COMMISSIONING & MAINTENANCE MANUAL

MM 9012 EN A

LPG TRONIQUE MASSIC

Indice	Date	Nature des modifications	Rédacteur	Approbateur
A	23/12/2024	Creation	ITB	NC

SUMMARY

1 GENERAL PRESENTATION

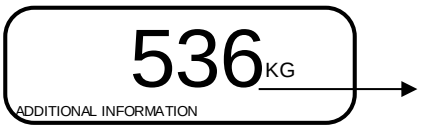
The LPG TRONIQUE is a metering unit designed to be mounted on a tanker truck. It is used to measure liquefied petroleum gases.

The LPG TRONIQUE consists of the following components:

- ⇨ A mass flow meter
- ⇨ MICROCOMPT+ indicator calculator
- ⇨ A gas separator, optionnal
- ⇨ A pump
- ⇨ An automatic pressure-maintaining valve
- ⇨ A set of one or two way delivery devices controlled by a valve allowing a choice between delivery by full hose or direct outlet
- ⇨ A printer

This document describes all the options. Some menus are common, others are specific to one or other version of the equipment and are labelled differently.

The LPG TRONIQUE has a display:



Mass unit

On the prompter: Additional information

- During measurement: flow rate, temperature, Drive gain
- Out of measurement: totaliser

The LPG TRONIQUE 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

2 CONNECTED FUNCTIONS

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:

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

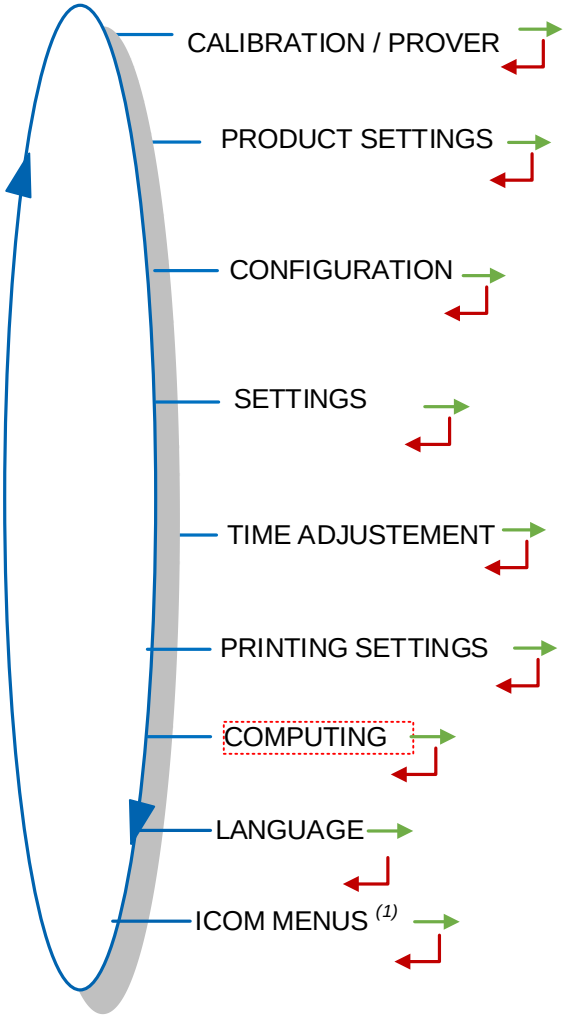
3 RECOMMENDATION FOR USE

Safety valves can be incorporated into TRONIQUE LPG metering systems. If they are fitted downstream of the Coriolis, they must open into the open air or be connected to the receiving tank.

4 CONFIGURATION, SETTINGS, CALIBRATION

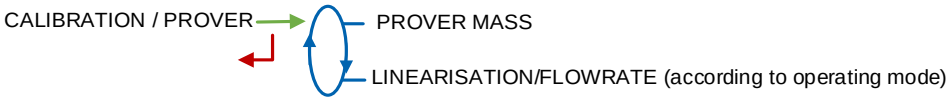
CONFIGURATION: METROLOGICAL mode	SETTINGS, CALIBRATION: SUPERVISOR mode
§ CONFIGURE THE LPG TRONIQUE: METROLOGICAL MODE	§ SET THE LPG TRONIQUE: SUPERVISOR MODE
You must configure the LPG TRONIQUE during commissioning and sometimes during metrological controls.	You must set the LPG TRONIQUE before any 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 SETTING UP THE LPG TRONIQUE : SUPERVISOR MODE



ICOM MENUS *(1)* : The submenus differ according to the authorised access level: (Operator level, Manager level, Maintenance level).

5.1 Menu CALIBRATION/PROVER



5.1.1 Sub-menu PROVER MASS

This menu is used to check the accuracy of the measurement set after unloading into a gauge, by calculating the gauge error, the corrected coefficient and the average flow rate.

First, fill the prover (USER mode) with a preset mass.

Switch to SUPERVISOR mode, select CALIBRATION/PROVER>PROVER MASS and confirm.

5.1.2 Sub-menu LINEARISATION/FLOW (Only if Pulses operating mode [voir 6.2.2])

Linearisation is offered at the end of a measurement with a standard for all configurations with correction of the flow measurement at two points. In this case, the MICROCOMPT+ stores the flow rates and the calibrated coefficients of the measurements to define the two correction points for low flow and high flow.

These points can be viewed and then automatically filled in once the MICROCOMPT+ has been unplumbed (METROLOGICAL mode, EMA>COEFFICIENT MEASURER menu).

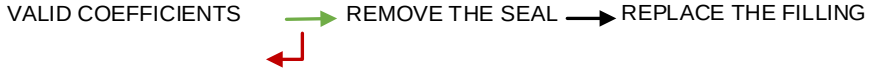
To linearise the curve, you need :

- Take a calibrated measurement at the operating flow rate (value greater than or equal to three times the minimum flow rate and less than the maximum flow rate of the measurement set) and enter the mass read on the gauge in the CALIBRATION/ETALON>CALIBRATED MASS menu as described above.
- Fill the gauge with a low flow rate (value between one and one and a half times the minimum flow rate of the measurement set) and also enter the mass read on the calibration measurement in the CALIBRATION/ETALON> CALIBRATION MASS menu.
- Select CALIBRATION/ETALON>LINEARISATION/DEBIT and confirm. You can then view the values of the coefficients and flow rates for the two tests performed

The following messages may appear if the procedure failed :

