COMMISSIONING & MAINTENANCE MANUAL

MM 9008 EN B

DUAL TRONIQUE

Description of the setting of the measuring systems or app working
with the DUAL TRONIQUE platform
Configuration of supervisor and metrological parameters (operators and maintainers)

Issue	Date	Nature of modifications	Written by	Approved by
B	2023/11/21	Modification of ICOM MENUS	ITB	NC
A	2023/01/16	Creation *This software version requires the installation of the boot loader v5.0 which causes the reset of settings and records*	TABTI-BENHARI	NC

CONTENTS

1 GENERAL PRESENTATION AND DESCRIPTION OF THE DUAL TRONIQUE

The DUAL TRONIQUE is a system based on a single calculator-indicator MICROCOMPT+ mono or dual. It can manage one or two measuring systems fitted on a road tanker, a straight truck or a semi-trailer. According to their type, these measuring systems measure liquids other than water either by gravity or by pumping

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

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

The measuring systems are:

- ⇨ Certified type (see the relevant EC-type or EU-type examination certificate)
- ⇨ Of same model or of different models

The DUAL TRONIQUE comprises at least:

- ⇨ Presentation of the MICROCOMPT+ mono or dual:
- ⇨ One or two measuring systems
- ⇨ A set of delivery hose(s) that depends on the measuring system

It performs the following functions:

- ⇨ Measure quantities of products delivered to the station, with or without volume preset
- ⇨ Split compartments
- ⇨ Control the product movements (transfer, loading, return, purge, draining)

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 must 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, invoices, parameters, or diary printings.

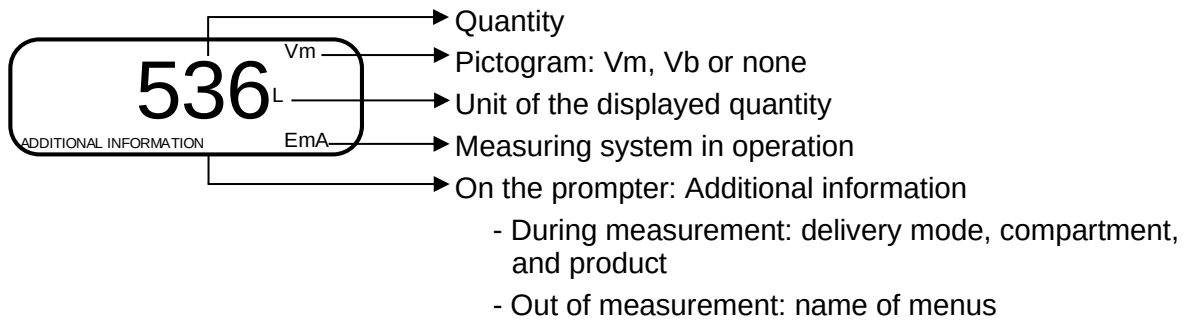
NOTE: The information printed by the printer has no metrological value. Only the indications displayed by the indicator shall be considered legally valid.

2 MICROCOMPT+

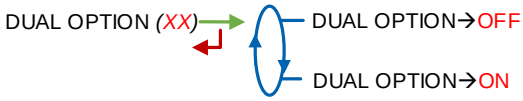
The MICROCOMPT+ has one display:

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 set for the dual option, 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-Driver 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 attached file ANX 0001
	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

3 CONNECTED FEATURES

The wireless connection enables the MICROCOMPT+ to communicate with an embedded computer or with a PC/tablet/portable device.

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 tricolored LEDs on the MICROCOMPT+ front face are showing the wireless connection status as described in the table below:

AT POWER ON		
Flashing of the middle LED		
		Current update
	Number of flashing 1 2 3 4 5 6	 No µSD No update folder No update file The update file does not open Problem writing to flash memory No app and no update file

IN OPERATION						
	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

4 CONFIGURATION, SETTINGS, CALIBRATION

CONFIGURATION: METROLOGICAL mode	SETTINGS, CALIBRATION: SUPERVISOR mode
§ CONFIGURE THE DUAL TRONIQUE: METROLOGICAL MODE	§ SET THE DUAL TRONIQUE: SUPERVISOR MODE
You must configure the DUAL TRONIQUE during commissioning and sometimes during metrological controls.	You must set the DUAL TRONIQUE before any operation. You must control the accuracy of the DUAL TRONIQUE cyclically
NOTE: Only approved persons are permitted to remove the seal	**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  **NOTE**: Some menus in SUPERVISOR mode are only available with the RFID red key
	

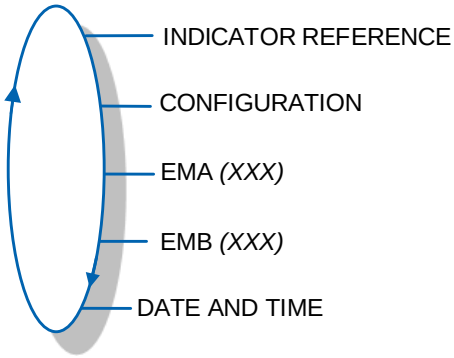
5 LEGEND

When customizing the system, you may not have access to all the menus. Indeed, some of them are specific, they differ according to the type of measuring system or application, the hardware configuration, the hydraulic configuration, or the delivery mode of the products.

For ease of reference, the labels below appear in the document to identify the specific features.

DUAL | TURBO-TRONIQUE | CMA-TRONIQUE | GRAVI-TRONIQUE | GRAVICOMPT | AIRTRONIQUE | AUTRE

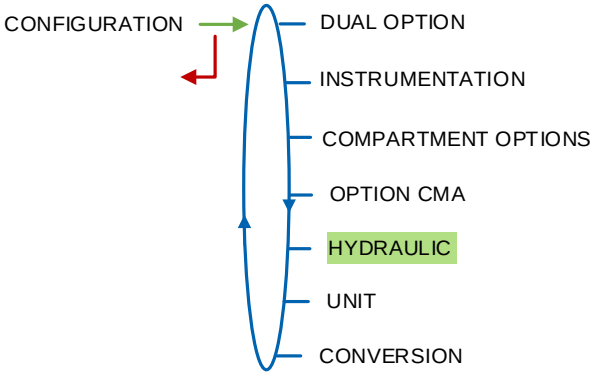
6 CONFIGURE THE DUAL TRONIQUE: METROLOGICAL MODE



6.1 Menu INDICATOR REFERENCE

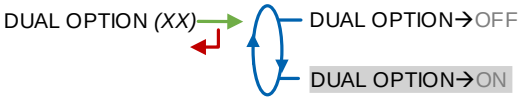
Record the MICROCOMPT+ serial number.

6.2 Menu CONFIGURATION



6.2.1 Sub-menu DUAL OPTION

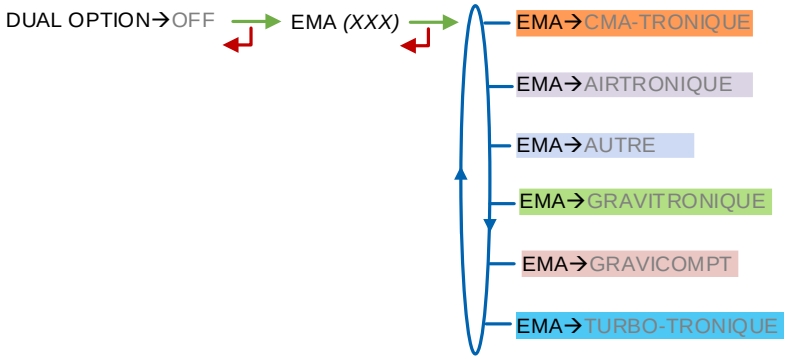
This menu is used to configure the system with a single measuring system EMA or with both measuring systems EMA and EMB



Then, configure the distribution ways for each measuring system.

6.2.1.1 DUAL OPTION NOT ENABLED

Validate DUAL OPTION→OFF then choose the app. Mandatory for GRAVI-TRONIQUE



The system operates with a single measuring system EMA. Then, configure the distribution ways, if required.

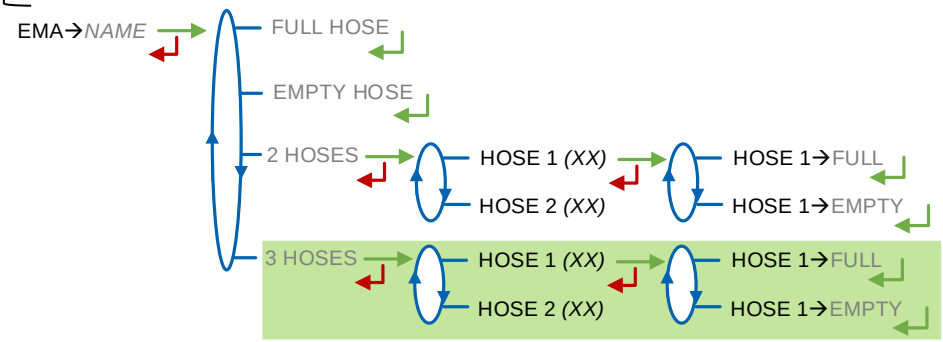
AUTRE
TURBO-TRONIQUE
CMA-TRONIQUE
AIRTRONIQUE
GRAVI-TRONIQUE

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

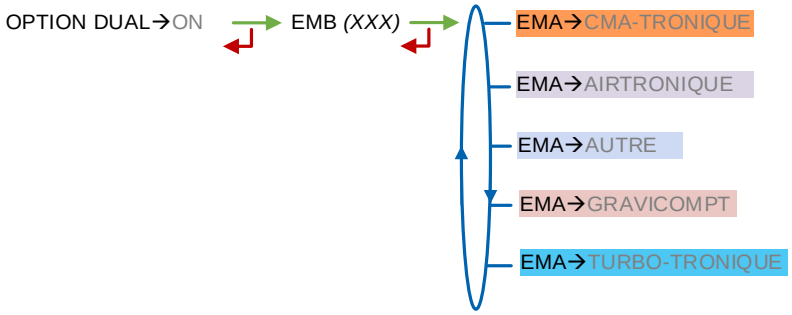
3 HOSES: Operation with three hoses. Hoses 1 and 2 can be empty or full hoses. Hose 3 is not proposed, it is an empty hose. In this configuration, it is possible to use the gravity mode only in single flow by the gravity selection valve.



6.2.1.2 DUAL OPTION ENABLED

DUAL
TURBO-TRONIQUE
CMA-TRONIQUE
GRAVICOMPT
AIRTRONIQUE
AUTRE

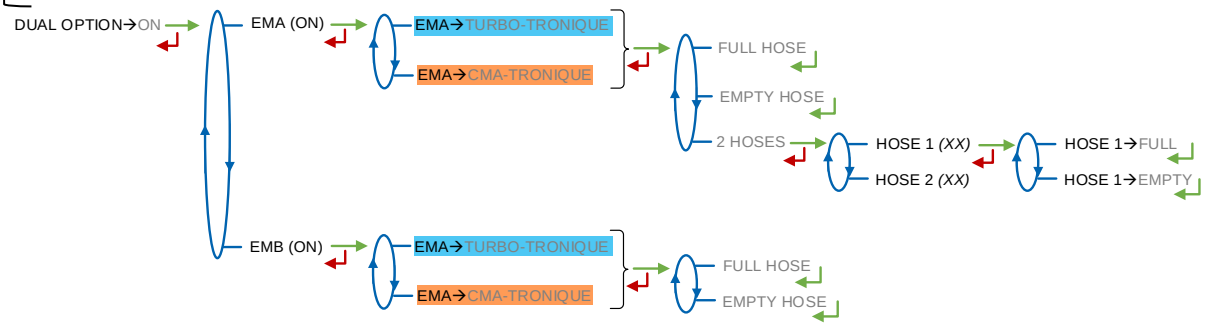
Validate DUAL OPTION→ON, choose the app on EMA, then choose the app on EMB.



The system operates with two measuring systems. For both, configure the distribution ways, if required.

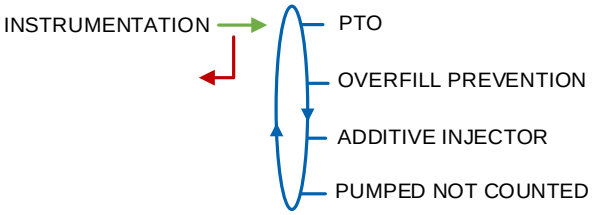
AIRTRONIQUE
TURBO-TRONIQUE
CMA-TRONIQUE
AUTRE

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



6.2.2 Sub-menu INSTRUMENTATION

This menu is used to configure the truck instrumentation.

