.

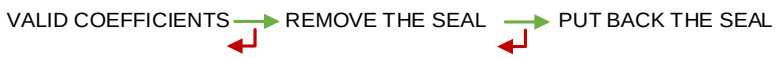
To linearize the curve, two tests are necessary:

- Fill the gauge in high flow [flowminx3]≤high flow<[flowmax], and enter the volume read on the gauge (or use a master meter) in the menu CALIBRATION/GAUGE>ENTER STANDARD VALUE as described above
- Fill the gauge in low flow [flowmin]≤flow<[flowminx1.5], and enter the volume read on the gauge in the menu CALIBRATION/GAUGE>ENTER STANDARD VALUE
- Select CALIBRATION/GAUGE and validate. It is then possible to see the coefficients and the flow rates data for the two tests carried out.

If the procedure failed, the MICROCOMPT+ can display the information that follows:

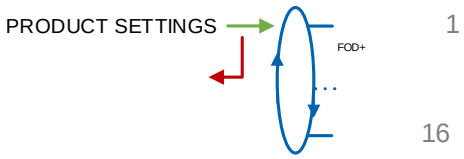
- LARGE GAP K1/K2: Correction between both measuring points >0.5%
- FLOWS TOO CLOSE: High flowrate value is out of range. It needs to be [flowminx3]≤high flow<[flowmax].
- LO-FLOW OUT OF RANGE: Low flowrate value is out of range. It needs to be [flowmin]≤low flow≤[flowminx1.5]
- ONLY ONE STANDARD: One of the tests has not been done (at low or high flowrate)
- NO VALID STANDARD: Both tests have not been done (at low and high flowrate).

When the procedure is completed, the MICROCOMPT+ displays the sequence that follows:



The new coefficient and flow rates values are taken into account.

7.2 Menu PRODUCT SETTINGS



You can configure 16 different products. Default names of the first six products: FOD+, FOD, GO+, GO, GNR+, GNR.

EM: For DUAL only. Assign the product to one or both measuring systems (EMA, EMB or EMA+EMB)

NAME: Record or enter the name of the product

DENSITY AT XX: With active conversion. XX is the reference temperature set in menu METROLOGICAL>CONFIGURATION>CONVERSION>DENSITY TEMP. (REF). Set the density in Kg/m^3

PRODUCT TYPE: Definition of product characteristics (petrol, colored, 10PPM, additive)

UNIT PRICE/DEF: Enter the numeric value of the default unit price

U.P.: Select if the price includes taxes or not

PRICE IN: Select the unit of the price. This menu depends on the currency set in menu CONFIGURATION>CURRENCY

VAT RATE: Record the tax rate (in %).

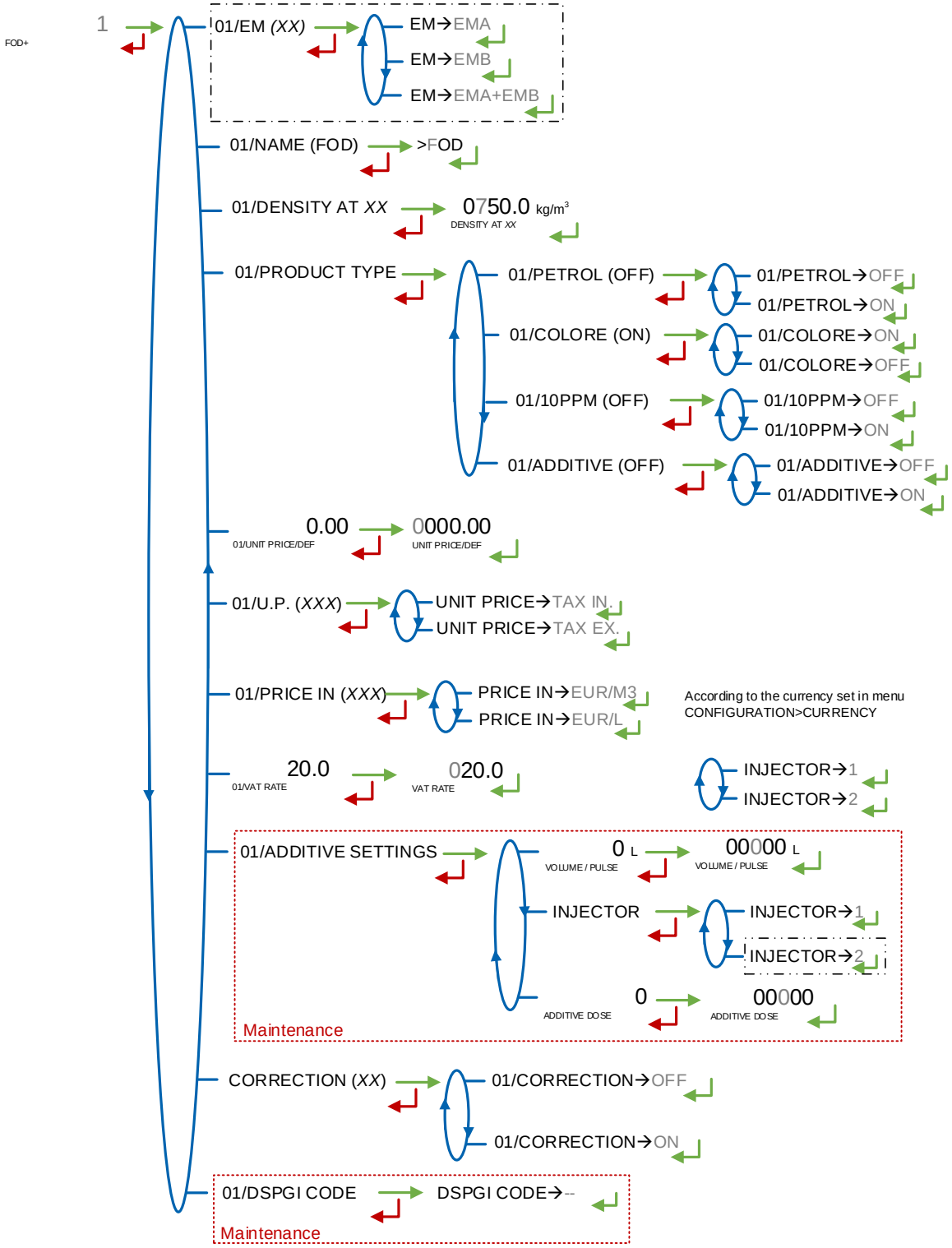
ADDITIVE SETTINGS – *Access restricted to the Maintenance with red key.* If the TURBOTRONIQUE controls an additive injection device, you must configure the parameters that follow:

- **VOLUME/PULSE**: Record the volume of primary product. For example “00200”: the TURBOTRONIQUE puts a dose of additive every 200 liters of primary product (minimum value: 10L).
- **INJECTOR**: The number of injectors depends on the configuration METROLOGICAL> INSTRUMENTATION>ADDITIVE INJECTOR.
- **ADDITIVE DOSE**: Record the volume of the additive dose in liter.

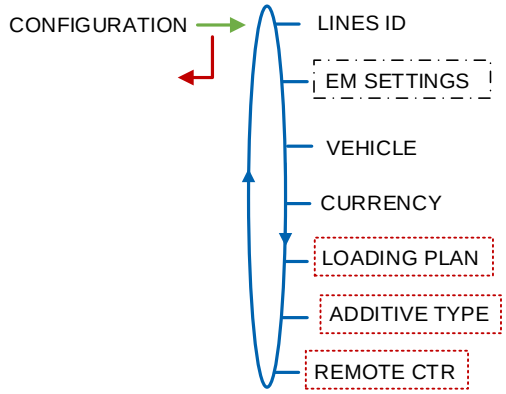
CORRECTION: Select if the correction is ON or OFF for the product (see METROLOGICAL>EMA>VISCOSITY CORRECTION).

DSPGI CODE – *Access restricted to the Maintenance with red key.* Assign the DSPGI code to each product quality (with active option: SUPERVISOR>DSPGI→ON).

Example for product 1 FOD+:

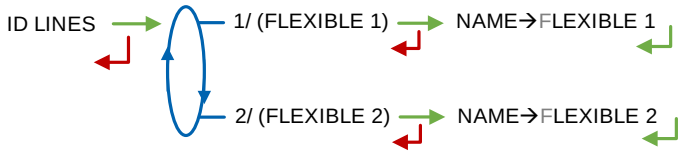


7.3 Menu CONFIGURATION



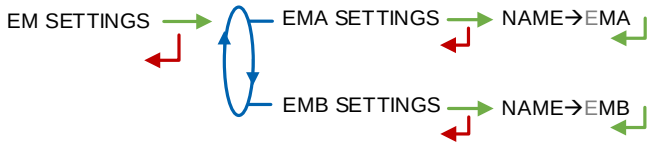
7.3.1 Sub-menu ID LINES

This menu is available when the system manages two hoses on EMA (CONFIGURATION>DUAL OPTION→OFF>EMA→TURBO-TRONIQUE>2 HOSES). Validate or enter the name of the line. Maximum number of characters: 10.



7.3.2 Sub-menu EM SETTINGS

When the system manages two measuring systems. Validate or enter the name of the measuring system. Maximum number of characters: 8. This name is displayed in the user menus.

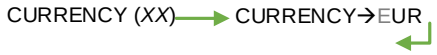


7.3.3 Sub-menu VEHICLE

Enter vehicle identification: set the vehicle registry number on which the measuring system is installed. This number is printed on delivery tickets…

7.3.4 Sub-menu CURRENCY

Record the currency of the price. Set the three-character currency used to edit invoices (according to ISO 4217)



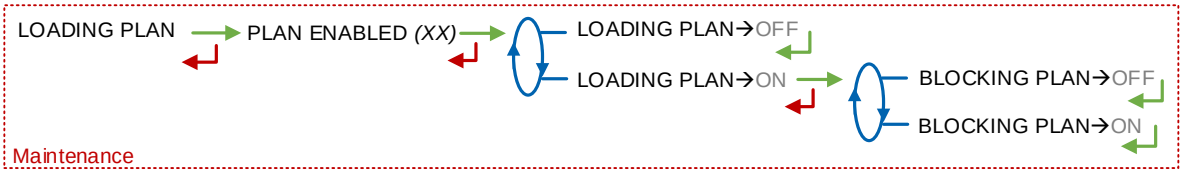
7.3.5 Sub-menu LOADING PLAN

Access restricted to the Maintenance with red key

This menu is used to operate with loading plan or without loading plan.

LOADING PLAN→ON: When the function is active, a specific menu allows the user to determine the product quality and quantity for each compartment.

- **BLOCKING PLAN→OFF:** When choosing the compartment, there is no restriction of choice. The user chooses a compartment compatible with the requested product
- **BLOCKING PLAN→ON:** When choosing the compartment, only the compartments containing the requested product are proposed. When a compartment is empty, it won't be available for a delivery until the user enters a new product quality via the menu LOADING PLAN of the USER mode.



7.3.6 Sub-menu ADDITIVE TYPE

Access restricted to the Maintenance with red key

INJECTOR NB: The injector(s) can be assigned to one or both measuring systems. The presence of a second injector is possible only if the number of flaps and returns allows it. See the table in ANNEX 3.

Then, for each injector, set the parameters that follow:

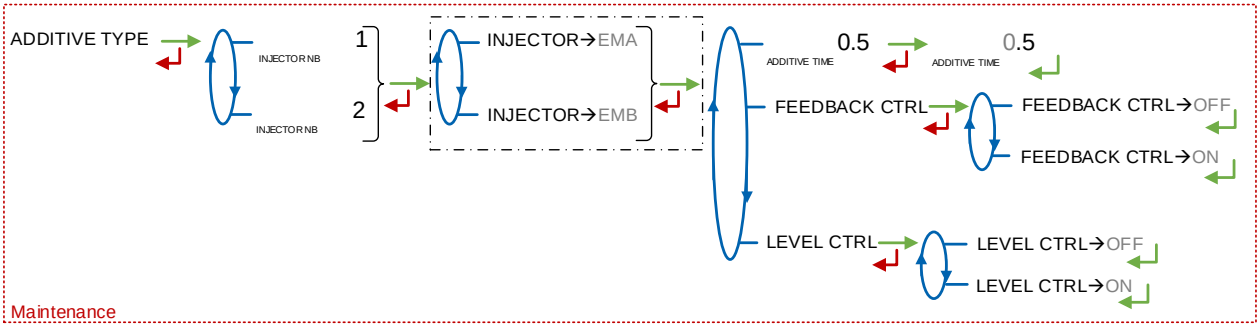
EMA/EMB: When the system manages two measuring systems, choose the measuring system (CONFIGURATION>DUAL OPTION), select the measuring system for additive injection

Then configure the additive injection with the menus below:

ADDITIVE TIME: Set the duration of the additive control before allowing a new order (in tenth of a second). It corresponds to the control of the actuator to which is added a relaxation of the same duration

FEEDBACK CTRL: If this function is ON, the measuring system makes sure that the injector piston moves.

LEVEL CTRL: If this function is ON, the measuring system controls the additive level in the tank. Low level triggers an alarm.



7.3.7 Sub-menu REMOTE CONTROL

Access restricted to the Maintenance with red key

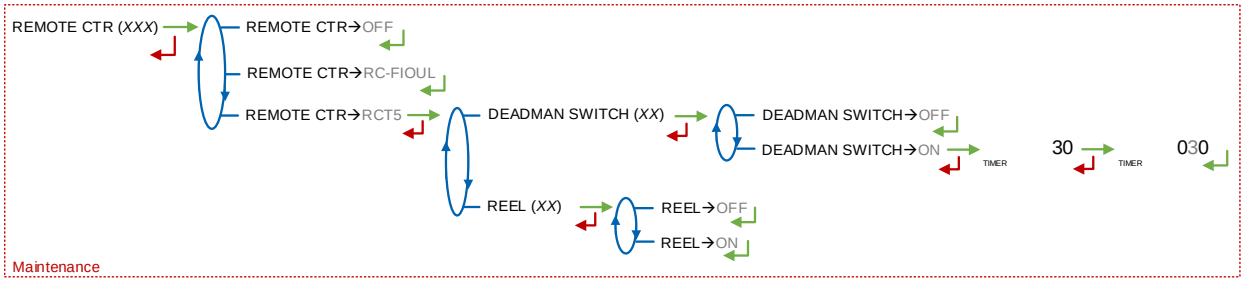
This menu allows you to activate or not the operation with remote control.