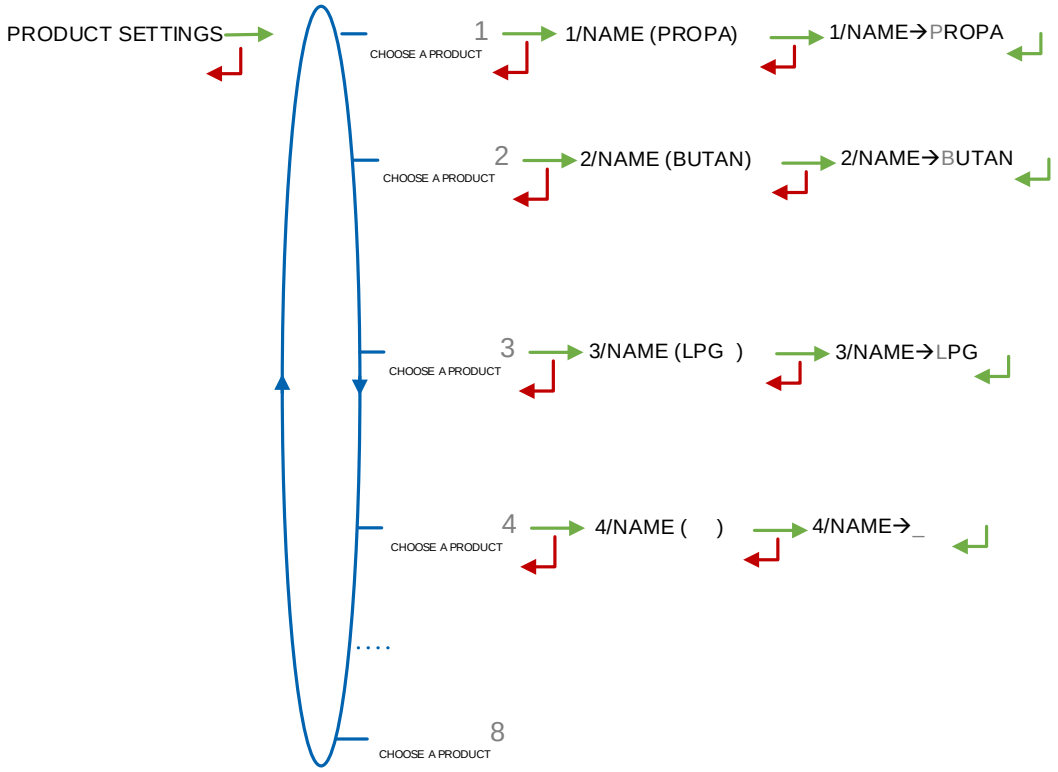
- TOO MUCH GAP <K1/K2>: Correction between the two points greater than 0.5%.
- FLOWS TOO CLOSED: The high flow point is not between 3 x min. flow and max. flow
- LOW FLOW OUT OF RANGE : The low flow point is not between the min flow and 2 x min flow
- A SINGLE GAUGE : The low flow or high flow point is not recorded
- NO VALID GAUGE: Neither the low flow point nor the high flow point is configured

If the procedure is successful, the following sequence is displayed:

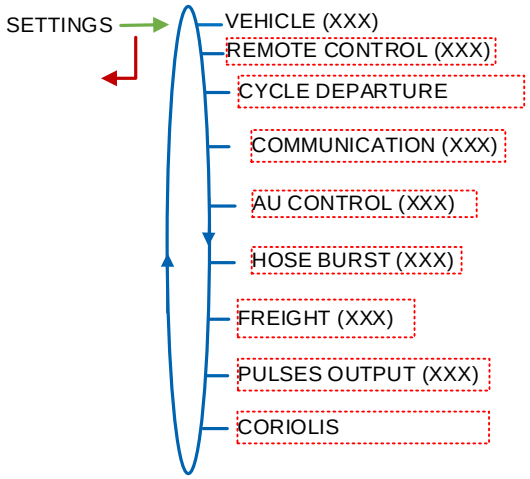


The new coefficient and flow rate values are taken into account.

5.2 Menu PRODUCTS SETTINGS



5.3 Menu CONFIGURATION



5.3.1 Menu VEHICLE

Enter the identification number of the vehicle on which TRONIQUE LPG is installed. This number is used when printing delivery notes, etc.

5.3.2 Sub-menu REMOTE CONTROL

This menu is used to select the model of remote control used.

5.3.3 Sub-menu CYCLE DEPARTURE

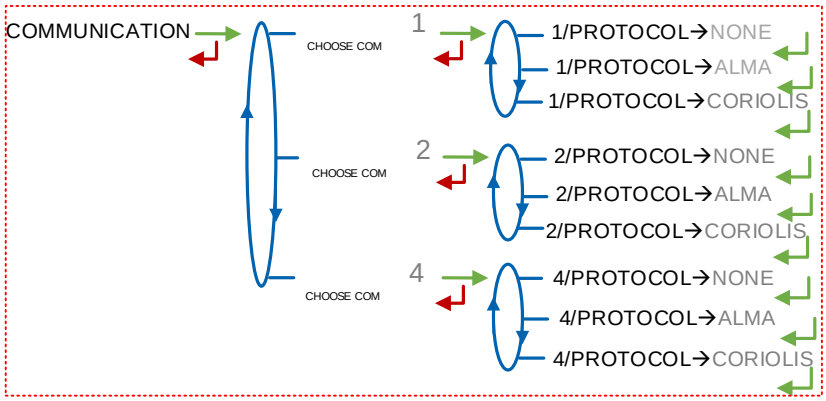
This menu allows operation with or without remote control.

AUTOM : Measurement starts without pressing the green button

MANUEL : Push the green button to start the application.

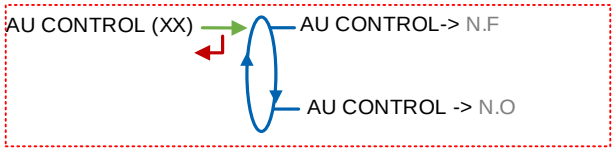
5.3.4 Sub-menu COMMUNICATION

Choose the network communication port : COM1 (RS232), COM 2 (RS485), COM 4 (RS232) and then select the communication protocol for each.



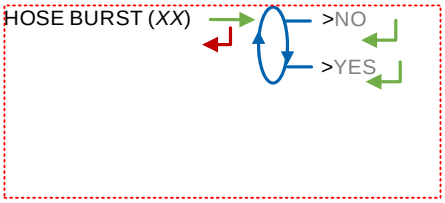
5.3.5 Sub-menu AU CONTROL (XX)

This sub-menu is used to define the emergency stop logic.



5.3.6 Sub-menu HOSE BURST (XXX)

This menu is used to configure the emergency stop procedure in the event of a hose burst.



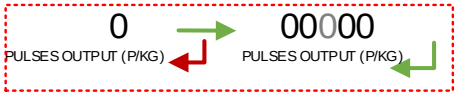
5.3.7 Sub-menu FREIGHT (XXX)

This menu is used to enable or disable cargo management. The cargo is defined with a product and a quantity, in user mode.

5.3.8 Sub-menu PULSES OUTPUT (P/KG)

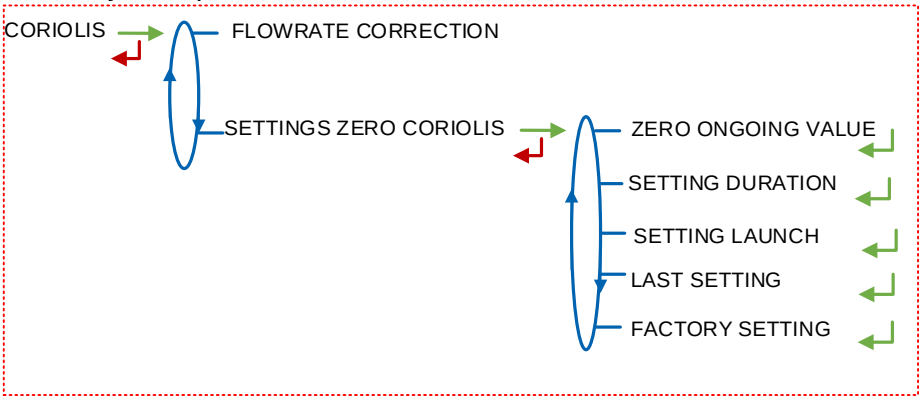
Copy the mass measured by the TRONIQUE LPG.

Enter the number of pulses to be generated by the MICROCOMPT+ for each unit counted in the totalizer. Enter a zero value to disable the function.



5.3.1 Sub-menu CORIOLIS

This menu is used to send instructions to the CORIOLIS to carry out specific actions. A red RFID key is required to initiate these actions.



5.3.1.1 FLOWRATE CORRECTION

This menu is used to read, display, modify and return the CORIOLIS flow correction parameter. This is a CORIOLIS internal parameter.

The MICROCOMPT is only used as a display and input interface.