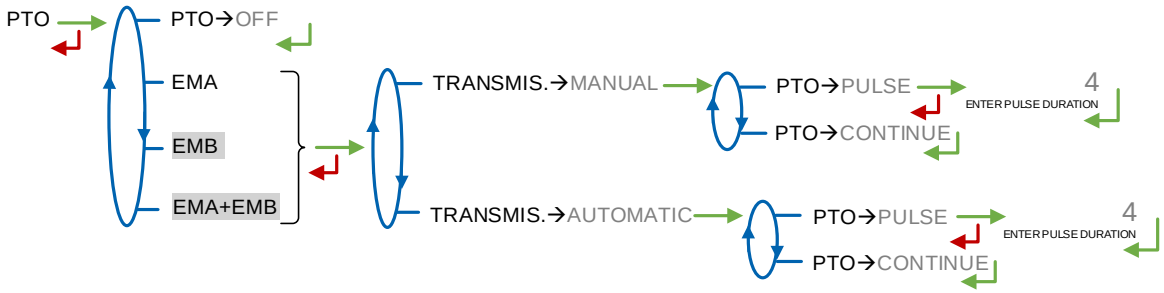


6.2.2.1 PTO

TURBO-TRONIQUE
CMA-TRONIQUE
GRAVI-TRONIQUE
AIRTRONIQUE
AUTRE

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

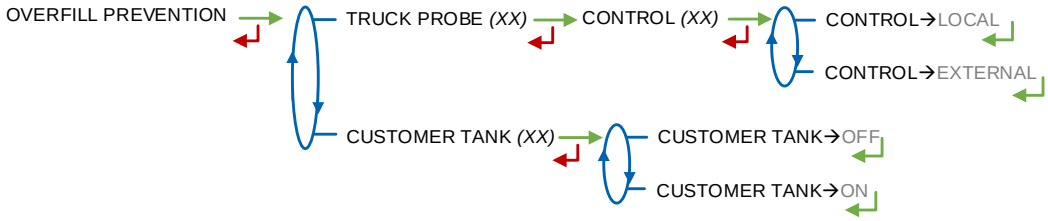
When the system operates with power take-off, validate. Choose the type of transmission: automatic or manual. It is used to consider the clutching (manual transmission), the power take-off and the engine start and stop.



6.2.2.2 OVERFILL PREVENTION

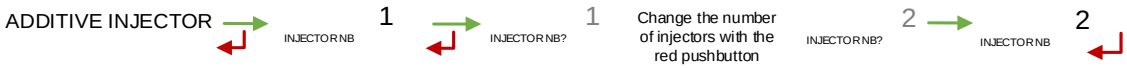
TURBO-TRONIQUE
CMA-TRONIQUE
GRAVI-TRONIQUE
AUTRE
AIRTRONIQUE

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



6.2.2.3 ADDITIVE INJECTOR

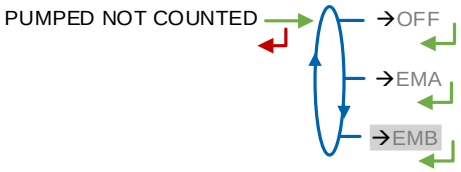
This menu is used to set the number of additive injectors: 1 or 2. This choice can condition the use of a PLEXMI. See the table at the end of the document ADDENDUM 1.



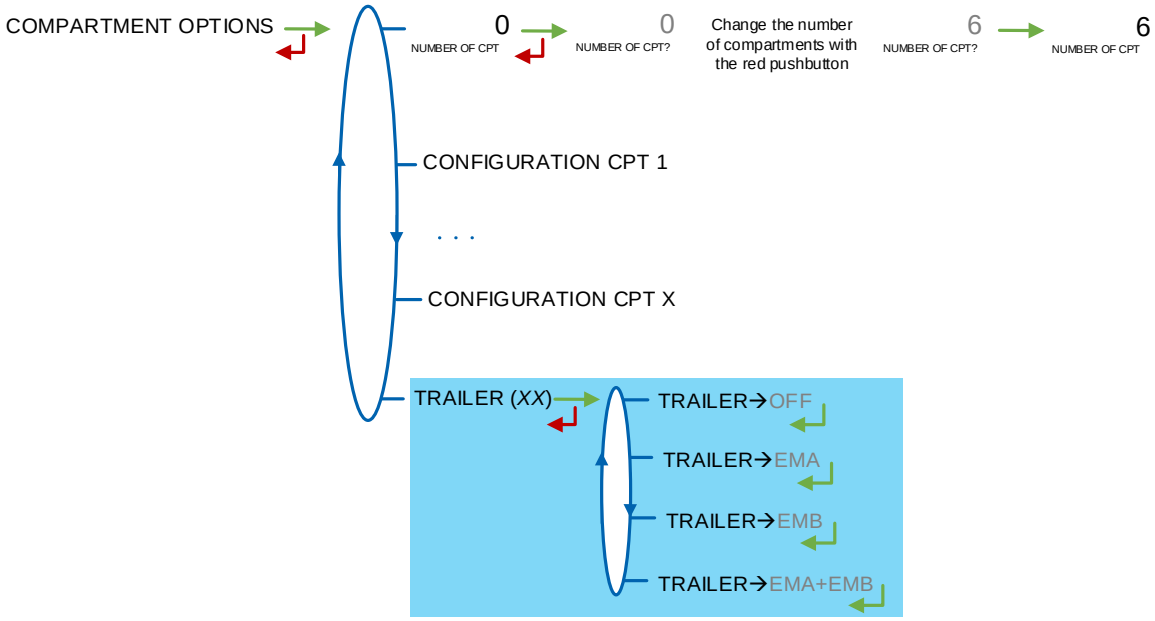
6.2.2.4 PUMPED NOT COUNTED

TURBO-TRONIQUE
CMA-TRONIQUE
GRAVI-TRONIQUE
AIRTRONIQUE
AUTRE

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



6.2.3 Sub-menu COMPARTMENT OPTIONS



This menu is used to configure the compartments and their assignment to each measuring system, if required. 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. Please note that the number of flaps that can be configured depends on the presence of a second additive injector. See the table at the end of the document ADDENDUM 1.

- **FLAP**: Operation with or without flap control. A non-activated flap does not appear in the user menus (FLAP→OFF)

AIRTRONIQUE
TURBO-TRONIQUE
CMA-TRONIQUE
GRAVI-TRONIQUE
AUTRE

- **RETURN**: Operation with or without product return. Used for a pumped measuring system with full hose
  - **PROBE**: Overfill protection probe of the compartment

AUTRE
DUAL

- **EM (EMX)**: Choose the measuring system connected to the compartment

CMA-TRONIQUE
GRAVI-TRONIQUE
GRAVICOMPT

- **LF HEIGHT**: Height to command low flow (mm)

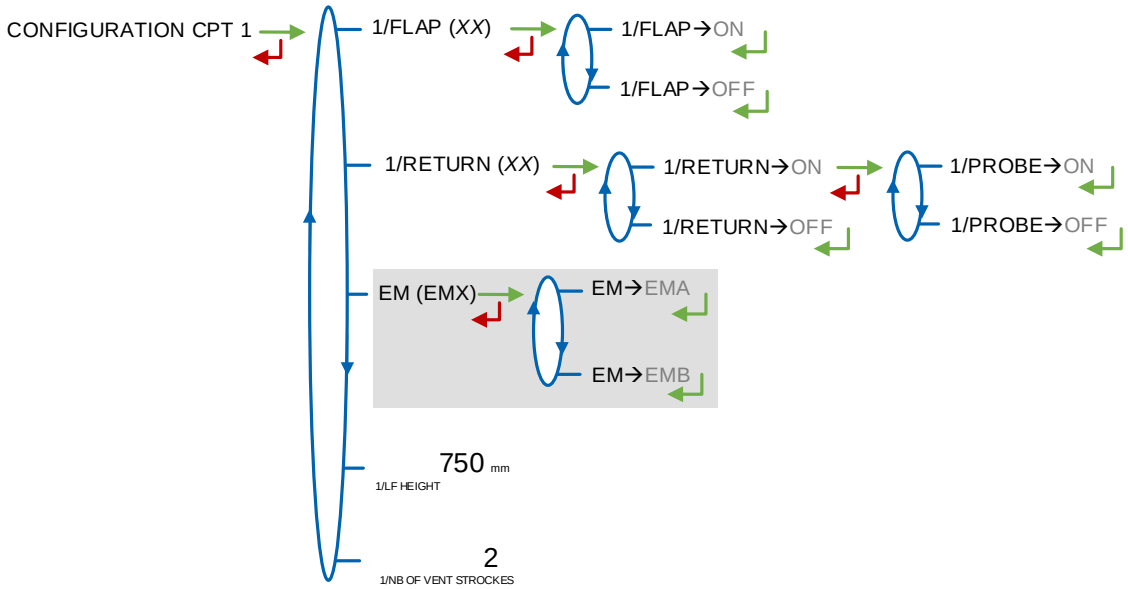
GRAVI-TRONIQUE
GRAVICOMPT

- **NB OF VENT STROKES**: Number of vent orders after a filling phase in order to evacuate the air from the piping before delivery. The number of vent orders is directly related to the quantity of air.

TURBO-TRONIQUE

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

Example for compartment 1:

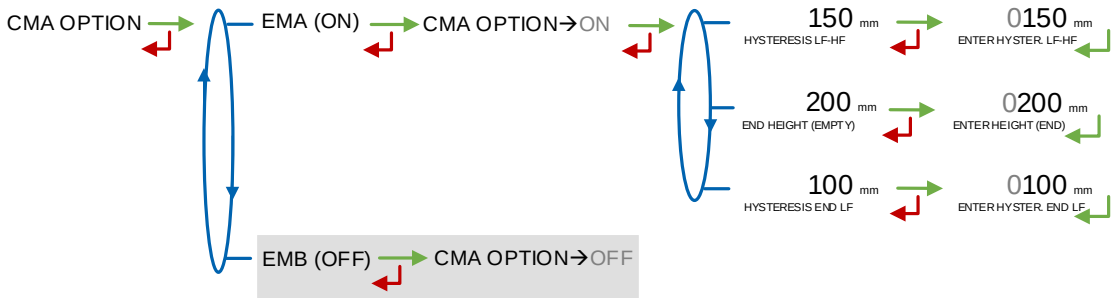


6.2.4 Sub-menu CMA OPTION

CMA-TRONIQUE
GRAVI-TRONIQUE

This menu is used to set the height parameters of the pressure sensor. This feature is forced to ON or OFF depending on the choices made at menu DUAL OPTION.

E.g.:



HYSTERESIS LF-HF: At the beginning of a measurement or following an intermediate stop. Before switching again from low to high flowrate, the calculator-indicator checks the total between LOW FLOW HEIGHT and HYSTERIS LF-HF.

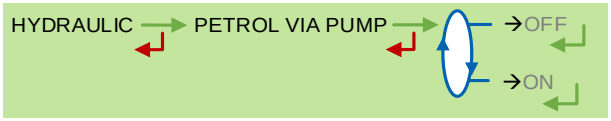
END HEIGHT (EMPTY): Height for which the compartment is considered as empty (mm)

HYSTERESIS END-LF: Always applied. To allow pouring, the product height shall be equal to or greater than the sum of parameters END HEIGHT and HYSTERIS END-LF

6.2.5 Sub-menu HYDRAULIC

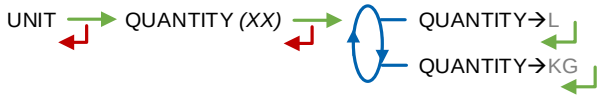
GRAVI-TRONIQUE

This menu is used to allow pumped delivery for petrol. This configuration requires to pay attention to the kind of pump used for the delivery. By default, this feature is inactive.



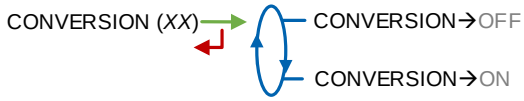
6.2.6 Sub-menu UNIT

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



6.2.7 Sub-menu CONVERSION

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



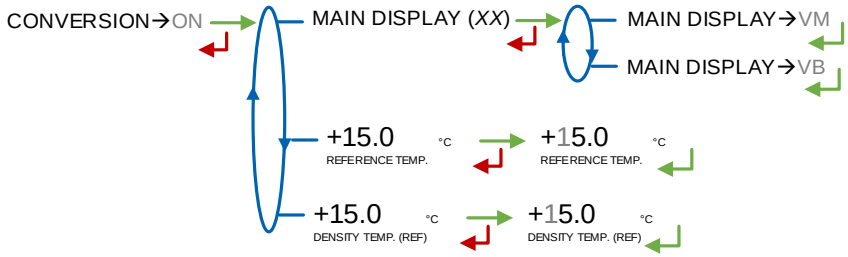
When conversion is active, the following parameters must be set:

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).

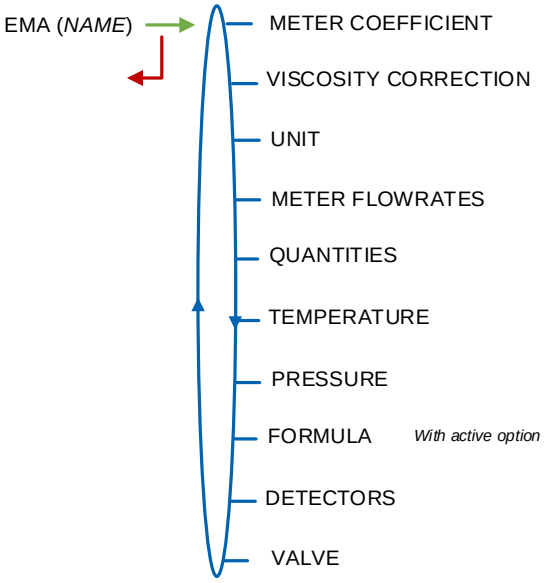


6.2.8 Sous-menu PULSES OUTPUT

The sub-menu allows to copy the measured volume. Enter the number of pulses that the MICROCOMPT+ should generate for each unit counted.

