OPERATING MANUAL

MU 7034 EN D

CMA TRONIQUE

Issue	Date	Nature of modifications	Written by	Approved by
D	2016/06/07	Second additive system, urea, µConfig COM1 *[MDV 448]*	DSM	PJ
C	2015/04/14	Functional changes and improvements	DSM	XS
B	2012/06/19	Internationalisation, product return	DSM	AH
A	2009/06/30	Creation	DSM	XS

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1 GENERAL PRESENTATION AND DESCRIPTION:

The CMA TRONIQUE measuring system must be fitted on road tankers to measure liquids other than water such as fuel, diesel, off-road diesel (GNR), ethanol and ad-blue. It has no gas elimination device because its principle of functioning avoids the introduction of a gaze phase into the pump.

It performs the following functions:

- ⇨ Measure products when they are delivered to the station
- ⇨ Monitor the reception of products (lorry/wagon)
- ⇨ Split compartments
- ⇨ Measure product returns.

The CMA TRONIQUE measuring system comprises:

- ⇨ A meter
- ⇨ A MICROCOMPT+ electronic calculator-indicator
- ⇨ A pump
- ⇨ A relative pressure sensor with its associated hydraulic shock absorber
- ⇨ A sight glass just downstream the meter
- ⇨ Either one or two full hoses, an empty hose or a combination of a full hose and an empty hose
- ⇨ A pneumatic valve in case of double delivery way
- ⇨ If required, overfill probes
- ⇨ If required, a temperature sensor
- ⇨ If required, a printer.

The CMA TRONIQUE can be equipped with an additive injection device. This injection has to occur upstream the meter.

Le CMA TRONIQUE is designed to measure volumes of liquid (pre-set or not). An option takes into account the temperature of liquid

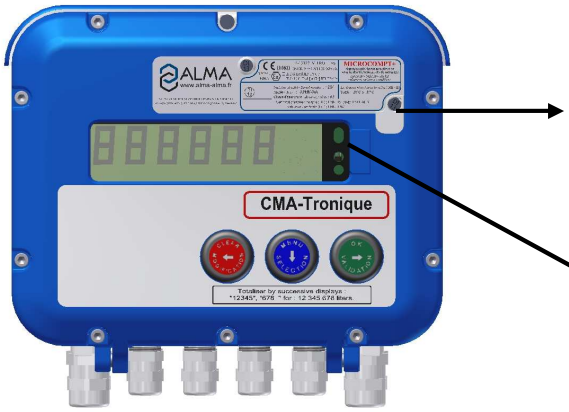
It controls up to 7 compartments with a maximum of 16 products which names are configurable

Depending on the configuration, the CMA TRONIQUE can control one or two distribution ways.

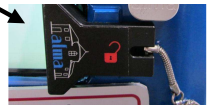
In option, it may print delivery tickets, internal totalisers, parameters, and events diary.

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

Presentation of the MICROCOMPT+ calculator-indicator:

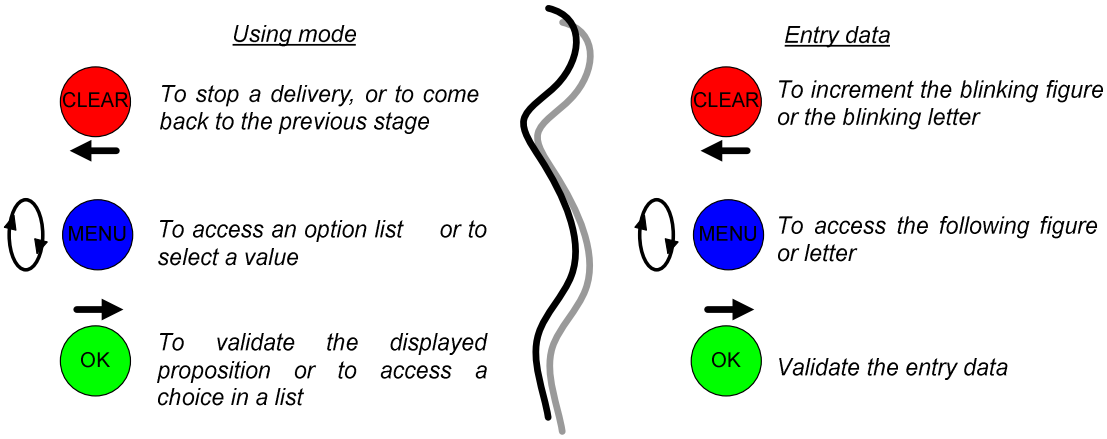


Sealed cup protecting access to metrological functions



SUPERVISOR magnetic key to access configuration and calibration menu

Buttons function:



The MICROCOMPT+ calculator-indicator manages measuring operation and computerizes the measuring system defaults.

2 OPERATING RECOMMENDATIONS:

For a use of the CMA TRONIQUE, the operator must make sure that all of the following conditions are met:

- ⇨ The tank operating position does not differ by ± 2% from the horizontal reference position (to avoid product retention)
- ⇨ The unloading hose must be installed to ensure an easy outflow during delivery; the maximum length of the discharge DN80 hose, is 12 metres
- ⇨ 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.

3 CONFIGURATION, SETTING AND CALIBRATION:

3.1 Configuration

To access the METROLOGICAL mode, the MICROCOMPT+ has to be unsealed. Only an authorized person can remove the seal. This mode allows setting all metrological parameters. It's done at the putting into use of the measuring system and sometimes during metrological controls.

Refer to METROLOGICAL MODE.

3.2 Setting

To access the SUPERVISOR mode, the magnetic key must be set at the right of the MICROCOMPT+ display. This mode is used to set the measuring system and to access the calibration menu. Before using the CMA TRONIQUE, enter the value of the parameters such as:

- Products: name, type of product, price, additivation, correction
- The vehicle identification
- Volumes, flowrates and timing settings
- Printing conditions
- Le choix de la langue d'affichage

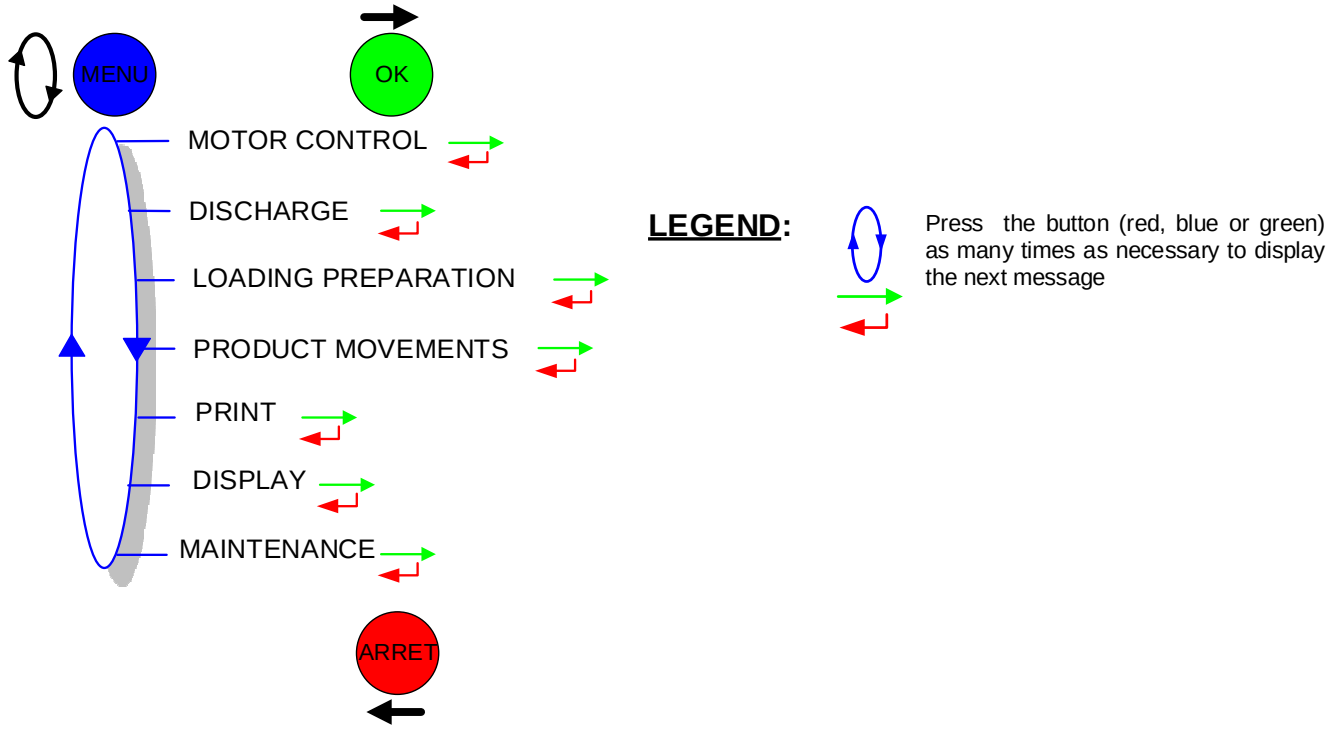
Refer to SUPERVISOR MODE.

3.3 Jaugeage

Having made the proving of the metering, this menu "CALIBRATION/GAUGE" allows calculating the error and the new coefficient

Refer to SUPERVISOR MODE for details on the gauging procedure.

4 USER MODE:



The use of CMA TRONIQUE measuring system depends on the hardware configuration of the truck, the features and the configuration of the equipment carried out during the putting into use

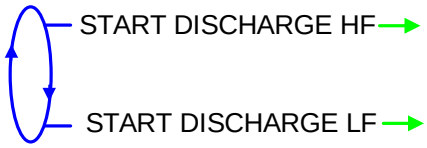
Therefore, the user menu depends on several items:

- ⇨ 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 delivery mode (counted pumped, uncounted pumped, gravity)
- ⇨ The temperature control (conversion of the volume).

There are several distribution modes:

- ⇨ PRESET of the volume
- ⇨ PRESET of the volume + hose PURGE: only available if the flap control is activated.
  In addition, this distribution mode is not proposed:
  - For a delivery with empty hose
  - In case of pollution of the hose
- ⇨ FREE mode
- ⇨ BARRELS mode (only in low flow rate).

Delivery can be performed in high or low flow. This choice is made for pumped deliveries at the display of the message ‘START DISCHARGE HF’. The blue MENU BUTTON switches on the display ‘START DISCHARGE LF’.

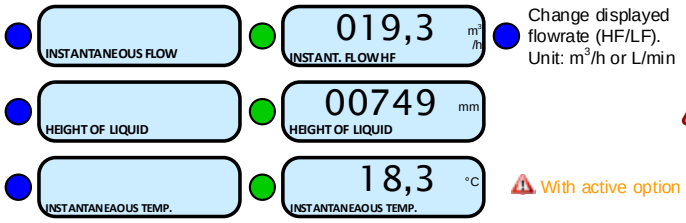


The choice is made by pressing the green OK BUTTON. Switching is possible during the delivery.

During delivery, the following information may be displayed:

- ⇨ The instantaneous flow rate in high or low flowrate (m^3/h or L/min; depending on the display unit set)
- ⇨ The product height (mm)
- ⇨ The temperature (°C) if it is taken into account.

Simply follow the indications below:



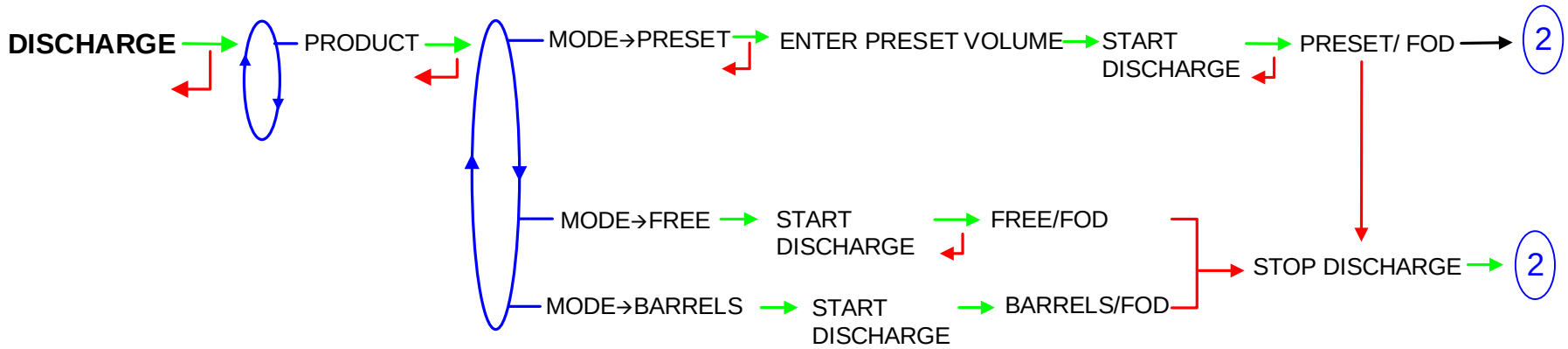
Back to normal display is automatic.
DON’T PRESS STOP PUSHBUTTON.

In user mode, the CMA TRONIQUE displays a blinking volume which is the volume that just has been delivered.

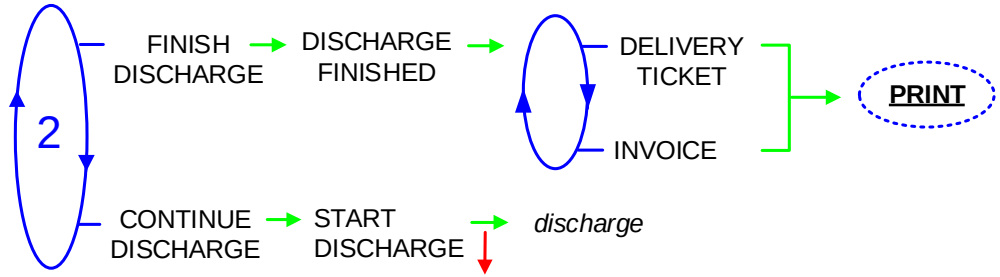
4.1 Menu DISCHARGE

4.1.1 One distribution way

4.1.1.1 Discharge



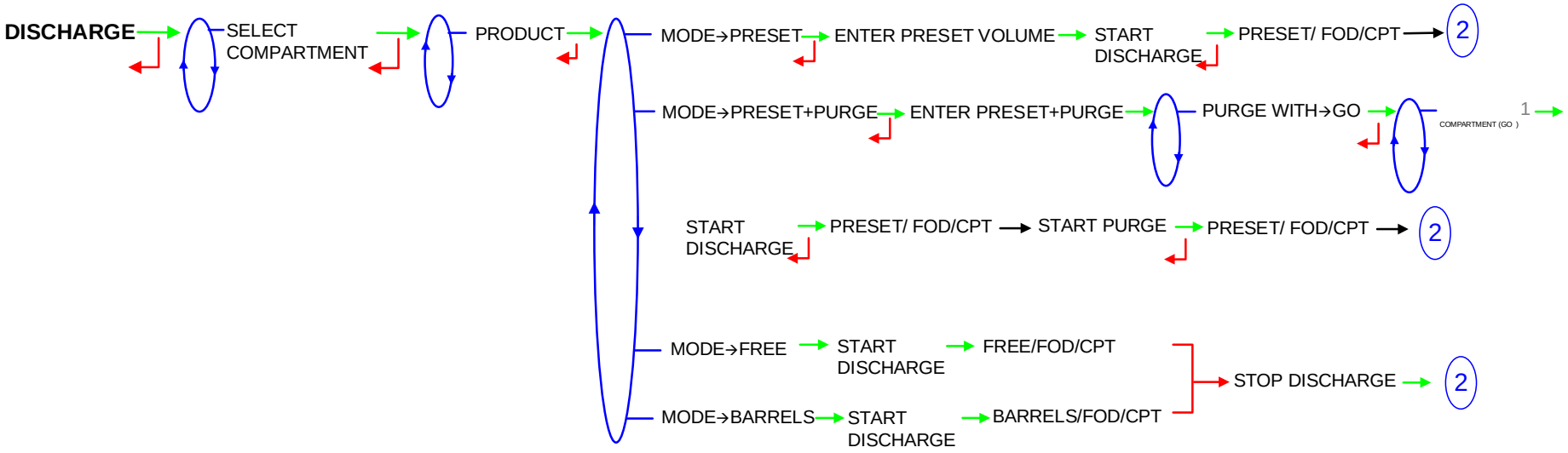
4.1.1.2 Finish/Continue



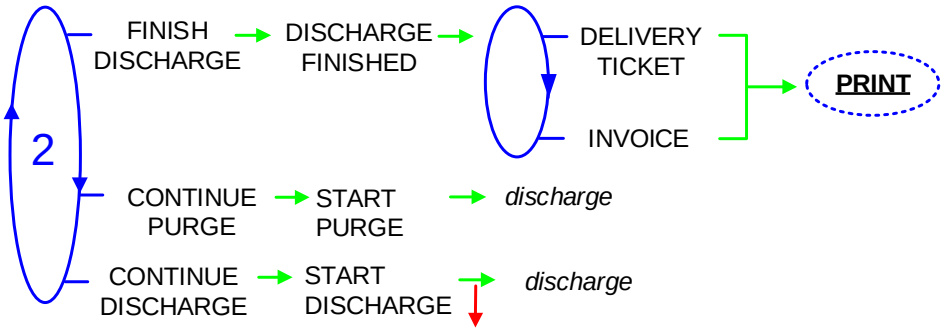
***To change the delivery mode**: press the red pushbutton when "START DISCHARGE" is displayed with the volume already discharged.*

4.1.2 One distribution way + Compartment selection

4.1.2.1 Discharge



4.1.2.2 Finish/Continue

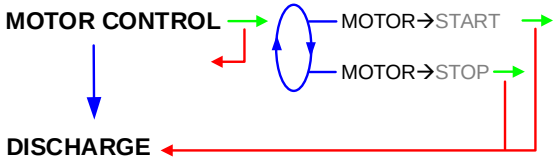


***To change the delivery mode**: press the red pushbutton when "START DISCHARGE" is displayed with the volume already discharged.*

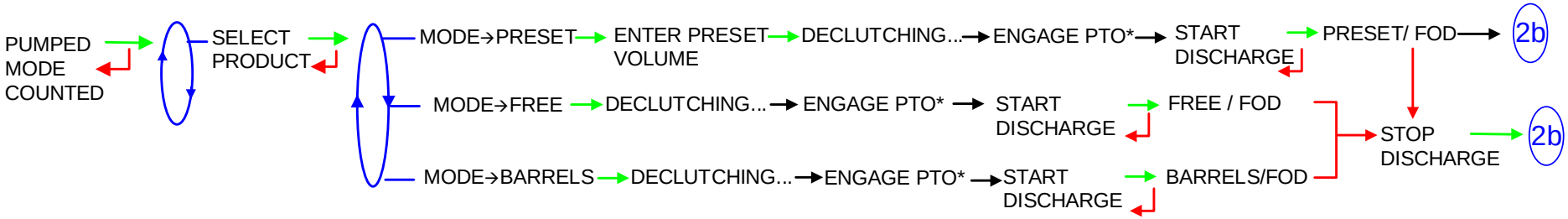
4.1.3 One distribution way + Motor control (PTO)

To access a pumped or a gravity delivery, the distribution mode must have been set to CONFIGURATION>MODE>PUMPED+GRAVITY in METROLOGICAL mode.