5.3.1.2 SETTING ZERO CORIOLIS

This menu is used to launch a procedure during which the CORIOLIS will set the zero point of the flow rate it is calculating. This operation should be launched when there is no product movement in the Coriolis.

5.3.1.2.a.1 ZERO ONGOING VALUE

The MICROCOMPT will read and display the current value of the zero setting in the CORIOLIS. This value is expressed in microseconds.

5.3.1.2.a.2 SETTING DURATION

The MICROCOMPT will read and display the current value of the dwell time. Once displayed, it can be modified and sent back to CORIOLIS. The time is expressed in seconds.

5.3.1.2.a.3 SETTING LAUNCH

The MICROCOMPT will send a command to the CORIOLIS to set the zero flow. The CORILIS will carry out its calibration procedure during the 'CALIBRATION TIME'. At the end of the calibration, the MICROCOMPT reads and displays the new zero flow value (in microseconds).

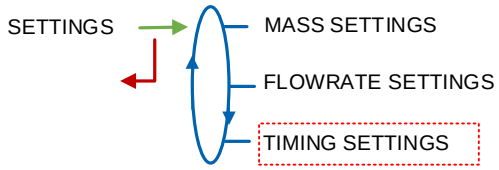
5.3.1.2.a.4 LAST SETTING

This menu is used to ask the CORIOLIS to replace the current zero flow rate value with the last zero flow rate value it had stored.

5.3.1.2.a.5 FACTORY SETTING

This menu is used to ask the CORIOLIS to replace the current zero flow rate value with the zero flow rate value it had memorised at the time of the factory setting (setting outside the ALMA scope, carried out by the manufacturer).

5.4 Menu SETTINGS

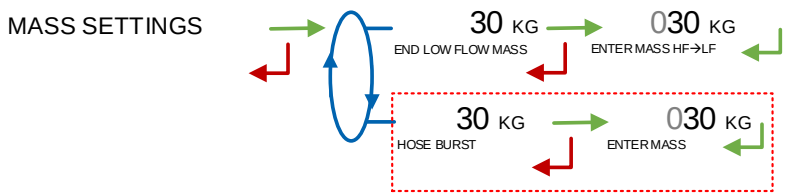


5.4.1 Sub-menu MASS SETTINGS

This menu is used to enter mass setpoints as described below:

END FLOW MASS: Enter the mass, in KG, flowing at low flow at the end of the measurement.

HOSE BURST: The setpoint only appears if the function was activated during configuration in SUPERVISOR mode (CONFIGURATION>HOSE BURST menu) when the metering set was commissioned. Mass above which TRONIQUE LPG monitors a significant variation in flow rate that may occur when the hose bursts.

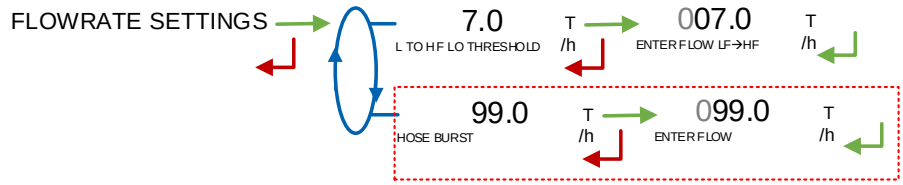


5.4.2 Sub-menu FLOWRATE SETTINGS

This menu is used to enter the flow rate setpoints as described below:

L TO H FLO THRESHOLD: Flow rate above which, when in low flow phase, the TRONIQUE LPG commands the switch to high flow.

HOSE BURST: The setpoint only appears if the function was activated during configuration in SUPERVISOR mode (CONFIGURATION>FLEXIBLE BREAKDOWN menu) when the measuring system was commissioned. Flow rate gradient above which TRONIC LPG stops charging.



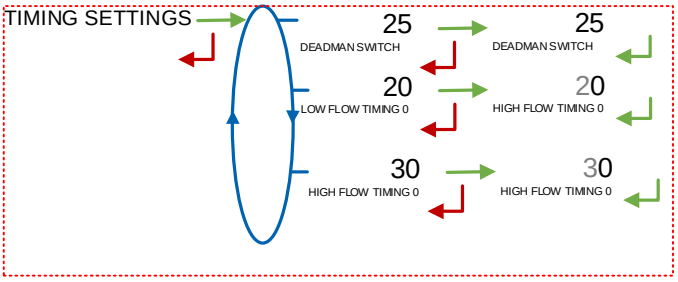
5.4.3 Sub-menu TIMING SETTING

This menu is used to enter the time setpoints as described below:

DEADMAN SWITCH : If the deadman switch function is enabled, enter the time delay in seconds. This function requires the operator to notify his presence periodically by pressing the deadman switch button on the remote control.

LOW FLOW TIMING 0 : Time in seconds for the zero flow alarm to be triggered in the absence of product flow.

HIGH FLOW TIMING 0 (S) : Time in seconds for the zero flow alarm to be triggered after a flow of product (only during start-up).



5.5 Menu TIME ADJUSTEMENT

The date and time are set in METROLOGICAL mode. Here you can adjust the time (plus or minus 2 hours) up to once a day.

5.6 Menu PRINTING SETTINGS

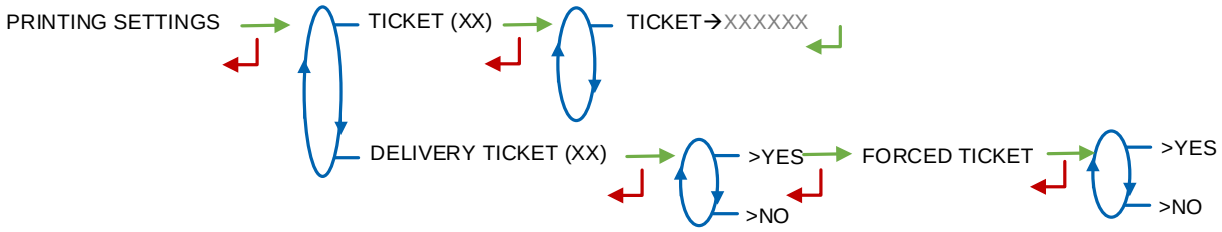
TICKET : Selects the required ticket format for printing the delivery note.

DELIVERY TICKET:

- >YES : The print of the delivery ticket is suggested at the end of the delivery.

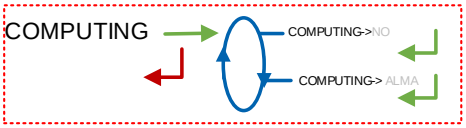
⇨ Forced ticket : Whether or not require a delivery note

- >NO : The delivery note is not printed at the end of delivery. The delivery note can be printed later using the USER>PRINT>DELIVERY NOTE menu.



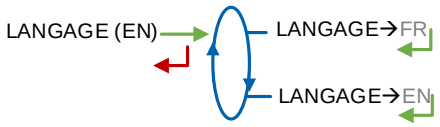
5.7 Menu COMPUTING

Choosing the communication protocol for on-board computing



5.8 Menu LANGAGE

This menu allows you to choose the language in which messages are displayed. It is only available if a translation catalogue has been downloaded to the MICROCOMPT+.

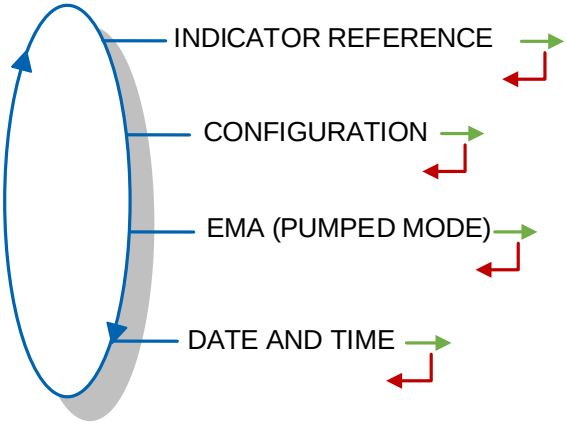


5.9 Menu ICOM MENUS

The submenus depend on the authorised access level.