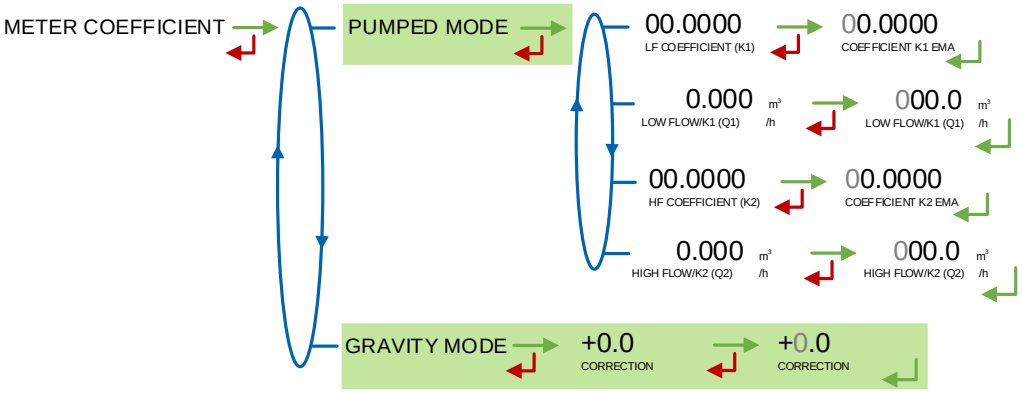
6.3 Menu measuring system EMA

This part allows to define the characteristics of the EMA measuring system.



6.3.1 Sub-menu METER COEFFICIENT

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



GRAVI-TRONIQUE **PUMPED MODE**: For pumped distribution mode, set the four items that follows

- **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

GRAVI-TRONIQUE **GRAVITY MODE**:For gravity distribution mode, set the following item

- **CORRECTION**: Correction coefficient applied to the pumped mode coefficients. Maximum value: ±0.4%.

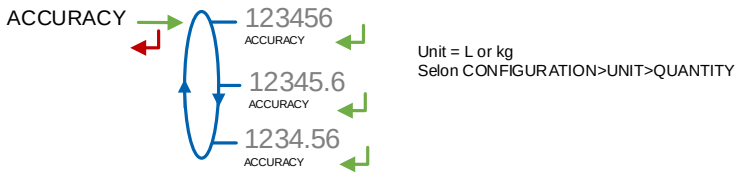
6.3.2 Sub-menu VISCOSITY CORRECTION

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. Maximum value: ±0.4%.

6.3.3 Sub-menu UNIT

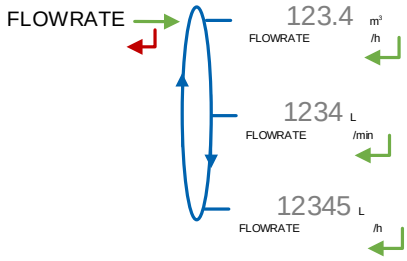
Choose the accuracy of the quantity and the unit of the flow that will be displayed and printed for the EMA measuring system.

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).

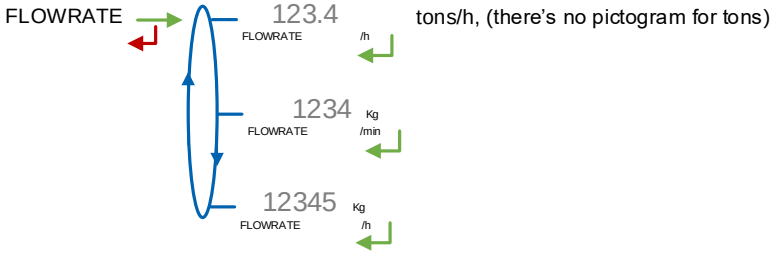


FLOWRATE: Choose the accuracy of the quantity that will be displayed and printed. According to the unit set in menu CONFIGURATION>UNIT>QUANTITY (measure of a volume or a mass).

CONFIGURATION>UNIT>QUANTITY→L



CONFIGURATION>UNIT>QUANTITY→KG



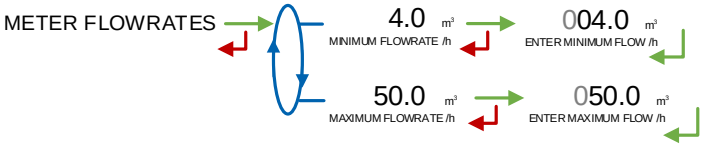
6.3.4 Sub-menu METER FLOWRATES

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

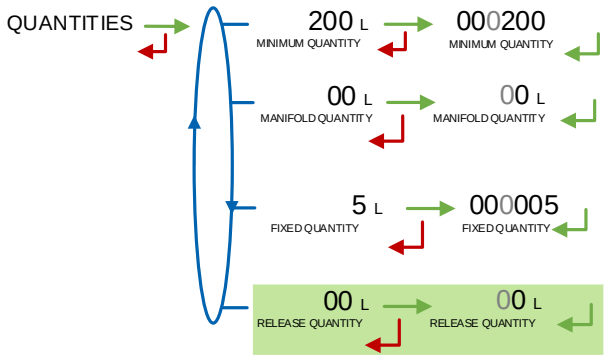
MAXIMUM FLOWRATE: Set the metrological maximum flowrate of the EMA measuring system

The values below are given as an example.



6.3.5 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.

AUTRE
CMA-TRONIQUE
TURBO-TRONIQUE

MANIFOLD QUANTITY: For volume measurement only (CONFIGURATION>UNIT> QUANTITY→L). This menu is used to set the manifold volume to ensure its emptying during the purge operations (or preset+purge). If this volume is set to zero, there's no manifold drain, the flap is directly opened. Maximum value: 59 liters.

GRAVI-TRONIQUE
GRAVICOMPT

MANIFOLD QUANTITY: For volume measurement only (CONFIGURATION>UNIT> QUANTITY→L). Enter the volume of the manifold (horizontal part to the end-of-metering probe). Maximum value: 59 liters.

FIXED QUANTITY: Fixed volume included between the end-of-metering probe and the gravity valve.

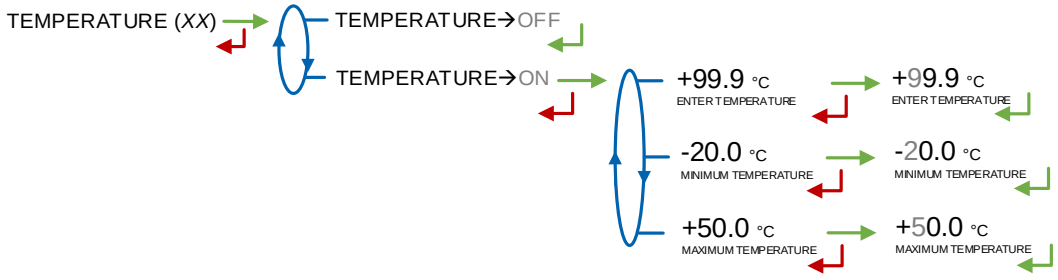
GRAVI-TRONIQUE

RELEASE QUANTITY: For pumped deliveries. Fixed quantity included between the end-of-metering probe and the vacuity sensor. This value is less than or equal to the fixed quantity

6.3.6 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



6.3.7 Sub-menu PRESSURES

GRAVI-TRONIQUE
GRAVICOMPT

This menu allows you to calibrate the 4.20mA differential pressure transmitter at two points according to the measuring range of the associated transmitter. Pressure is expressed in bar. Default value:

- at 4mA: -0.100 bar

- at 20mA: +0.250 bar

NOTE: When updating the software with a 0-100mbar-calibrated pressure transmitter, the values to be entered are as follows:

- at 3.92mA: 0 bar
- at 19.97mA: +0.124 bar

AIRTRONIQUE

For the AIRTRONIQUE, The pressure is indicated in bar. The default values are as follows: at 4mA : -0.000 bar

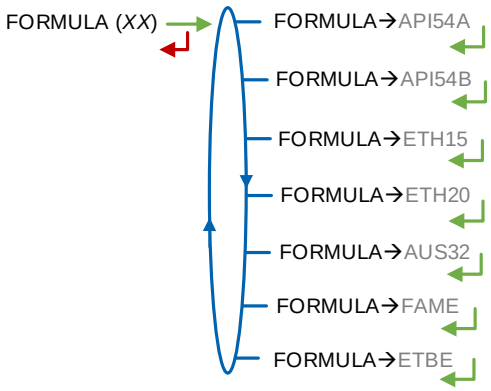
- at 20mA : +2.500 bar

NOTE : the max pressure threshold is +1.000 bar by default.

6.3.8 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

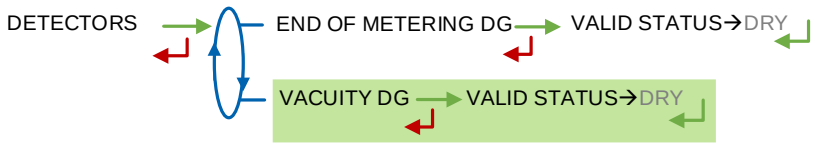


6.3.9 Sub-menu DETECTORS

GRAVI-TRONIQUE
GRAVICOMPT

This menu allows to validate the dry status of the gas detectors used as end-of-metering probe and vacuity sensor.

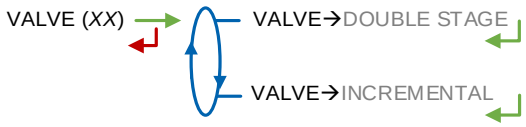
The default values correspond to the detectors supplied by Alma.



6.3.10 Sub-menu VALVE

CMA-TRONIQUE
GRAVI-TRONIQUE

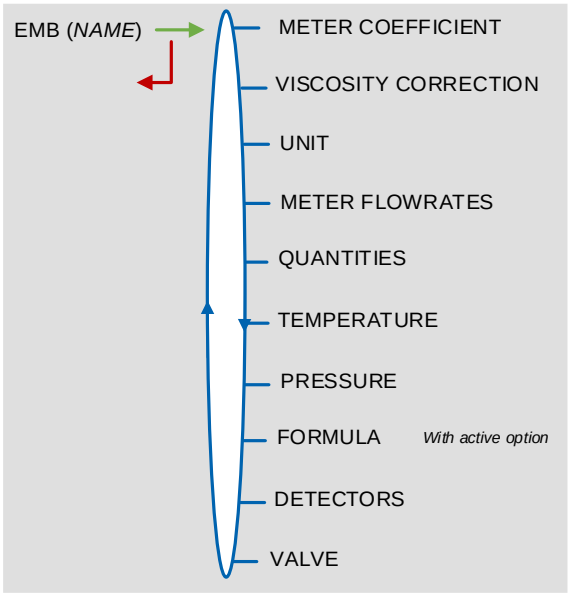
Type of valve used for pumped distribution without degassing device.



6.4 Menu measuring system EMB

DUAL

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.



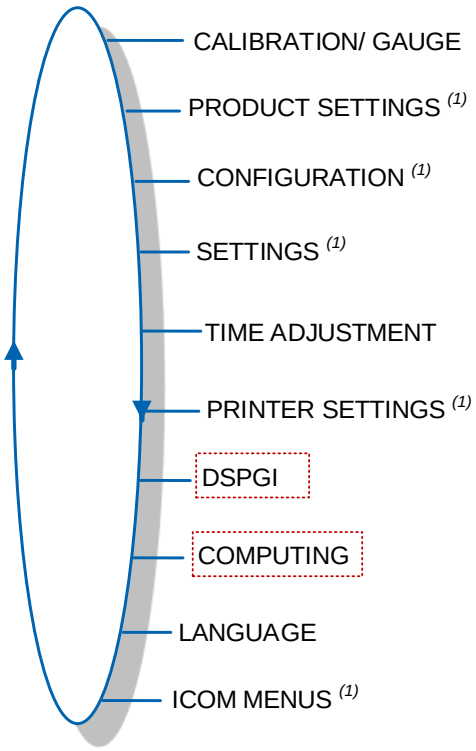
6.5 Menu DATE AND TIME

This menu is used to update the internal clock of the MICROCOMPT+.

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

7 SET THE DUAL TRONIQUE: SUPERVISOR MODE

The actors concerned by this part are the maintainers, the operators (park managers, trainers...) with an access level depending on the key used.

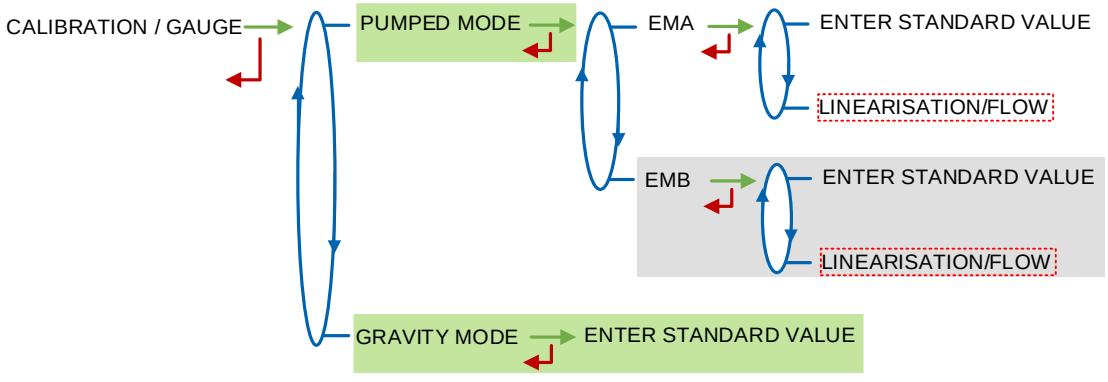


Use a red key to access to the red boxes menus.

