


USER MANUAL**MU 7088 EN A**
AIRTRONIQUE

A	2018/10/02	Creation [PJV167]	DSM	XS
Issue	Date	Modifications	Written by	Approved by

	MU 7088 EN A AIRTRONIQUE	Page 1/38
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CONTENTS

1	GENERAL PRESENTATION AND DESCRIPTION.....	4
2	CONFIGURE, SET AND CALIBRATE THE AIRTRONIQUE	5
2.1	Configure the AIRTRONIQUE.....	5
2.2	Set the AIRTRONIQUE.....	6
2.3	Calibrate the AIRTRONIQUE.....	6
3	USE THE AIRTRONIQUE: USER MODE	6
3.1	Menu DELIVERY.....	8
3.2	Menu PRINT	9
3.3	Menu DISPLAY	11
3.3.1	Sub-menu TOTALISER(S).....	11
3.3.2	Sub-menu MEMORY.....	11
3.4	Menu MAINTENANCE	12
3.5	List of alarms.....	13
4	SET THE AIRTRONIQUE: SUPERVISOR MODE.....	14
4.1	Menu CALIBRATION/ GAUGE	14
4.1.1	Sub-menu ENTER GAUGE VOLUME.....	14
4.1.2	Sub-menu LINEARISATION/FLOW	15
4.2	Menu PRODUCT SETTINGS.....	16
4.3	Menu OPERATION SETTINGS	18
4.4	Menu LINE SETTINGS.....	18
4.5	Menu VEHICLE.....	18
4.6	Menu SETTINGS	18
4.6.1	Sub-menu VOLUME SETTINGS	19
4.6.2	Sub-menu FLOWRATE SETTINGS.....	19
4.6.3	Sub-menu BACKUP VALUE	19
4.7	Menu TIME ADJUSTMENT.....	19
4.8	Menu PRINTER	19
4.9	Menu LANGUAGE.....	20
4.10	Menu ICOM MENUS	20
5	CONFIGURE THE AIRTRONIQUE: METROLOGICAL MODE.....	21
5.1	Menu INDICATOR REFERENCE.....	21
5.2	Menu CONFIGURATION	21
5.2.1	Sub-menu DISTRIBUTION LINE	21
5.2.2	Sub-menu COMPARTMENT OPTIONS	21

5.2.3 Sub-menu UNIT AND ACCURACY22

5.2.4 Sub-menu CONVERSION22

5.2.5 Sub-menu PULSES OUTPUT23

5.3 Menu EMA (PUMP MODE)..... 24

5.3.1 Sub-menu METER COEFFICIENT24

5.3.2 Sub-menu CORRECTION24

5.3.3 Sub-menu METER FLOWRATES24

5.3.4 Sub-menu MINIMUM QUANTITY25

5.3.5 Sub-menu TEMPERATURE25

5.4 Menu DATE AND TIME..... 25

ANNEX 1: FEATURES OF THE CONNECTED MICROCOMPT+ 26

ANNEX 2: PRINTINGS..... 36

RELATED DOCUMENTS..... 38

1 GENERAL PRESENTATION AND DESCRIPTION

The AIRTRONIQUE is a meter for use at airports and airfields. It measures aviation fuels such as JET A1 or AVGAS. You can install it on refueling tank trucks, hydrant vehicles or swap bodies.

The AIRTRONIQUE contains these parts:

- ⇒ A turbine meter 2", 3" or 4"
- ⇒ A MICROCOMPT+ electronic calculator-indicator
- ⇒ A temperature probe (option)
- ⇒ An optional printer

The AIRTRONIQUE can:

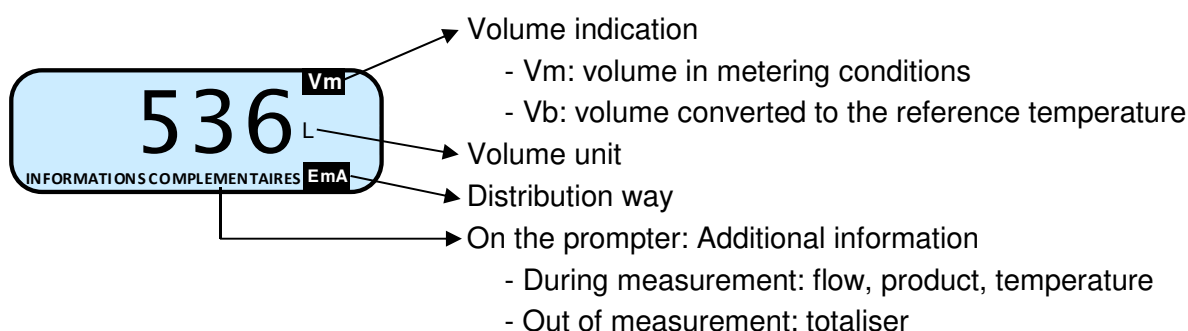
- ⇒ Manage measuring operations. A measuring operation can be a delivery or an unloading of product;
- ⇒ Manage faults
- ⇒ Measure quantities of products

The optional functions are available:


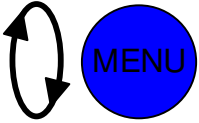
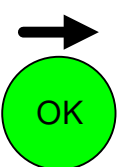
- ⇒ The AIRTRONIQUE can control the product temperature. It shows volume in metering conditions or volume converted to the reference temperature
- ⇒ It can control an additive injection device. This injection has to occur upstream the meter
- ⇒ A printer can print delivery tickets, invoices, internal totalisers, parameters or diary printings.

NOTE: The AIRTRONIQUE shows the legally-binding information. The information printed by the printer has no metrological value.