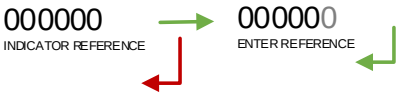
APPENDIX 1 shows all the sub-menus available according to access level.

6 SETTING UP THE LPG TRONIQUE : METROLOGICAL MODE

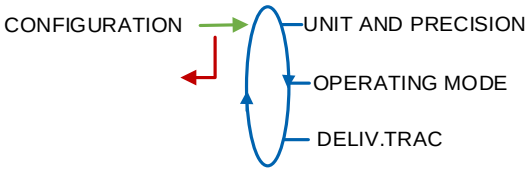


6.1 Menu INDICATOR REFERENCE

Enter the alphanumeric value which designates the MICROCOMPT+ serial number.



6.2 Menu CONFIGURATION

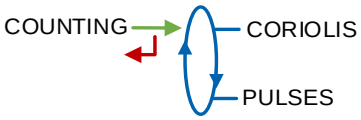


6.2.1 Sub-menu UNIT AND PRECISION

This menu is used to select the unit of flow displayed and printed.

6.2.2 OPERATING MODE

This menu allows to choose the counting acquisition mode.
By default, the counting is managed by the CORIOLIS but there is an operating mode without communication with a CORIOLIS.
In this case the MICROCOMPT must acquire electrical pulses proportional to the mass of product flowing.



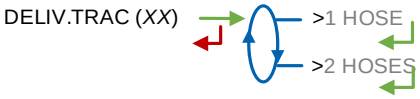
- **CORIOLIS** : the quantities are measured by the CORIOLIS and retrieved via Supervisor communication by the MICROCOMPT, together with the flow rate, temperature, drive gain and density.
- **PULSES** : the MICROCOMPT receives electronic impulses proportional to the mass of product being poured and shapes them to generate quantities and flow rates.

6.2.3 Sub-menu DELIV. TRAC

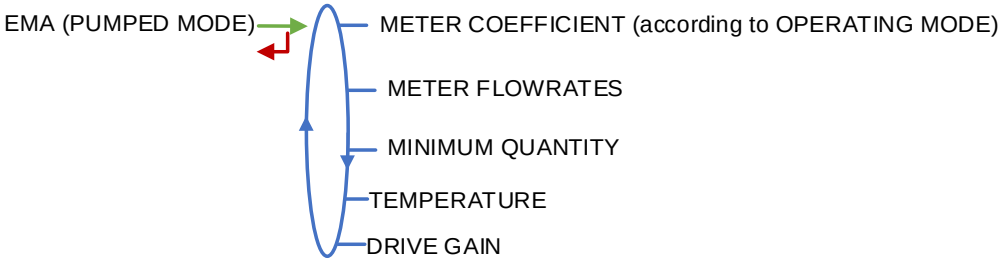
This menu is used to configure the number of delivery channels.

> 1 HOSE: Flexible hose operation.

> 2 HOSES : Operation with two hoses.



6.3 Menu measuring system EMA (PUMPED MODE)



6.3.1 Sub-menu METER COEFFICIENT

This menu is used to enter the coefficient of the measuring set in pulses/KG.

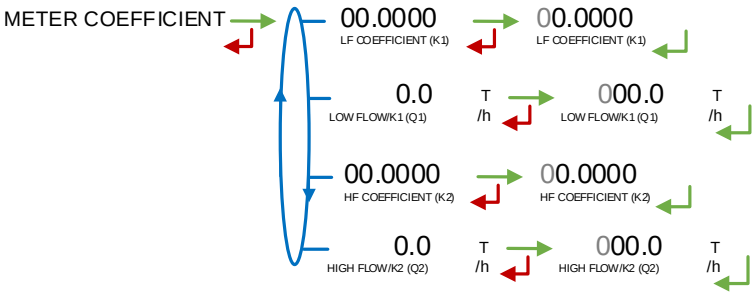
NOTE : This menu is available only of the operating mode is « PULSES ». With a CORIOLIS, this menu is not available

LF COEFFICIENT (K1) : Coefficient to be applied for low flow rates.

LOW FLOW/K1 (Q1) : Small reference flow rate such as [Qmin]≤Q1≤[Qminx1.5]. Depending on the flow unit configured.

HF COEFFICIENT (K2) : Coefficient to be applied to the flow rate.

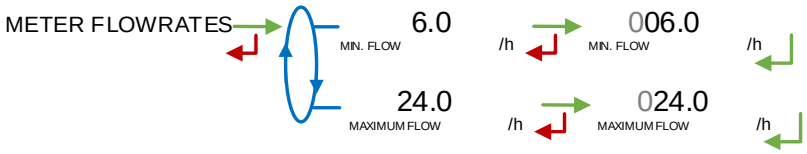
HIGH FLOW/K2 (Q2) : Reference flow rate such that [Qminx3]≤Q2<[Qmax]. Depending on the flow rate unit configured.



6.3.2 Sub-menu METER FLOWRATES

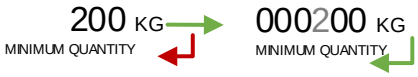
MINIMUM FLOW : Enter the minimum metrological flow rate of TRONIQUE LPG in T/h or kg/min depending on the flow rate unit configured (CONFIGURATION>UNIT AND PRECISION).

MAXIMUM FLOW : Enter the maximum metrological flow rate of TRONIC LPG in kg/h or kg/min depending on the flow rate unit configured (CONFIGURATION>UNIT AND PRECISION).



6.3.3 Sub-menu MINIMUM QUANTITY

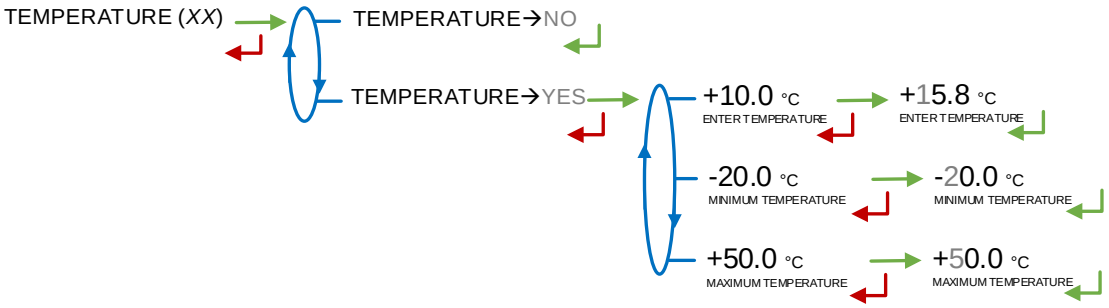
This menu is used to enter the minimum delivery of TRONIQUE LPG in kg, provided by the combination of the meter, the MICROCOMPT+ and the other TRONIQUE LPG components.



6.3.4 Sub-menu TEMPERATURE

This menu is an option. It is used to calibrate the temperature in the MICROCOMPT+. See maintenance sheet FM 8510.

NOTE : By default the temperature is registred to “NO” because the temperature is recovered by the CORIOLIS reading.



6.3.5 Sub-menu DRIVE GAIN

This menu is used to modify the CORIOLIS DRIVE GAIN thresholds.

- VALIDITY THRESHOLD : this sets the maximum value of the average DRIVE GAIN for the measurement. If it is exceeded, the measurement is invalidated.
- DRIVE GAIN MAX : maximum value of the current DRIVE GAIN. If the current drive gain exceeds this value, the DRIVE GAIN alarm is generated.