REMOTE CTR→OFF: No remote control

REMOTE CTR→RC FIOUL: Activation of the operation with the RC FIOUL remote control

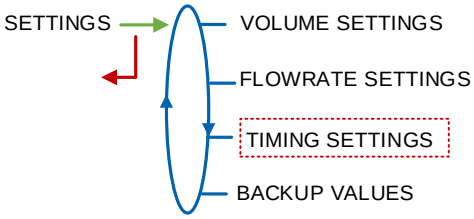
REMOTE CTR→RCT5: Activation of the operation with the RCT5 remote control, See GU 7098.

- **DEADMAN SWITCH**: If the deadman function is activated, enter the timer in seconds. This feature requires the operator to notify his presence periodically by pressing the deadman button on the remote control
- **REEL**: This menu allows you to activate the control of the reel at the end of delivery after the motor has stopped.

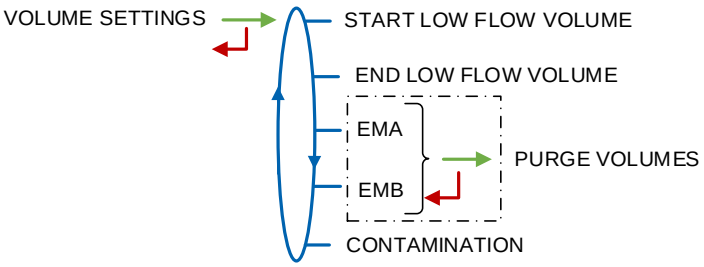


7.4 Menu SETTINGS

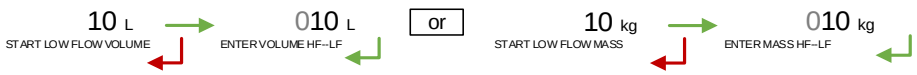
The accuracy and the unit of the displayed values are specific to the measuring system and depend on the choices made during the metrological configuration EM>UNIT menu.



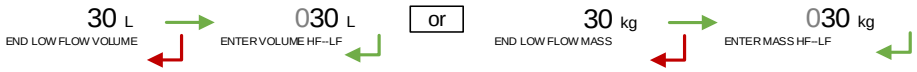
7.4.1 Sub-menu VOLUME or MASS SETTINGS



START LOW FLOW VOLUME or START LOW FLOW MASS: Volume or mass delivered in low flowrate before switching in high flowrate.



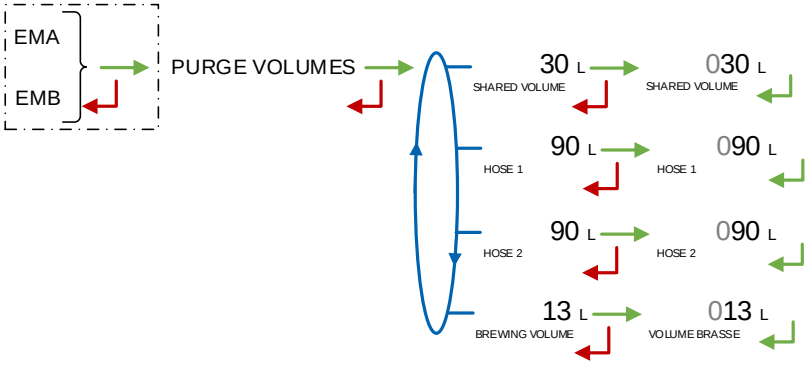
END LOW FLOW VOLUME or END LOW FLOW MASS: Volume or mass delivered in low flowrate to finish the delivery



PURGE VOLUMES: For volume measurement only (CONFIGURATION>UNIT>QUANTITY→L). The purge volumes depend on the truck hydraulic configuration (manifold, hose...), they are set at commissioning, and they prevent from product contamination.

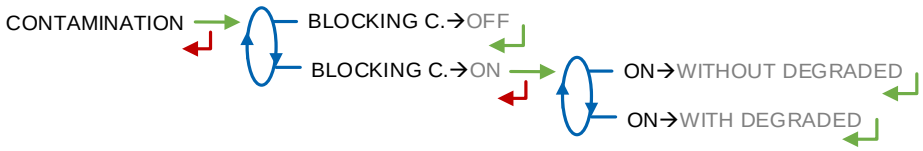
When the system manages two measuring systems, define the parameters that follow for each one:

- **SHARED VOLUME**: V_C. When several hoses are set or only one empty hose. Quantity of product contained in the part of the piping located between the manifold and the hose attachment point. The common volume includes the brewing volume. $V_C \geq 1.5 \times V_B$
- **HOSE 1**: V_F. Quantity of product contained between the manifold and the outlet of the full hose. The hose volume includes the common volume. $V_F = V_C + V_{flexible\ plein}$
- **HOSE 2**: V_F. Quantity of product contained between the manifold and the outlet of the full hose. The hose volume includes the common volume. $V_F = V_C + V_{flexible\ plein}$
- **BREWING VOLUME**: Brewing volume V_B. It corresponds to the quantity of product in the piping for which the quality is indefinite due to the mixture of products.



CONTAMINATION:

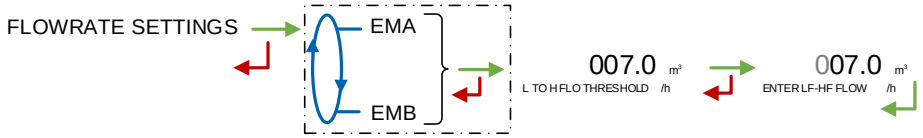
- **BLOCKING C.→OFF:** Select this option if you want to let the user continue the delivery in case of hose contamination
- **BLOCKING C.→ON:** Select this option if you want to force a hose purge in case of hose contamination.
    - ON→WITH DEGRADED: This feature is used to suspend the blocking for the current operation through the menu MAINTENANCE>CONTAMINATION
    - ON→WITHOUT DEGRADED: The suspension of the blocking is not allowed.



7.4.2 Sub-menu FLOWRATE SETTINGS

When the system manages two measuring systems, choose the measuring system.

L TO H FLO THRESHOLD: For pumped measuring systems only. Set the flowrate beyond which the measuring system (running in low flowrate) controls the high flowrate.



7.4.3 Sub-menu TIMING SETTINGS

Access restricted to the Maintenance with red key

You can set the timing parameters that follow:

BLOWING TIME: Blowing duration for product return probes (in seconds)

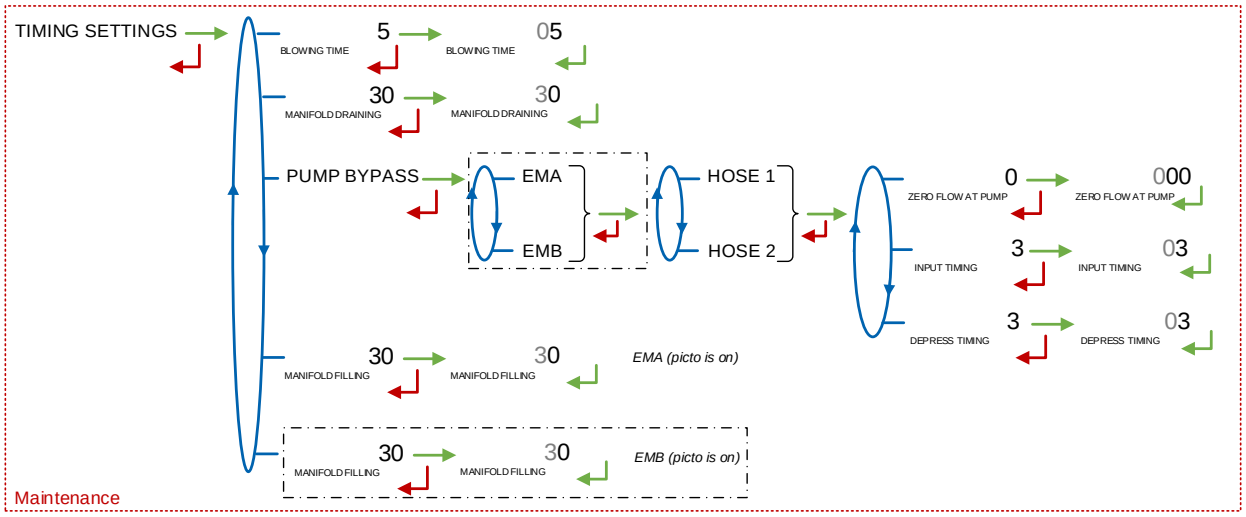
MANIFOLD DRAINING: Manifold draining duration (in seconds)

PUMP BYPASS: According to the number of measuring systems, choose the measuring system and/or the hose. Set the pump parameters:

- **ZERO FLOW AT PUMP**: Set the maximum permissible duration of the pump in operation at zero flow condition (in seconds). Minimum input value: 60; typical value: 180; 0 disables the function. Recorded on the parameters printing as: Flow timing
- **INPUT TIMING**: Set the timing. Default value: 3
- **DEPRESS TIMING**: Set the timing. Default value: 3

MANIFOLD FILLING: Duration of the EMA manifold filling (in seconds).

MANIFOLD FILLING: Duration of the EMB manifold filling (in seconds).



7.4.4 Sub-menu BACKUP VALUES

Record the backup value for temperature.

7.5 Menu TIME ADJUSTMENT

Date and time are set in METROLOGICAL mode. You can adjust time (±2h) one time a day. Use French format, for example: 14.41 means 2.41 pm.

7.6 Menu PRINTER SETTINGS

This menu is used to configure printing options.

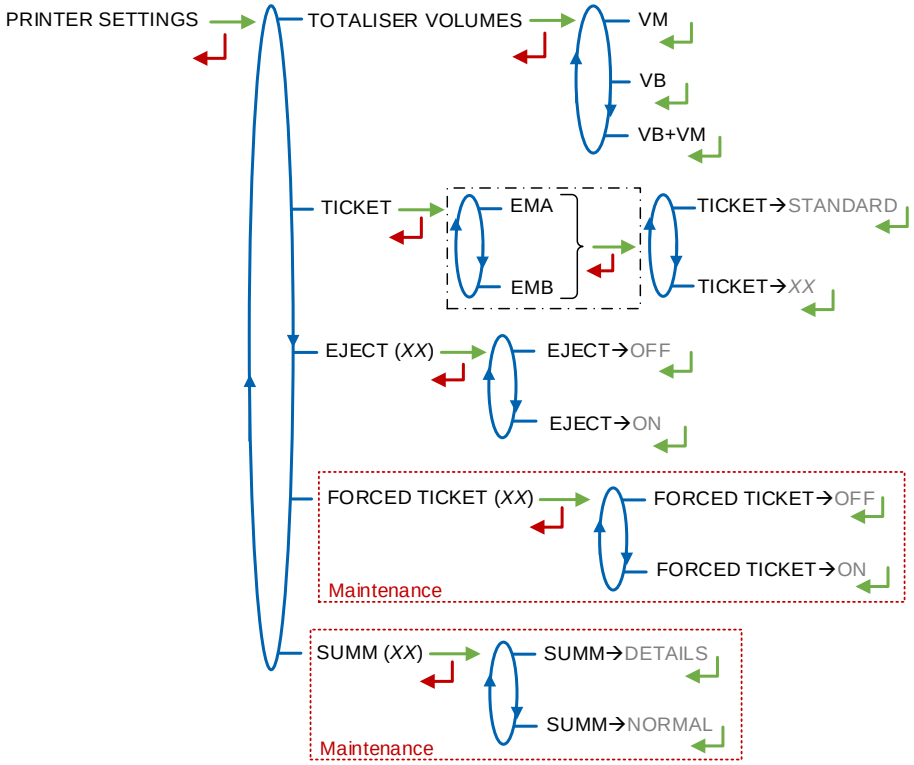
TOTALISER VOLUMES: With active conversion. Choose the volume to print

TICKET: When the system manages two measuring systems, choose the measuring system. Choose the ticket format for printing the delivery ticket.

EJECT: Choose to eject or not the sheet of paper at the end of printing (allowing the embedded computing to print its part). In case of printing default, use the 'RELEASE' button of the printer device to eject the sheet manually.

FORCED TICKET: *Access restricted to the Maintenance with red key.* At the end of delivery the printing of the delivery ticket or invoice printing is proposed. It is possible to force the printing by choosing FORCED TICKET→ON.

SUMM – *Access restricted to the Maintenance with red key.* Choose to make appear or not details of the deliveries when printing the summary.



7.7 Menu DSPGI

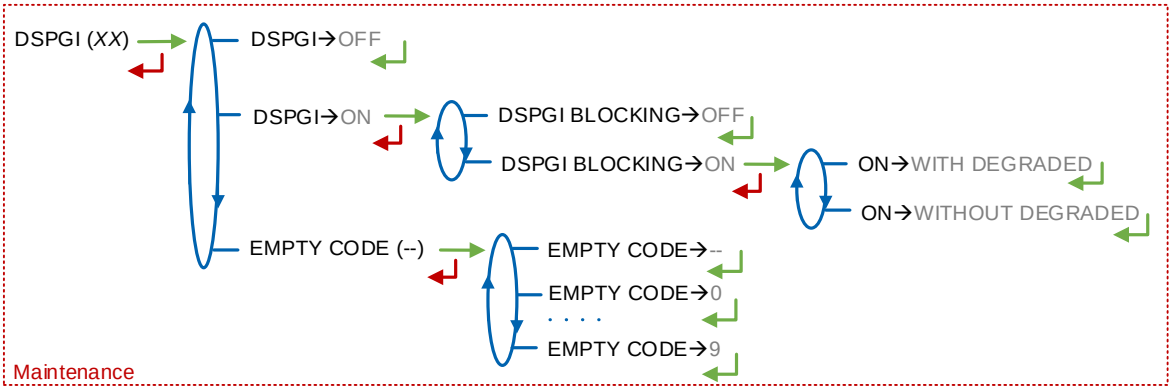
Access restricted to the Maintenance with red key

This menu is used when the compartments are equipped with DSPGI devices.