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

7.1 Menu CALIBRATION/ GAUGE

This menu depends on the number and type of measuring systems installed on the road tanker. The calibration is the same for all measuring systems.



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 (see the relevant user manual).

Switch to SUPERVISOR mode, select 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 LINEARISATION/FLOW, the calibrated values are displayed; you need to unseal the MICROCOMPT+ to switch in METROLOGICAL mode and enter the values via the EMA>METER COEFFICIENT menu.

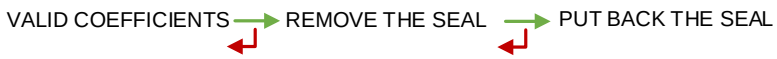
To linearize the curve, two tests are necessary:

- 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
- Choose CALIBRATION/GAUGE>LINEARISATION/FLOW 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.

7.1.3 Sub-menu GRAVITY MODE

GRAVI-TRONIQUE
AUTRE

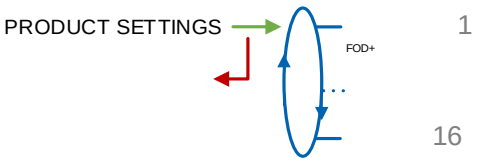
This menu is used to do a check of the accuracy of the measuring system.

First, make a gravity discharge (USER mode) to fill a tank prover or through a master meter (see the relevant user manual).

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 signed correction in percent. This correction is applied to the pumped coefficient. If necessary, unseal the device to change the value in menu EMA (GRAVITRONIQUE)> METER COEFFICIENT>GRAVITY MODE
- The average flow.

7.2 Menu PRODUCT SETTINGS



⚠ If you change the configuration of a product, make sure that its name and its type (characteristics) are consistent.

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

DUAL

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

NAME: Record or enter the name of the product. Maximum number of characters: 5

DENSITY AT XX: 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

TURBO-TRONIQUE
CMA-TRONIQUE
GRAVI-TRONIQUE
AIRTRONIQUE
AUTRE

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 DUAL TRONIQUE controls an additive injection device, you must configure the parameters that follow:

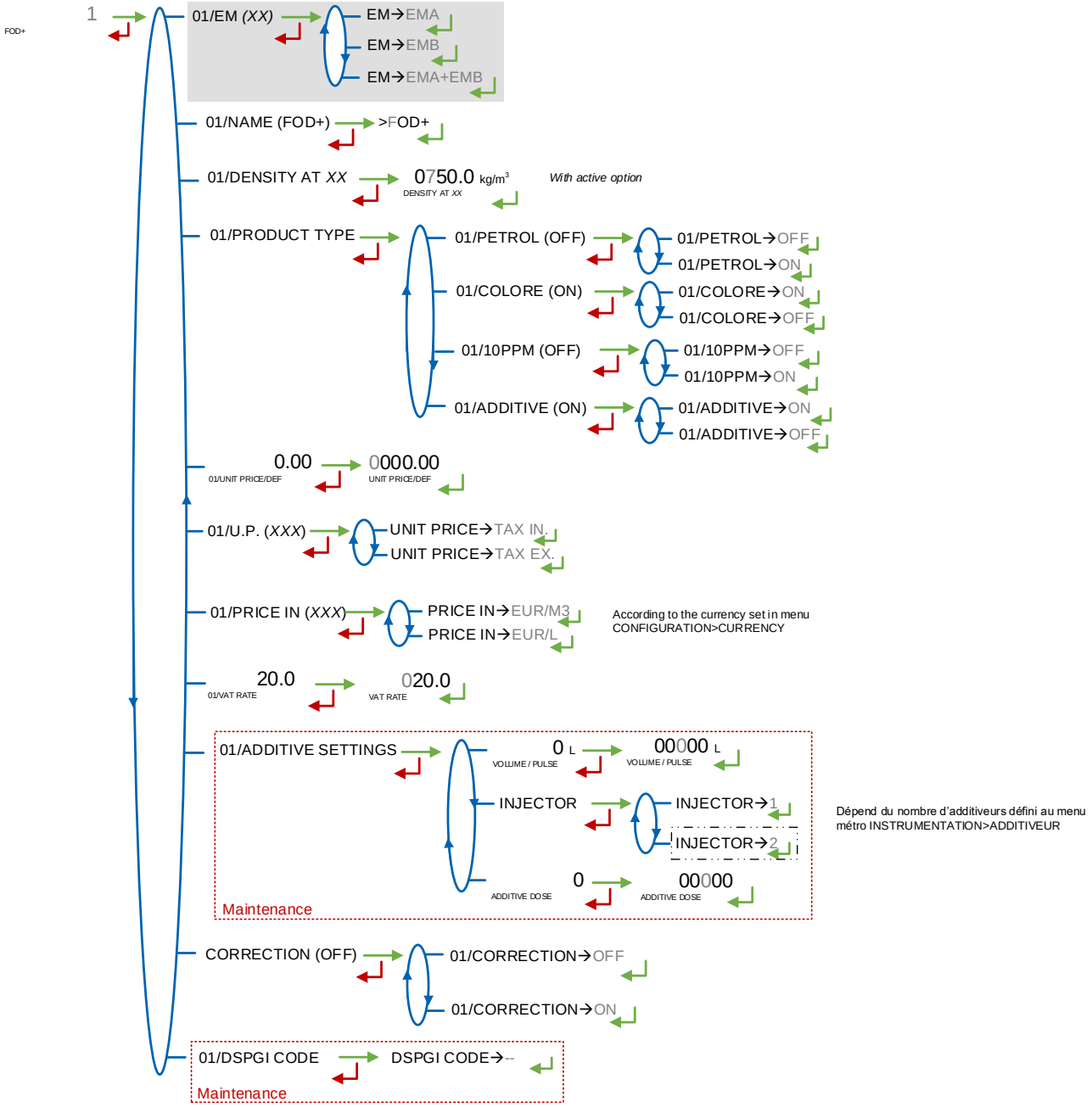
- **VOLUME/PULSE**: Record the volume of primary product. For example “00200”: the DUAL TRONIQUE puts a dose of additive every 200 liters of primary product (minimum value: 10L).
- **INJECTOR**: The number of injectors is given by the metrological configuration INSTRUMENTATION>ADDITIVE INJECTOR
- **ADDITIVE 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>CORRECTION).

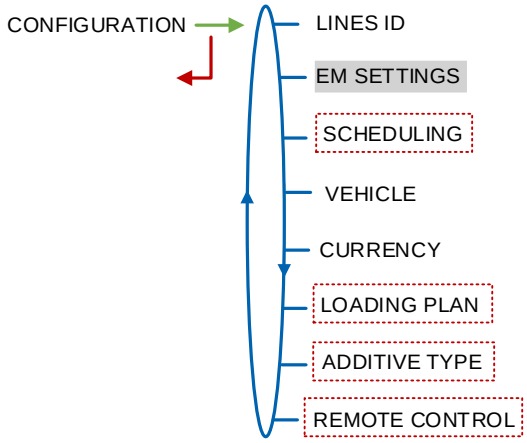
TURBO-TRONIQUE
CMA-TRONIQUE
GRAVI-TRONIQUE
AIRTRONIQUE
AUTRE

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+:



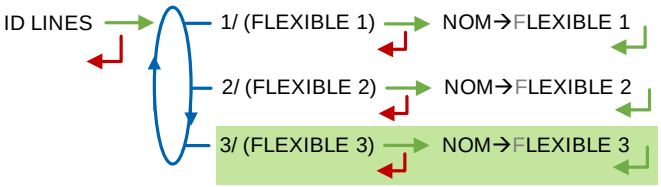
7.3 Menu CONFIGURATION



7.3.1 Sub-menu ID LINES

TURBO-TRONIQUE
CMA-TRONIQUE
GRAVI-TRONIQUE

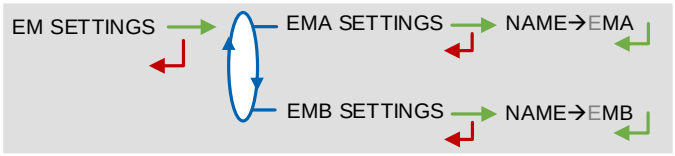
This menu is available when the DUAL TRONIQUE manages at least two hoses on EMA. Validate or enter the name of the line. The maximum number of characters supported is: 10.



7.3.2 Sub-menu EM SETTINGS

DUAL

Validate or enter the name of the measuring system. The maximum number of characters supported is: 8. This name is displayed in the user menus.



7.3.3 Sub-menu SCHEDULING

Access restricted to the Maintenance with red key

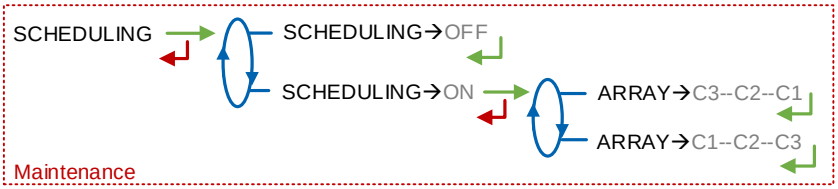
CMA-TRONIQUE
GRAVI-TRONIQUE

This menu is used to make the automatic scheduling of multi-compartment delivery. It is available if the DUAL TRONIQUE controls at least two compartment flaps.

If scheduling is active, select the compartment display order that will be proposed to the user:

ARRAY→C1--C2--C3: The compartments are displayed from left to right.

ARRAY→C3--C2--C1: The compartments are displayed from right to left.



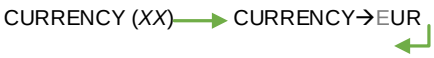
7.3.4 Sub-menu VEHICLE

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

7.3.5 Sub-menu CURRENCY

TURBO-TRONIQUE
CMA-TRONIQUE
GRAVI-TRONIQUE
AIRTRONIQUE
AUTRE

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



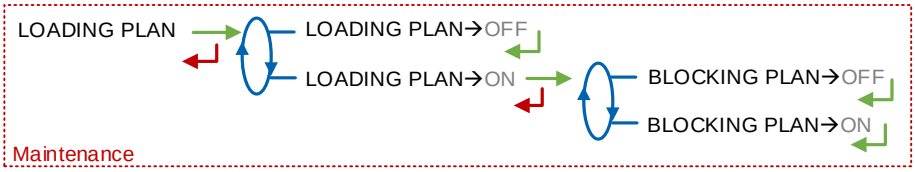
7.3.6 Sub-menu LOADING PLAN

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.



7.3.7 Sub-menu ADDITIVATION

Access restricted to the Maintenance with red key

INJECTOR NB: Choose the injector. The second injector is available if set in metrological mode.

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

DUAL

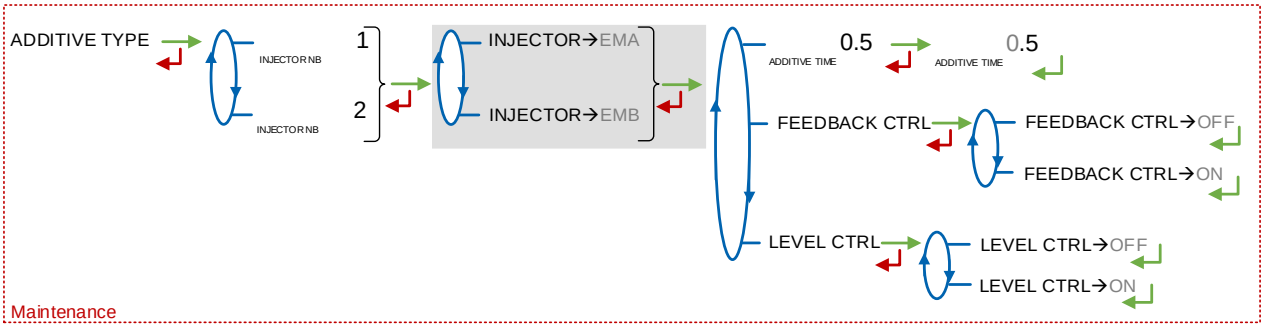
INJECTOR→EMA/EMB: Choose the measuring system for additive injection

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.



7.3.8 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

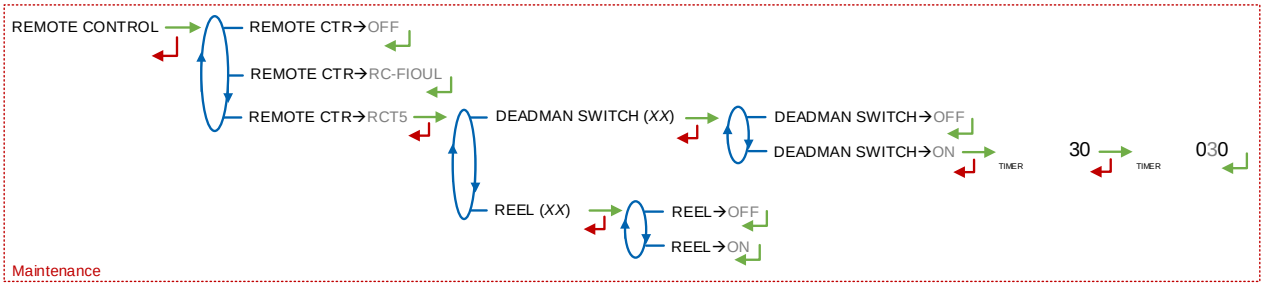
REMOTE CTR→RCT5: Activation of the operation with the RCT5 remote control, See GU 7098.