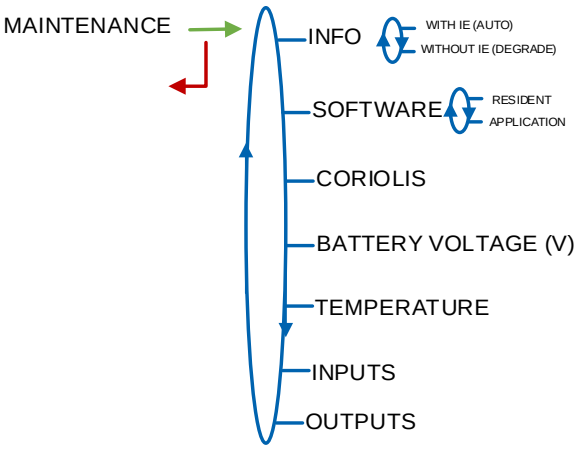
6.4 Menu DATE AND TIME

This menu is used to set the ECU's internal clock.

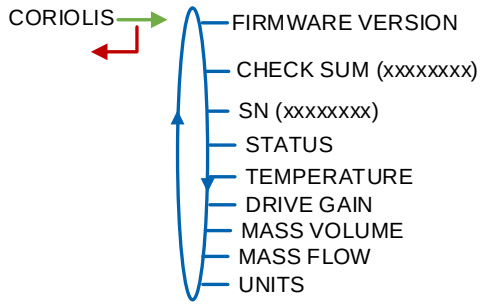
The stored measurement results are completely erased if you set the time back or forward by more than 2 hours.

7 USE THE LPG TRONIQUE

7.1 Menu MAINTENANCE



7.1.1 Sub-menu CORIOLIS



This sub-menu allows to display the states and sizes from the CORIOLIS.

- **STATUS** : This is the internal state of the CORIOLIS. Its value is zero when the CORIOLIS detects no internal problem. If the value is not zero, note it down and send it to the manufacturer, who will analyse the cause of the problem.
- **TEMPERATURE** : the current temperature of the fluid in the CORIOLIS
- **DRIVE GAIN** : the current DRIVE GAIN value
- **MASS VOLUME** : the current density of the fluid in the CORIOLIS (in kg/m3)
- **MASS FLOW** : the flow rate of the fluid in the CORIOLIS
- **UNITS** : the units of mass, mass flow and density set in CORIOLIS.

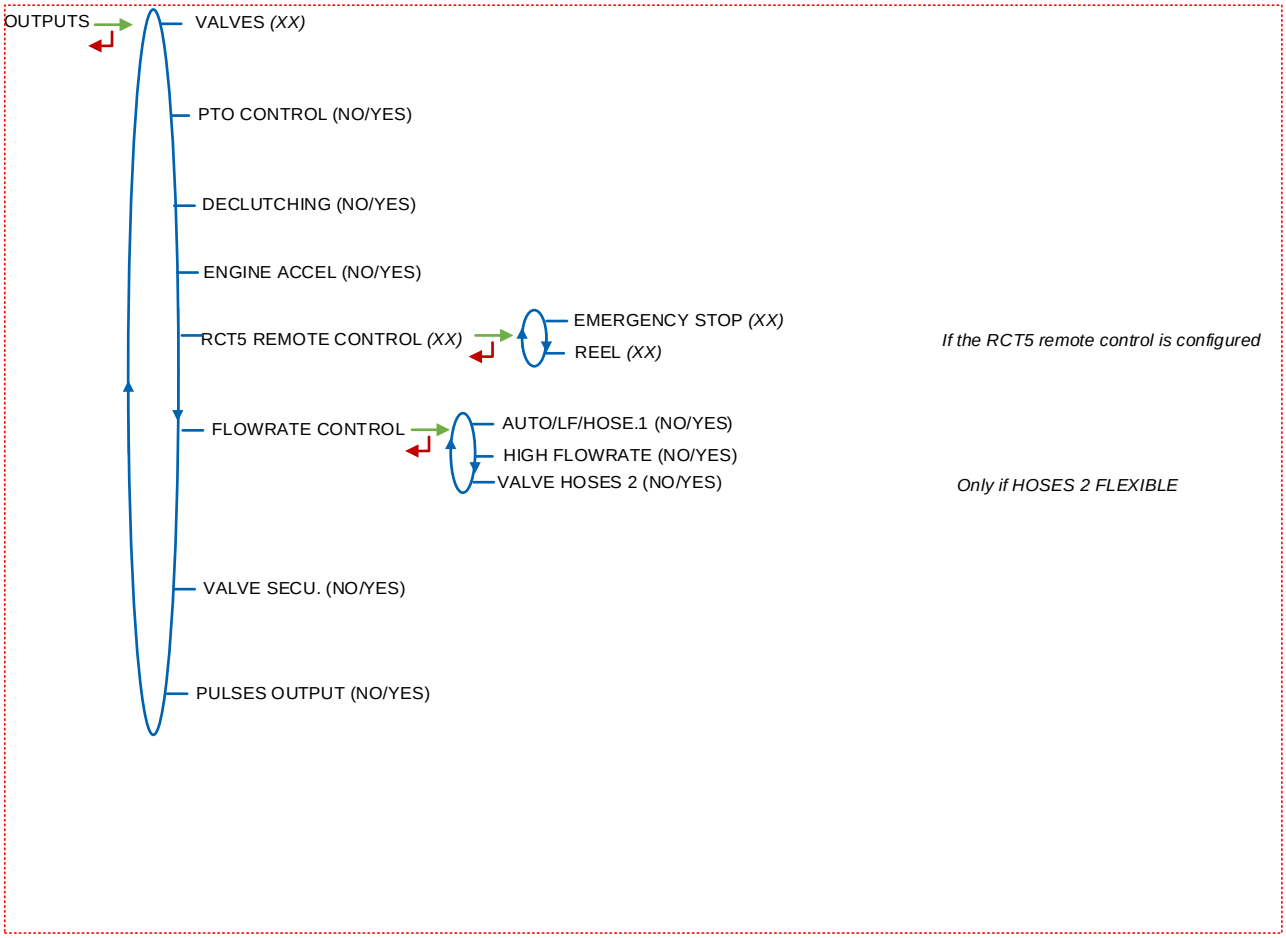
7.1.2 Sub-menu INPUTS

This displays the PTO feedback and the remote control status (anti-fraud, intermediate stop and final stop).

7.1.3 Sub-menu OUTPUTS

This activates the LPG TRONIQUE outputs.