DSPGI→ON: The option is activated. When choosing the compartment, only the compartments containing the requested product are proposed.

- **DSPGI BLOCKING→OFF:** If no compartment matches, the message NO COMPARTMENT is displayed. Pressing the green push button unlocks all compartments, the delivery sequence continues. In addition, a delivery can be made even if the DSPGI does not respond
- **DSPGI BLOCKING→ON:** Make this choice to make any mixture of product impossible. Two settings are possible:
  - **ON→WITH DEGRADES**: This feature is used to suspend the blocking for the current operation through the menu MAINTENANCE>CONTAMINATION. The non-blocking operation described above is then applied
  - **ON→WITHOUT DEGRADED**: This feature blocks all operations if all conditions are not met

EMPTY CODE: Assign a DSPGI code to an empty compartment.



7.8 Menu COMPUTING

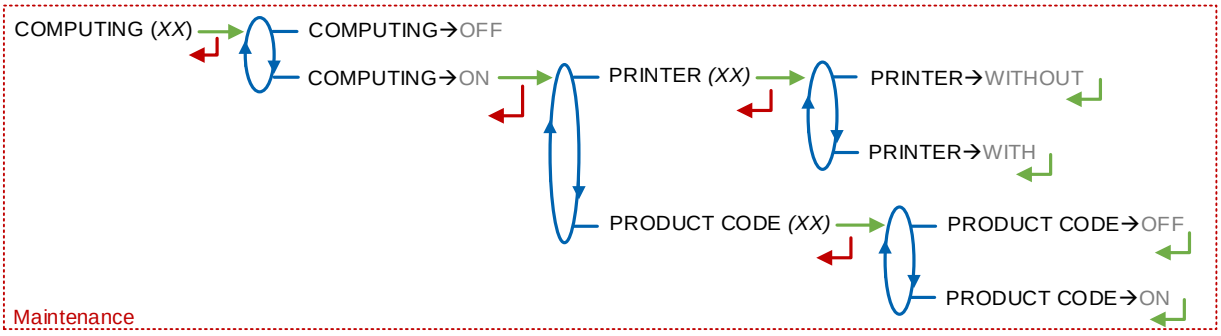
Access restricted to the Maintenance with red key

Operation with or without embedded computing. When operating with embedded computing, you must set the parameters below:

PRINTER:

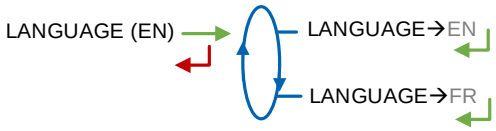
- **PRINTER→WITH:** The delivery ticket and the invoice must be printed via the embedded computing. They cannot be printed via the MICROCOMPT+.
- **PRINTER→WITHOUT:** The delivery ticket and the invoice must be printed via the MICROCOMPT+

PRODUCT CODE: This menu allows activating or not the control of the product codes by the embedded computing



7.9 Menu LANGUAGE

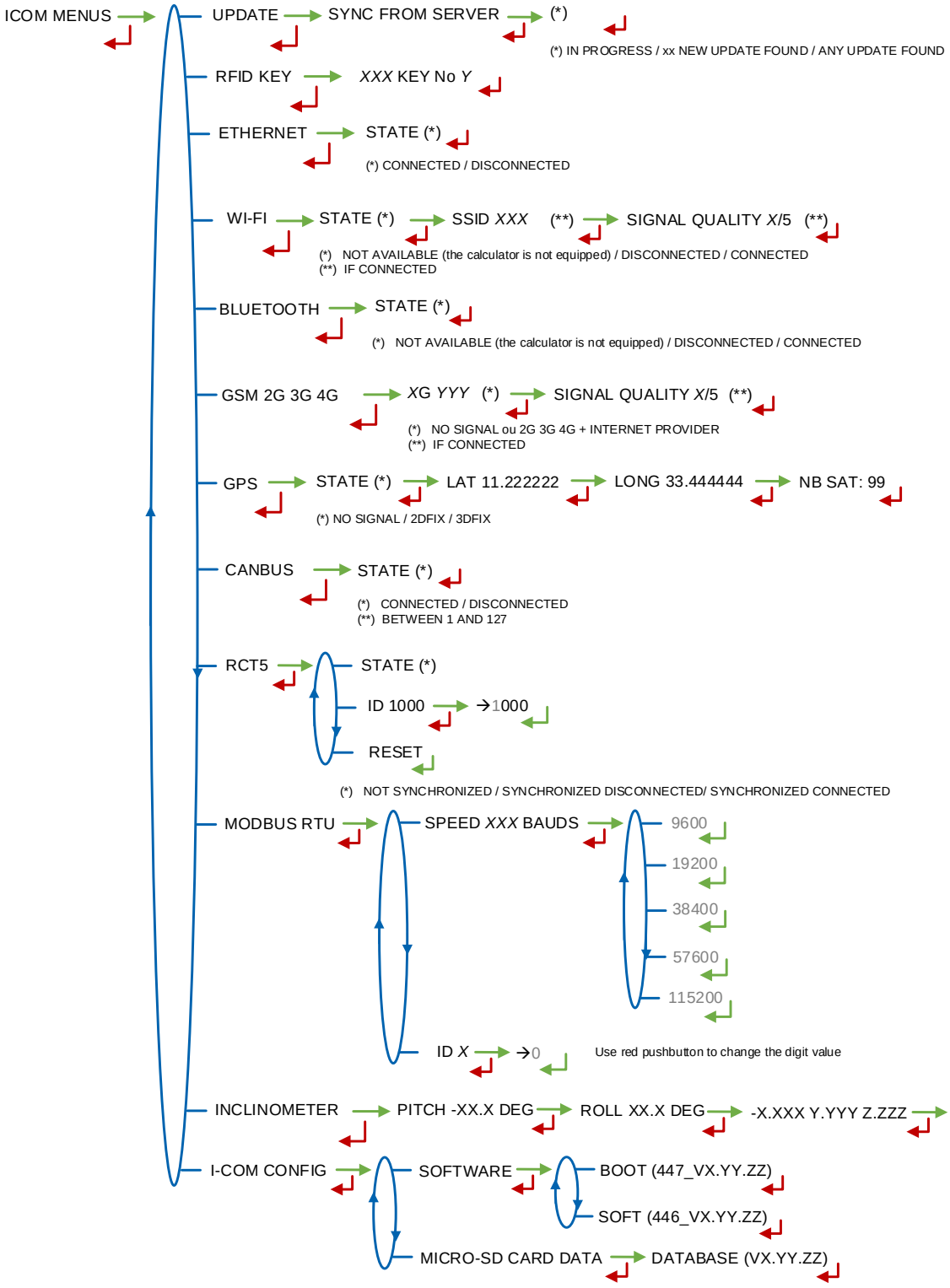
Select the display language. This menu is available if a translation catalogue is uploaded in the MICROCOMPT+.



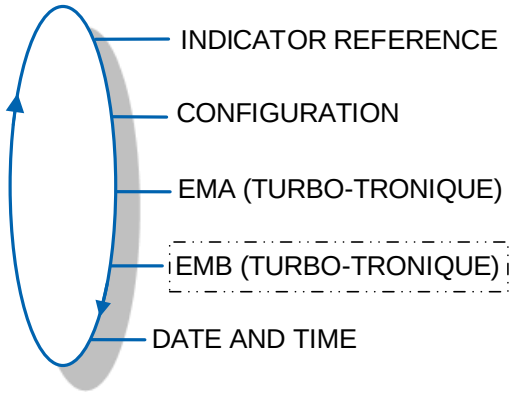
7.10 Menu ICOM MENUS

The sub-menus are different according to the level of access. The ANNEX 1 shows all the sub-menus available.

Put the blue RFID key to display the available parameters as shown below:


ICOM MENUS
UPDATE
SYNC FROM SERVER
(*)
(*) IN PROGRESS / xx NEW UPDATE FOUND / ANY UPDATE FOUND
RFID KEY
XXX KEY No Y
ETHERNET
STATE (*)
(*) CONNECTED / DISCONNECTED
WI-FI
STATE (*)
SSID XXX
(**)
SIGNAL QUALITY X/5
(**)
(*) NOT AVAILABLE (the calculator is not equipped) / DISCONNECTED / CONNECTED
(**) IF CONNECTED
BLUETOOTH
STATE (*)
(*) NOT AVAILABLE (the calculator is not equipped) / DISCONNECTED / CONNECTED
GSM 2G 3G 4G
XG YYY
(*)
SIGNAL QUALITY X/5
(**)
(*) NO SIGNAL ou 2G 3G 4G + INTERNET PROVIDER
(**) IF CONNECTED
GPS
STATE (*)
LAT 11.222222
LONG 33.444444
NB SAT: 99
(*) NO SIGNAL / 2DFIX / 3DFIX
CANBUS
STATE (*)
(*) CONNECTED / DISCONNECTED
(**) BETWEEN 1 AND 127
RCT5
STATE (*)
ID 1000
→1000
RESET
(*) NOT SYNCHRONIZED / SYNCHRONIZED DISCONNECTED/ SYNCHRONIZED CONNECTED
MODBUS RTU
SPEED XXX BAUDS
9600
19200
38400
57600
115200
ID X
→0
Use red pushbutton to change the digit value
INCLINOMETER
PITCH -XX.X DEG
ROLL XX.X DEG
-X.XXX Y.YYY Z.ZZZ
I-COM CONFIG
SOFTWARE
BOOT (447_VX.YY.ZZ)
SOFT (446_VX.YY.ZZ)
MICRO-SD CARD DATA
DATABASE (VX.YY.ZZ)

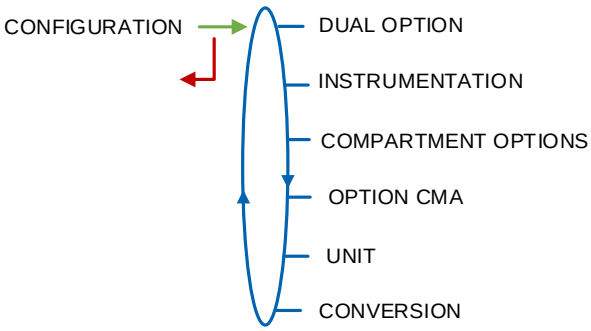
8 CONFIGURE THE TURBOTRONIQUE: METROLOGICAL MODE



8.1 Menu INDICATOR REFERENCE

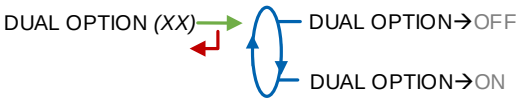
Record the MICROCOMPT+ serial number.

8.2 Menu CONFIGURATION



8.2.1 Sub-menu DUAL OPTION

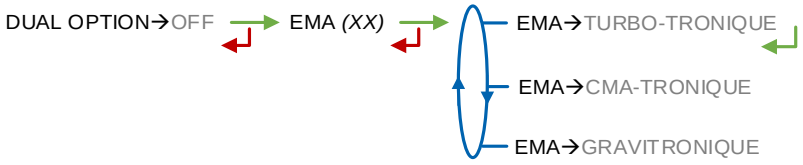
This menu is used to configure the system with a single TURBOTRONIQUE EMA or with two TURBOTRONIQUE EMA and EMB



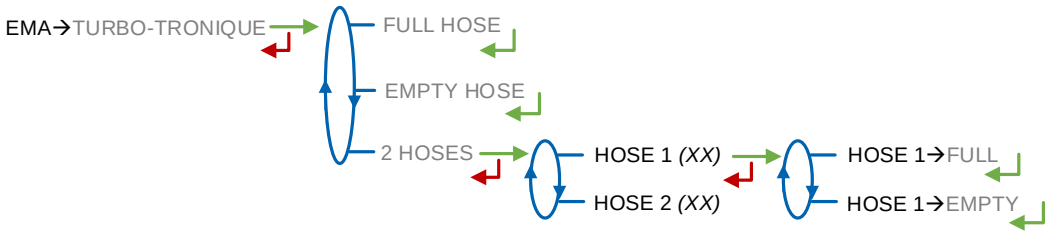
Then, configure the distribution ways for each measuring system.

8.2.1.1 DUAL OPTION NOT ENABLED

Validate DUAL OPTION→OFF. Then validate EMA→TURBO-TRONIQUE



The system operates with a single TURBOTRONIQUE EMA.

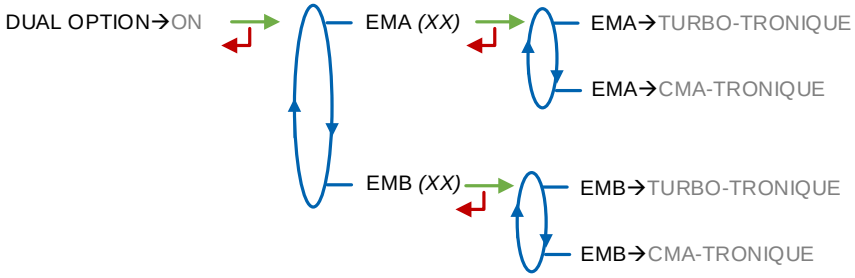


FULL HOSE: Operation with full hose

- **EMPTY HOSE**: Operation with empty hose
- **2 HOSES**: Operation with two hoses. Each may be full or empty hose.