The commands for the pump clutching/declutching and for the power take-off control are realised by the CMA TRONIQUE at the beginning and at the end of distribution.

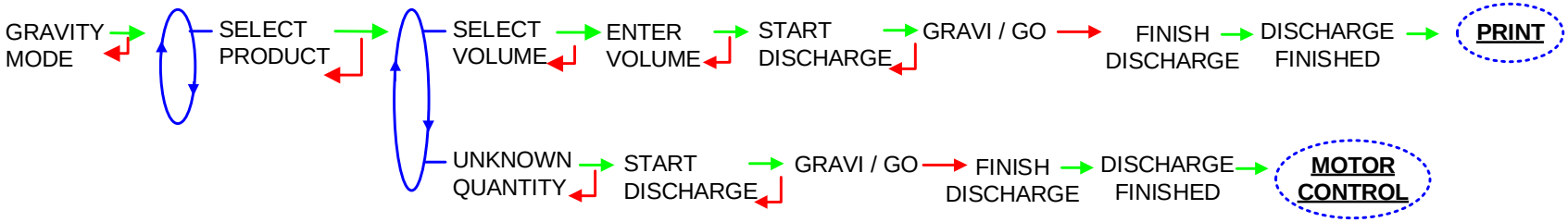


4.1.3.1 Pumped mode counted



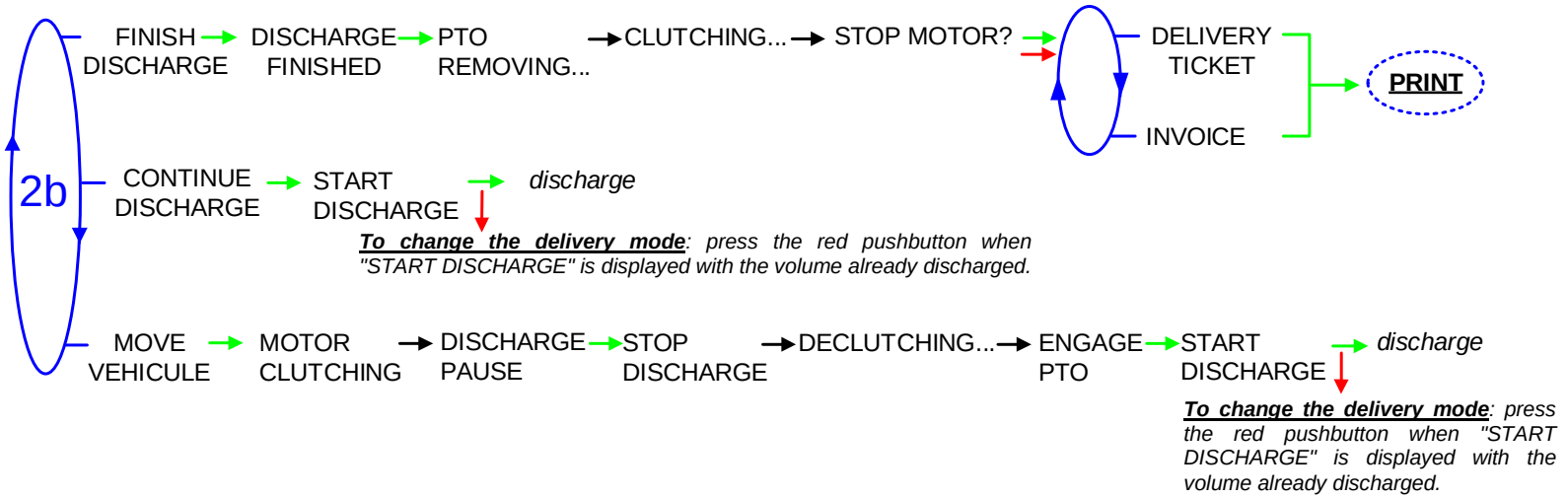
**This message is not displayed if the PTO is continue*.

4.1.3.2 Gravity mode



4.1.3.3 Finish/Continue

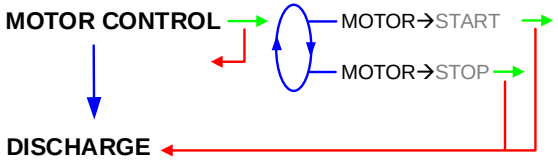
If it's necessary to move the vehicle, the distribution has to be stopped for a moment, then choose the "MOVE VEHICLE" item. The CMA TRONIQUE switches off the power take-off, clutches the engine and freezes the MICROCOMPT indicator on "PAUSE". Press green button to continue distribution.



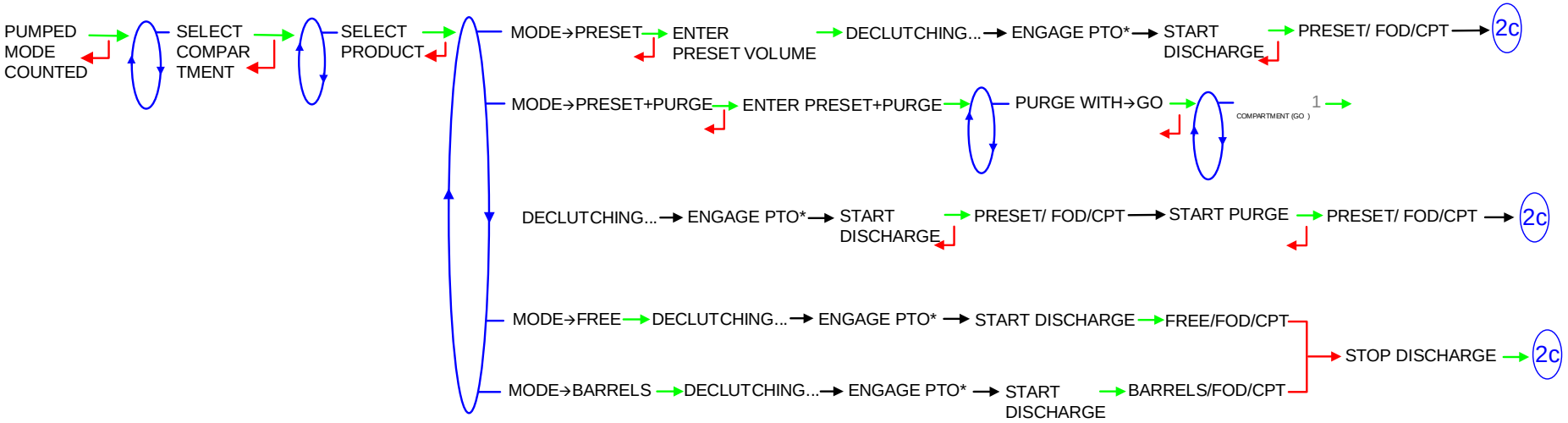
4.1.4 One distribution way + Compartment selection + Motor control (PTO)

To access a pumped or a gravity delivery, the distribution mode must have been set to CONFIGURATION>MODE>PUMPED+GRAVITY in METROLOGICAL mode.

The commands for the pump clutching/declutching and for the power take-off control are realised by the CMA TRONIQUE at the beginning and at the end of distribution.

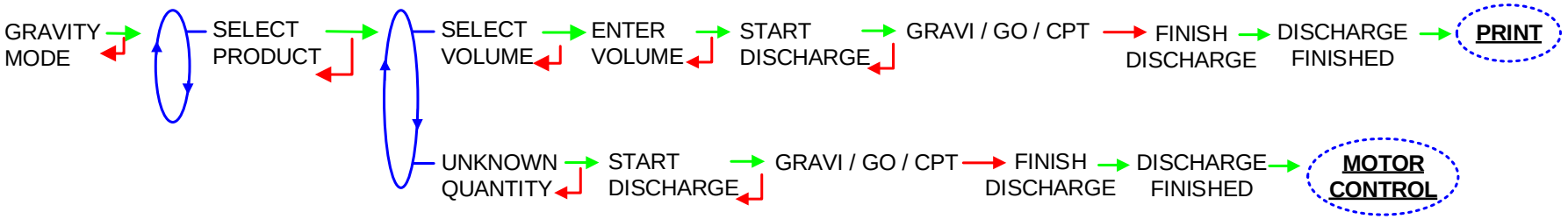


4.1.4.1 Pumped mode counted



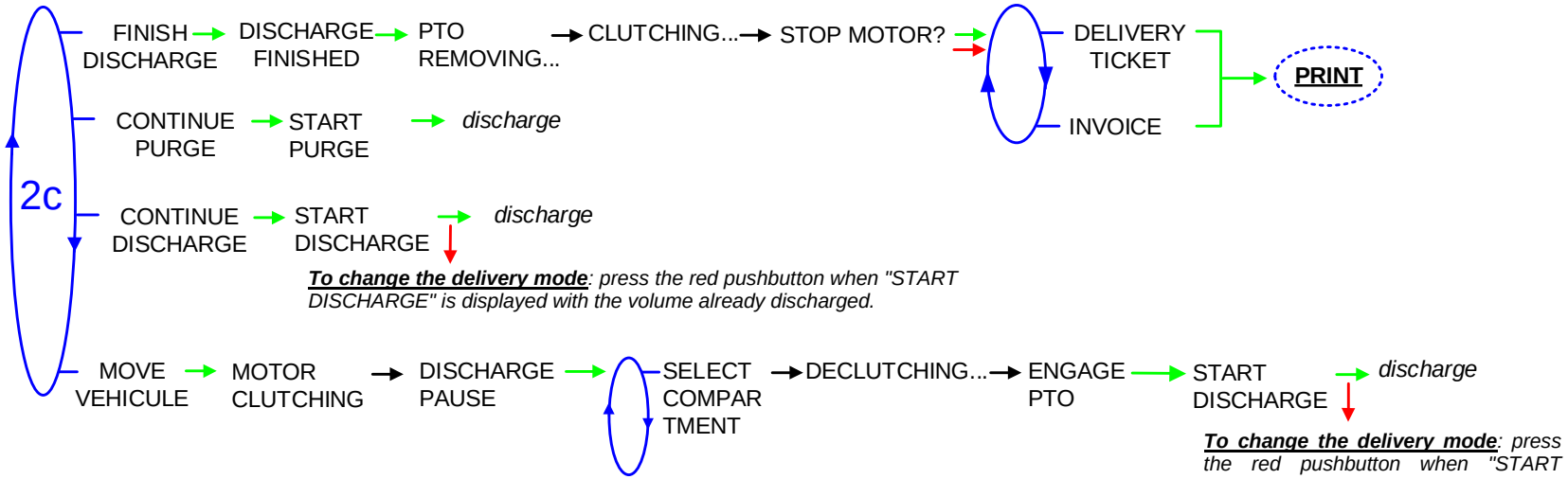
**This message is not displayed if the PTO is continue*.

4.1.4.2 Gravity mode



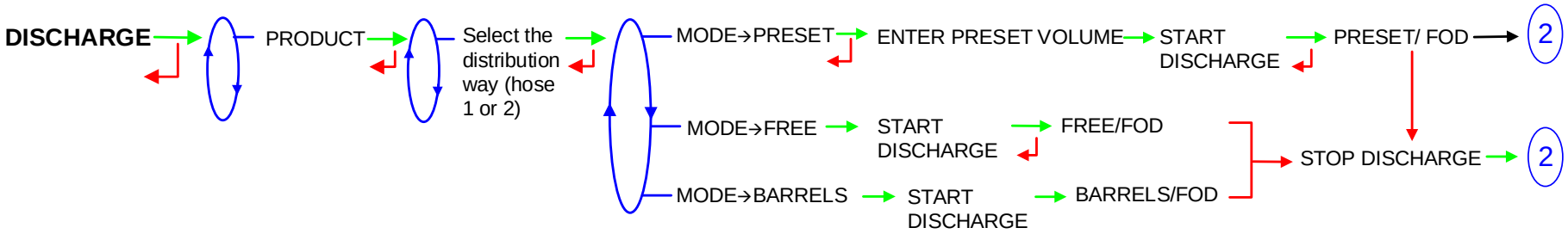
4.1.4.3 Finish/Continue

If it's necessary to move the vehicle, the distribution has to be stopped for a moment, then choose the "MOVE VEHICLE" item. The CMA TRONIQUE switches off the power take-off, clutches the engine and freezes the MICROCOMPT indicator on "PAUSE". Press green button to continue distribution.

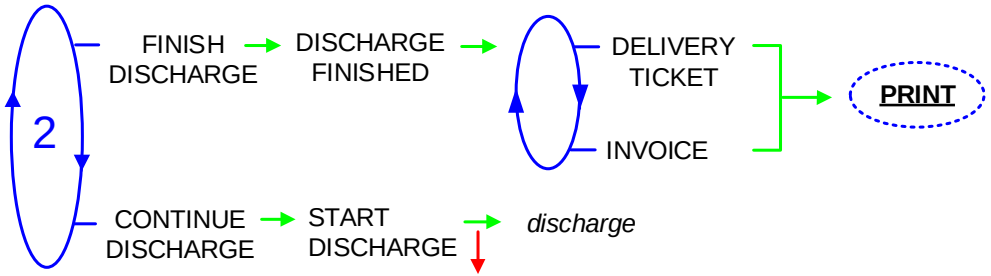


4.1.5 Two distribution ways

4.1.5.1 Discharge



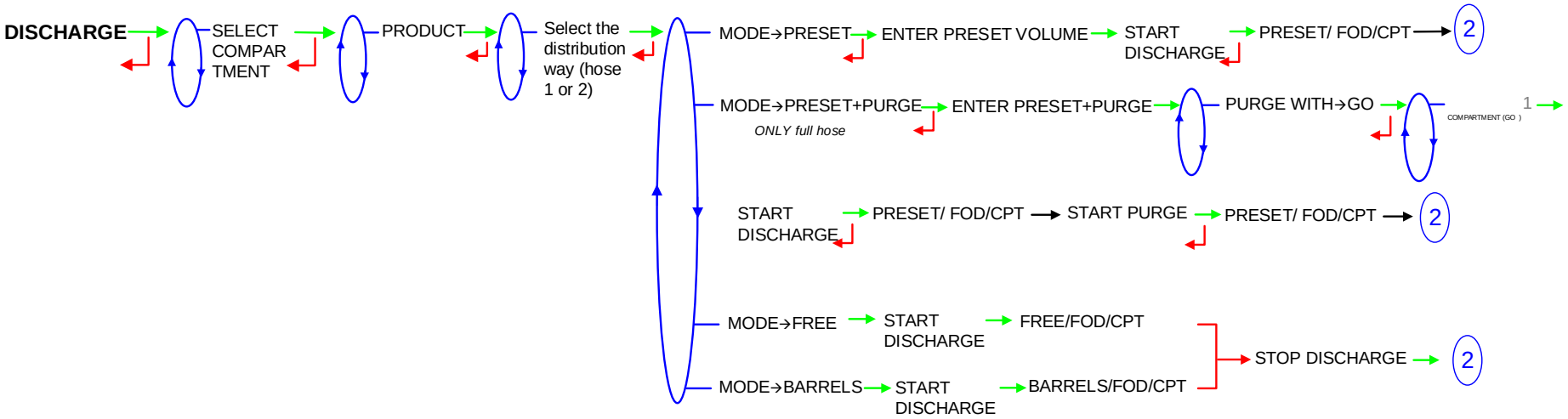
4.1.5.2 Finish/Continue



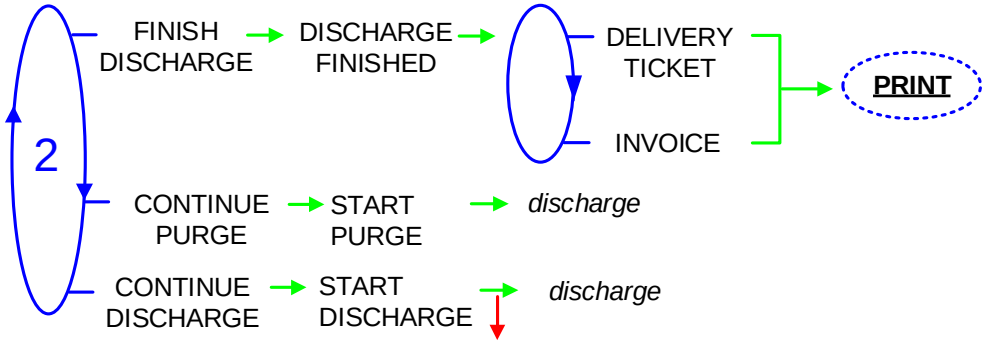
***To change the delivery mode**: press the red pushbutton when "START DISCHARGE" is displayed with the volume already discharged.*

4.1.6 Two distribution ways + Compartment selection

4.1.6.1 Discharge



4.1.6.2 Finish/Continue

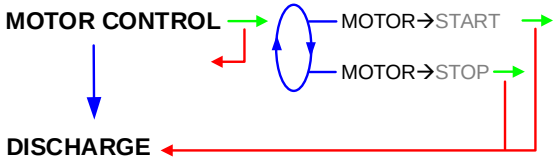


***To change the delivery mode**: press the red pushbutton when "START DISCHARGE" is displayed with the volume already discharged.*

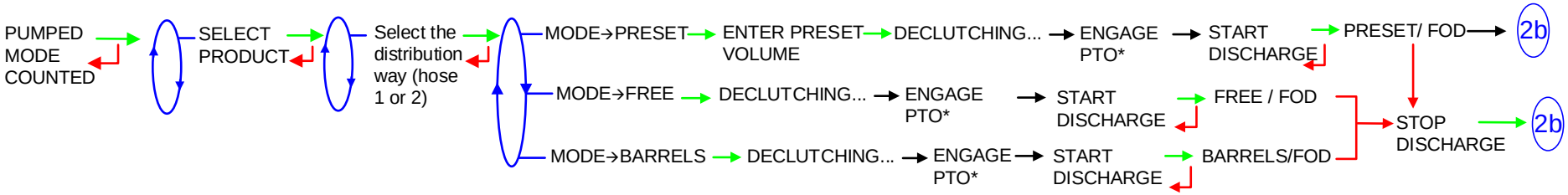
4.1.7 Two distribution ways + Motor control (PTO)

To access a pumped or a gravity delivery, the distribution mode must have been set to CONFIGURATION>MODE>PUMPED+GRAVITY in METROLOGICAL mode.