- **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

AIRTRONIQUE
TURBO-TRONIQUE
CMA-TRONIQUE
GRAVI-TRONIQUE

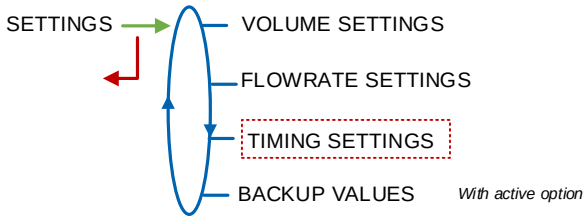
AUTRE

- **REEL**: This menu is used to activate the control of the reel at the end of delivery after the motor has stopped.

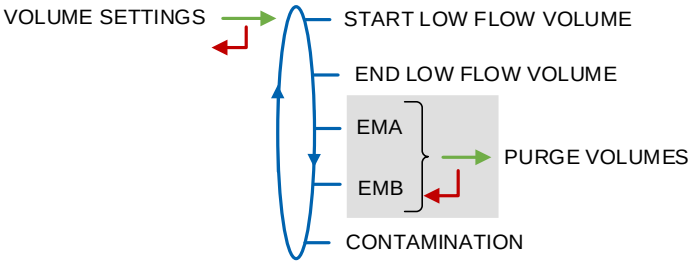


7.4 Menu SETTINGS

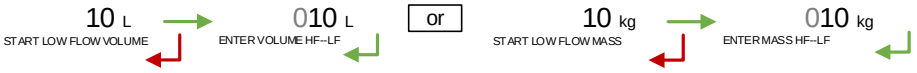
The accuracy and the unit of the displayed values are specific to the measuring system and depend on the choices made during the metrological configuration EM>UNIT menu.



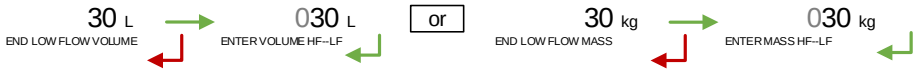
7.4.1 Sub-menu VOLUME or MASS SETTINGS



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



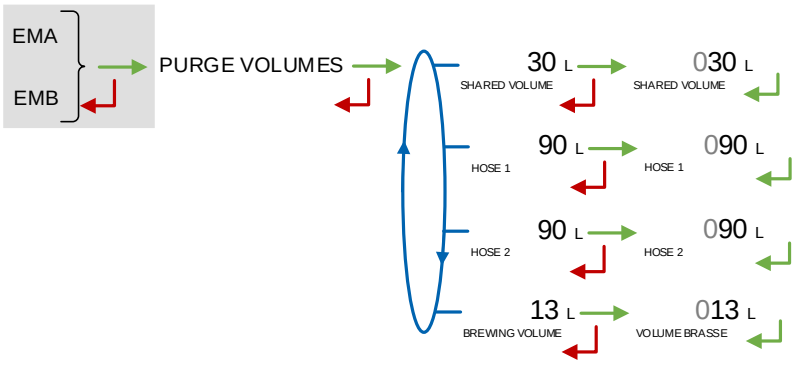
END LOW FLOW VOLUME or END LOW FLOW MASS: Volume or mass delivered in low flowrate to finish the delivery



TURBO-TRONIQUE
CMA-TRONIQUE
GRAVI-TRONIQUE
AIRTRONIQUE
AUTRE

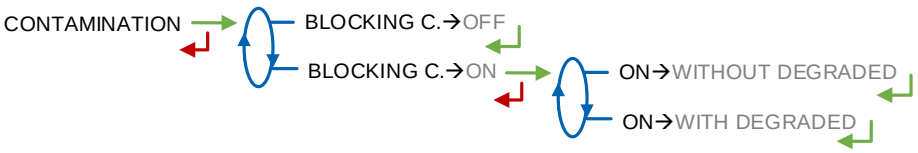
EMA/EMB→PURGE VOLUMES: Choose the measuring system then define the purge volumes. For volume measurement only (CONFIGURATION>UNIT>QUANTITY→L). The purge volumes depend on the truck hydraulic configuration (manifold, hose...), they are set at commissioning, and they prevent from product contamination.

- **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: the purge of the manifold or a hose purge in case of contamination, according to the app.
  - 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

DUAL
TURBO-TRONIQUE
CMA-TRONIQUE
GRAVI-TRONIQUE
AIRTRONIQUE
AUTRE

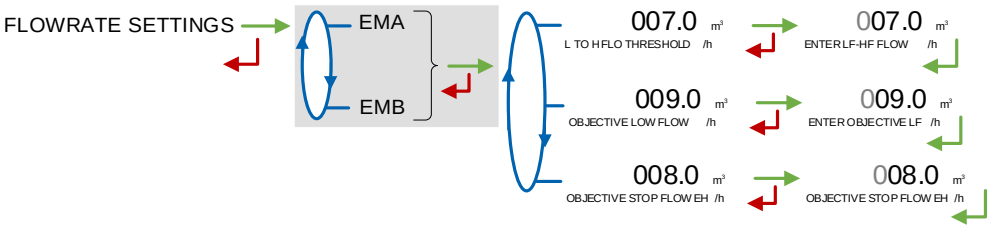
EMA/EMB: Choose the measuring system and set the values that follow

LF--HF FLOWRATE: Set the flowrate beyond which the measuring system (running in low flowrate) controls the high flowrate.

CMA-TRONIQUE
GRAVI-TRONIQUE

OBJECTIVE LOW FLOW: With incremental valve only. Set the objective flowrate to regulate the low flowrate.

OBJECTIVE STOP FLOW EH: With incremental valve only. Minimum flowrate value to be applied when managing an end of compartment for an empty hose. The default value is the same as the minimum flowrate of the measuring system



7.4.3 Sub-menu TIMING SETTINGS

Access restricted to the Maintenance with red key

For each measuring system, set the flowrate values that follow:

TURBO-TRONIQUE
CMA-TRONIQUE
GRAVI-TRONIQUE

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 (with two hoses set). Set the pump parameters:

AUTRE
TURBO-TRONIQUE
CMA-TRONIQUE
GRAVI-TRONIQUE
AIRTRONIQUE

- **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

CMA-TRONIQUE
GRAVI-TRONIQUE

- **INPUT TIMING**: With incremental valve only. Set the timing. Default value: 3
- **DEPRESS TIMING**: With incremental valve only. Set the timing. Default value: 3

GRAVI-TRONIQUE
GRAVICOMPT

ANTI-VORTEX STOP: Duration of the API adapter closing after an anti-vortex breakdown. Default value: 5 seconds

TURBO-TRONIQUE
CMA-TRONIQUE
AIRTRONIQUE
AUTRE

MANIFOLD FILLING: Duration of the manifold filling

Default value: 10 seconds

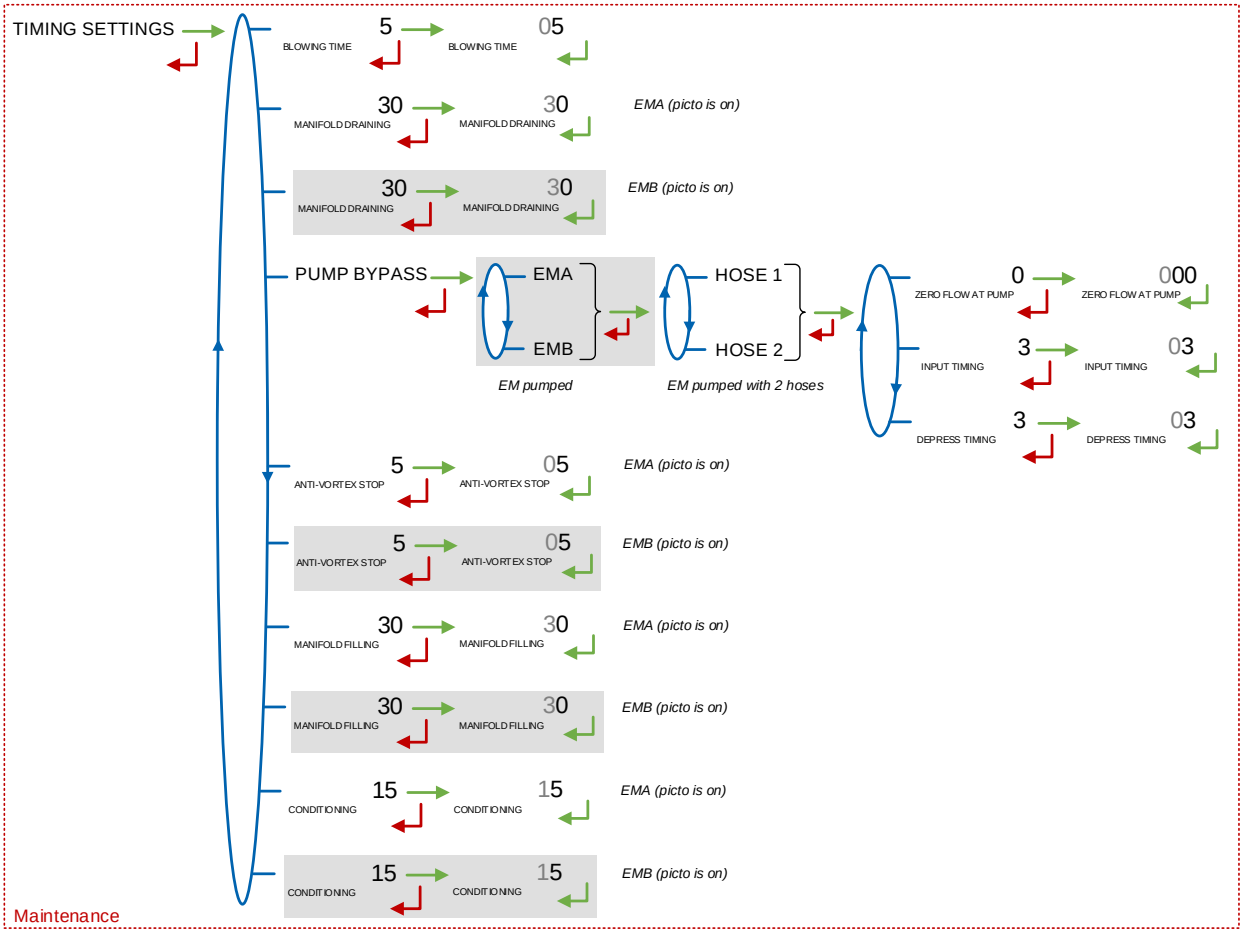
GRAVI-TRONIQUE
GRAVICOMPT

MANIFOLD FILLING: Filling time of an empty manifold including the wetting time of the gas detectors. Default value: 30 seconds If the gas detectors are wet at the time of filling then the filling time is reduced by the wetting time

Timing dry detector = MANIFOLD FILLING

Timing wet detector = MANIFOLD FILLING-CONDITIONING with CONDITIONING> MANIFOLD FILLING

CONDITIONING: Maximum duration before the end-of-metering probe becomes wet (in seconds). The conditioning timing must be lower than the filling timing. Default value: depends on the app; If GRAVI-TRONIQUE or at least one of the measuring system is a GRAVICOMPT. Default value: 15 seconds.

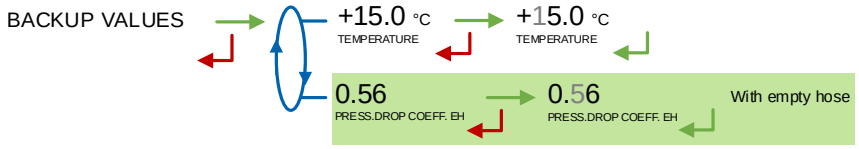


7.4.4 Sub-menu BACKUP VALUES

TEMPERATURE: With active option, this menu is used to record the backup value for temperature.

GRAVI-TRONIQUE
CMA-TRONIQUE

PRESSURE DROP COEFF. EH: For operation with empty hose, the pressure drop coefficient has a constant value.



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: This menu depends on the number and type of measuring systems Choose the ticket format for printing the delivery ticket.