8.2.1.2 DUAL OPTION ENABLED

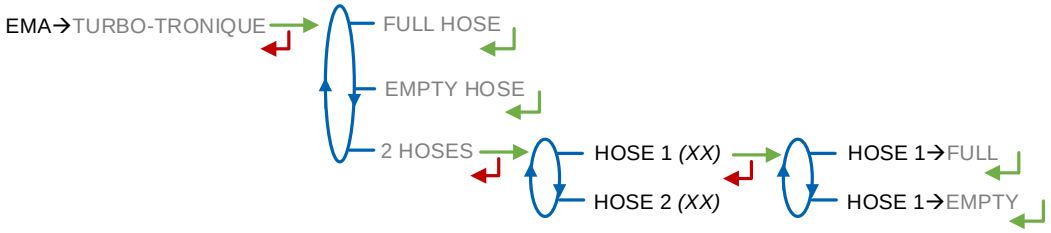
Validate DUAL OPTION→ON. Then validate EMA→TURBO-TRONIQUE and/or EMB→TURBO-TRONIQUE



The system operates with two measuring systems EMA and EMB. For both one, configure the distribution ways.

EMA→TURBO-TRONIQUE

- **FULL HOSE**: Operation with full hose
- **EMPTY HOSE**: Operation with empty hose
- **2 HOSES**: Operation with two hoses. Each may be full or empty hose.

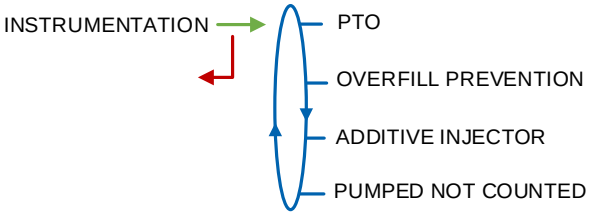


EMB→TURBO-TRONIQUE

- **FULL HOSE**: Operation with full hose
- **EMPTY HOSE**: Operation with empty hose

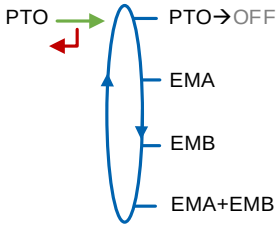
8.2.2 Sub-menu INSTRUMENTATION

This menu is used to configure the truck instrumentation.

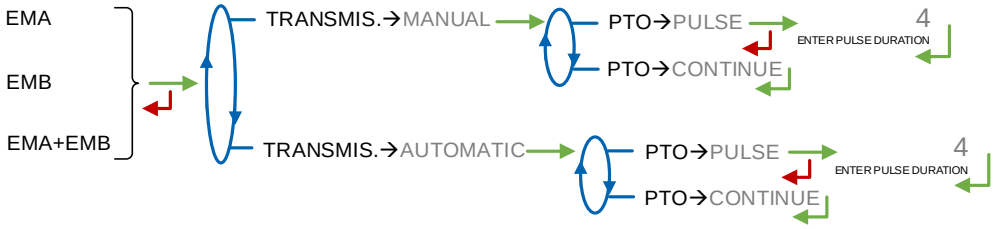


8.2.2.1 PTO

This menu allows to operating with or without power take-off. When the system operates without power take-off, choose PTO→OFF

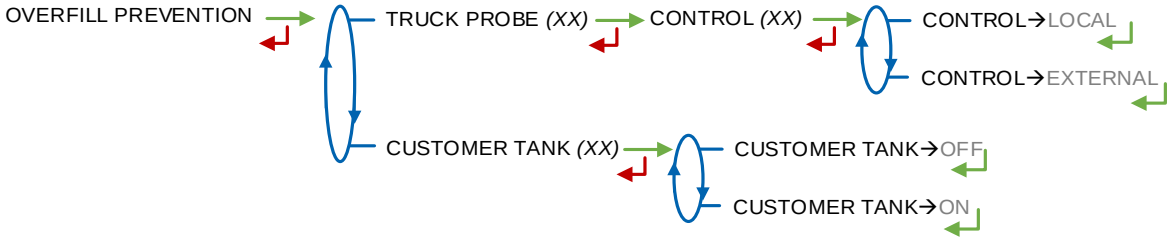


When the system operates with power take-off, select the relevant pumped measuring system (EMA, EMB or both). Choose the type of transmission: automatic or manual. It is used to take into account the clutching (manual transmission), the power take-off and the engine start and stop.



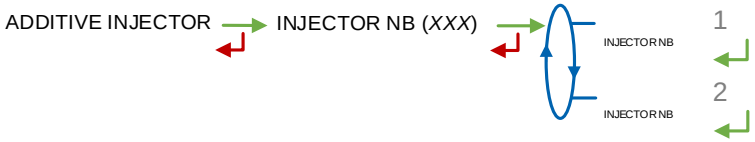
8.2.2.2 OVERFILL PREVENTION

Control of the overfill protection of the truck and of the customer tank.



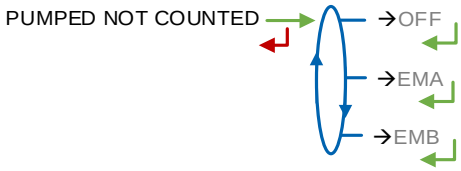
8.2.2.3 ADDITIVE INJECTOR

This menu is used to define the number of additive injectors. This choice determines the number of flaps and returns available. See the table in ANNEX 3.



8.2.2.4 PUMPED NOT COUNTED

This menu is available to authorize the operation in pumped not counted mode on EMA or EMB measuring system. This feature means that a pumped line must be available upstream of the meter.



8.2.3 Sub-menu COMPARTMENT OPTIONS

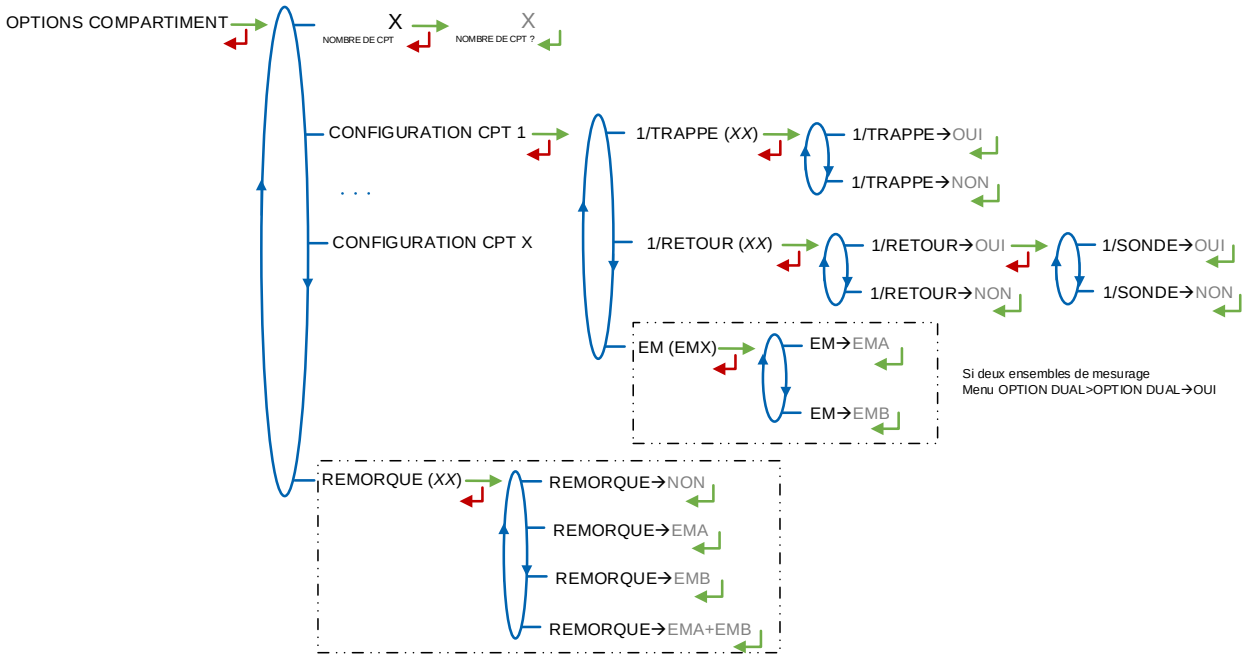
This menu is used to configure the compartments and their assignment to each measuring system. First, set the number of compartments.

NUMBER OF CPT: Number of compartments. Maximum number: 9

CONFIGURATION CPT X: For each compartment, set the parameters below. The number of flaps that can be configured depends on the presence of a second additive injector. See the table in ANNEX 3.

- **FLAP**: Operation with or without flap control
- **RETURN**: Operation with or without product return. Used for pumped measuring system with full hose
  - **PROBE**: Overfill protection probe of the compartment
- **EM (EMX)**: For DUAL only. Measuring system connected to the compartment

TRAILER: Enable presence of a trailer EMA, EMB or EMA+EMB. With active option, the trailer is proposed after the last compartment.



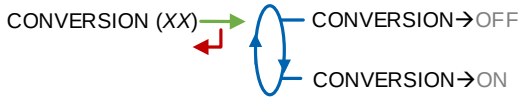
8.2.4 Sub-menu OPTION CMA – Not applicable

8.2.5 Sub-menu UNIT

This menu is used to determine whether the measured quantity is a volume or a mass.

8.2.6 Sub-menu CONVERSION

This menu is used to operate with conversion or without conversion. This feature is available only if measured quantities are volumes (CONFIGURATION>UNIT>QUANTITY→L).



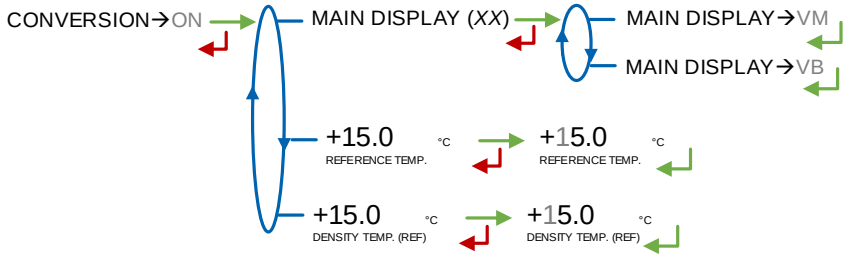
When conversion is active, the following parameters must be set:

MAIN DISPLAY: Select the type for displayed quantity

- **VM**: volume in metering conditions
- **VB**: volume converted to the reference temperature

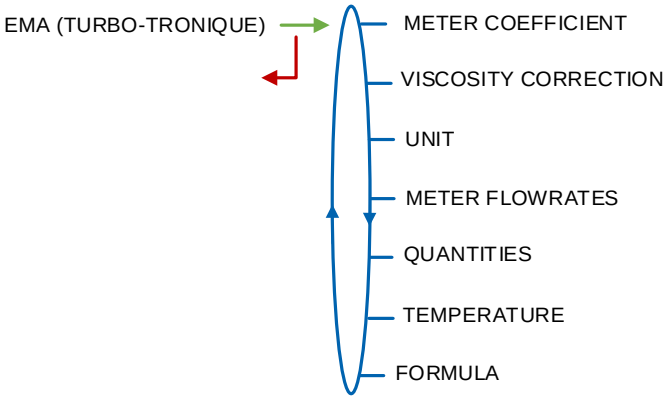
REFERENCE TEMP.: Record the reference temperature for conversion. Default value: 15°C for the most common conversion.

DENSITY TEMP (REF): Record the reference temperature for set up densities. Default value: 15°C for density at 15°C (MV15).



8.3 Menu measuring system EMA

This part allows to define the characteristics of the EMA measuring system. When EMA is not a TURBOTRONIQUE, see the manual describing the measuring system.



8.3.1 Sub-menu METER COEFFICIENT

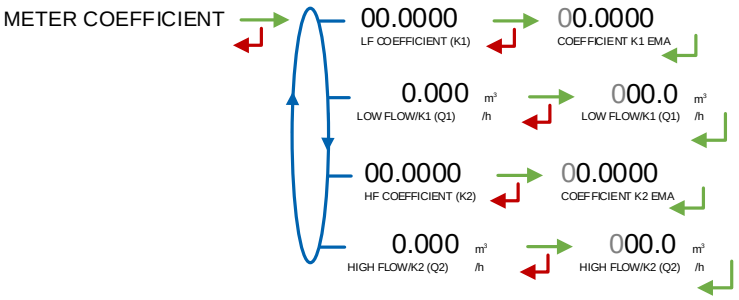
Enter the coefficient of the EMA measuring system meter. For a single linear coefficient K1=K2, the reference flows must be zero Q1=Q2=0.

LF COEFFICIENT (K1): Coefficient for low flow. The unit depends on settings (pulses/liter or pulses/kg)

LOW FLOW/K1 (Q1): Reference low flow so that [flowmin]≤Q1<[flowminx1.5]. According to the flow unit

HF COEFFICIENT (K2): Coefficient for high flow. The unit depends on settings (pulses/liter or pulses/kg)

HIGH FLOW/K2 (Q2): Reference high flow so that [flowminx3]≤Q2<[flowmax]. According to the flow unit



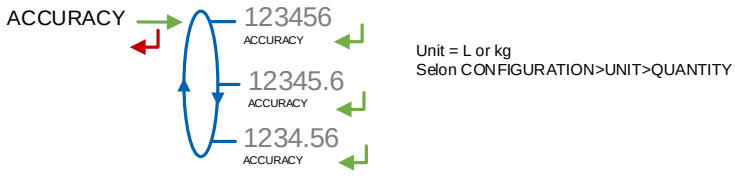
8.3.2 Sub-menu VISCOSITY CORRECTION

This menu is used to define the correction to be applied to the low viscosity product when it is defined with correction (SUPERVISOR mode). See the marking of the meter or the calibration certificate. Input limit values: ±0.4%.