The commands for the pump clutching/declutching and for the power take-off control are realised by the CMA TRONIQUE at the beginning and at the end of distribution.

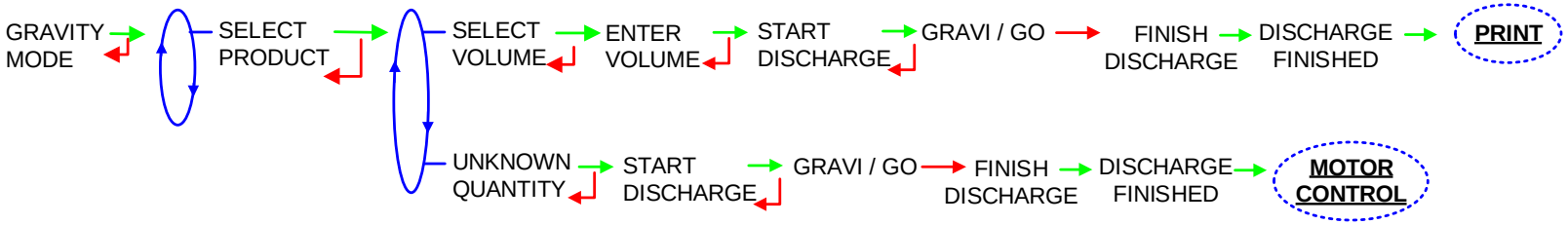


4.1.7.1 Pumped mode counted



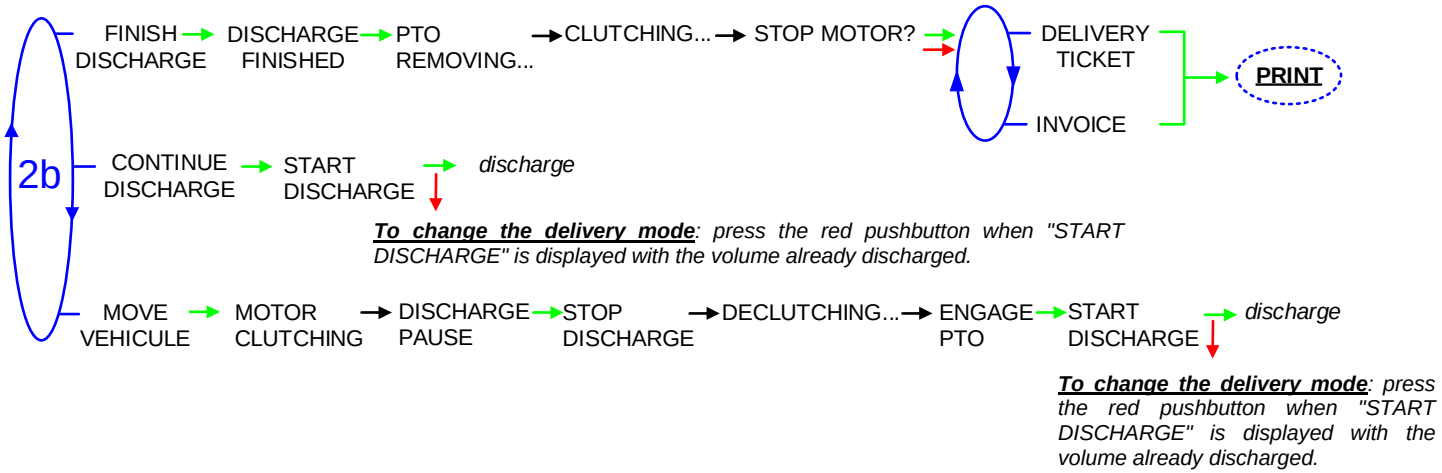
**This message is not displayed if the PTO is continue*.

4.1.7.2 Gravity mode



4.1.7.3 Finish/Continue

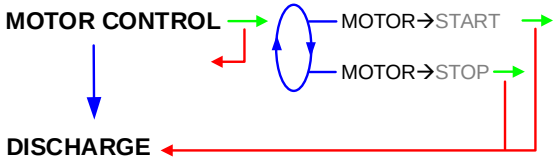
If it's necessary to move the vehicle, the distribution has to be stopped for a moment, then choose the "MOVE VEHICLE" item. The CMA TRONIQUE switches off the power take-off, clutches the engine and freezes the MICROCOMPT indicator on "PAUSE". Press green button to continue distribution.



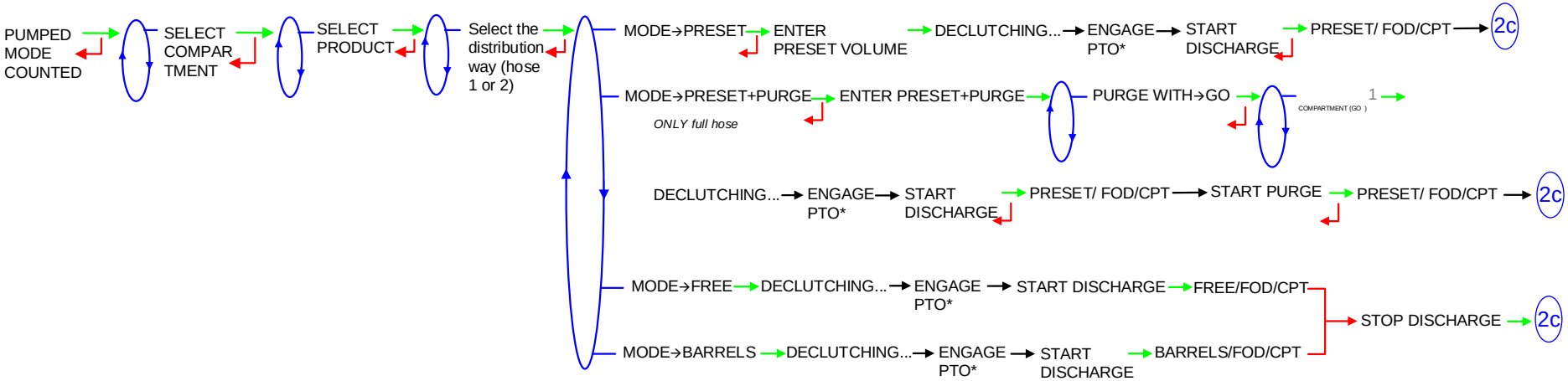
4.1.8 Two distribution ways + Compartment selection + Motor control (PTO)

To access a pumped or a gravity delivery, the distribution mode must have been set to CONFIGURATION>MODE>PUMPED+GRAVITY in METROLOGICAL mode.

The commands for the pump clutching/declutching and for the power take-off control are realised by the CMA TRONIQUE at the beginning and at the end of distribution.

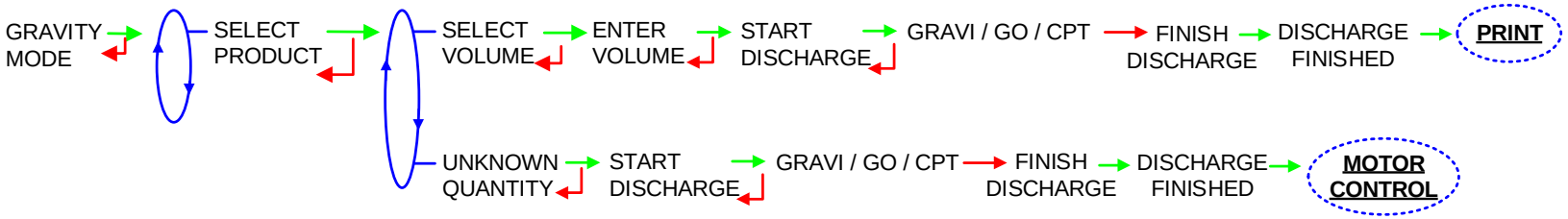


4.1.8.1 Pumped mode counted



**This message is not displayed if the PTO is continue*.

4.1.8.2 Gravity mode



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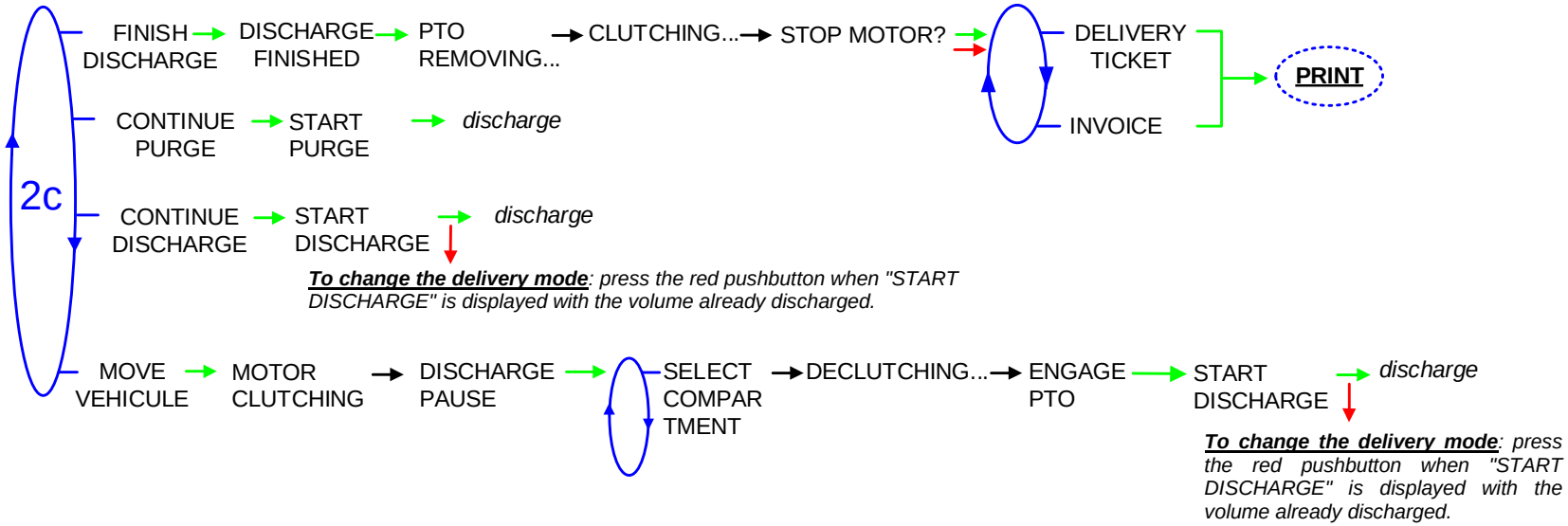
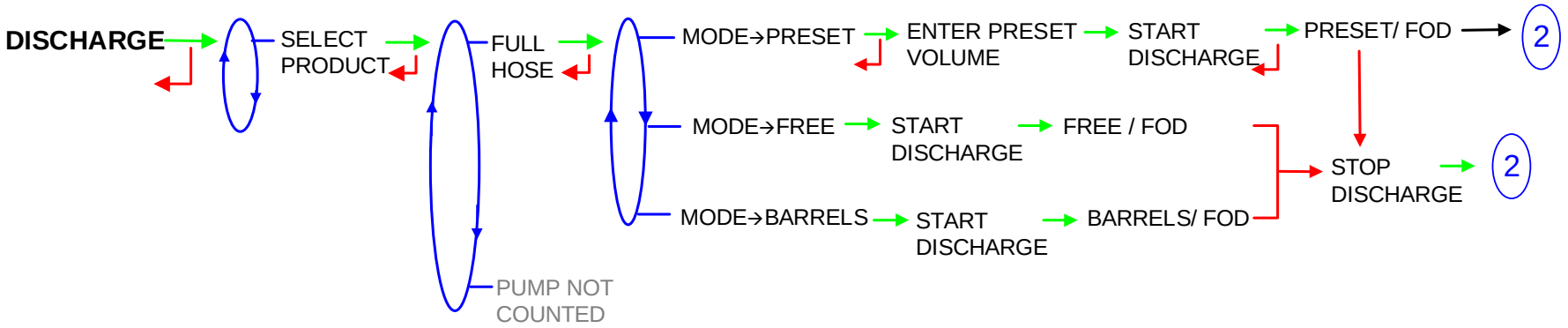
If it's necessary to move the vehicle, the distribution has to be stopped for a moment, then choose the "MOVE VEHICLE" item. The CMA TRONIQUE switches off the power take-off, clutches the engine and freezes the MICROCOMPT indicator on "PAUSE". Press green button to continue distribution.



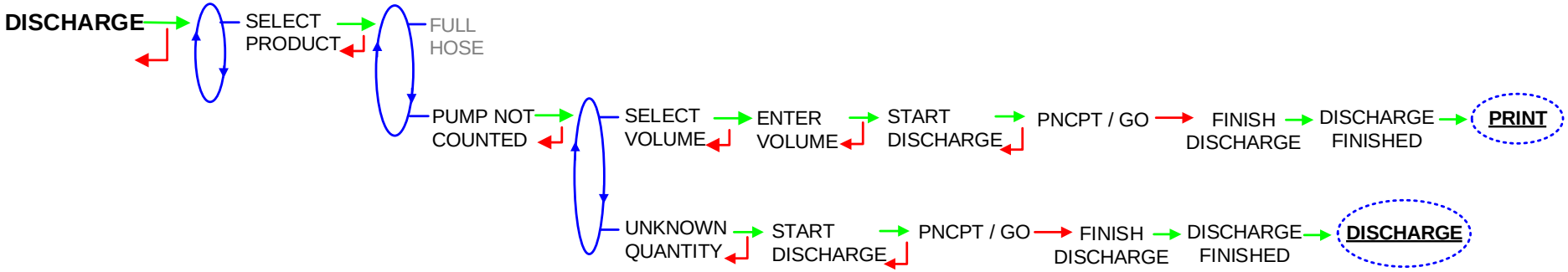
4.1.9 Pumped counted/not counted rule

This delivery mode is used with two distribution outlets: upstream and downstream the meter. The menu must have been set to CONFIGURATION>DISTRIBUTION LINE>PUMPED NC RULE in METROLOGICAL mode.