GRAVI-TRONIQUE
GRAVICOMPT

- **MULTIPRO→TICKET**: No-customizable generic ticket for multi-products deliveries. Allows the measurement of different products within the same delivery

TURBO-TRONIQUE
CMA-TRONIQUE
GRAVI-TRONIQUE
AIRTRONIQUE
AUTRE

- **TICKET→STANDARD**: For pumped deliveries

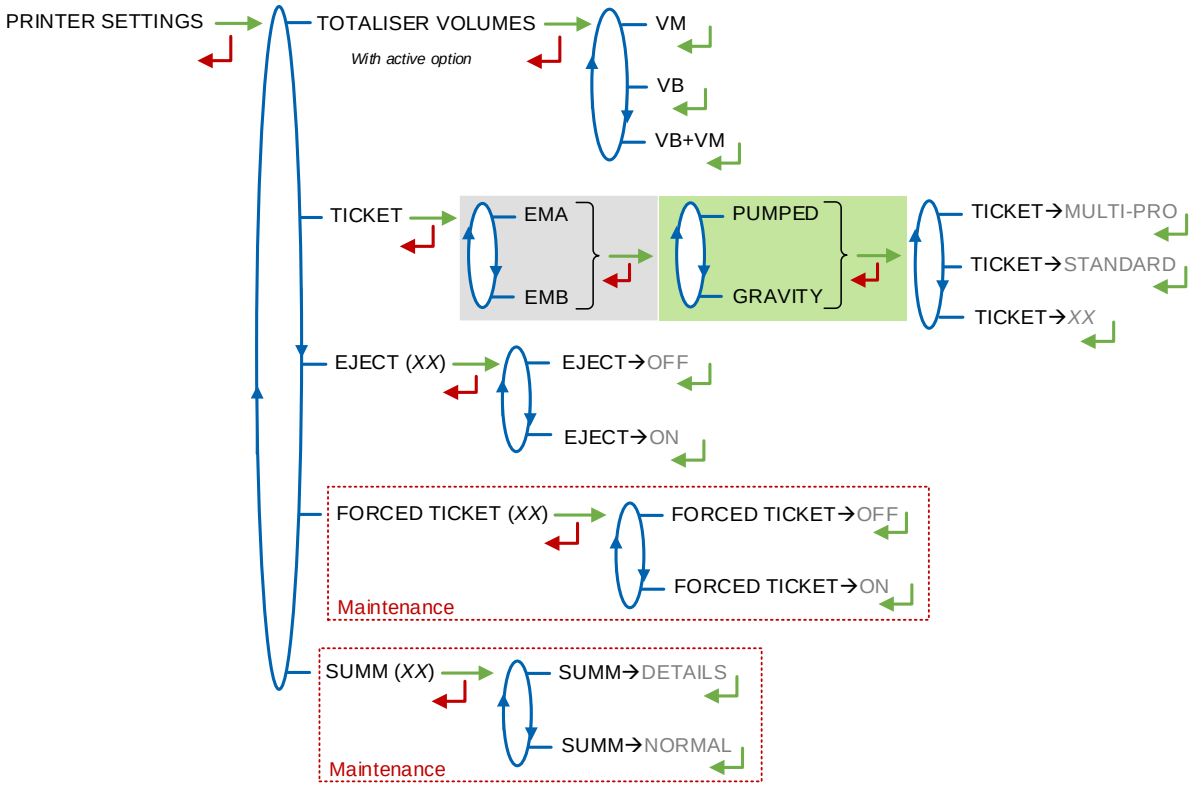
- **TICKET→*XX***: Customizable ticket for pumped deliveries and for mono-product gravity deliveries. In that case, the product chosen for the first measurement will be imposed for all measurements of the delivery

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.* The printing of the delivery ticket is proposed at the end of the delivery. It is possible to force the printing by choosing FORCED TICKET→ON.

TURBO-TRONIQUE
CMA-TRONIQUE
GRAVI-TRONIQUE
AIRTRONIQUE
AUTRE

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

TURBO-TRONIQUE
GRAVI-TRONIQUE
CMA-TRONIQUE
AIRTRONIQUE
AUTRE

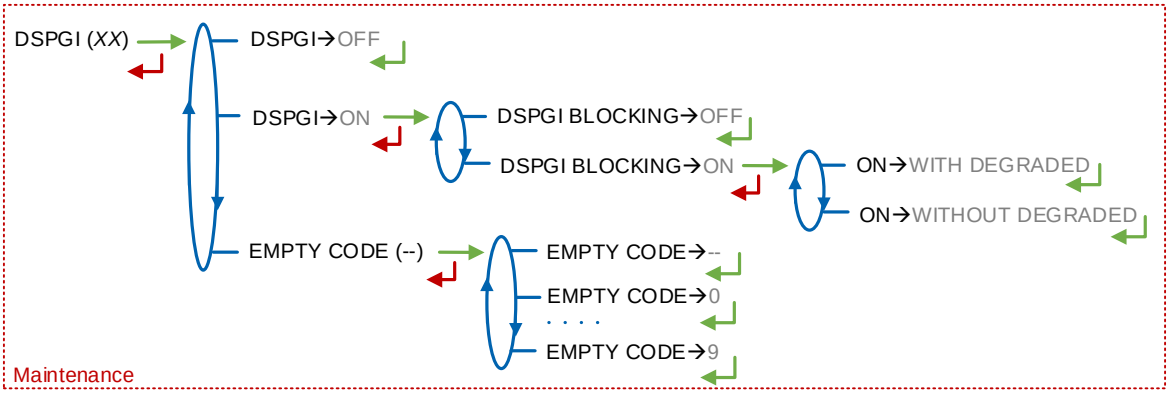
Access restricted to the Maintenance with red key

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 DEGRADED**: 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

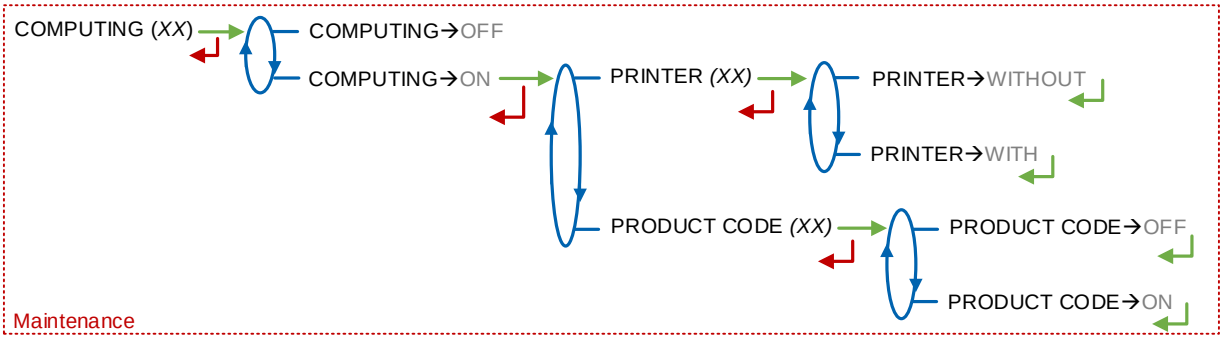
Access restricted to the Maintenance with red key

Operation with or without embedded computing. The operation with embedded computing imposes single-product deliveries (the product chosen for the first measurement will be imposed for all the measurements of the delivery). Activating the feature gives access to the following submenus:

PRINTER:

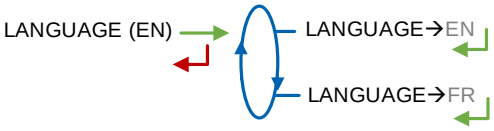
- **PRINTER→WITH:** The delivery ticket and the invoice must be printed via the embedded computing. They cannot be printed via the MICROCOMPT+.
- **PRINTER→WITHOUT:** The printings are made via the MICROCOMPT+

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+.

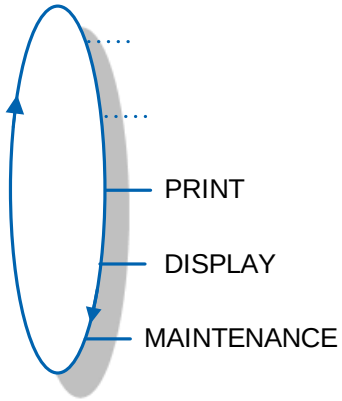


7.10 Menu ICOM MENUS

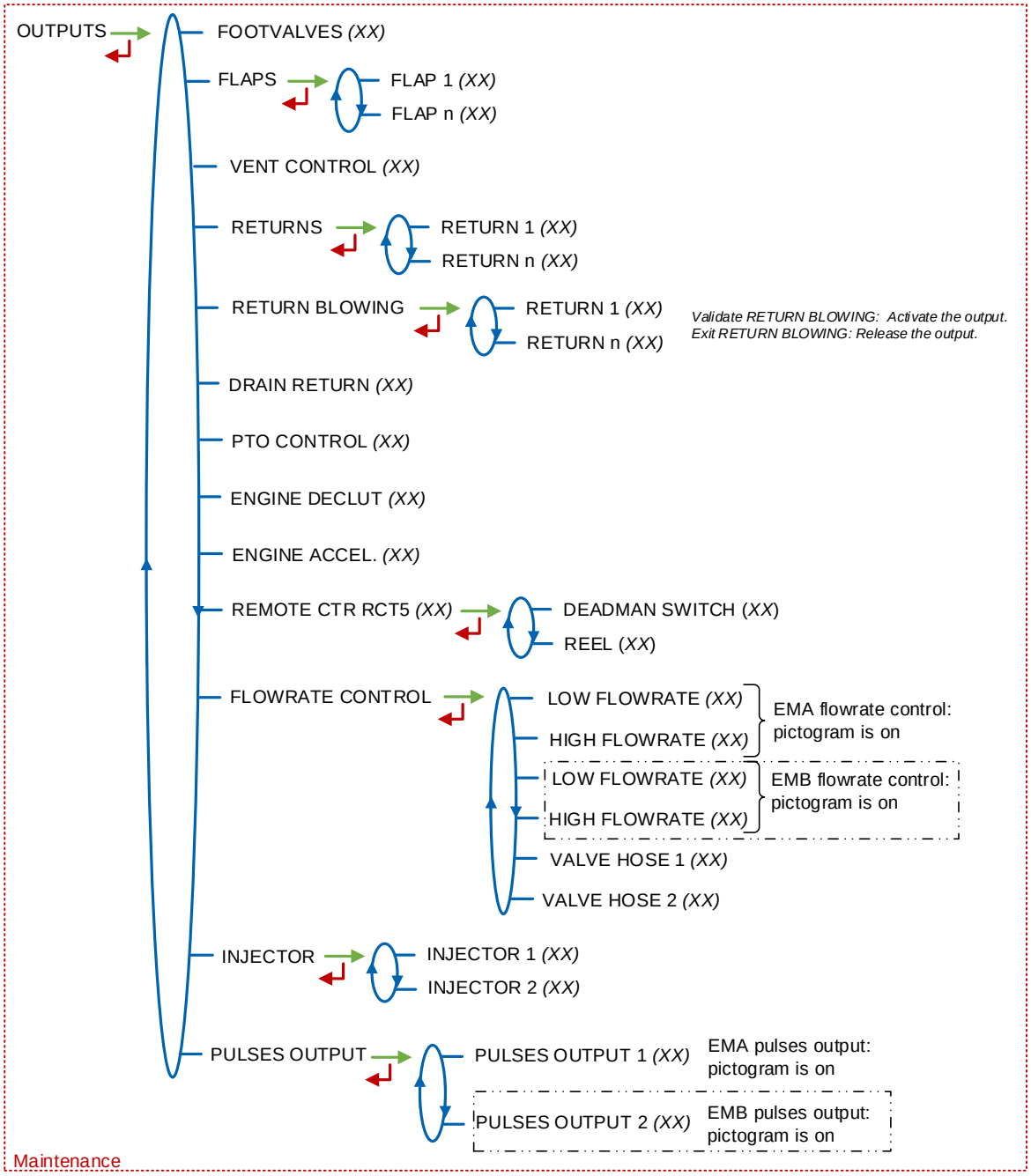
The attached file ANX 0001 shows all the available sub-menus.

8 USE THE DUAL TRONIQUE

Each app is the subject of a specific user manual which includes the possibility of printing the parameters and gives access to the visualization and maintenance menus.



The sub-menu OUTPUTS of the Maintenance menu is only available with the red RFID key.
It allows you to activate the MICROCOMPT+ outputs.


OUTPUTS
FOOTVALVES (XX)
FLAPS
FLAP 1 (XX)
FLAP n (XX)
VENT CONTROL (XX)
RETURNS
RETURN 1 (XX)
RETURN n (XX)
RETURN BLOWING
RETURN 1 (XX)
RETURN n (XX)
Validate RETURN BLOWING: Activate the output.
Exit RETURN BLOWING: Release the output.
DRAIN RETURN (XX)
PTO CONTROL (XX)
ENGINE DECLUT (XX)
ENGINE ACCEL. (XX)
REMOTE CTR RCT5 (XX)
DEADMAN SWITCH (XX)
REEL (XX)
FLOWRATE CONTROL
LOW FLOWRATE (XX)
HIGH FLOWRATE (XX)
EMA flowrate control: pictogram is on
LOW FLOWRATE (XX)
HIGH FLOWRATE (XX)
EMB flowrate control: pictogram is on
VALVE HOSE 1 (XX)
VALVE HOSE 2 (XX)
INJECTOR
INJECTOR 1 (XX)
INJECTOR 2 (XX)
PULSES OUTPUT
PULSES OUTPUT 1 (XX)
EMA pulses output: pictogram is on
PULSES OUTPUT 2 (XX)
EMB pulses output: pictogram is on
Maintenance