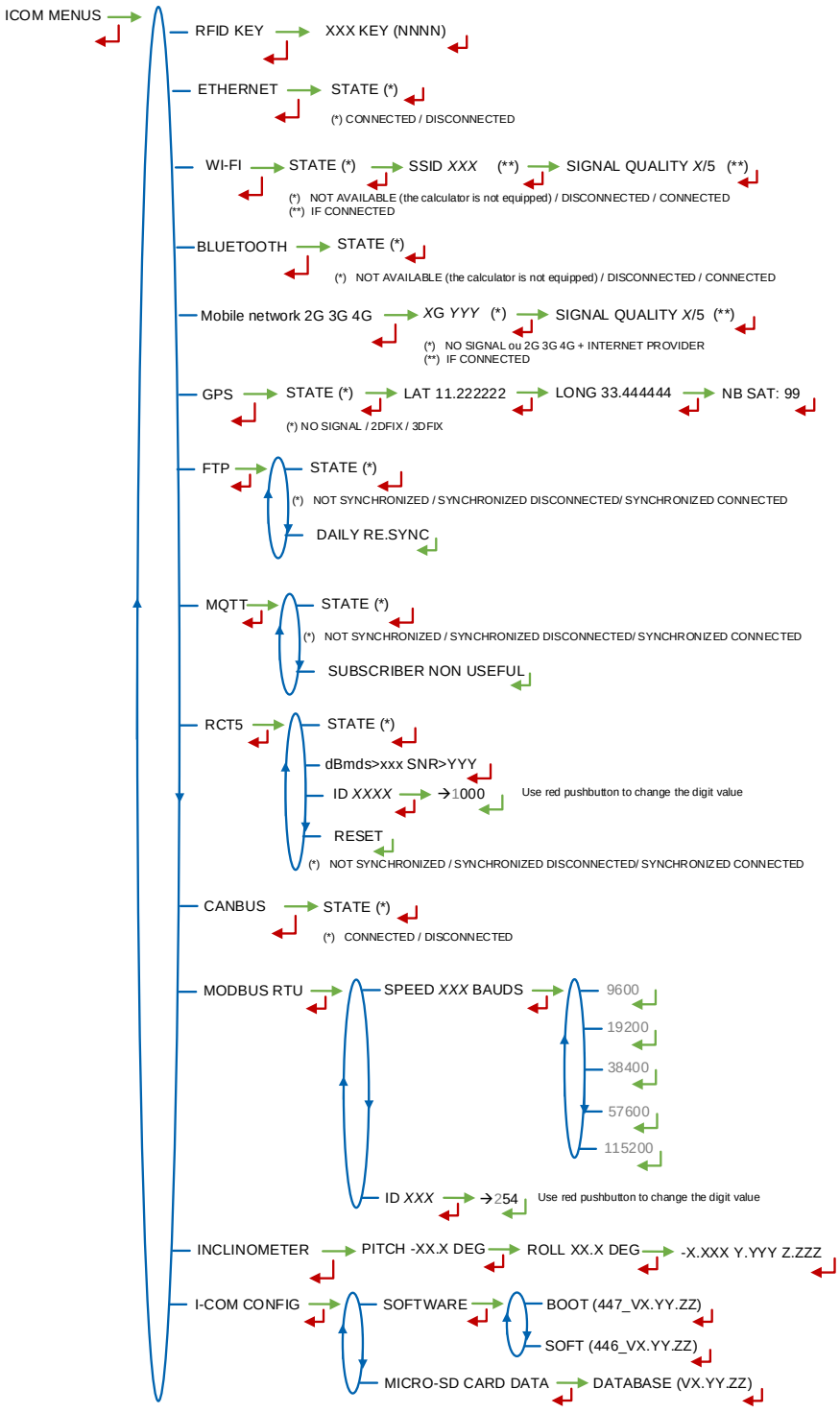
The VALVES, PTO CONTROL and DECLUTCHING release outputs are only available if the commands are heard.


OUTPUTS
VALVES (XX)
PTO CONTROL (NO/YES)
DECLUTCHING (NO/YES)
ENGINE ACCEL (NO/YES)
RCT5 REMOTE CONTROL (XX)
EMERGENCY STOP (XX)
REEL (XX)
If the RCT5 remote control is configured
FLOWRATE CONTROL
AUTO/LF/HOSE.1 (NO/YES)
HIGH FLOWRATE (NO/YES)
VALVE HOSES 2 (NO/YES)
Only if HOSES 2 FLEXIBLE
VALVE SECU. (NO/YES)
PULSES OUTPUT (NO/YES)

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

8.1 User

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



8.2 manager and maintenance

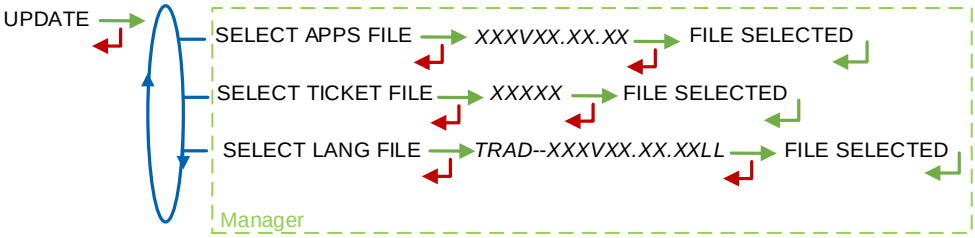
This section presents the whole menu SUPERVISOR>ICOM MENUS. Access to settings depends on the key used. The parameters that are not highlighted are available with any type of key.

- ⇨ 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.

8.3 Menu UPDATE

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



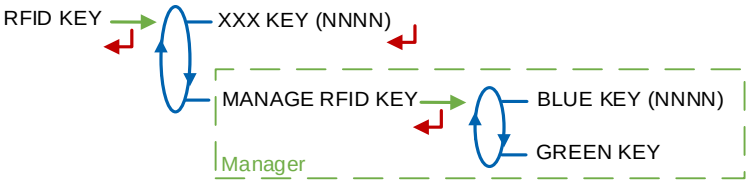
SELECT APPS FILE (*) – *Access restricted to the Manager with green key and/or to the Maintenance with red key.* Used to display and select the version(s) of the application available on the SD card. NO FILE is displayed if there is no file to download.

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).

8.4 Menu RFID KEY

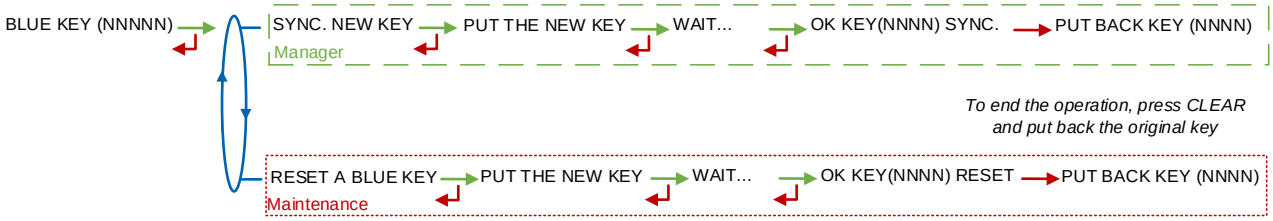


XXX KEY (NNNN): Displays the information about the RFID placed on the screen with: XXX = color and (NNNN) = identifier. E.g.: RED KEY (01234)

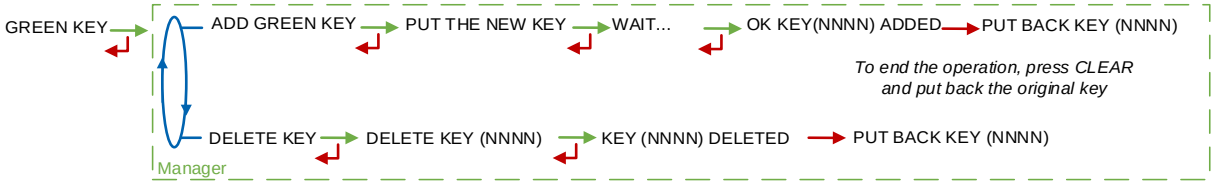
MANAGE RFID KEY – *Access restricted to the Manager with green key and/or to the Maintenance with red key*

- **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.