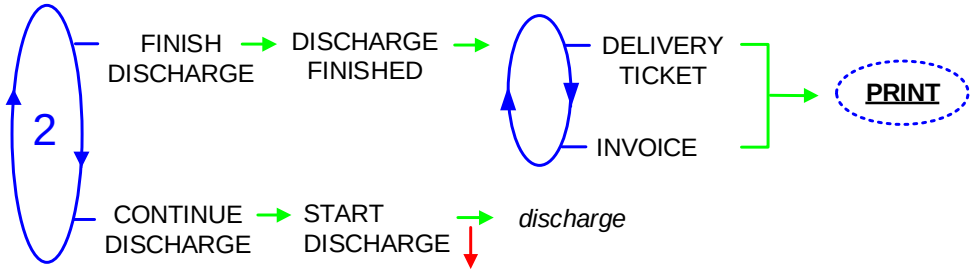
4.1.9.1 Full hose



4.1.9.2 Pumped not counted



4.1.9.3 Finish/Continue

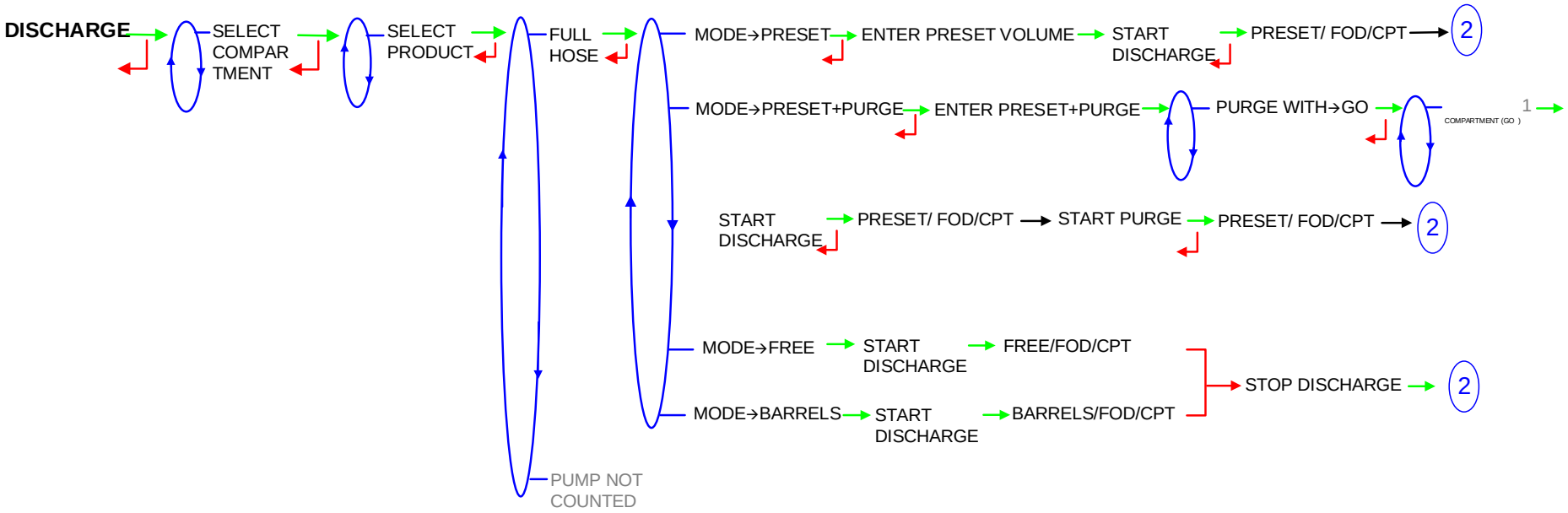


***To change the delivery mode**: press the red pushbutton when "START DISCHARGE" is displayed with the volume already discharged.*

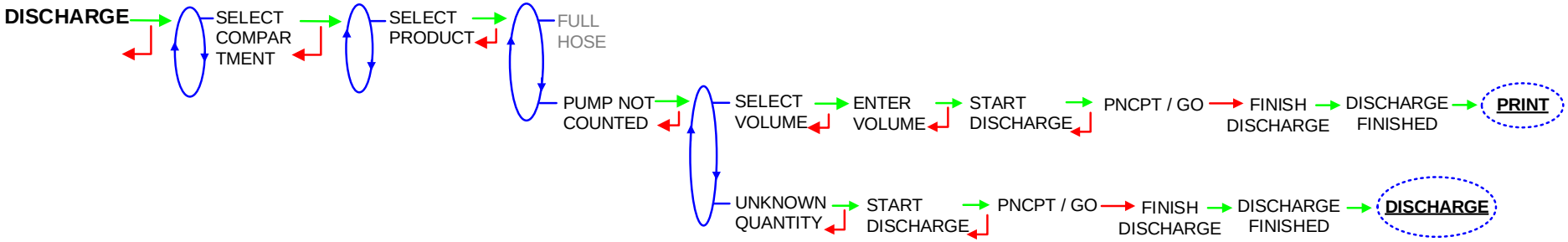
4.1.10 Pumped counted/not counted rule + Compartment selection

This delivery mode is used with two distribution outlets: upstream and downstream the meter. The menu must have been set to CONFIGURATION>DISTRIBUTION LINE>PUMPED NC RULE in METROLOGICAL mode.

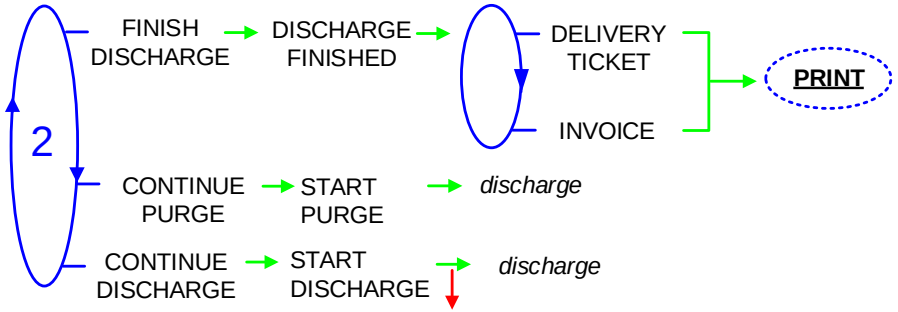
4.1.10.1 Full hose



4.1.10.2 Pumped not counted



4.1.10.3 Finish/Continue

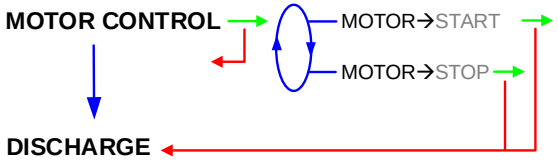


***To change the delivery mode**: press the red pushbutton when "START DISCHARGE" is displayed with the volume already discharged.*

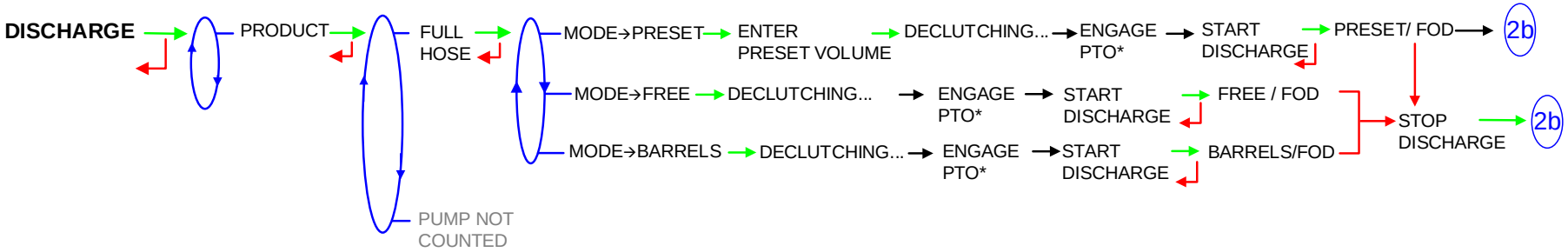
4.1.11 Pumped counted/not counted rule + Motor control (PTO)

This delivery mode is used with two distribution outlets: upstream and downstream the meter. The menu must have been set to CONFIGURATION>DISTRIBUTION LINE>PUMPED NC RULE in METROLOGICAL mode.

The commands for the pump clutching/declutching and for the power take-off control are realised by the CMA TRONIQUE at the beginning and at the end of distribution.

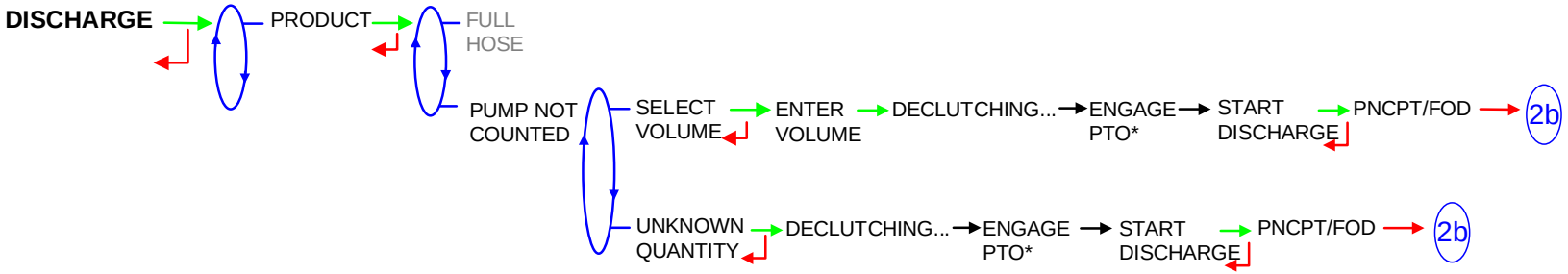


4.1.11.1 Full hose



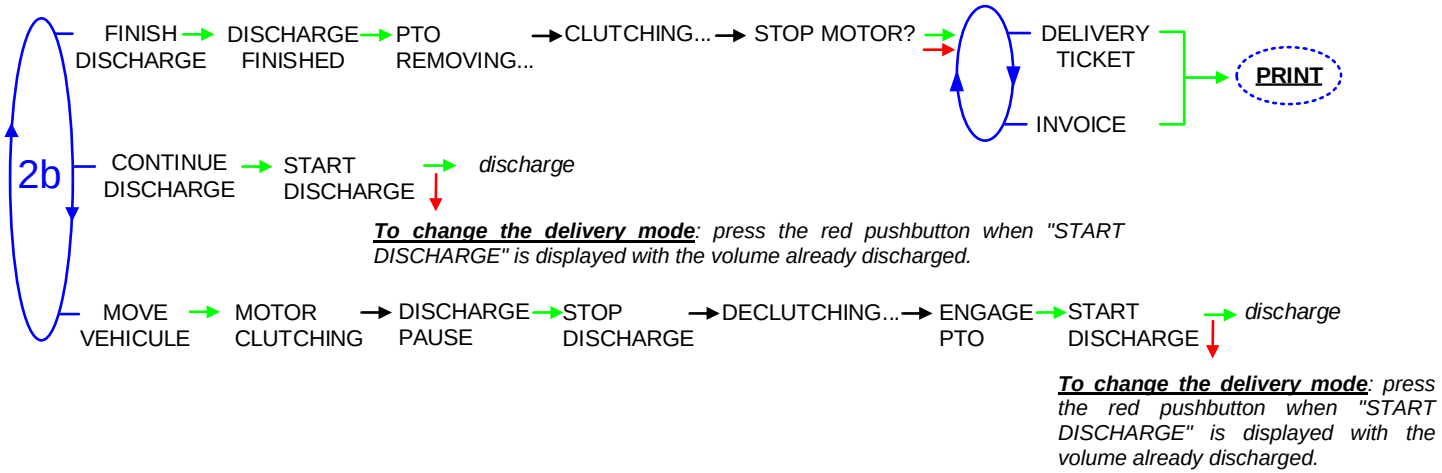
**This message is not displayed if the PTO is continue*.

4.1.11.2 Pumped not counted



4.1.11.3 Finish/Continue

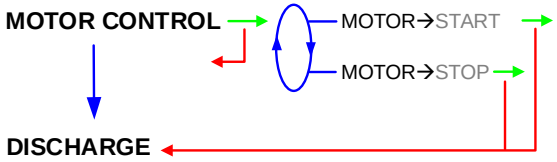
If it's necessary to move the vehicle, the distribution has to be stopped for a moment, then choose the "MOVE VEHICLE" item. The CMA TRONIQUE switches off the power take-off, clutches the engine and freezes the MICROCOMPT indicator on "PAUSE". Press green button to continue distribution.



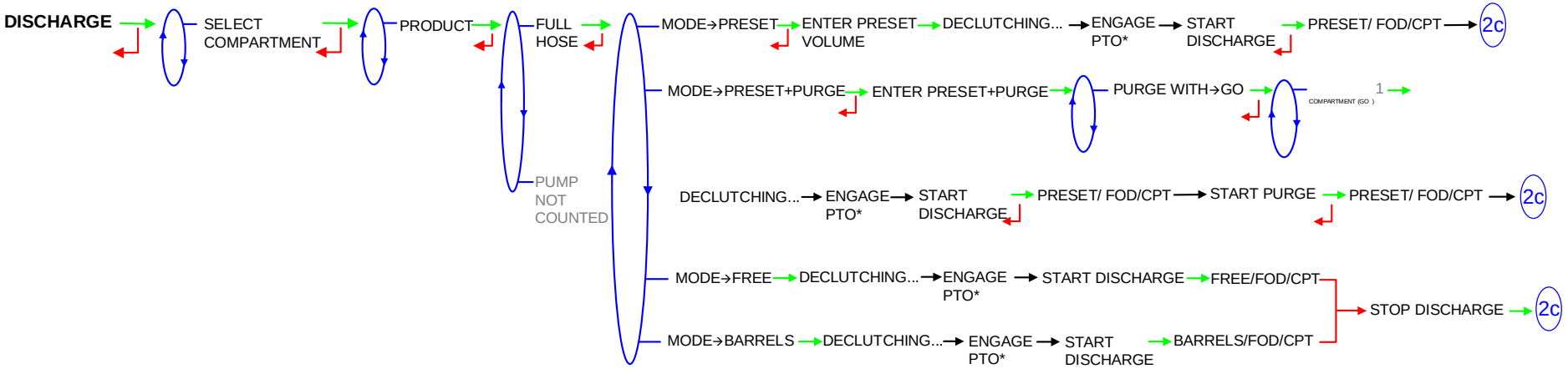
4.1.12 Pumped counted/not counted rule + Compartment selection + Motor control (PTO)

This delivery mode is used with two distribution outlets: upstream and downstream the meter. The menu must have been set to CONFIGURATION>DISTRIBUTION LINE>PUMPED NC RULE in METROLOGICAL mode.

The commands for the pump clutching/declutching and for the power take-off control are realised by the CMA TRONIQUE at the beginning and at the end of distribution.

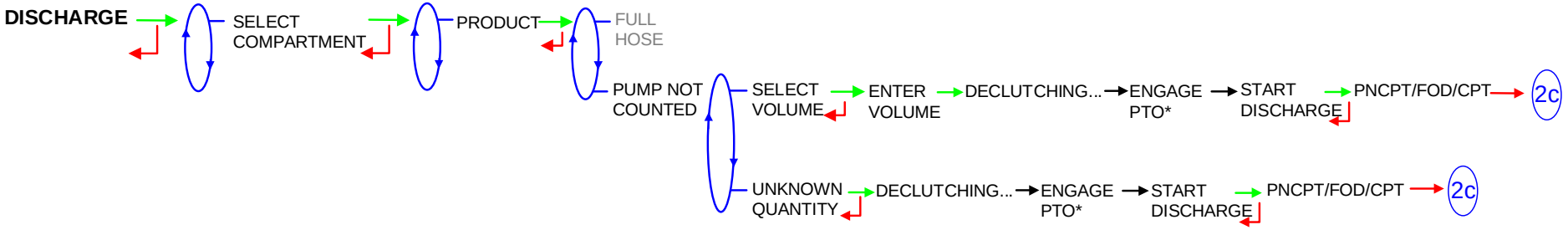


4.1.12.1 Full hose



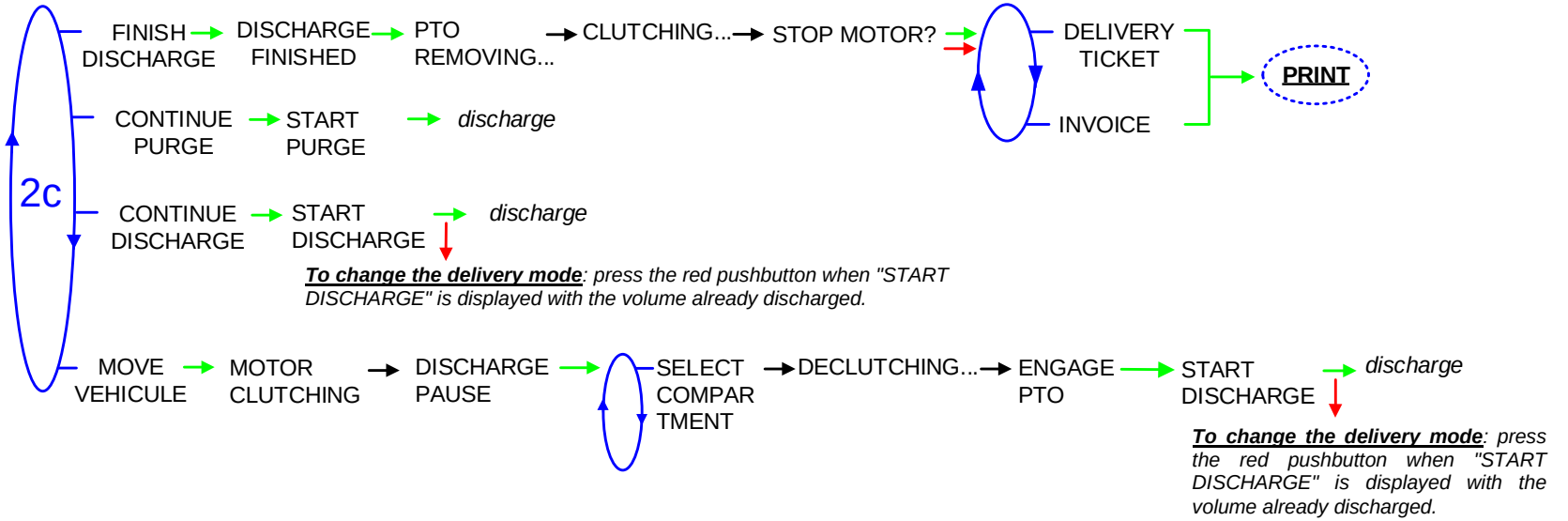
**This message is not displayed if the PTO is continue*.