ADDENDUM 1: ASSIGNMENTS TABLE ACCORDING TO THE NUMBER OF FLAPS, PRODUCT RETURNS AND ADDITIVE INJECTORS

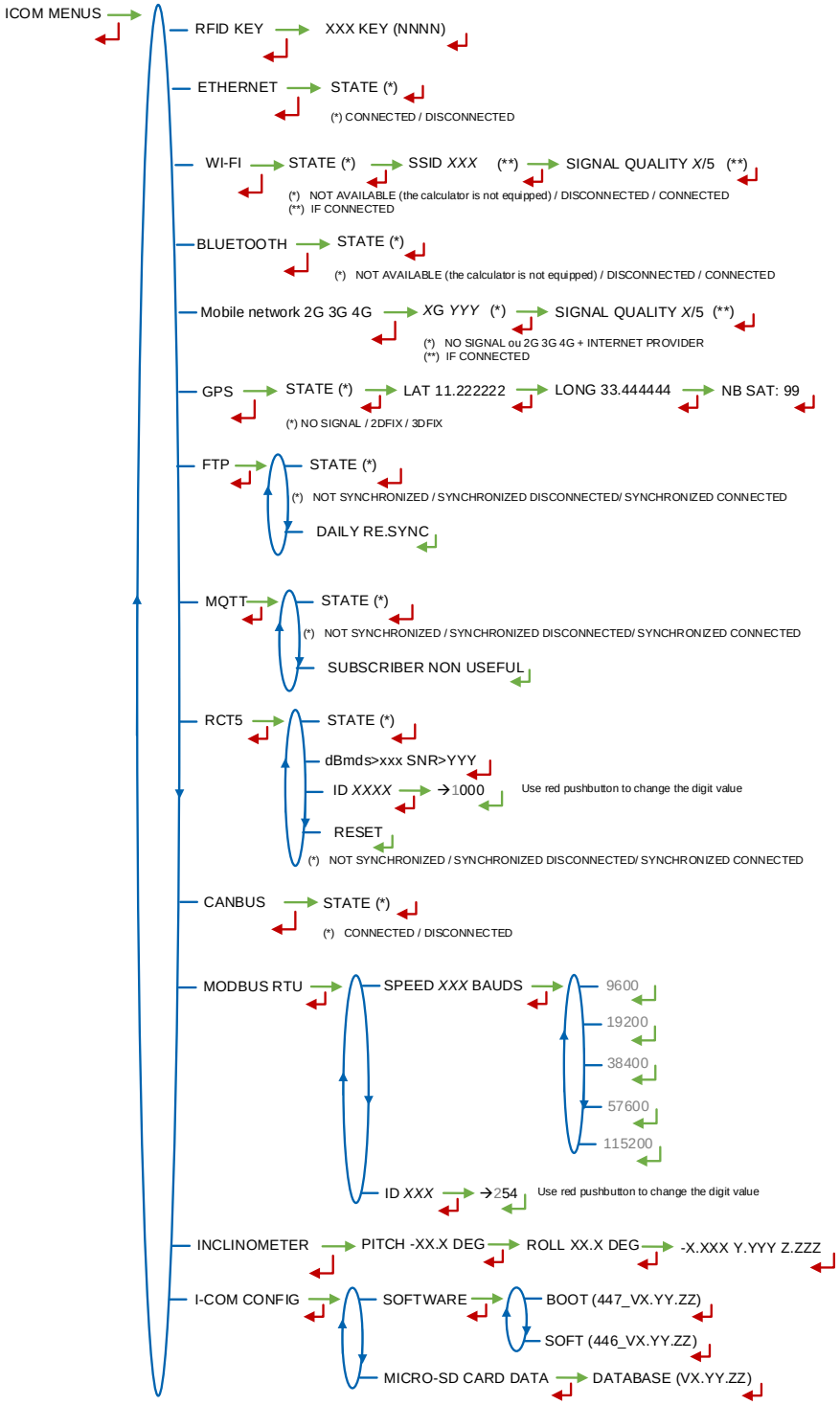
Flaps assigned to the compartments are set in METROLOGICAL mode menu CONFIGURATION>COMPARTMENT OPTIONS. Additive injectors are set in SUPERVISOR mode menu CONFIGURATION>ADDITIVE TYPE.

				Terminal number (PF) Power supply board V1 REV11									
Nb of Flaps	Nb of Returns	Addit. #1	Addit. #2	45 (PF14)	44 (PF13)	43 (PF12)	42 (PF11)	41 (PF10)	40 (PF9)	39 (PF8)	67 (PF6)	66 (PF5)	65 (PF4)
0	0-9	ON	ON/OFF	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	0-2	ON	ON	Addit #2	6th Flap	5th Flap	4th Flap	3rd Flap	2nd Flap	1st Flap	7th Flap	2nd Return	1st Return
7	3-6	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	0-2	ON	OFF	7th Flap	6th Flap	5th Flap	4th Flap	3rd Flap	2nd Flap	1st Flap	8th Flap	2nd Return	1st Return
8	3-6	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	8th Flap	PLEXMI (1st to 7th Flap)			PLEXMI (1st to 7th Return)		
8	0-1	ON	ON	Addit #2	6th Flap	5th Flap	4th Flap	3rd Flap	2nd Flap	1st Flap	8th Flap	7th Flap	1st Return
8	2-5	ON	ON	Addit #2	5th Return	4th Return	8th Flap	PLEXMI (1st to 7th Flap)			3rd Return	2nd Return	1st Return
8	6-9	ON	ON	Addit #2	9th Return	8th Return	8th Flap	PLEXMI (1st to 7th Flap)			PLEXMI (1st to 7th Return)		
9	0-1	ON	OFF	7th Flap	6th Flap	5th Flap	4th Flap	3rd Flap	2nd Flap	1st Flap	9th Flap	8th Flap	1st Return
9	2-5	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	ON	ON	Addit #2	6th Flap	5th Flap	4th Flap	3rd Flap	2nd Flap	1st Flap	9th Flap	8th Flap	7th Flap
9	1-4	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)		

9 ANX 0001 – PRESENTATION OF THE MENU SUPERVISOR>ICOM MENUS

9.1 User

The blue RFID key allows display or set the parameters that follow.



9.2 manager and maintenance

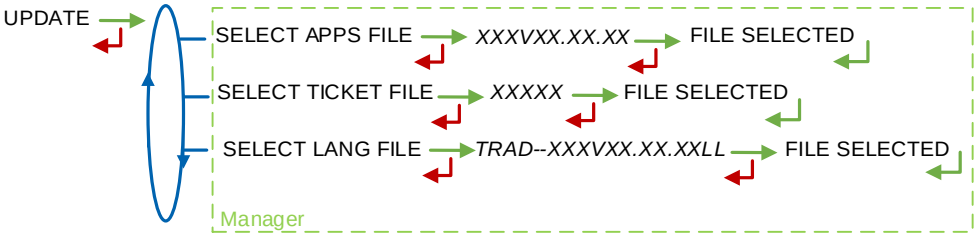
This section presents the whole menu SUPERVISOR>ICOM MENUS. Access to settings depends on the key used. The parameters that are not highlighted are available with any type of key.

- ⇨ As a user, the blue RFID key allows display or set the parameters that are not highlighted (see §1 for simplified presentation).
- ⇨ As a manager of a truck fleet or a loading terminal: the green RFID key allows display or set the user parameters and those indicated in green boxes.
- ⇨ As an installer and/or a maintenance user: the red RFID key allows display or set all the parameters of the menu SUPERVISOR>ICOM MENUS.

NOTE: The menus indicated in red boxes are available with the red key only.

9.3 Menu UPDATE

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



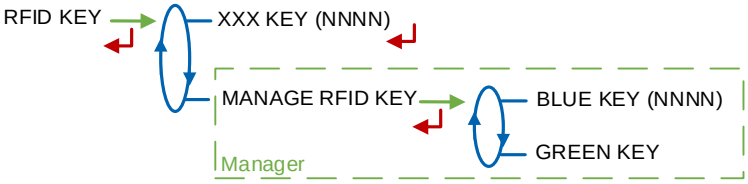
SELECT APPS FILE (*) – *Access restricted to the Manager with green key and/or to the Maintenance with red key.* Used to display and select the version(s) of the application available on the SD card. NO FILE is displayed if there is no file to download.

SELECT TICKET FILE (*) – *Access restricted to the Manager with green key and/or 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 is no file to download.

SELECT LANG FILE (*) – *Access restricted to the Manager with green key and/or 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 is 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).

9.4 Menu RFID KEY

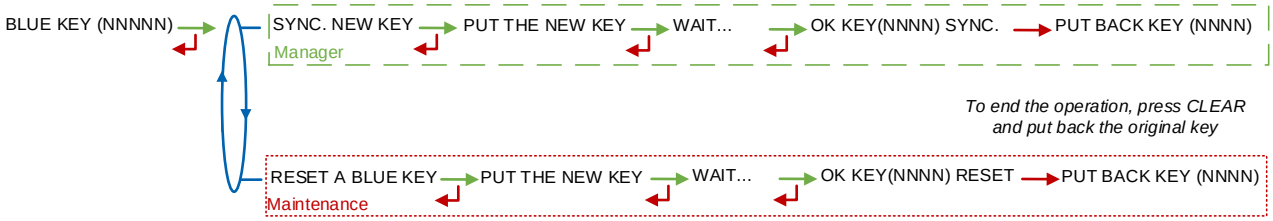


XXX KEY (NNNN): Displays the information about the RFID placed on the screen with: XXX = color and (NNNN) = identifier. E.g.: RED KEY (01234)

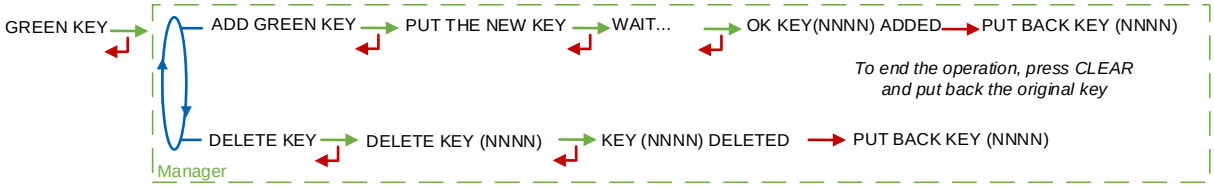
MANAGE RFID KEY – *Access restricted to the Manager with green key and/or to the Maintenance with red key*

- **BLUE KEY (NNNN)**: Display in brackets the number of the blue key associated with the MICROCOMPT+; if no blue key is associated, the number is replaced by dashes.
  - **SYNC. NEW KEY**: Used to associate a blue key to the MICROCOMPT+.

- **RESET A BLUE KEY –** *Access restricted to the Maintenance with red key*: Used to reset a blue key.



- **GREEN KEY**
  - **ADD A GREEN KEY**: Used to associate a Manager green key to the MICROCOMPT+. To initialize the first green key, use the blue key associated to the MICROCOMPT+.
  - **DELETE KEY**: Used to remove keys that have already been associated to the MICROCOMPT+.



If the key does not match the expected key format, a message is displayed:

OTHER DEVICE KEY: The blue key is locked.

KEY FROM THIS DEVICE: Attempt to reset a blue key that corresponds to the recorded blue key.

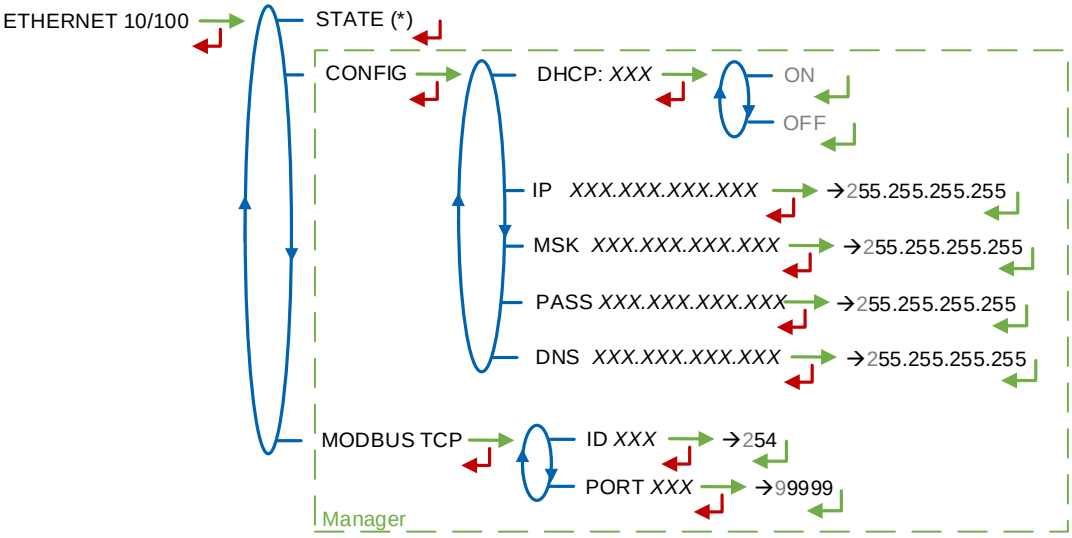
KEY ALREADY INITIALIZED: The blue key is already initialized.

KEY ALREADY ADDED: Addition of a green key already recorded.

KEY ERROR: The re-applied key is not the right color.

INCORRECT KEY: The format of the key is unknown.

9.5 Menu ETHERNET



(*) CONNECTED / DISCONNECTED

STATE: Status of the Ethernet connection.