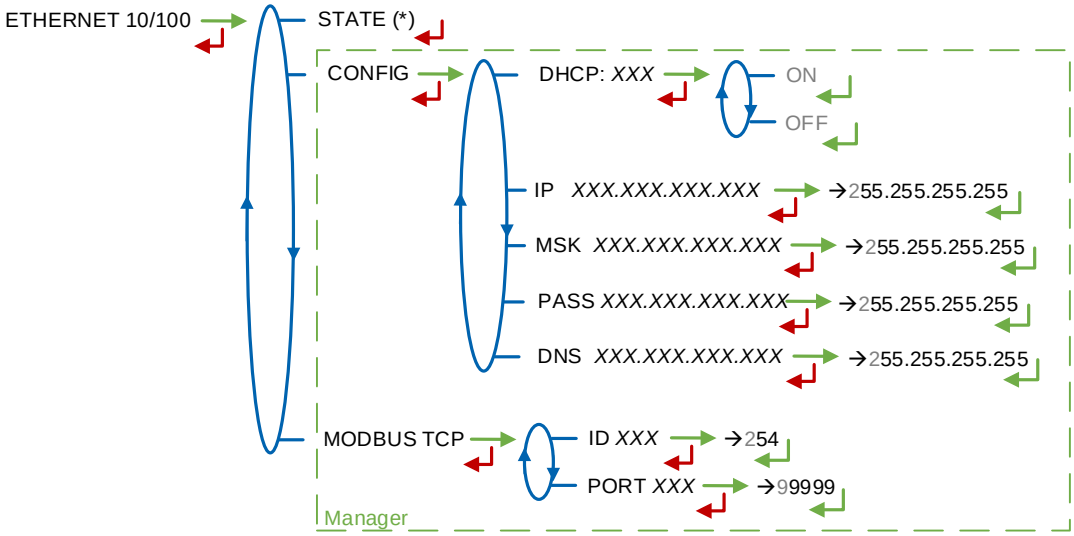
KEY ALREADY INITIALIZED: The blue key is already initialized.

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.

8.5 Menu ETHERNET



(*) CONNECTED / DISCONNECTED

STATE: Status of the Ethernet connection.

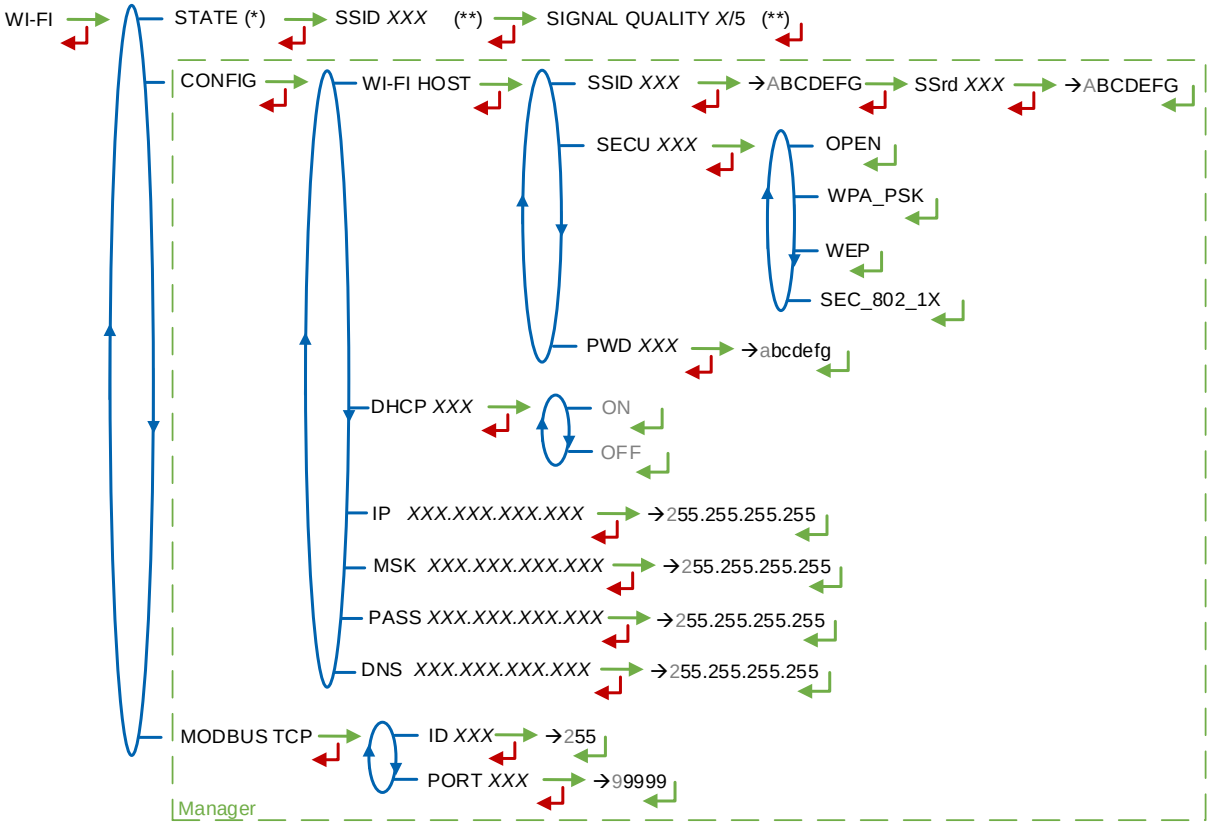
CONFIG – *Access restricted to the Manager with green key and to the Maintenance with red key*

- **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.

8.6 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.

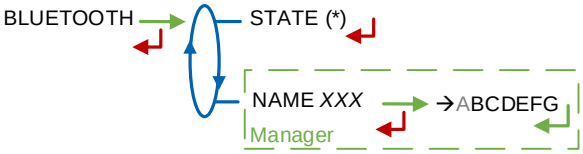
    Permitted characters: <space>!"#$%&'()*+,-./0123456789:;<=>?@ABCD EFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~<DEL> (Visualization of the permitted characters on the MICROCOMPT+ display).
- **DHCP**: If ON is enabled, IP parameters can be initialized through the DHCP protocol. If OFF is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