4.1.12.2 Pumped not counted



4.1.12.3 Finish/Continue

If it's necessary to move the vehicle, the distribution has to be stopped for a moment, then choose the "MOVE VEHICLE" item. The CMA TRONIQUE switches off the power take-off, clutches the engine and freezes the MICROCOMPT indicator on "PAUSE". Press green button to continue distribution.

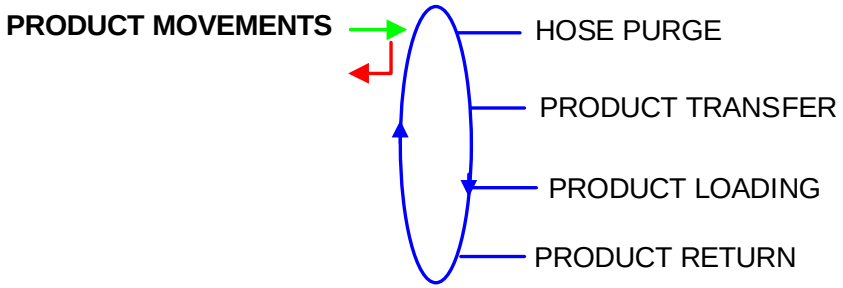


4.2 Menu LOADING PREPARATION (not used)

4.3 Menu PRODUCT MOVEMENTS

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

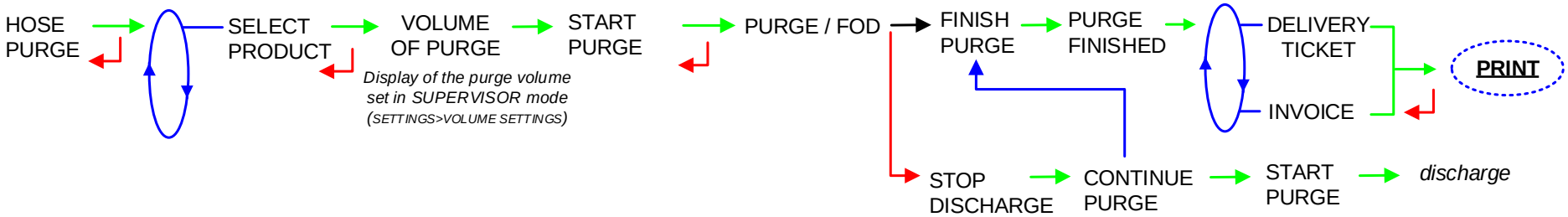
They are available when at least one product return with overfill probe is set in METROLOGICAL mode: CONFIGURATION>COMPARTIMENT OPTIONS>RETURN→ON>PROBE→ON.



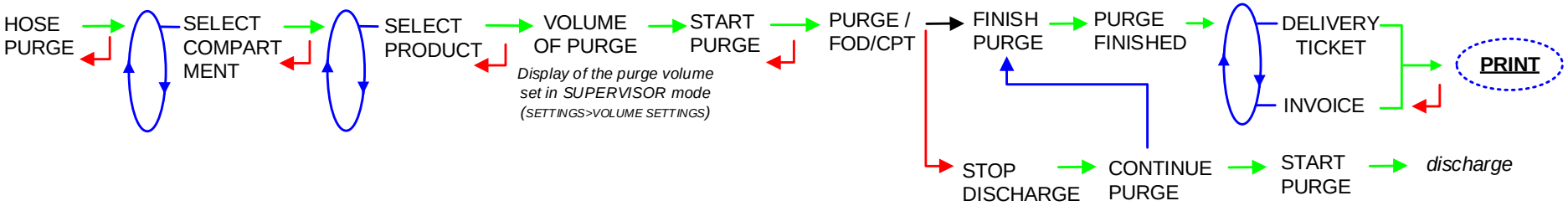
4.3.1 Sub-menu HOSE PURGE

This menu allows purging the hose in order to change the quality of the product.

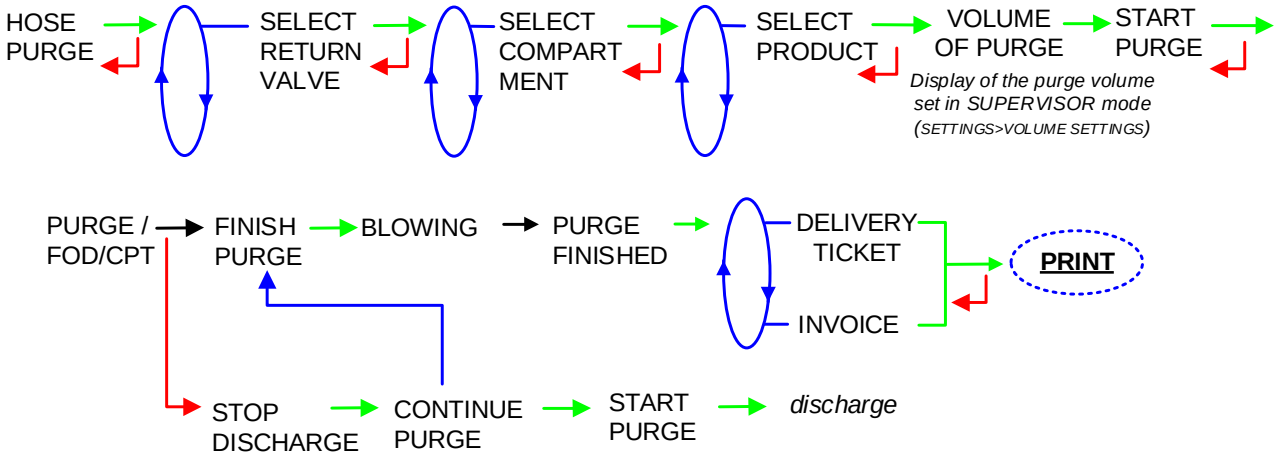
4.3.1.1 Basic configuration



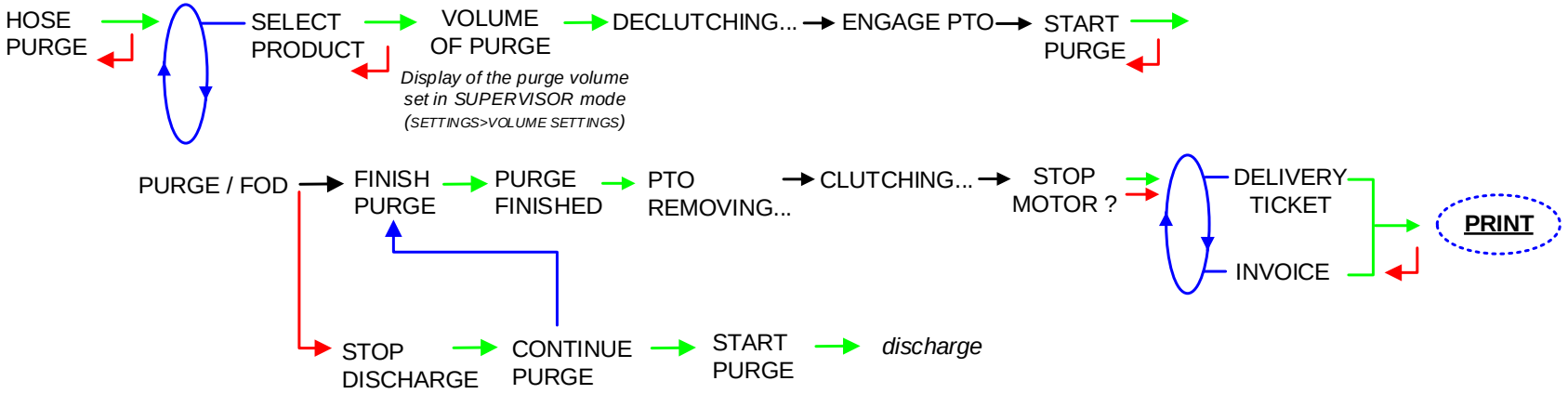
4.3.1.2 With Compartment selection



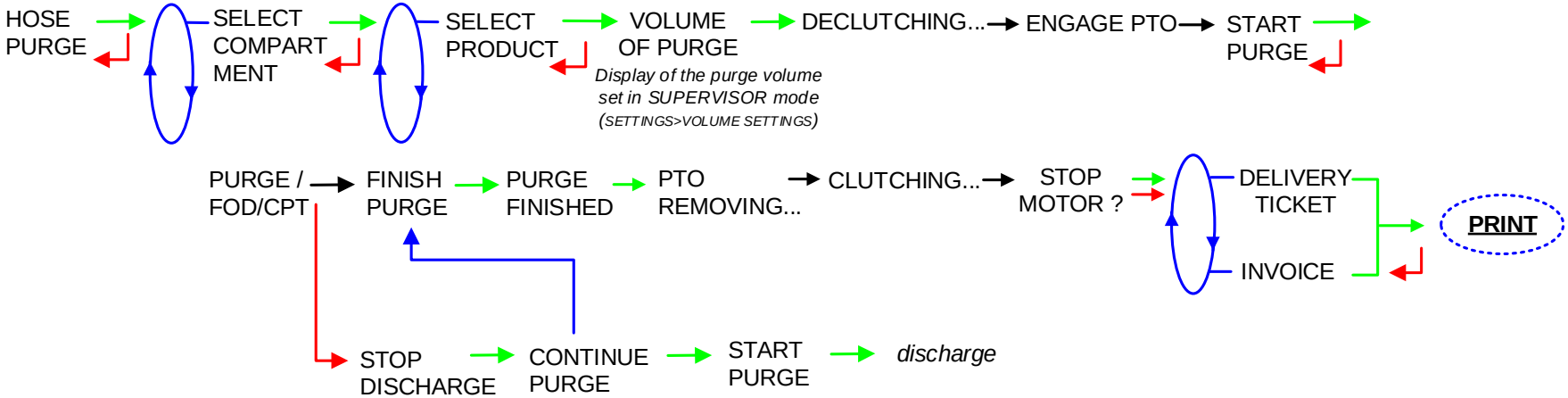
4.3.1.3 With Compartment selection + Return valve



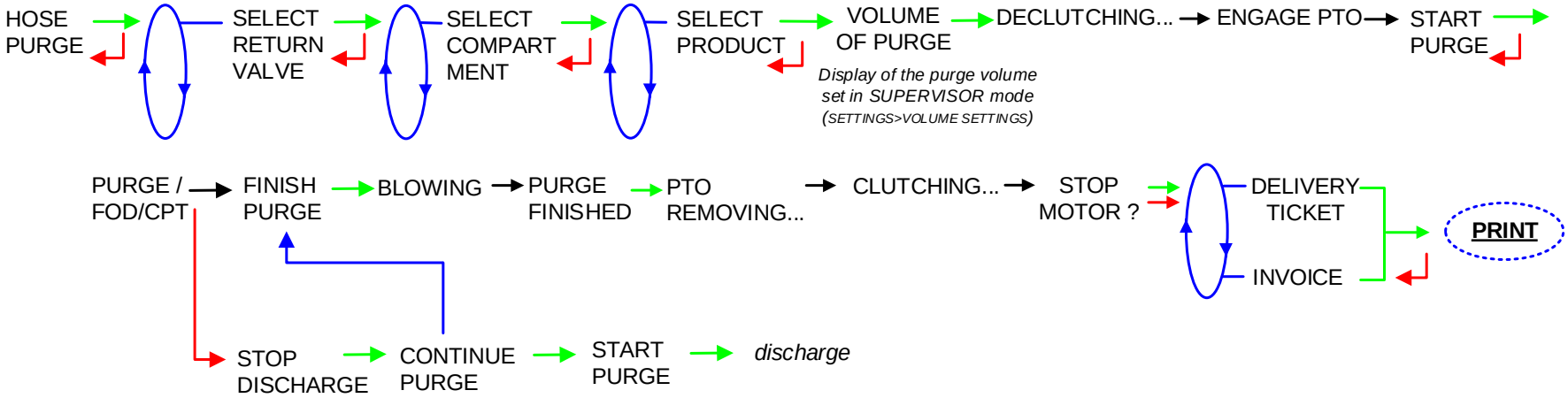
4.3.1.4 With Motor control (PTO)



4.3.1.5 With Compartment selection + Motor control (PTO)



4.3.1.6 With Compartment selection + Return valve + Motor control (PTO)

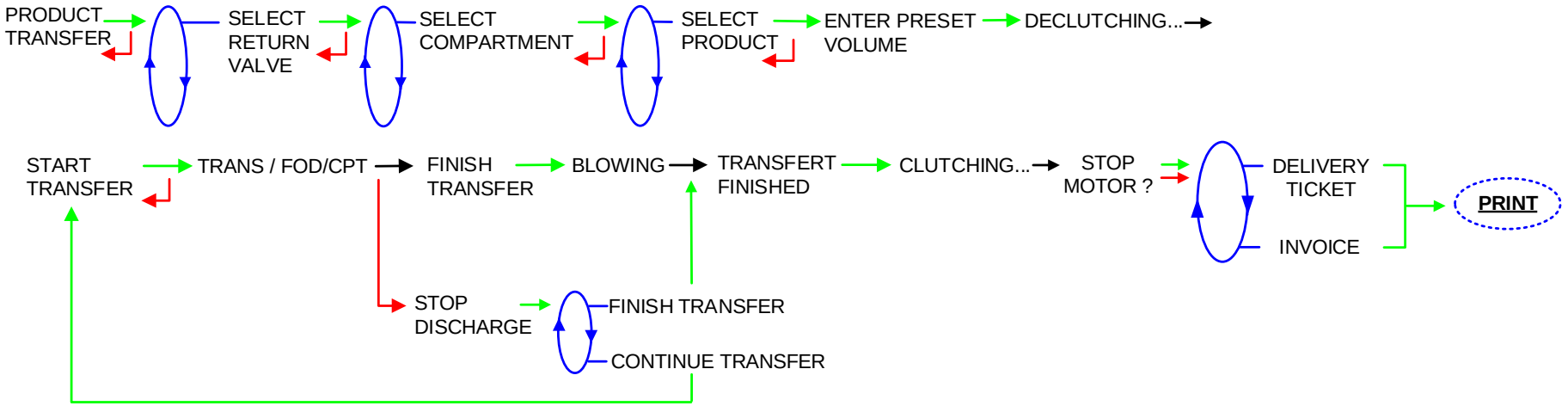


4.3.2 Sub-menu PRODUCT TRANSFER

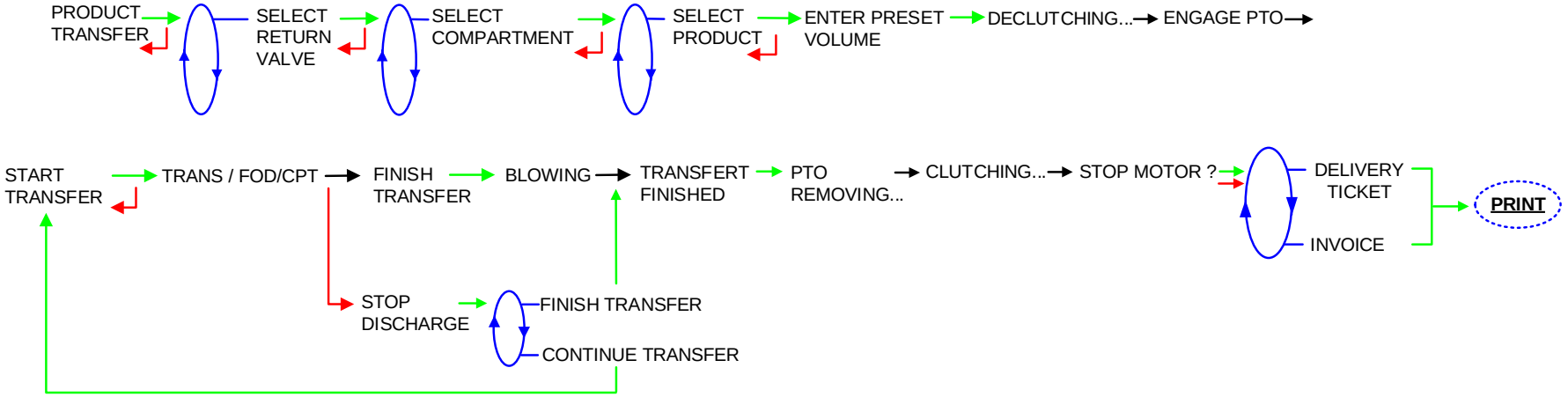
This menu allows unloading the product from one compartment either to another compartment or to a compartment of another truck or to a loading terminal; transfer is performed in low flow rate

It is available when at least one product return with overfill probe is set in METROLOGICAL mode.