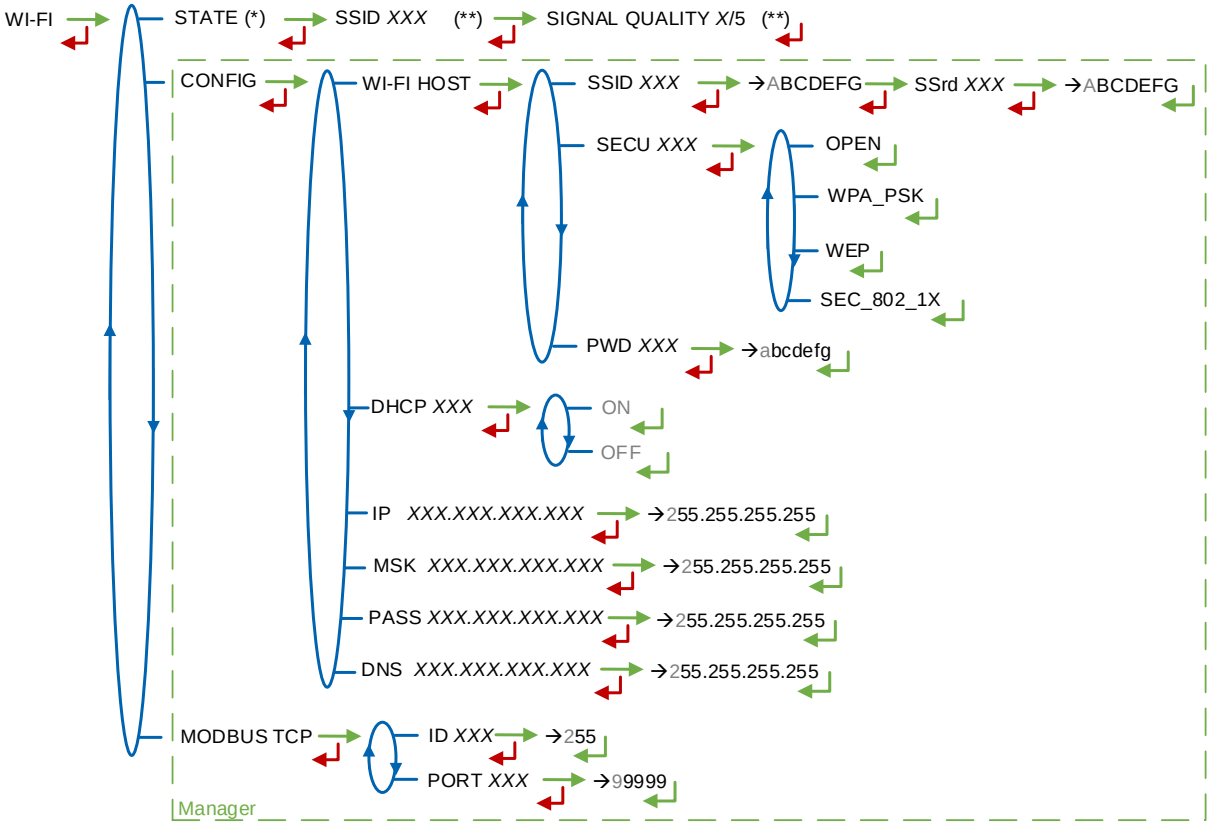
CONFIG – *Access restricted to the Manager with green key and to the Maintenance with red key*

- **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.

9.6 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.

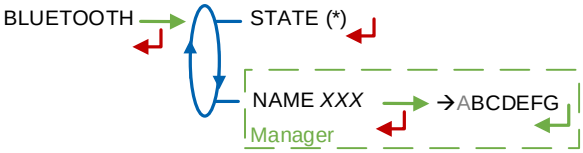
    Permitted characters: <space>!"#$%&'()*+,-./0123456789:;<=>?@ABCD EFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~<DEL> (Visualization of the permitted characters on the MICROCOMPT+ display).
- **DHCP**: If ON is enabled, IP parameters can be initialized through the DHCP protocol. If OFF is 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.

9.7 Menu BLUETOOTH

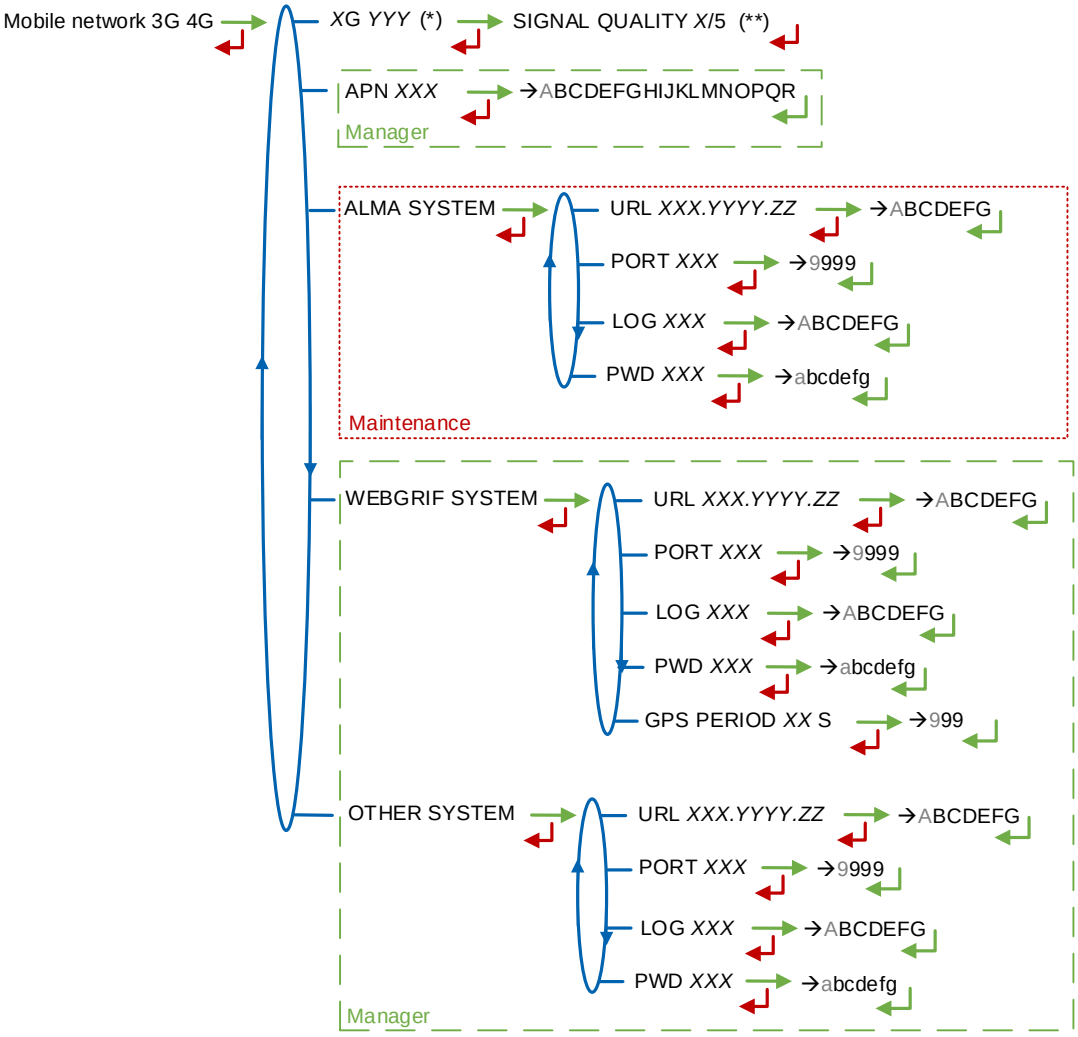


(*) NOT AVAILABLE (the calculator is not equipped) / DISCONNECTED / CONNECTED

STATE: Status of the Bluetooth connection.

NAME – *Access restricted to the Manager with green key and to the Maintenance with red key.*
The default name of the Bluetooth device includes the MICROCOMPT+ serial number.

9.8 Menu mobile network 3G 4G



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

XG YYY: The signal is being received, the type of mobile network is displayed 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.

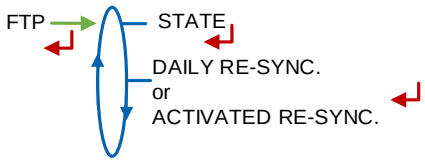
Permitted characters: <space>!"#$%&'()*+,-./0123456789:;<=>?@ABCD EFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~<DEL> (Visualization of the permitted characters on the MICROCOMPT+ display)

9.9 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.

9.10 Menu FTP

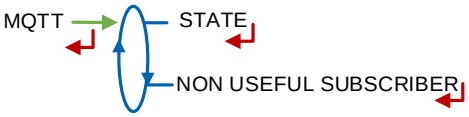


STATE : Synchronisation status (GSM and FTP connection faults, file synchronisation status).

DAILY RE-SYNC. : Reactivates FTP synchronisation for the current day.

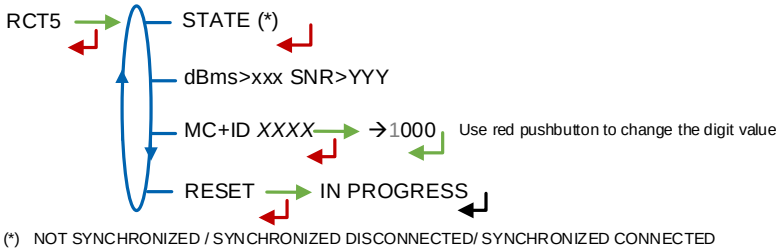
ACTIVATED RE-SYNC. : Indicates that an FTP synchronisation will be performed the next time the ICOM card is booted.

9.11 Menu MQTT



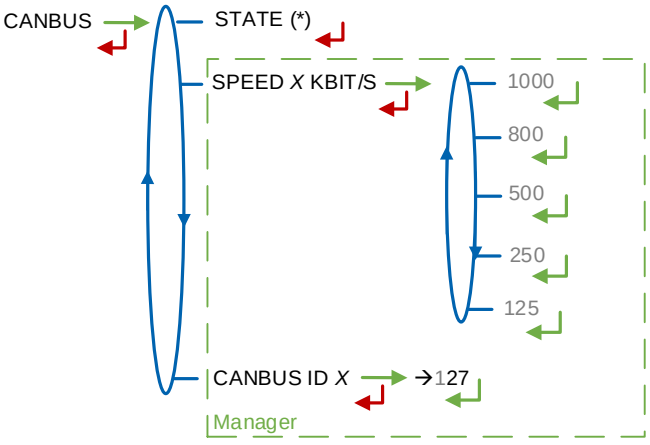
STATE : MQTT broker connection status (Faults, MQTT and GPS connections).
NON USEFUL SUBSCRIBER : Function not used.

9.12 Menu RCT5



STATE: Status of the MICROCOMPT+ ICOM board
dBm and SNR : Received signal level
MC+ID: 4-digit MICROCOMPT+ radio ID
RESET: Reset the pairing of the MICROCOMPT+ with the RCT5 remote control

9.13 Menu CANBUS



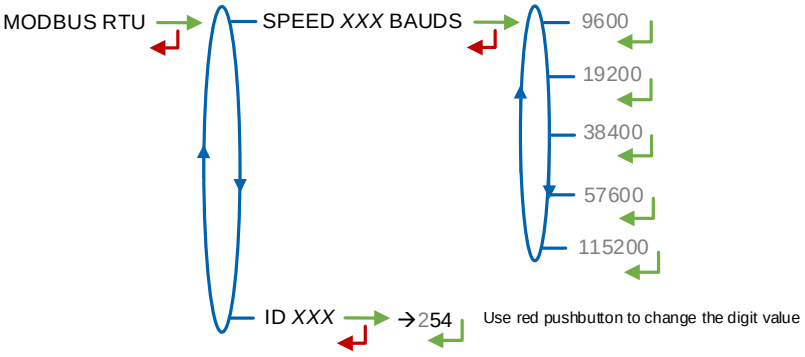
(*) CONNECTED / DISCONNECTED

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).

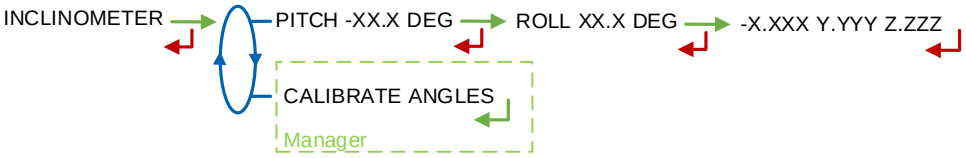
9.14 Menu MODBUS RTU



SPEED: Speed of the Modbus connection

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

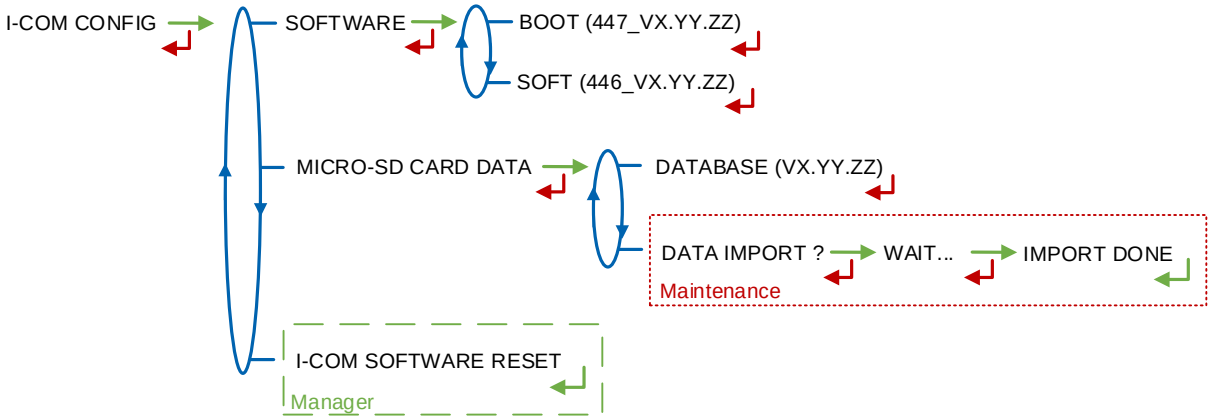
9.15 Menu INCLINOMETER



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

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

9.16 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 key*: Reboot the I-COM board.

RELATED DOCUMENTS

GU 7XXX	Operating guide
MU 7XXX	User manual
DI XXX	Installation guide
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+