8.7 Menu BLUETOOTH

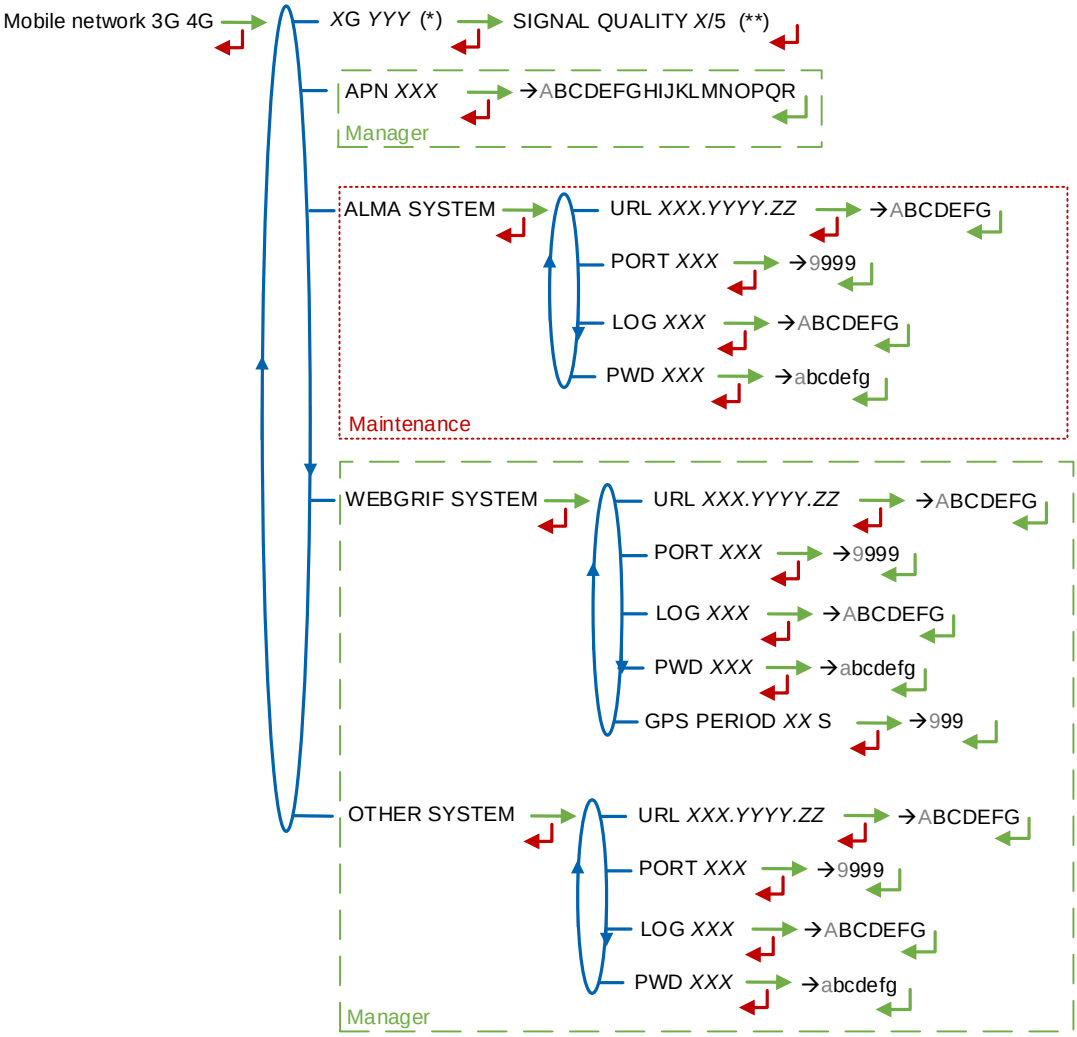


(*) NOT AVAILABLE (the calculator is not equipped) / DISCONNECTED / CONNECTED

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.

8.8 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.

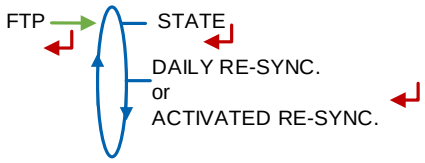
Permitted characters: <space>!"#$%&'()*+,-./0123456789:;<=>?@ABCD EFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~<DEL> (Visualization of the permitted characters on the MICROCOMPT+ display)

8.9 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.

8.10 Menu FTP

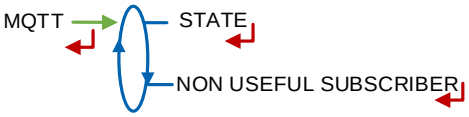


STATE : Synchronisation status (GSM and FTP connection faults, file synchronisation status).

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

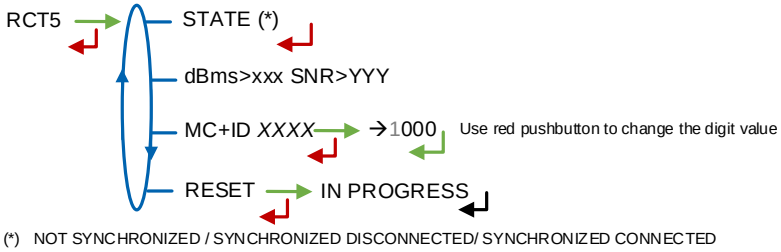
ACTIVATED RE-SYNC. : Indicates that an FTP synchronisation will be performed the next time the ICOM card is booted.

8.11 Menu MQTT



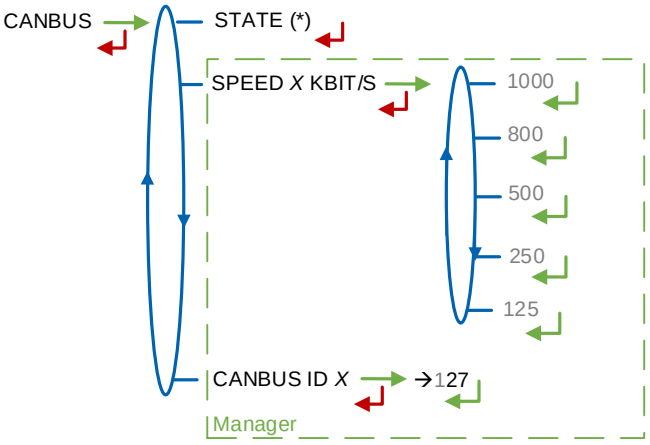
STATE : MQTT broker connection status (Faults, MQTT and GPS connections).
NON USEFUL SUBSCRIBER : Function not used.

8.12 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

8.13 Menu CANBUS



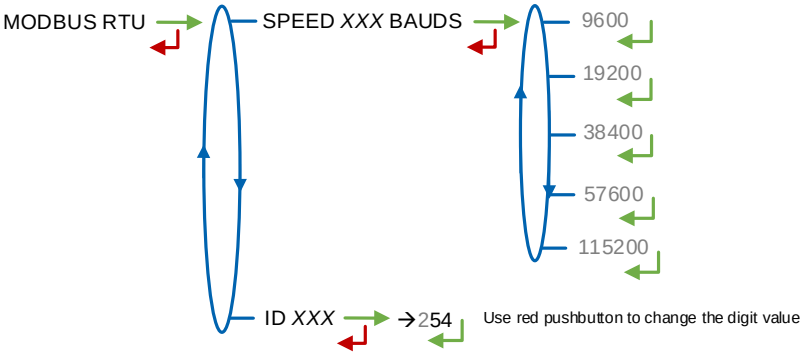
(*) CONNECTED / DISCONNECTED

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).

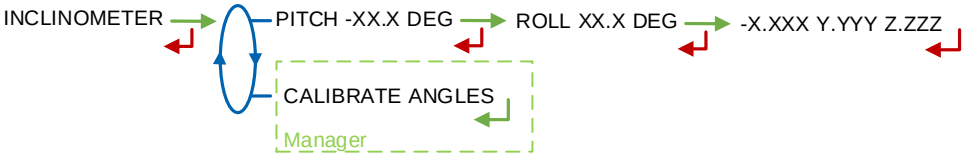
8.14 Menu MODBUS RTU



SPEED: Speed of the Modbus connection

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

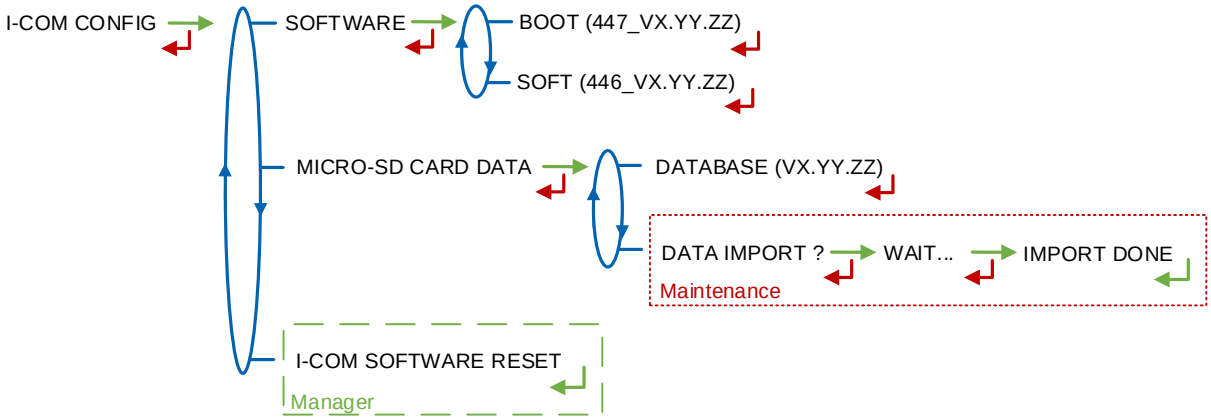
8.15 Menu INCLINOMETER



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.

8.16 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.