4.3.2.1 With Compartment selection + Return valve

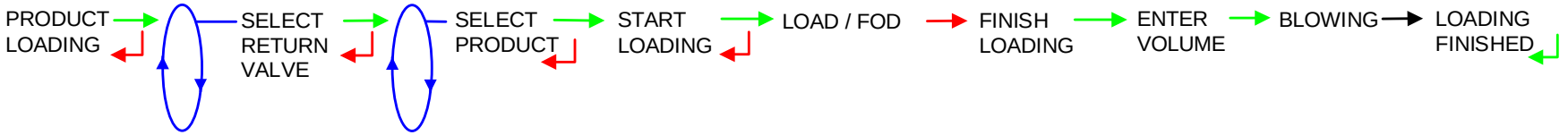


4.3.2.2 A With Compartment selection + Return valve + Motor control (PTO)



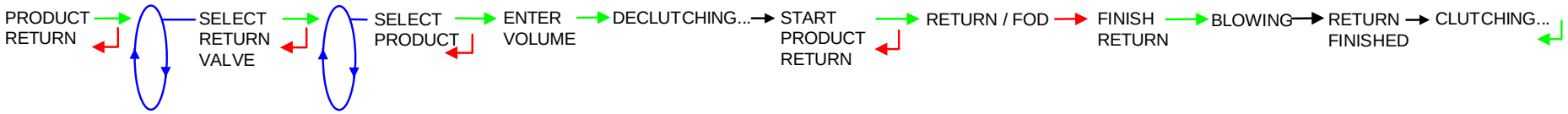
4.3.3 Sub-menu PRODUCT LOADING

This menu allows shifting product from one truck to another truck; loading is performed in low flow rate. It is available when at least one product return with overfill probe is set in METROLOGICAL mode.

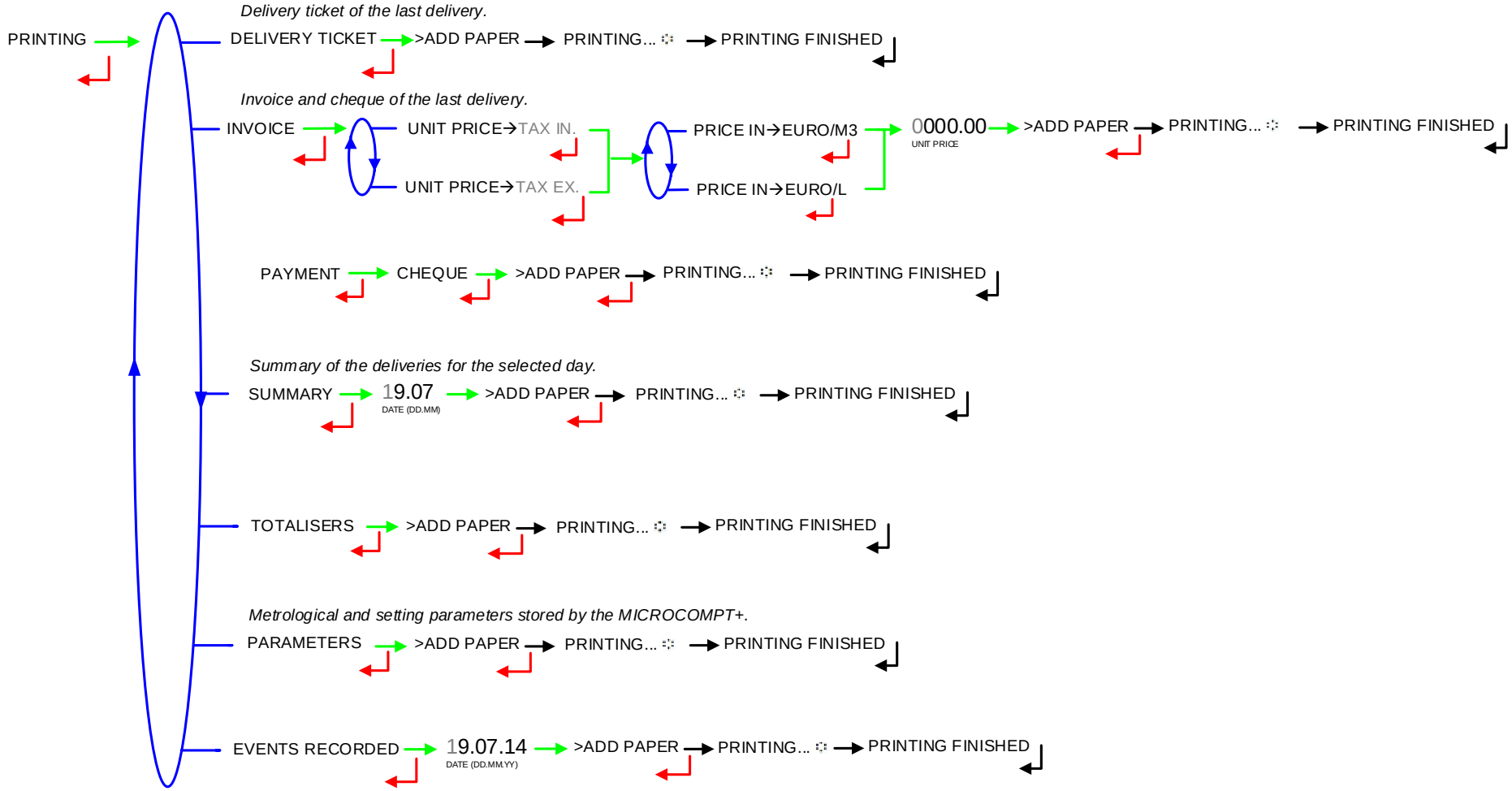


4.3.4 Sub -menu PRODUCT RETURN

Product return is performed in low flow rate. It is available when at least one product return with overfill probe is set in METROLOGICAL mode.

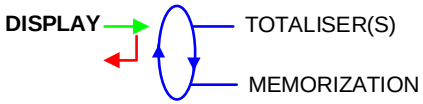


4.4 Menu PRINT



4.5 Menu DISPLAY

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



4.5.1 Sub-menu TOTALISER(S)

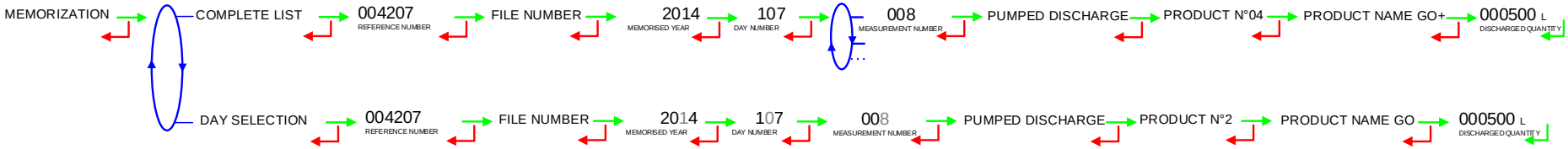
4.5.2 Sub-menu MEMORIZATION

Memorization allows the proofreading of all the measurement results stored by the CMA TRONIQUE. 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.

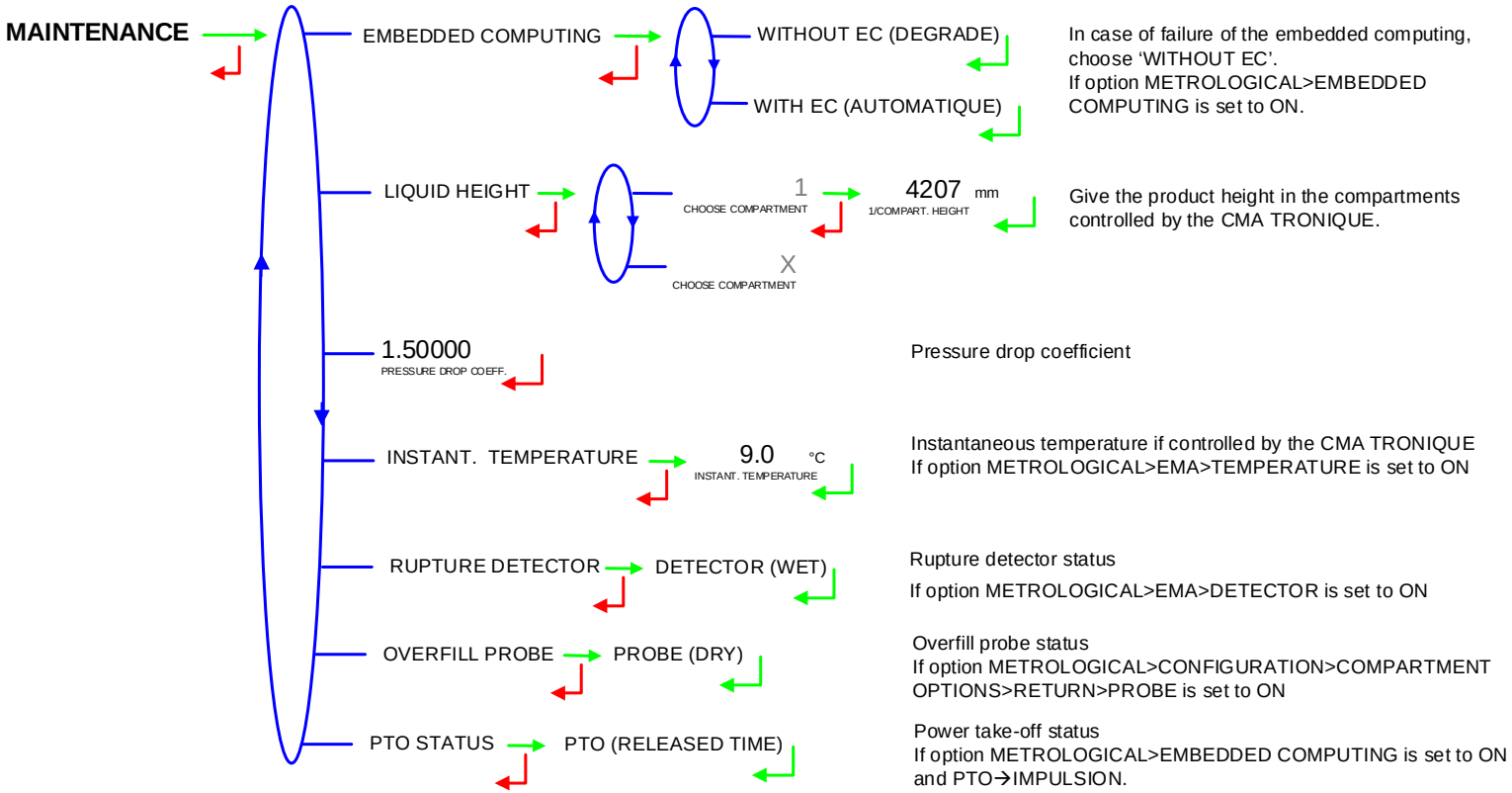
DAY SELECTION: Display a specific measurement by selecting the day number.

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



4.6 Menu MAINTENANCE

L'affichage dépend de la configuration de l'ensemble de mesurage.



NOTE: indication on the gas detector LED diodes

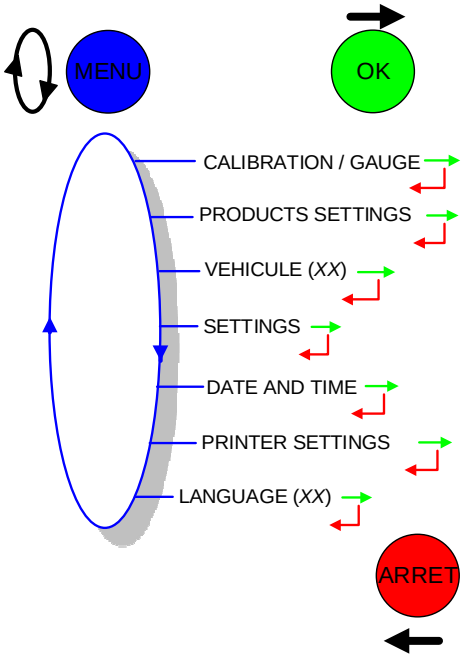
GREEN LED: gas detector powered on

RED LED: ON: gas detector dry
OFF: gas detector wet

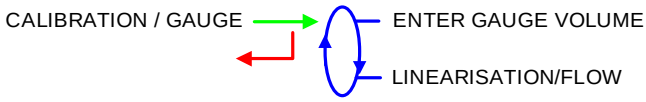
4.7 List of alarms

		DISPLAY	MEANING	ACTION
USER	ALL	STOP DISCHARGE	Intentional interruption of discharge	Continue, stop or finish the discharge
		PRINTER FAILURE	Communication with the printer lost	Check the connection cable, on-off switch and fuse
		POWER SUPPLY PROBLEM	Power outage during discharge	Check the cause / Restore power supply
		ZERO FLOW DEFAULT	Zero flow	Check if the pulse transmitter is powered (red indicators)
		LOW FLOW DEFAULT	Low flowrate (less than 4m^3/h)	Check the parameters / Check the hydraulic system (valve, strainer, nozzle…)
		HIGH FLOW DEFAULT	High flowrate (greater than maximum flowrate)	Check the parameters / Reduce flowrate
		DIARY DEFAULT	Reset of the events diary	Acknowledge the alarm, check the date in supervisor mode (supervisor key)
	PUMPED	INCOHERENT SIGNAL	Coherence failure in metering lines	Check the position of the manual selection valves
		EMA METERING PROBLEM	Metering problem with the measuring device	Check if the pulse transmitter is powered (red indicators), if not check the wiring / Change the sensor if required
		PTO DEFAULT	Coherence failure with power take-off	Check the power take-off status in driver's cab
		OVERFILL DEFAULT	Overfilling during a product movement	Transfer product in another compartment
		RUPTURE DG DEFAULT	Rupture detector failure	Use the maintenance mode to check the status of the detector
		PURGE NOT FINISHED	Purge of manifold (and/or hose) not finished	Finish the purge
	FLEXI TRONIQUE	EMB METERING PROBLEM	Metering problem with the measuring device	Check if the pulse transmitter is powered (red indicators), if not check the wiring / Change the sensor if required
		GAS DETECTOR DEFAULT	Gas detector failure	Use the maintenance mode to check the status of the detector
REPARATOR	ALL	DISPLAY DEFAULT	Problem with display card	If steady alarm, substitution of the display card
		WATCHDOG DEFAULT	Fault with display or power card or AFSEC+ card	Switch on-off the Microcompt+ / If steady alarm, substitution of the faulty card
		VOLUME CONVER DEFAULT	Problem during conversion of volume	If steady alarm, substitution of the AFSEC+ electronic card
	PUMPED	TOTALISER 1 LOST	Loss of totalizer	Substitution of the backup battery
		PRESSURE DEFAULT	Pressure determination failure	If steady alarm, see a reparator for trouble shooting
		TEMPERATURE 1 DEFAULT	Temperature determination failure	If steady alarm, see a reparator for trouble shooting
	FLEXI TRONIQUE	TOTALISER 2 LOST	Loss of totalizer	Substitution of the backup battery
		TEMPERATURE 2 DEFAULT	Temperature determination failure	If steady alarm, see a reparator for trouble shooting
	BLOCKING	MEMORY LOST (PILE)	Loss of saved memory	Substitution of the backup battery
		MEMORY LOST	Error on SIM memorization	Enter and exit the METRO mode / If steady alarm, substitution of the backup battery
		DATE AND TIME LOST	Loss of date and time	Set date and time in supervisor mode (supervisor key)
		COEFFICIENTS DEFAULT	Deviation between coefficient LF/HF greater than 0.5%	Modification of the low flow coefficient (K1)
		PROM DEFAULT	Loss of software or resident integrity	Substitution of the AFSEC+ electronic card
		RAM DEFAULT	Saved memory fault	Substitution of the AFSEC+ electronic card
		EEPROM MEMORY LOST	Loss of metrological configuration	Substitution of the AFSEC+ electronic card
		MEMORY OVER LOADED	SIM memory full	Substitution of the AFSEC+ electronic card

5 SUPERVISOR MODE:



5.1 Menu CALIBRATION / GAUGE



5.1.1 Sub-menu ENTER GAUGE VOLUME

This menu allows you to check the accuracy of the measuring system by calculating the measuring device error and the new corrected coefficient. It is possible then to linearize the curve on 2 measuring points.

First, fill the gauge (DRIVER mode) in high or low flow with predetermination of the volume.

Switch to SUPERVISOR mode, choose 'CALIBRATION/GAUGE>ENTER GAUGE VOLUME' and validate.

Enter the volume read on the gauge and validate. The following information is then displayed

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

5.1.2 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 LINEARIZARION/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.