8.3.3 Sub-menu UNIT

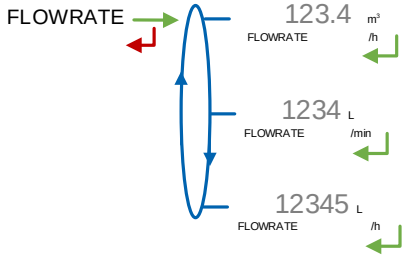
Choose the accuracy of the quantity and the unit of the flow that will be displayed and printed for the EMA measuring system.

ACCURACY: Choose the accuracy of the quantity that will be displayed and printed. According to the unit set in menu CONFIGURATION>UNIT>QUANTITY (measure of a volume or a mass).

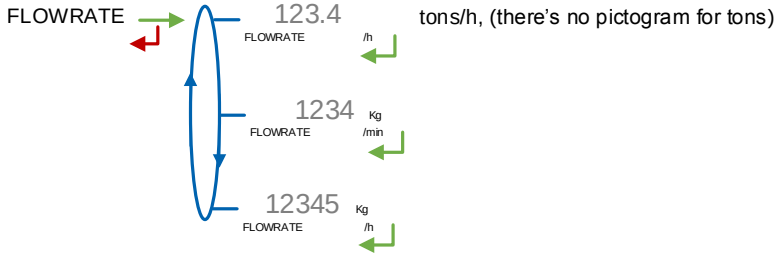


FLOWRATE: Choose the accuracy of the quantity that will be displayed and printed. According to the unit set in menu CONFIGURATION>UNIT>QUANTITY (measure of a volume or a mass).

CONFIGURATION>UNIT>QUANTITY→L



CONFIGURATION>UNIT>QUANTITY→KG

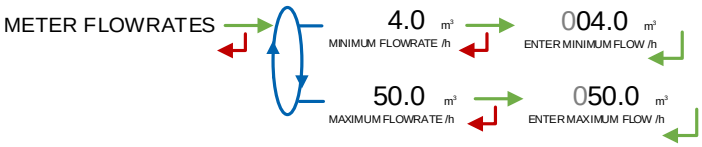


8.3.4 Sub-menu METER FLOWRATES

The accuracy and the unit of the displayed values are specific to the measuring system and depend on the choices made during the metrological configuration EM>UNIT menu.

MINIMUM FLOWRATE: Set the metrological minimum flowrate of the EMA measuring system

MAXIMUM FLOWRATE: Set the metrological maximum flowrate of the EMA measuring system



8.3.5 Sub-menu QUANTITIES

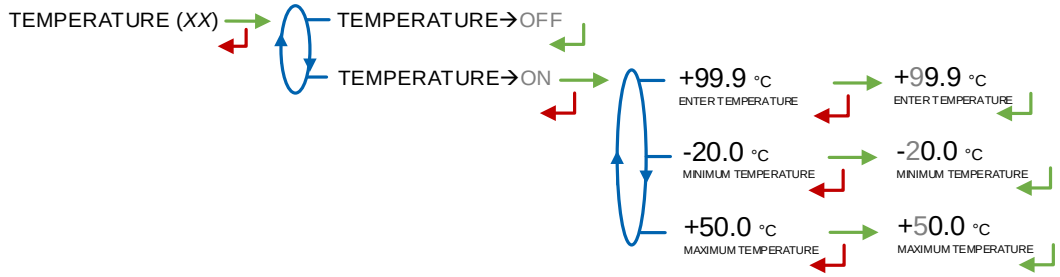
The accuracy and the unit of the displayed values are specific to the measuring system and depend on the choices made during the metrological configuration EM>UNIT menu.

MINIMUM QUANTITY:Set the minimum quantity of the EMA measuring system. This value is given by the association of the turbine meter, the MICROCOMPT+ and other parts of the measuring system.

8.3.6 Sub-menu TEMPERATURE

This menu is used to calibrate the temperature into the MICROCOMPT+ for EMA. Depending on the probe, it's possible to:

- Calibrate temperature. See maintenance sheet FM 8510 for temperature calibration
- Set the minimum temperature below which an alarm is triggered
- Set the maximum temperature below which an alarm is triggered

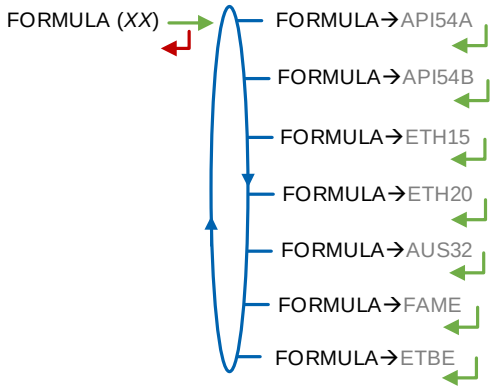


8.3.7 Sous-menu FORMULA

This menu is available when conversion is active CONFIGURATION>CONVERSION→ON. Choose the formula used for volume conversion. The choice of the conversion formula causes an implicit definition of valid density and temperature ranges to guarantee the conversion result. See the table below to select the conversion table that corresponds to type of fuel used:

Product	Conversion formula
Crude products	API54A
Refined products	API54B
Ethanol at 15°C	ETH15
Ethanol at 20°C	ETH20
Ad-Blue	AUS32
Fatty acid methyl esters	FAME

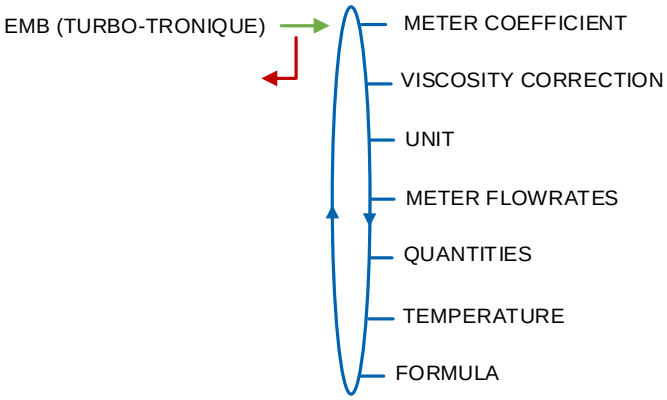
Ethyl tert-butyl ether	ETBE



8.4 Menu measuring system EMB

This menu is available when the system manages two measuring systems. You can configure the EMB measuring system in the same way as in the previous chapter for EMA.

When EMB is not a TURBOTRONIQUE, see the manual describing the measuring system.



8.5 Menu DATE AND TIME

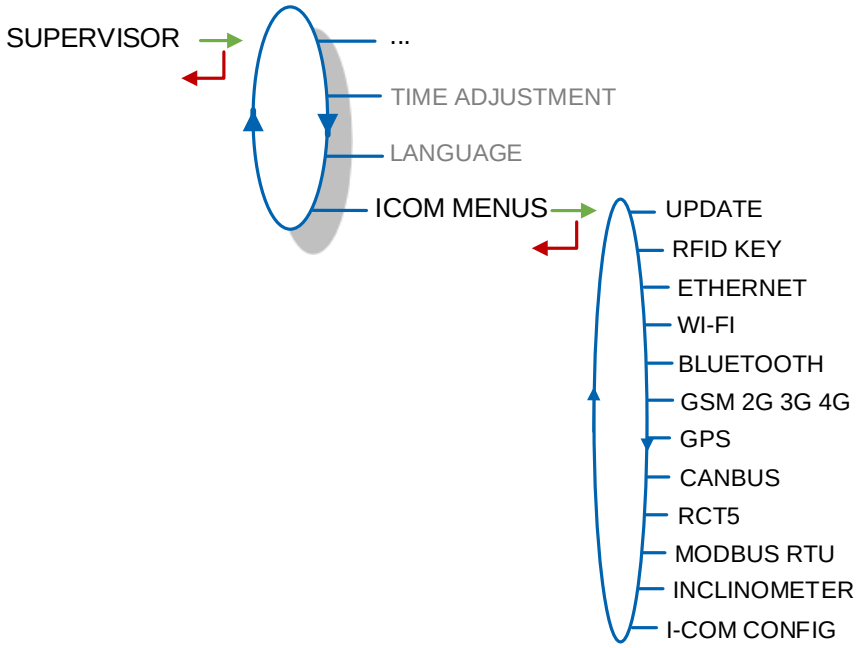
This menu is used to update the calculator's clock.

The stored measurement results are completely erased if you delay or advance the time by more than 2 hours.

ANNEX 1: PRESENTATION OF THE MENU SUPERVISOR>ICOM MENUS

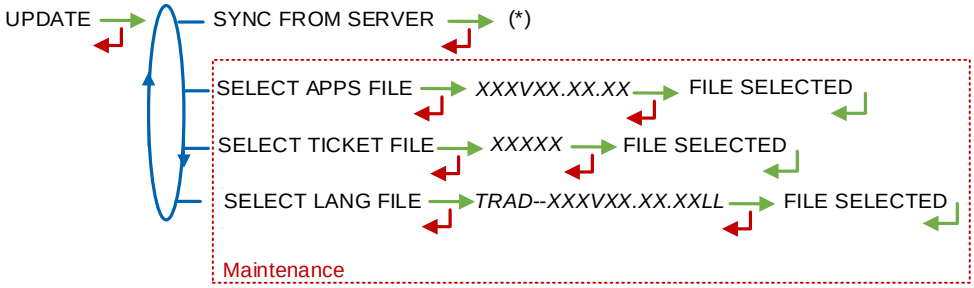
The sub-menus are different according to the level of access:

- ⇨ Level-User: The sub-menus are not highlighted. See Menu ICOM MENUS for simplified presentation
- ⇨ Level-Manager: Use the RFID green key to display the sub-menus indicated in green boxes
- ⇨ Level-Maintenance: Use the RFID red key to display the sub-menus indicated in red boxes



1.1. Menu UPDATE

The MICROCOMPT+ connects to the server via Wi-Fi, Bluetooth, Ethernet or GSM.



(*) IN PROGRESS / xx NEW UPDATE FOUND / ANY UPDATE FOUND

SYNC FROM SERVER: Synchronization of the updated files from ALMA server. If an update of the functions or the communication configuration is uploaded, it will be applied on the next reboot of the MICROCOMPT+.

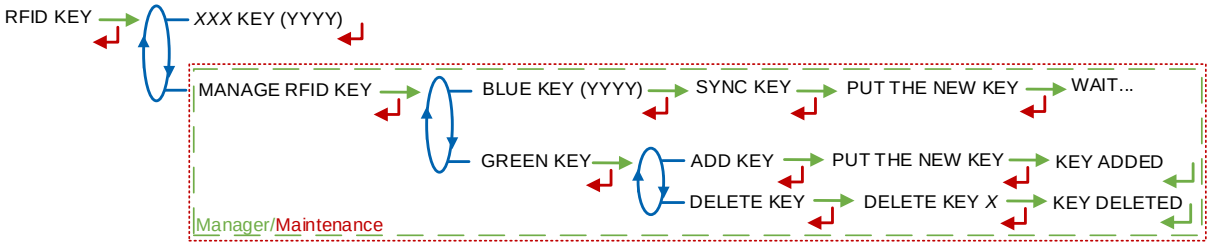
SELECT APPS FILE(*) – *Access restricted to the Maintenance with red key.* Used to display and select the version(s) of the application available on the SD card. NO FILE is displayed if there's no file to download.

SELECT TICKET FILE(*) – *Access restricted to the Maintenance with red key.* Display and select the version(s) of the ticket file available on the SD card. NO FILE is displayed if there's no file to download.

SELECT LANG FILE(*) – *Access restricted to the Maintenance with red key.* Display and select the version(s) of the translation catalogue available on the SD card. NO FILE is displayed if there's no file to download.

(*) Selected files are automatically downloaded onto the AFSEC board when switching the MICROCOMPT+ into 'Resident' mode. See the operating manual MU 7037 (§2).