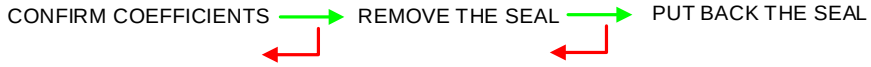
To linearize the curve, two tests are necessary. Follow the instructions:

- Fill the gauge in high flow $[flow_{min} \times 3] \leq$ high flow $< [flow_{max}]$, and enter the volume read on the gauge in the menu 'CALIBRATION/ STANDARD > ENTER GAUGE VOLUME' as described above
- Fill the gauge in low flow $[flow_{min}] \leq$ low flow $\leq flow_{min} \times 2]$, enter the volume read on the gauge in the menu 'CALIBRATION/GAUGE > ENTER GAUGE VOLUME' as described above
- Choose 'CALIBRATION/GAUGE>LINEARISARION/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 following alarms may be displayed:

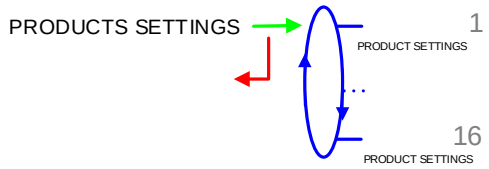
- 'LARGE GAP K1/K2': correction between both measuring points >0.5%
- 'FLOWS TOO CLOSE': High flowrate value is out of range. It needs to be: $[flow_{min} \times 3] \leq$ high flow $< [flow_{max}]$
- 'LO-FLOW OUT OF RANGE': Low flowrate value is out of range. It needs to be: $[flow_{min}] \leq$ low flow $\leq flow_{min} \times 2]$
- 'ONLY ONE GAUGE': One of the tests has not been done (at low or high flowrate)
- 'NO VALID GAUGE': Both tests have not been done (at low and high flowrate)

When the procedure is completed, the following sequence is displayed:

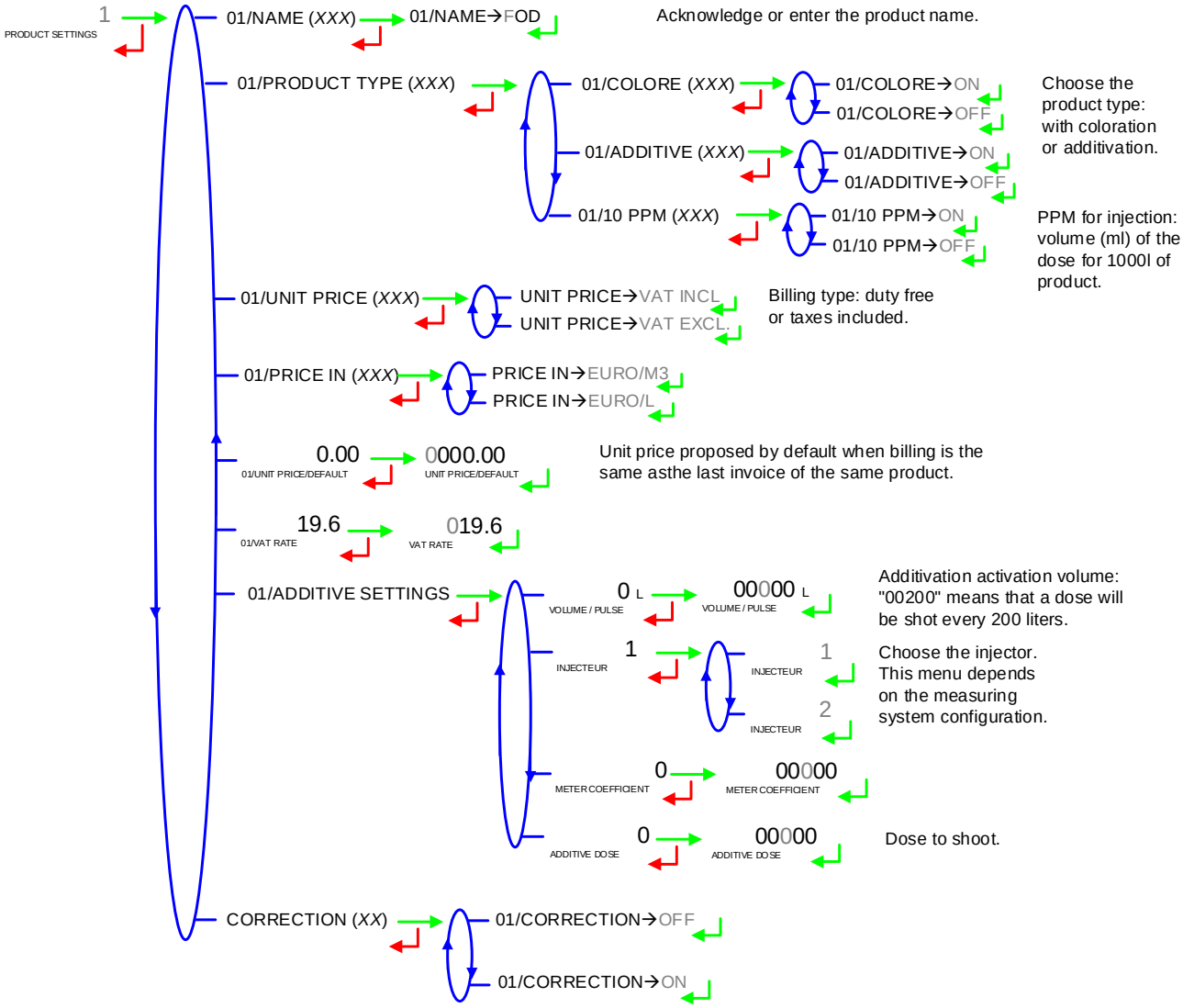


The new coefficient and flow rates values are taken into account.

5.2 Menu PRODUCTS SETTINGS



Definition of products: names (for the 6 first products, default names are proposed), product type, price, tax, configuration of additive and correction.



5.3 Menu VEHICULE

Enter vehicle identification: set the vehicle registry number on which the CMA TRONIQUE is installed. This number will be printed on delivery tickets, invoices …

5.4 Menu SETTINGS

5.4.1 Sub-menu VOLUMES SETTINGS

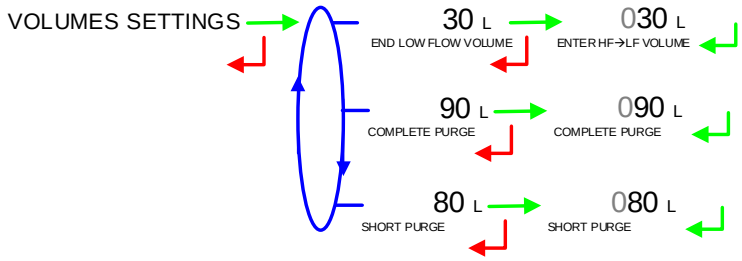
This menu allows you to configure the volume parameters:

END LOW FLOW VOLUME: Set the volume (in liters) delivered in low flowrate to finish the delivery

The volume of purge (liters) depends on the truck (manifold, hose...); it is given when putting into use. If the volume is at 0, the manifold is not drained, the flap is directly opened.

COMPLETE PURGE: Purge of the manifold and the hose (delivery of FOD then GO).

SHORT PURGE: To avoid polluting the line (delivery of GO then FOD). This volume must be between 80 and 95% of the complete purge volume.

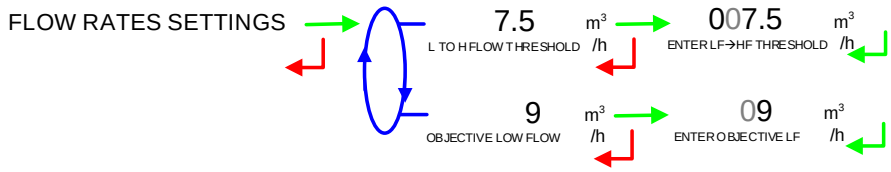


5.4.2 Sub-menu FLOWRATES SETTINGS

This menu allows you to configure the flowrates parameters:

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

OBJECTIVE FLOWRATE: Set the objective flowrate to regulate the low flowrate. If the measuring system is a CMA TRONIQUE ADBLUE, enter 80.



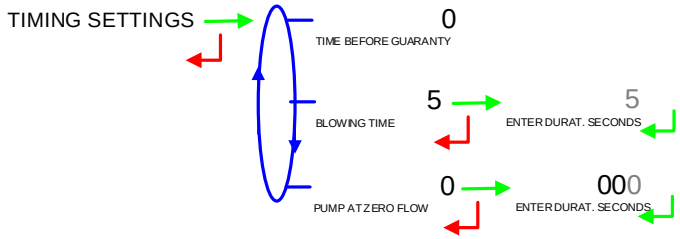
5.4.3 Sub-menu TIMING SETTINGS

This menu allows setting the duration parameters:

TIME BEFORE GUARANTY: Not used

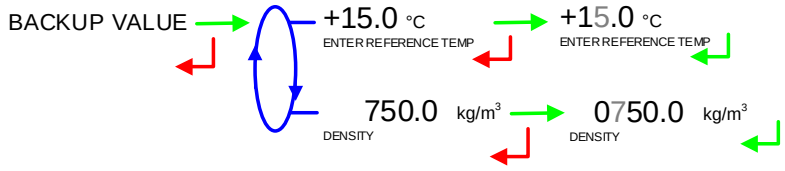
BLOWING TIME: Set the blowing time (in seconds).

PUMP AT ZERO FLOW: Enter the maximum time before starting of flow (seconds). Recorded as 'Flow timing' on the parameters printing.



5.4.4 Sub-menu BACKUP VALUE

This menu allows setting the backup values for temperature and density. It is available when the menu METROLOGICAL>CONFIGURATION>CONVERSION is ON.

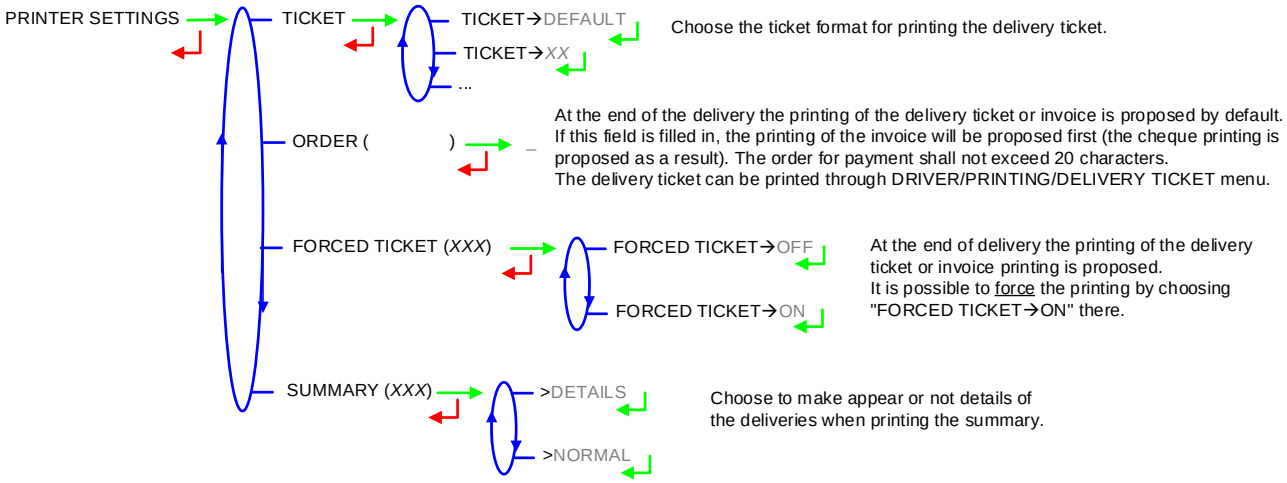


5.5 Menu TIME ADJUSTMENT

Date and time are set in METROLOGICAL mode. The hour may be adjusted (±2h) one time a day through this menu.

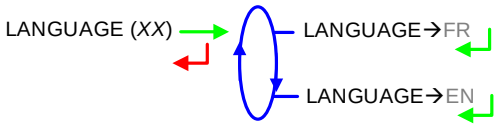
e.g. 14.41 means 2.41 pm

5.6 Menu PRINTER SETTINGS

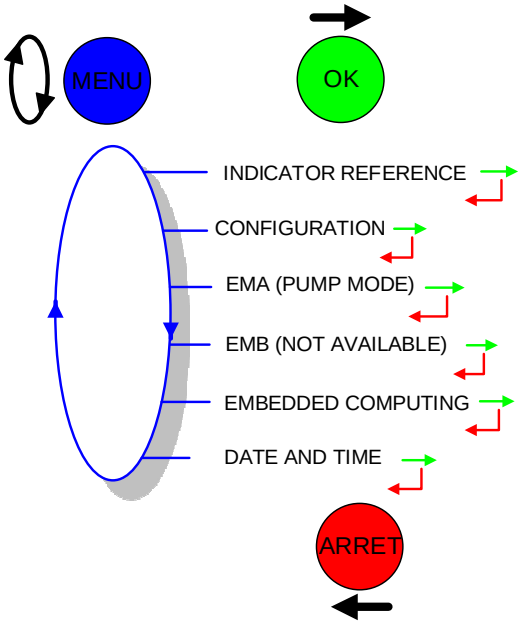


5.7 Menu LANGUAGE

This menu allows you to choose the display language. It is available if a translation catalogue has been uploaded in the MICROCOMPT+.

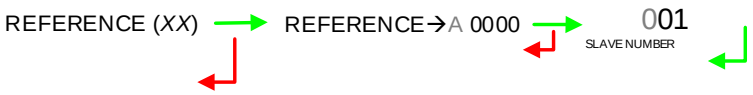


6 METROLOGICAL MODE:

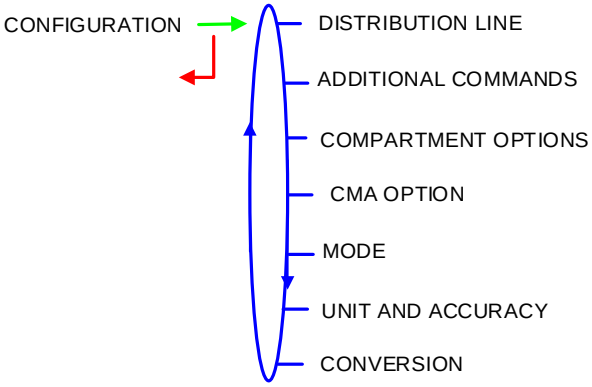


6.1 Menu INDICATOR REFERENCE

Set the MICROCOMPT+ serial number then the slave number.



6.2 Menu CONFIGURATION



6.2.1 Sub-menu DISTRIBUTION LINE

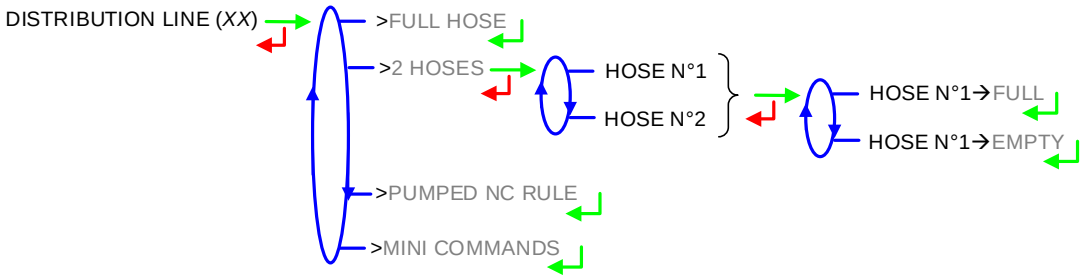
This menu allows the distribution way:

FULL HOSE: Full hose with authorisation valve operation

2 HOSES: Operation with 2 hoses. Each may be full or empty hose

PUMPED NC RULE: Operation with distribution ways, upstream and downstream the meter

MINI COMMANDS: Operation with power take-off and clutch as an authorisation device. Available for old versions of CMA TRONIQUE.

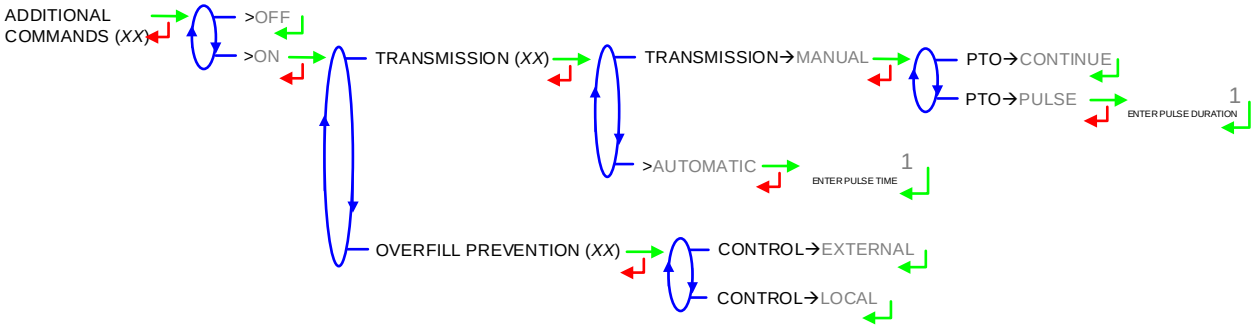


6.2.2 Sub-menu ADDITIONAL COMMANDS

This menu allows to operating with or without remote control (engine start and stop, clutching and power take off).

TRANSMISSION: Choose the command of transmission: non-stop command or by pulse

OVERFILL PREVENTION: Overfill prevention control.



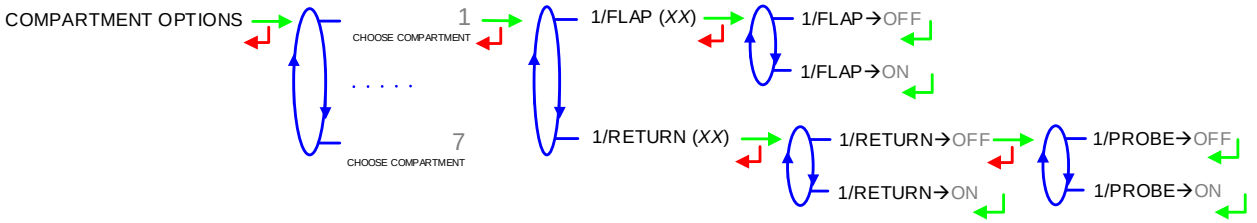
6.2.3 Sub-menu COMPARTMENT OPTIONS

This menu is used to set the configuration of the compartments:

FLAP: Operation with or without flap control

RETURN: Operation with or without product return

PROBE: Overfill protection probe of the compartment



6.2.4 Sub-menu CMA OPTION

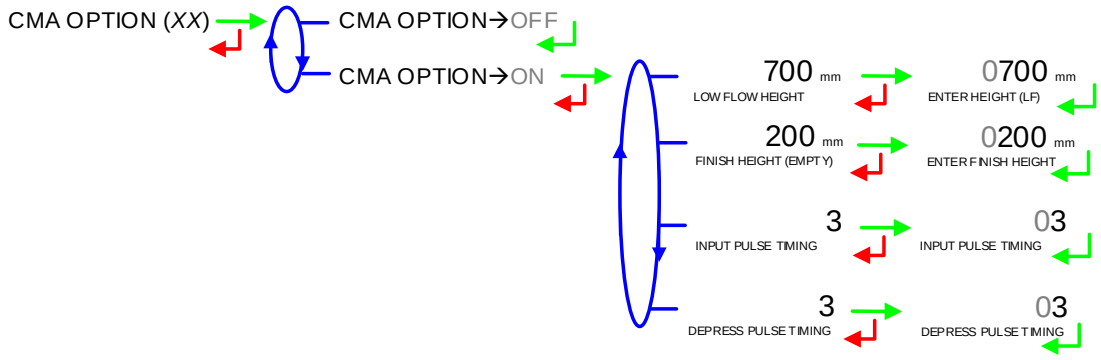
Specific operating mode of a CMA TRONIQUE. Choose **CMA OPTION→ON**

LOW FLOW HEIGHT: Geometric height to command low flow (mm)

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

INPUT PULSE TIMING: Increment of air admission to bypass. Integer number of 32ms, ranging between 1 and 9

DEPRESS PULSE TIMING: Increment of air exhaust to bypass. Integer number of 32ms, ranging between 1 and 9.

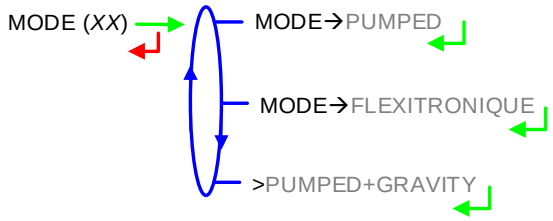


6.2.5 Sub-menu MODE

MODE→PUMPED: Operation for pumped distribution

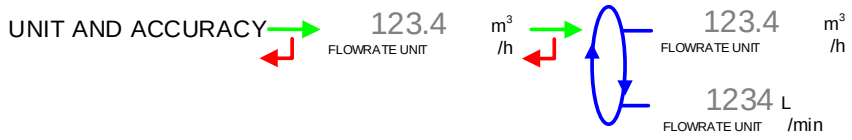
MODE→FLEXITRONIQUE: Operation with FLEXITRONIQUE measuring system

>PUMPED+GRAVITY: Operation for pumped or gravity distribution.

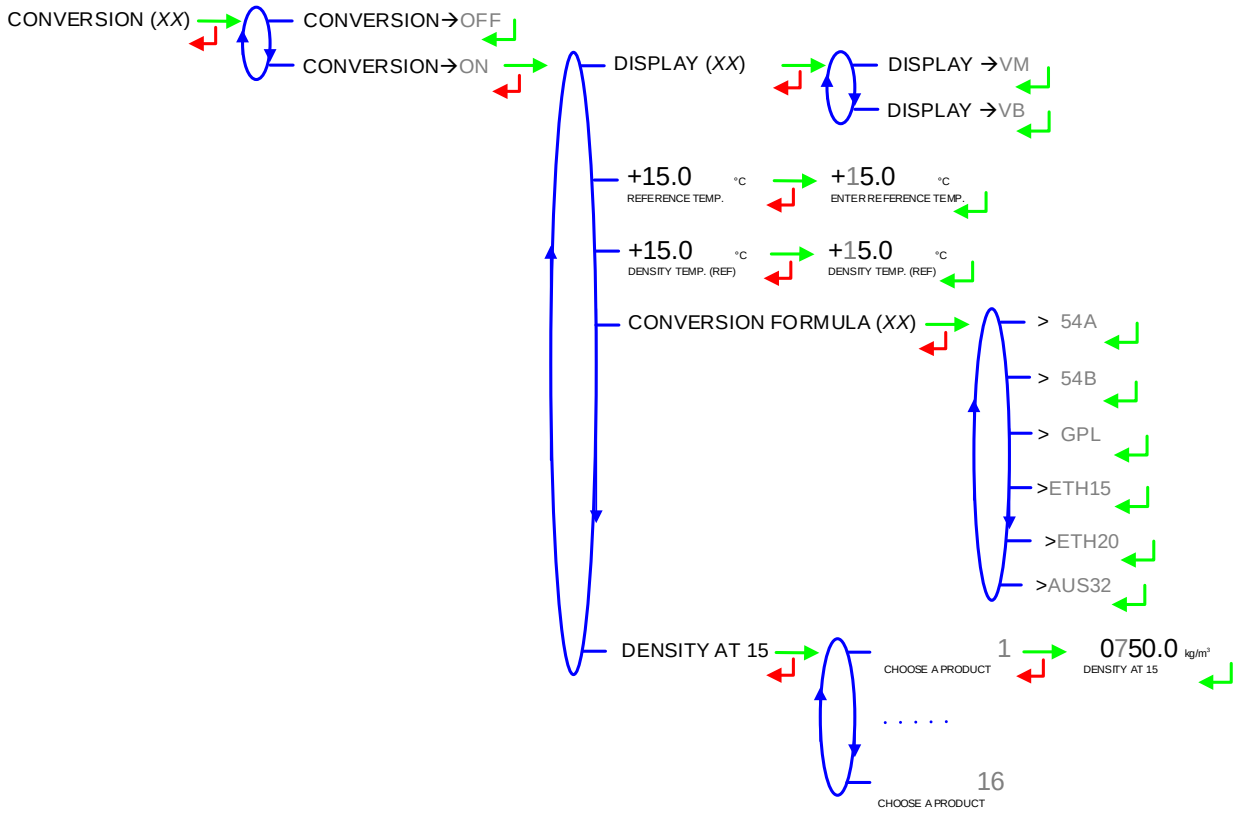


6.2.6 Sub-menu UNIT AND ACCURACY

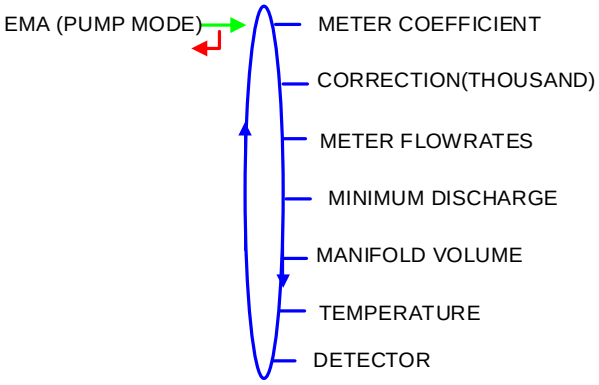
Choose the unit of the flow rate that will be displayed and printed.



6.2.7 Sub-menu CONVERSION



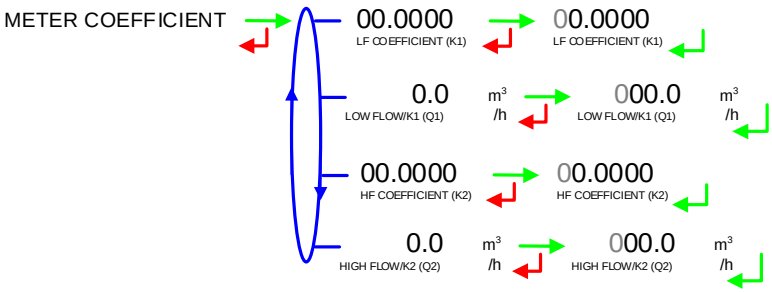
6.3 Menu measuring system EMA (PUMP MODE)



6.3.1 Sub-menu METER COEFFICIENT

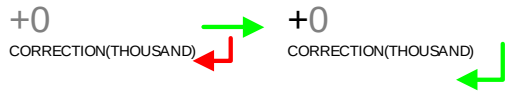
This menu is used to set the coefficient of the measuring system meter (pulses/litre)

LF COEFFICIENT (K1): Coefficient for low flow (pulses/litre)
LOW FLOWRATE/K1 (Q1): Low flow reference (m^3/h)
HF COEFFICIENT (K2): Coefficient for high flow (pulses/litre)
HIGH FLOWRATE /K2 (Q2): High flow reference (m^3/h)



6.3.2 Sub-menu CORRECTION

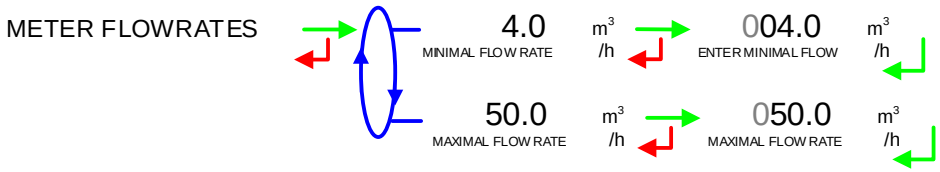
Set the correction factor per thousand (‰) of the measuring system for a measurement with low viscosity products. Refer to the marking of the turbine meter or refer to the ALMA calibration certificate.



6.3.3 Sub-menu METER FLOWRATES

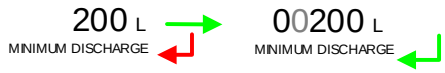
MINIMUM FLOWRATE: Set the metrological minimum flowrate of the measuring system in m^3/h or l/min, depending on the configured flow unit

MAXIMUM FLOWRATE: Set the metrological maximum flowrate of the measuring system in m^3/h or l/min, depending on the configured flow unit.



6.3.4 Sub-menu MINIMUM DISCHARGE

This menu is used to set the minimum quantity of the measuring system in litres.

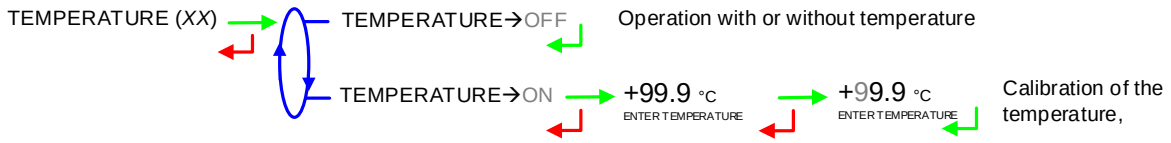


6.3.5 Sub-menu MANIFOLD VOLUME

This menu is used to set the manifold volume (in litres) that guarantees the emptiness of a compartment. If this volume is set to zero, there's no manifold drain, the flap is directly opened. Maximum value: 29

6.3.6 Sub-menu TEMPERATURE

Ce menu is an option. It is used to calibrate the temperature into the MICROCOMPT+. Refer to FM 8510.



6.3.7 Sub-menu DETECTOR

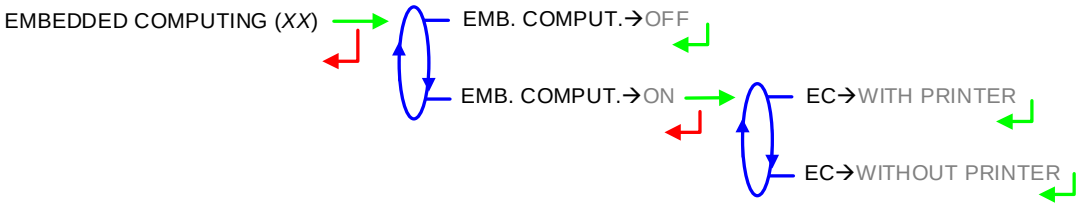
Operation with or without a rupture detector. Detector must be dry before validating the 'dry' status.

6.4 Menu EMBEDDED COMPUTING

Operation with or without embedded computing.

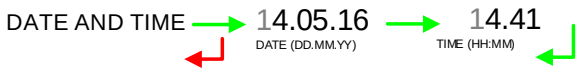
EC→WITHOUT PRINTER**:** The delivery ticket and the invoice can be printed via the MICROCOMPT+ device

EC→WITH PRINTER**:** The delivery ticket and the invoice cannot be printed via the MICROCOMPT+ device. They must be printed via the embedded computing.



6.5 Menu DATE AND TIME

Enter the day, the month and the year and then enter the time.



e.g. 14.41 means 2.41 pm

ANNEXE

SUMMARY:

```
X.TRONIQUE 341+.001  CARD REV8
VERSION 09.06.04 DATED 14.04.16
PRINTED ON THE 14.04.16 AT 15:30
VEHICULE  :  AA-215-EL
INDICATOR :  03201

SUMMARY
OF DELIVERIES OF 14.04.16
DAY 105 - 002 MEMORISED RESULTS


**** DAILY TOTALISERS ****

FOD      (01) :     00000600 L    125 %
FOD+     (02) :     00000000 L
GO       (03) :     00000600 L    000 %
GO+      (04) :     00000000 L
GNR      (05) :     00000000 L
GNR+     (06) :     00000000 L

TOTAL FROM 1 TO 6 :00001200 L



********** DAILY SUMMARY **********
HR      HR     NO              (L)          (%)
START   END    MESUR  PROD  VOLUME  RATE
09:40   09:50  D01    FOD   14000   125
09:51   10:01  F02    FOD   12000   000
PRE(S)ET; (F)REE; (B)ARRELS; (P)URGE;
FLE(X)I; (T)RANS; (D)RAIN;
(A)NTICIPATORY PURGE.
```

PARAMETERS:

```
X.TRONIQUE 341+.001  CARD REV8
VERSION 09.06.04 DATED 14.04.16
PRINTED ON THE 14.04.16 AT 15:31
VEHICULE  :  AA-215-EL
INDICATOR :  03201

************ PARAMETERS ****************
OUTLETS/VALVE:              FULL HOSE
CD OPTION:                  ON
AUTOMATIC TRANSMISSION      CONTINUE
OVERFILL PROBE              EXTERNAL
FLAP/RETURN/PROBES OPT:
 CPT NB:   1   2   3   4   5   6   7
 FLAP:     Y   N   N   Y   Y   N   N
 RETURN:   Y   N   N   N   N   N   N
 PROBES:   N   N   N   N   N   N   N
CMA OPTION :
 LF HEIGHT:  700  /  END: 200 MM
 TPSIA:  3 UT  /  TPSID:  3 UT
 HEIGHT:4035 MM / COEF PD: 1.50000
MODE:                       TRONIQUE
EMBEDDED COMPUTING:         OFF
TICKET:                     OFF
LANGUAGE CATALOGUE:         ENV9.06.xx
EM1 PUMP:
  COEFFICIENT K1:           10.0000 IMP/L
  FLOWRATE Q1 (LF):         0.0 M3/h
  COEFFICIENT K2:           10.0000 IMP/L
  FLOWRATE Q2 (HF):         0.0 M3/h
  MIN FLOWRATE: 4.0 / MAX:  50.0 M3/h
  MINIMUM DISCHARGE:        00200 L
  TEMPERATURE:              OFF
  VACUITY SENSOR:           OFF

 FOD   (01)  CO+NA+BA  OFF  INJ2 00300 L
 FOD+  (02)  CO+A+BA   OFF  NO ADDIT
 GO    (03)  NC+NA+10  OFF  INJ1 00500 L
 GO+   (04)  NC+A+10   OFF  NO ADDIT
 GNR   (05)  CO+NA+10  OFF  NO ADDIT
 GNR+  (06)  CO+A+10   OFF  NO ADDIT


 END LOW FLOW VOLUME:       30 L
 FLOW ACTIVATED HF:         7.5 M3/h
 OBJECTIVE LOW FLOW:        9.0 M3/h
 COMPLETE PURGE VOLUME:     90 L
 SHORT PURGE VOLUME:        80 L
 MANIFOLD VOLUME:           20 L
 TIME: BLOWING 5S /GUARANTY 0MIN
 FLOW TIMING:               0S
 STOP FLOW AT 7.5 M3/H WITH 0.6 L
 PRESET END COEFF.:         0.0800
```

TOTALISERS:

```
X.TRONIQUE 341+.001  CARD REV8
VERSION 09.06.04 DATED 14.04.16
PRINTED ON THE 14.04.16 AT 15:02
VEHICULE  :  AA-215-EL
INDICATOR :  00001


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

GENERAL TOTALISER 1:     00056638  L

FOD       (01) :         00028000 L
FOD+      (02) :         00028000 L
GO        (03) :         00000000 L
GO+       (04) :         00000000 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 : 00056000 L
NO ALLOCATED VOLUME: 00000008 L
```

EVENTS RECORDED:

```
X.TRONIQUE 341+.001  CARD REV8
VERSION 09.06.04 DATED 14.04.16
PRINTED ON THE 14.04.16 AT 16:29
VEHICULE  :  AA-215-EL
INDICATOR :  00001
EVENTS ON           14/04/16



137 RECORD(S)

14:33:33 STOP DISCHARGE
14:30:03 PTO DEFAULT
14:24:33 DRIVER MODE
...


09:47:15 PARAM@ 8=750.000000
09:47:06 PARAM@ 3=1.000000
08:59:02 METROLOGICAL MODE
08:58:57 SWITCH ON
```

DELIVERY TICKET (depends on customer):

```
Truck N°            AA-215-EL
Delivery N°         002
Register N°         03201
Delivery date       14/04/16
Day number          105
Starting            12:23
Ending              12:35
Product             GO
Quantity            00329 liters

Total before and after
Index   034 before  00000449
Index   035 after   00000778


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

RELATED DOCUMENTS

GU 7034	User Guide
FM 8000	Replacement of the backup batteries on the AFSEC and 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 8501	Adjustment of a DMTRONIQUE
FM 8510	Adjustment of a temperature chain into the MICROCOMPT+ by software settings