1.2. Menu RFID KEY

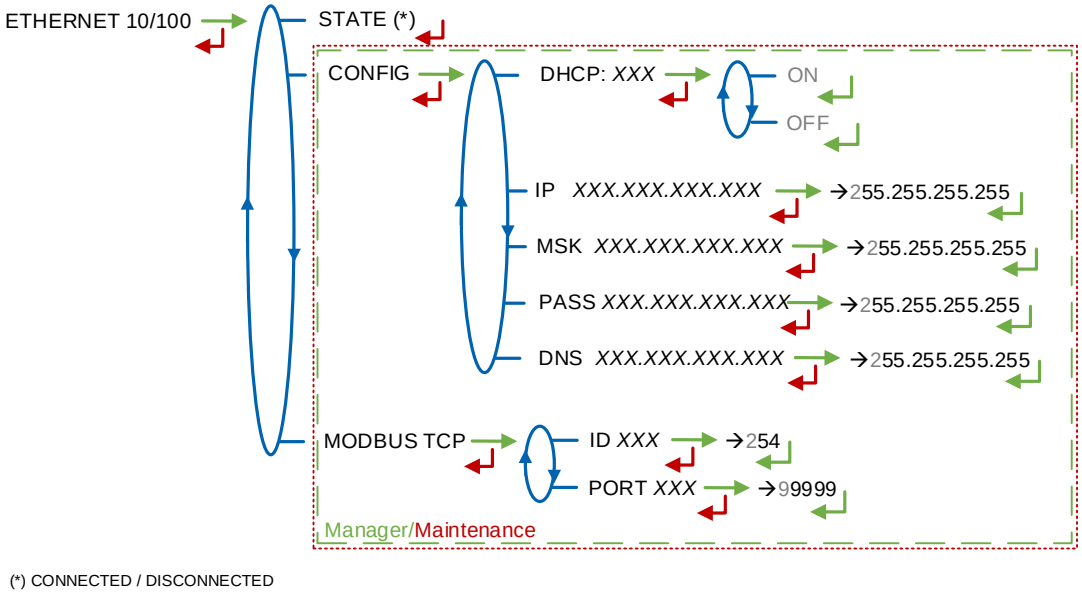


KEY: Displays the color and the identifier of the RFID key placed on the screen. E.g.: RED KEY (0123)

MANAGE RFID KEY – *Access restricted to the Manager with green key and to the Maintenance with red key*

- **BLUE KEY**: Display in brackets of the number of the blue key associated with the MICROCOMPT+; if no blue key is associated, the number is replaced by dashes. Used to associate a User blue key to the MICROCOMPT+
- **GREEN KEY**: Used to associate a Manager green key to the MICROCOMPT+ or to remove keys that have already been associated. To initialize the first green key, use the blue key associated to the MICROCOMPT+

1.3. Menu ETHERNET



(*) CONNECTED / DISCONNECTED

STATE: Status of the Ethernet connection

CONFIG – *Access restricted to the Manager with green key and to the Maintenance with red key*

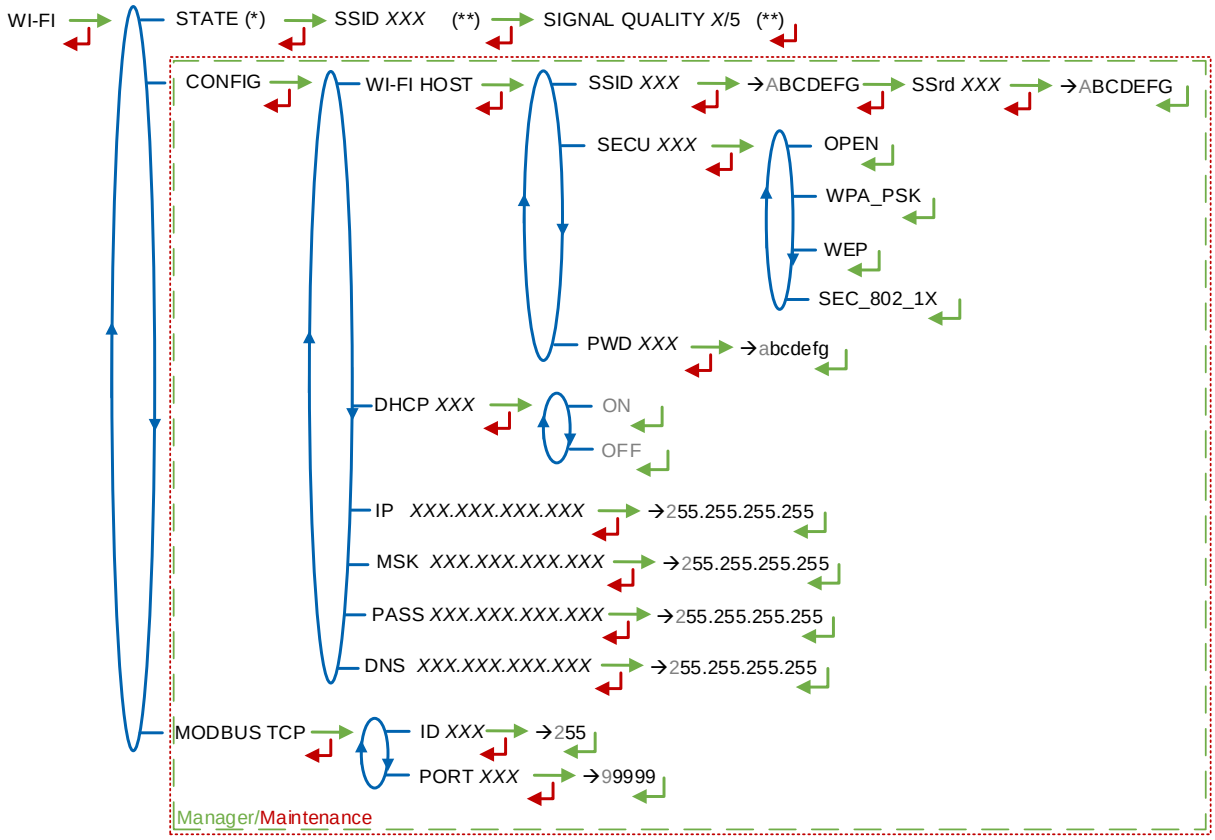
- **DHCP**: If ON is enabled, IP parameters can be initialized through the DHCP protocol. If OFF is enabled, parameters are set manually
- **IP**: MICROCOMPT+ IP address

- **MSK**: Subnet mask (IP mask for the internal IP address allocation)
- **PASS**: Gateway (IP Address for the internet access of the Ethernet interface)
- **DNS**: IP address to access a DNS server

MODBUS TCP – *Access restricted to the Manager with green key and to the Maintenance with red key*

- **ID**: MICROCOMPT+ Modbus identifier between 0 and 255
- **PORT**: TCP/IP access port for Modbus protocol

1.4. Menu Wi-Fi



(*) NOT AVAILABLE (the calculator is not equipped) / DISCONNECTED / CONNECTED
(**) IF CONNECTED

STATE: Status of the Wi-Fi connection. If connection is successful, you can do a check of SSID and quality

CONFIG – *Access restricted to the Manager with green key and to the Maintenance with red key*

- **WI-FI HOST**: Set the characteristics of the wireless network access point
  - **SSID**: Wi-Fi network name (32 characters-alphanumeric key that identifies the wireless network uniquely)

    SECU: Type of security protocol for the network

    OPEN: Free Wi-Fi

    WPA_PSK: Encryption protocol by a 128 bits-dynamic key

    WEP: Encryption protocol by a key encoded in 64 or 128 bits

    SEC_802-1X: Encryption protocol compatible with the standard IEEE 802.1X
  - **PWD:** Wi-Fi network password.

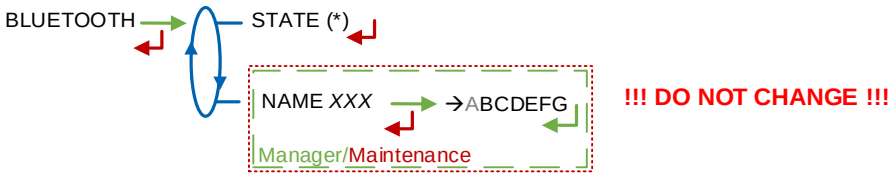
Permitted characters: <space>!"#$%&'()*+,-./0123456789:;<=>?@ABCD EFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~<DEL> (Visualization of the permitted characters on the MICROCOMPT+ display)

- **DHCP**: If ON is enabled, IP parameters can be initialized through the DHCP protocol. If OFF is enabled, parameters are set manually
- **IP**: MICROCOMPT+ IP address
- **MSK**: Subnet mask (IP mask for the internal IP address allocation)
- **PASS**: Gateway (IP Address for the internet access of the Ethernet interface)
- **DNS**: IP address to access a DNS server

MODBUS TCP – *Access restricted to the Manager with green key and to the Maintenance with red key*

- **ID**: MICROCOMPT+ Modbus identifier between 0 and 255
- **PORT**: TCP/IP access port for Modbus protocol

1.5. Menu BLUETOOTH

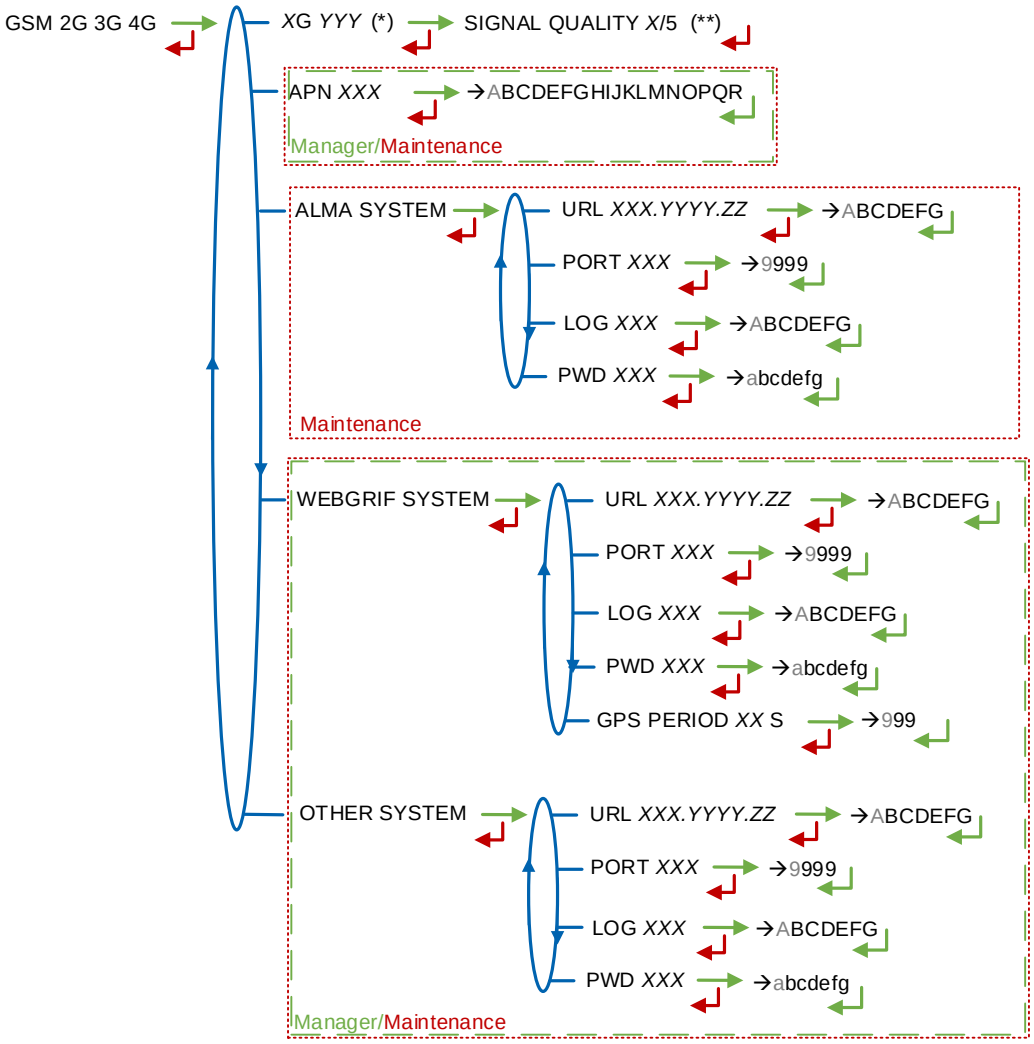


(*) NOT AVAILABLE (the calculator is not equipped) / DISCONNECTED / CONNECTED

STATE: Status of the Bluetooth connection

NAME – *Access restricted to the Manager with green key and to the Maintenance with red key.*

1.6. Menu GSM 2G 3G 4G



(*) NO SIGNAL ou 2G 3G 4G + INTERNET PROVIDER
(**) IF CONNECTED

XG YYY: The signal is being received: the type of mobile network is displayed (with X=2 for 2G, X=3 for 3G, and X=4 for 4G) according to the protocols GSM / GPRS / EDGE, UMTS / HSPA+ / LTE, followed by the name of the service provider. Otherwise NO SIGNAL is displayed

APN – *Access restricted to the Manager with green key and to the Maintenance with red key* Name of the internet access point, only if ALMA does not supply it

ALMA SYSTEM – *Access restricted to the Maintenance with red key.* Information of connection to the ALMA FTP server for files transfer

- **URL**: Web address of the ALMA FTP server (host)
- **PORT**: ALMA FTP server port, default value: 21
- **LOG**: ALMA FTP server identifier
- **PWD:** ALMA FTP server password.

Permitted characters: <space>!"#$%&'()*+,-./0123456789:;<=>?@ABCD EFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~<DEL> (Visualization of the permitted characters on the MICROCOMPT+ display)

WEBGRIF SYSTEM – *Access restricted to the Manager with green key and to the Maintenance with red key* Information of connection to the Webgrif FTP server for files transfer

- **URL**: Web address of the Webgrif FTP server (host)
- **PORT**: Webgrif FTP server port, default value: 21
- **LOG**: Webgrif FTP server identifier
- **PWD:** Webgrif FTP server password.

Permitted characters: <space>!"#$%&'()*+,-./0123456789:;<=>?@ABCD EFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~<DEL> (Visualization of the permitted characters on the MICROCOMPT+ display)

GPS PERIOD: Backup period of GPS coordinates (from 1 to 999 seconds)

OTHER SYSTEM – *Access restricted to the Manager with green key and to the Maintenance with red key* Information of connection to the FTP server for files transfer

- **URL**: Web address of the FTP server (host)
- **PORT**: FTP server port, default value: 21
- **LOG**: FTP server identifier
- **PWD:** FTP server password.

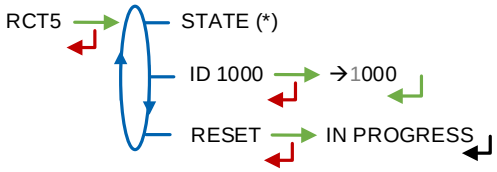
Permitted characters: <space>!"#$%&'()*+,-./0123456789:;<=>?@ABCD EFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~<DEL> (Visualization of the permitted characters on the MICROCOMPT+ display)

1.7. Menu GPS

(*) NO SIGNAL / 2DFIX / 3DFIX

STATE: The signal is being received: the type of signal is displayed 2DFIX or 3DFIX. Validating the data makes the GPS coordinates appear (latitude then longitude), and lastly appears the number of satellites which signals are simultaneously received (that gives information about the position accuracy). Otherwise NO SIGNAL is displayed

1.8. Menu RCT5



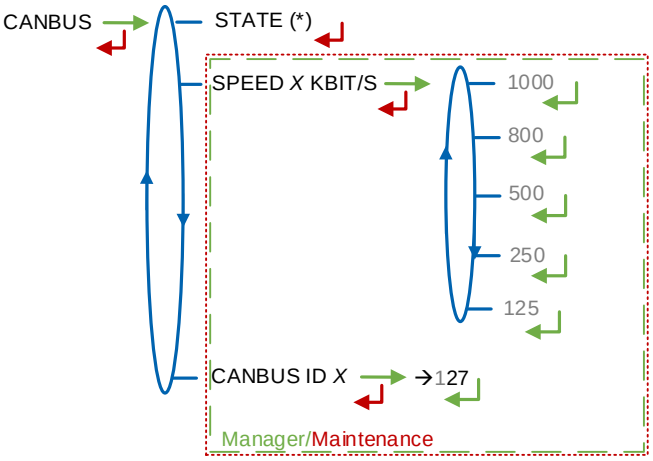
(*) NOT SYNCHRONIZED / SYNCHRONIZED DISCONNECTED/ SYNCHRONIZED CONNECTED

STATE: Status of the MICROCOMPT+ ICOM board

ID: 4-digit MICROCOMPT+ radio ID

RESET: Reset the pairing of the MICROCOMPT+ with the RCT5 remote control

1.9. Menu CANBUS



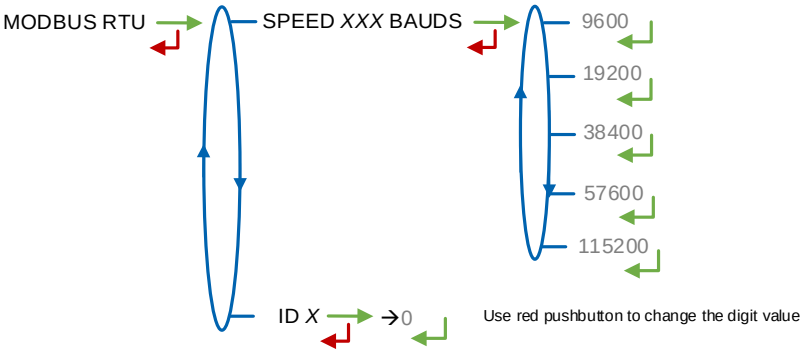
(*) CONNECTED / DISCONNECTED
(**) BETWEEN 1 AND 127

STATE: Status of the CANBus connection

SPEED – *Access restricted to the Manager with green key and to the Maintenance with red key* Speed of the CANBus connection

CANBUS ID – *Access restricted to the Manager with green key and to the Maintenance with red key* MICROCOMPT+ identifier for the CANBus protocol (between 1 and 127)

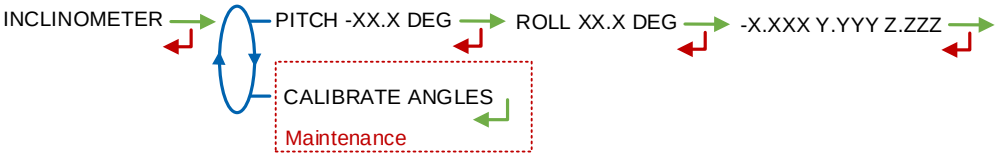
1.10. Menu MODBUS RTU



SPEED: Speed of the Modbus connection

ID: Modbus identifier of the slave (between 0 and 254)

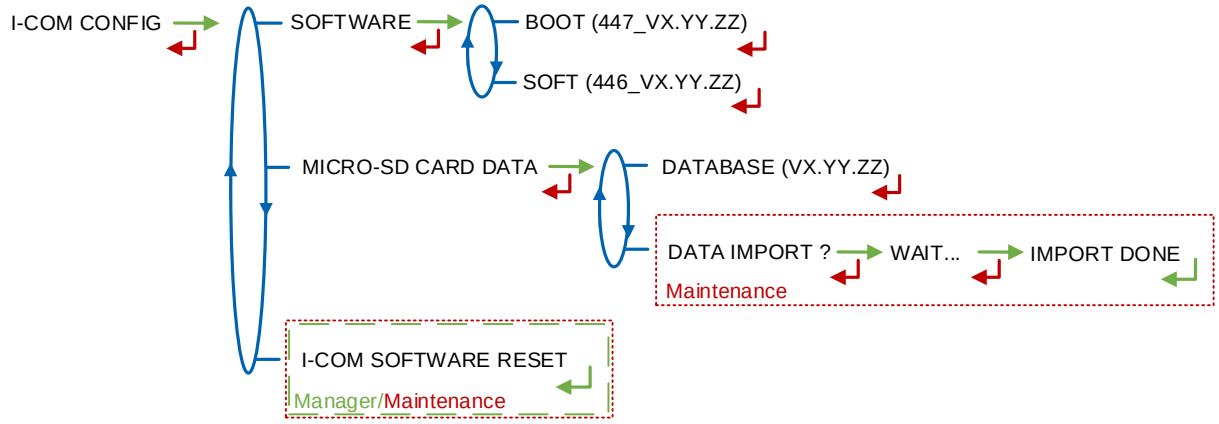
1.11. Menu INCLINOMETER



PITCH: Used to display the bank angles of the truck and the inclinometer raw data

CALIBRATE ANGLES – *Access restricted to the Maintenance with red key.* Used to reset the angles 'pitch' and 'roll' when the truck has a horizontal position in order to correct the assembly tolerances of the MICROCOMPT+ on the truck.

1.12. Menu I-COM CONFIG



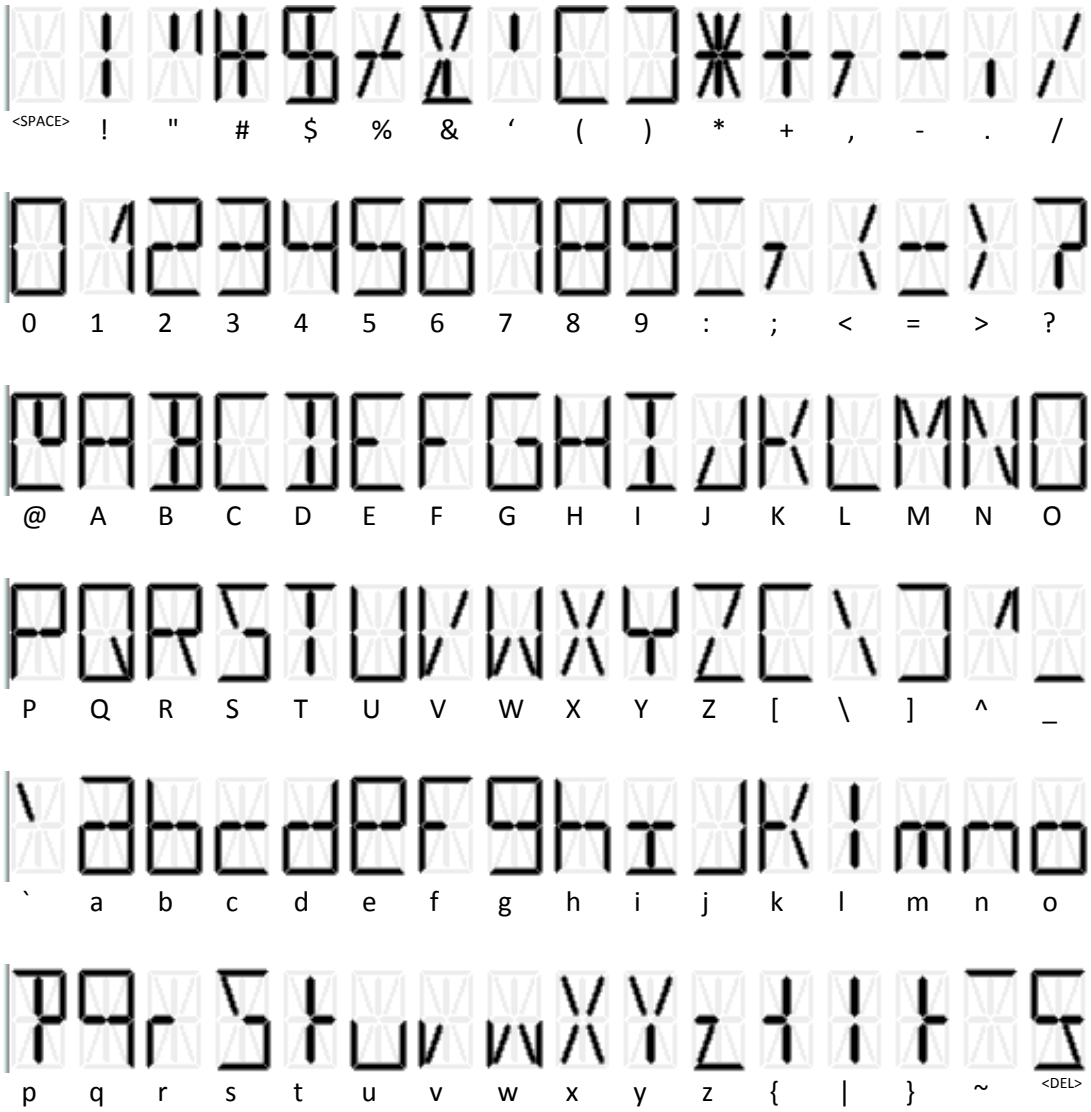
SOFTWARE: Used to display the number and version of the software

MICRO-SD CARD DATA

- **DATABASE (VX.YY.ZZ)**: Display the version of the database; the version number is replaced by dashes if there's no database
- **IMPORT DATA ? –** *Access restricted to the Maintenance with red key*. Import the ICOM settings onto the SD card

I-COM SOFTWARE RESET – *Access restricted to the Manager with green key and to the Maintenance with red ke*y. Reboot the I-COM board.

ANNEX 2: VISUALIZATION OF THE PERMITTED CHARACTERS ON THE MICROCOMPT+ DISPLAY:



ANNEX 3: ASSIGNMENTS TABLE ACCORDING TO THE NUMBER OF FLAPS, PRODUCT RETURNS AND ADDITIVE INJECTORS

Flaps and product returns assigned to the compartments are set in METROLOGICAL mode menu CONFIGURATION>COMPARTMENT OPTIONS. Additive injectors are set in SUPERVISOR mode menu CONFIGURATION>ADDITIVE TYPE.

The table below present the assignment options:

				MICROCOMPT+ Power supply board V1 REV11									
Nb of flaps	Nb of Returns	Addit #1	Addit #2	45	44	43	42	41	40	39	67	66	65
0	0-9	ON	ON	Addit #2	9th Return	8th Return	7th Return	6th Return	5th Return	4th Return	3rd Return	2nd Return	1st Return
1-5	0-5	ON	OFF	5th Return	4th Return	5th Flap	4th Flap	3rd Flap	2nd Flap	1st Flap	3rd Return	2nd Return	1st Return
1-5	6-9	ON	OFF	9th Return	8th Return	5th Flap	4th Flap	3rd Flap	2nd Flap	1st Flap	PLEXMI (1st to 7th Return)		
1-5	0-4	ON	ON	Addit #2	4th Return	5th Flap	4th Flap	3rd Flap	2nd Flap	1st Flap	3rd Return	2nd Return	1st Return
1-5	5-8	ON	ON	Addit #2	8th Return	5th Flap	4th Flap	3rd Flap	2nd Flap	1st Flap	PLEXMI (1st to 7th Return)		
1-5	9	ON	ON	Addit #2		9th Return	8th Return	PLEXMI (1st to 5th Flap)			PLEXMI (1st to 7th Return)		
6	0-4	ON	OFF	4th Return	6th Flap	5th Flap	4th Flap	3rd Flap	2nd Flap	1st Flap	3rd Return	2nd Return	1st Return
6	5-8	ON	OFF	8th Return	6th Flap	5th Flap	4th Flap	3rd Flap	2nd Flap	1st Flap	PLEXMI (1st to 7th Return)		
6	9	ON	OFF			9th Return	8th Return	PLEXMI (1st to 6th Flap)			PLEXMI (1st to 7th Return)		
6	0-3	ON	ON	Addit #2	6th Flap	5th Flap	4th Flap	3rd Flap	2nd Flap	1st Flap	3rd Return	2nd Return	1st Return
6	4-7	ON	ON	Addit #2	6th Flap	5th Flap	4th Flap	3rd Flap	2nd Flap	1st Flap	PLEXMI (1st to 7th Return)		
6	8-9	ON	ON	Addit #2		9th Return	8th Return	PLEXMI (1st to 6th Flap)			PLEXMI (1st to 7th Return)		
7	0-3	ON	OFF	7th Flap	6th Flap	5th Flap	4th Flap	3rd Flap	2nd Flap	1st Flap	3rd Return	2nd Return	1st Return
7	4-7	ON	OFF	7th Flap	6th Flap	5th Flap	4th Flap	3rd Flap	2nd Flap	1st Flap	PLEXMI (1st to 7th Return)		
7	8-9	ON	OFF			9th Return	8th Return	PLEXMI (1st to 7th Flap)			PLEXMI (1st to 7th Return)		
7	0-6	ON	ON	Addit #2	6th Return	5th Return	4th Return	PLEXMI (1st to 7th Flap)			3rd Return	2nd Return	1st Return
7	7-9	ON	ON	Addit #2		9th Return	8th Return	PLEXMI (1st to 7th Flap)			PLEXMI (1st to 7th Return)		
8	0-6	ON	OFF	6th Return	5th Return	4th Return	8th Flap	PLEXMI (1st to 7th Flap)			3rd Return	2nd Return	1st Return
8	7-9	ON	OFF	9th Return	8th Return	9th Flap	8th Flap	PLEXMI (1st to 7th Flap)			PLEXMI (1st to 7th Return)		
8	0-5	ON	ON	Addit #2	5th Return	4th Return	8th Flap	PLEXMI (1st to 7th Flap)			3rd Return	2nd Return	1st Return
8	7-8	ON	ON	Addit #2	8th Return	9th Flap	8th Flap	PLEXMI (1st to 7th Flap)			PLEXMI (1st to 7th Return)		
9	0-5	ON	OFF	5th Return	4th Return	9th Flap	8th Flap	PLEXMI (1st to 7th Flap)			3rd Return	2nd Return	1st Return
9	6-9	ON	OFF	9th Return	8th Return	9th Flap	8th Flap	PLEXMI (1st to 7th Flap)			PLEXMI (1st to 7th Return)		
9	0-4	ON	ON	Addit #2	4th Return	9th Flap	8th Flap	PLEXMI (1st to 7th Flap)			3rd Return	2nd Return	1st Return
9	5-8	ON	ON	Addit #2	8th Return	9th Flap	8th Flap	PLEXMI (1st to 7th Flap)			PLEXMI (1st to 7th Return)		

If both PLEXMI electronic boards are useful, PLEXMI 1 is fixed to the MICROCOMPT+ frame and PLEXMI 2 has to be installed in a 24VDC-supplied independent box

ANNEX 4: PRINTINGS

PARAMETERS: COMPLETE PRINTING

Here, EMA and EMB are TURBOTRONIQUE (pumped measuring systems)

```
  DUALTRONIQUE 4053+.001
  VERSION 01.06 DATED 03.09.21
  BOOT LOADER 03.00.03 (58C7)
  PRINTED ON THE 15.09.21 AT 11:24
  VEHICLE :  AA-215-EL
  REFERENCE :  03201

********* GENERAL PARAMETERS  *********

TRANSMIS. AUTOMATIC       :PULSE 4s
PTO                       :EMA+EMB
PUMPED NOT COUNTED        :EMA
OVERFILL PROBE            :LOCAL
CUSTOMER PROBE            :ON
CONVERSION                :VM
 REF T.: 15.0°C   D.T. REF: 15.0°C
COMPUTING                 :ON
 PRODUCT CODE             :ON
 PRINTER                  :WITHOUT
TICKET EMA                :XXX
TICKET EMB                :XXX
CURRENCY                  :EUR
EJECT TICKET              :ON
FORCED TICKET             :OFF
SUMMARY                   :DETAILS
LANGUAGE CATALOG          :xxx
SCHEDULING                :OFF
START LOW FLOW VOLUME     :10 L
END LOW FLOW VOLUME       :30 L
DSPGI                     :OFF
LOADING PLAN              :(OPTIONAL)
REMOTE CONTROL            :OFF
DEADMAN SWITCH            :OFF
REEL CONTROL              :OFF
BLOWING TIMING            :5 s
MANIFOLD FILL TIMING      :30 s
NAME LINE OR MEASURING SYSTEM:
 EMA      : EMA
 EMB      : EMB
 LINE 1   : FLEXIBLE 1
 LINE 2   : FLEXIBLE 2
              H1    H2     COMMON     EMB
PURGE V.     90L   30L      30L       90L
BREWING V. 13L                        13L
PRODUIT      01    01       01        07
NUMBER OF CPT             :9
CPT/FLAP/RETURN/PROBE  /EM
  1  /ON   /ON     /ON     /A
  2  /ON   /OFF    /OFF    /A
  3  /ON   /OFF    /OFF    /A
  4  /ON   /OFF    /OFF    /A
  5  /ON   /OFF    /OFF    /A
  6  /ON   /ON     /ON     /A
  7  /ON   /ON     /ON     /B
  8  /ON   /ON     /ON     /B
  9  /ON   /ON     /ON     /B
CPT PLEXMI: Y,      RETURN PLEXMI: N
```

```
  DUALTRONIQUE 4053+.001
  VERSION 01.06 DATED 03.09.21
  BOOT LOADER 03.00.03 (58C7)
  PRINTED ON THE 15.09.21 AT 11:26
  VEHICLE :  AA-215-EL
  REFERENCE :  03201

********* EM PARAMETERS *********

EMA:TURBO-TRONIQUE (335) FH-EH
 VALVE TYPE                :TWO STAGE
 MINIMUM QUANTITY          :   200L
 MIN FLOW: 04.00  / MAX: 050.00 M3/H
 COEFFICIENT K1            :10.0000 IMP/L
 FLOW Q1 (LF)              : 0.000 M3/H
 COEFFICIENT K2            :10.0000 IMP/L
 FLOW Q2 (HF)              : 0.000 M3/H
 CORRECTION VISCO          :+0.0%
 TEMPERATURE               :+22.5°C
  MIN (-10.0°C) - MAX (+50.0°C)
 CMA OPTION                :OFF
 ZERO FLOW TIMING H1   :180s
 ZERO FLOW TIMING H2   :200s
 LF/HF: 007.0 / OBJ LF: 009.0 M3/H
 MANIFOLD QUANTITY     :12L
 CONVERSION FORMULA  :API54A
 STOP FLOW  0.000 M3/H WITH 0.2 L
 PRESET END COEFF.     :0.0992

EMB: TURBO-TRONIQUE (335) FH
 VALVE TYPE                :TWO STAGE
 MINIMUM QUANTITY          :   200L
 MIN FLOWRATE: 04.00/ MAX: 050.00 M3/H
 COEFFICIENT K1            :10.0000 IMP/L
 FLOW Q1 (LF)              : 0.000 M3/H
 COEFFICIENT K2            :10.0000 IMP/L
 FLOW Q2 (HF)              : 0.000 M3/H
 CORRECTION                :+0.0%
 TEMPERATURE               :OFF
 CMA OPTION                :OFF
 ZERO FLOW TIMING   :180s
 LF/HF: 007.0 / OBJ LF: 009.0 M3/H
 MANIFOLD VOLUME :0L
 CONVERSION FORMULA  :API54A
 STOP FLOW  0.000 M3/H WITH 0.5 L
 PRESET END COEFF.     :0.1700
```

```
  DUALTRONIQUE 4053+.001
  VERSION 01.06 DATED 03.09.21
  BOOT LOADER 03.00.03 (58C7)
  PRINTED ON THE 15.09.21 AT 11:28
  VEHICLE :  AA-215-EL
  REFERENCE :  03201

********* ADDITIVES PARAMETERS *********

ADDITIVE INJ              1 :EMA
ADDITIVE RETURN             :OFF
ADDITIVE LEVEL CTRL         :OFF
ADDITIVE PULSE              :0.5 s
ADDITIVE INJ              2 :EMA
ADDITIVE RETURN             :OFF
ADDITIVE LEVEL CTRL         :OFF
ADDITIVE PULSE              :0.5 s

********* PRODUCT PARAMETERS *********

FOD+  (01/-) OFF CO+A+BA
EMA NO ADD
UP:0000.0 EUR/M3 TTC TAX : 0020.0

FOD   (02/-) OFF CO+NA+BA
EMA NO ADD
UP:0000.0 EUR/M3 TTC TAX : 0020.0

GO+   (03/-) OFF NC+A+10
EMA NO ADD
UP:0000.0 EUR/M3 TTC TAX : 0020.0

GO    (04/-) OFF NC+NA+10
EMA NO ADD
UP:0000.0 EUR/M3 TTC TAX : 0020.0

GNR+ (05/-) OFF CO+A+10
EMA NO ADD
UP:0000.0 EUR/M3 TTC TAX : 0020.0

GNR   (06/-) OFF CO+NA+10
EMA NO ADD
UP:0000.0 EUR/M3 TTC TAX : 0020.0
```

SUMMARY:

```
DUALTRONIQUE 4053+.001
VERSION 01.06 DATED 03.09.21
BOOT LOADER 03.00.03 (58C7)
PRINTED ON THE 15.09.21 AT 15:40
VEHICLE :  AA-215-EL
REFERENCE :  03201

SUMMARY OF DELIVERIES OF
15.09.21 (DAY 258)
006 MEMORISED RESULTS

**** DAILY TOTALISERS ****

FOD+     (01) :     00001400 L   +10,5°C
FOD      (02) :     00000300 L   +11,3°C
GO+      (03) :     00000000 L   +00,0°C
GO       (04) :     00001090 L   +11,2°C
GNR+     (05) :     00000500 L   +11,9°C
GNR      (06) :     00000000 L   +00,0°C

TOTAL FROM 1 TO 6: 00003290 L


********** DAILY SUMMARY **********
 HR     HR   NO  E             (L)     (°C)
START END  MES M PROD  VOLUME  TEMP
09:40  09:42 A01 A  FOD     00300    +11,3
10:26  10:29 D02 A  FOD+    01000    +10,3
10:38  10:40 A03 A  FOD+    00400    +11,1
10:02  10:07 D04 A  GO      01000    +11,2
11:29  11:31 P05 A  GO      00090    +11,5
11:51  11:54 D06 A  GNR+    00500    +11,9

(D) PRESET; (L) FREE;
(A) PRESET+PURGE; (P) PURGE;
(T) TRANSFER;(C) LOADING;
(V) DRAINING; (B) RELEASE;
(G) GRAVITY; (-) UNDEFINED
```

```
DUALTRONIQUE 4053+.001
VERSION 01.06 DATED 03.09.21
BOOT LOADER 03.00.03 (58C7)
PRINTED ON THE 15.09.21 AT 15:40
VEHICLE :  AA-215-EL
REFERENCE :  03201

SUMMARY OF DELIVERIES OF
15.09.21 (DAY 258)
006 MEMORISED RESULTS

**** DAILY TOTALISERS ****

FOD+     (01) :     00000300 L   094%
FOD      (02) :     00001400 L   - - -
GO+      (03) :     00001090 L   - - -
GO       (04) :     00000000 L   - - -
GNR+     (05) :     00000000 L   099%
GNR      (06) :     00000500 L   - - -

TOTAL FROM 1 TO 6: 00003290 L


********** DAILY SUMMARY **********
HR     HR   NO  E             (L)     (%)
START END  MES M PROD  VOLUME  RATE
09:40  09:42 A01 A  FOD     00300    - - -
10:26  10:29 D02 A  FOD+    01000    100
10:38  10:40 A03 A  FOD+    00400    080
10:02  10:07 D04 A  GO      01000    - - -
11:29  11:31 P05 A  GO      00090    - - -
11:51  11:54 D06 A  GNR+    00500    099

(D) PRESET; (L) FREE;
(A) PRESET+PURGE; (P) PURGE;
(T) TRANSFER;(C) LOADING;
(V) DRAINING; (B) RELEASE;
(G) GRAVITY; (-) UNDEFINED
```

With active option

TOTALISERS:

```
DUALTRONIQUE 4053+.001
VERSION 01.06 DATED 03.09.21
BOOT LOADER 03.00.03 (58C7)
PRINTED ON THE 15.09.21 AT 15:41
VEHICLE :  AA-215-EL
REFERENCE :  03201

********** TOTALISERS**********

TOTALISER EMA (VM) : 000056638 L

TOTALISER EMB (VM) : 000056638 L


FOD+     (01) :     00000399 L
FOD      (02) :     00000198 L
GO+      (03) :     00000000 L
GO       (04) :     00000999 L
GNR+     (05) :     00000000 L
GNR      (06) :     00000000 L
         (07) :     00001000 L
         (08) :     00000000 L
         (09) :     00000000 L
         (10) :     00000000 L
         (11) :     00000000 L
         (12) :     00000000 L
         (13) :     00000000 L
         (14) :     00000000 L
         (15) :     00000000 L
         (16) :     00000000 L

TOTAL FROM 1 TO 16 : 000002196 L
NO ALLOCATED VOLUME : 00000008 L
```

Main display according to the configuration:
VM, VB or blank (for masses)
Unit: depending on the set scale interval

LOADING PLAN

```
DUALTRONIQUE 4053+.001
VERSION 01.06 DATED 03.09.21
BOOT LOADER 03.00.03 (58C7)
PRINTED ON THE 15.09.21 AT 14:47
VEHICLE :  AA-215-EL
REFERENCE :  03201

********** LOADING PLAN **********

CPT N°   PROD.      QUANTITY (L)

 1       FOD          1000
 2       FOD+         2000
 3       GO           3000
 4       GO+          4000
 5       GNR          5000
```

DELIVERY TICKET (according to customer)

```
Date                : 15/09//21
Starting            : 14:48
Vehicle             : AA-215-EL
Indicator           : 03201
Product             : FOD
Temperature         : +11.2°C
Quantity            : 199 L
Index 012 before  00005461
Index 013 after   00005660



In case of dispute, the measurement
results stored by the main indicating
device providing proof.
```

CARGO PLAN

```
DUALTRONIQUE 4053+.001
VERSION 01.06 DATED 03.09.21
BOOT LOADER 03.00.03 (58C7)
PRINTED ON THE 15.09.21 AT 14:52
VEHICLE :  AA-215-EL
REFERENCE :  03201

********** CARGO PLAN **********

CPT N°   PROD.      QUANTITY (L)

 1       FOD           500
 2       FOD+         2000
 3       GO           1500
 4       GO+          3000
 5       GNR          5000
```

RELATED DOCUMENTS

GU 7084	Operating Guide TURBOTRONIQUE
GU 7098	Operating Guide RCT5 remote control
DI 020	Installation guide TURBOTRONIQUE
DI 021	Installation guide TURBOTRONIQUE electromagnetic
FM 8000	Replacement of the backup batteries on the AFSEC electronic board
FM 8001	Diagnostic support for power supply failure
FM 8002	Diagnostic support for a display failure
FM 8003	Diagnostic support for DEB_0 or ZERO FLOW DEFAULT alarm
FM 8004	Diagnostic support for GAS or PRESENCE GAS alarm
FM 8005	Diagnostic support for METERING PROBLEM alarm
FM 8006	Diagnostic support for DATE AND TIME LOST alarm
FM 8007	Diagnostic support for MEMORY LOST or DEF MEMO alarm
FM 8010	Diagnostic support for EEPROM MEMORY LOST alarm
FM 8011	Configuration of jumpers and adjustment of metering thresholds on the AFSEC+ electronic board
FM 8013	Replacement of the backup batteries on the AFSEC+ electronic board
FM 8501	Adjustment of a DMTRONIQUE
FM 8510	Adjustment of a temperature chain in a MICROCOMPT+