The AIRTRONIQUE has one display:



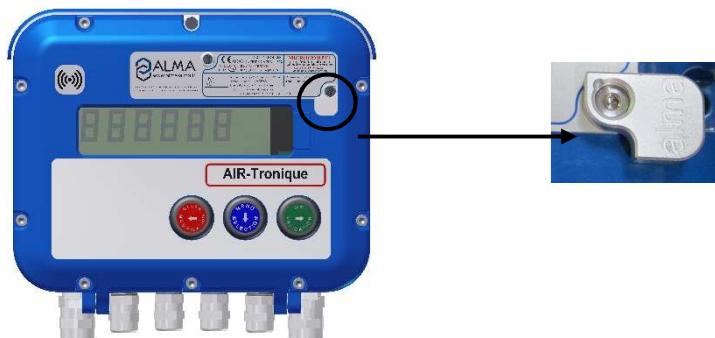
The AIRTRONIQUE has three pushbuttons:

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

2 CONFIGURE, SET AND CALIBRATE THE AIRTRONIQUE

2.1 Configure the AIRTRONIQUE

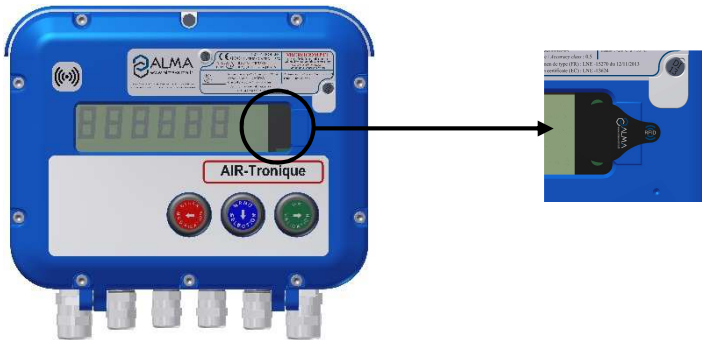
You must configure the AIRTRONIQUE during commissioning and sometimes during metrological controls. You must remove the seal as shown below. **NOTE:** Only approved persons are permitted to remove the seal.



Then you enter the METROLOGICAL mode. Details are available in the section CONFIGURE THE AIRTRONIQUE: METROLOGICAL MODE.

2.2 Set the AIRTRONIQUE

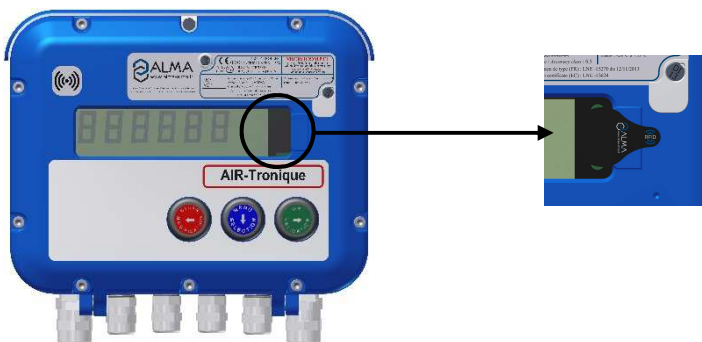
You must set the AIRTRONIQUE before any operation. To set the AIRTRONIQUE, you need an ALMA RFID key that you put on the display as shown below:



Then you enter the SUPERVISOR mode. Details are available in the section SET THE AIRTRONIQUE: SUPERVISOR MODE and annex 1.

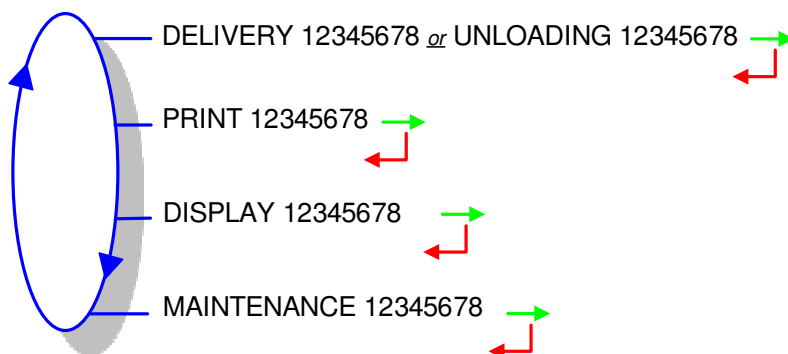
2.3 Calibrate the AIRTRONIQUE


To calibrate the AIRTRONIQUE, you need an ALMA RFID key that you put on the display as shown below:



Then you enter the SUPERVISOR mode. Details are available in the section SET THE AIRTRONIQUE: SUPERVISOR MODE.

3 USE THE AIRTRONIQUE: USER MODE



	MU 7088 EN A AIRTRONIQUE	Page 6/38
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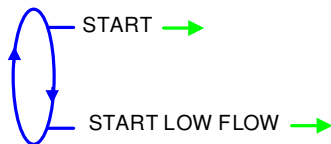
In USER mode, the AIRTRONIQUE displays a blinking figure which is the latest delivered quantity. On the prompter, you can see the name of the menu and the 8-char totaliser.

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

Therefore, the user menu depends on several items:

- ⇒ The number of distribution ways (one or two)
- ⇒ The number of compartments
- ⇒ The control of the compartments flaps
- ⇒ The distribution mode (free or preset)
- ⇒ The temperature control (conversion of the volume).

An operation can be performed in high or low flow. Select the flow before the measurement starts. Push MENU to select high or low flow and validate with OK.

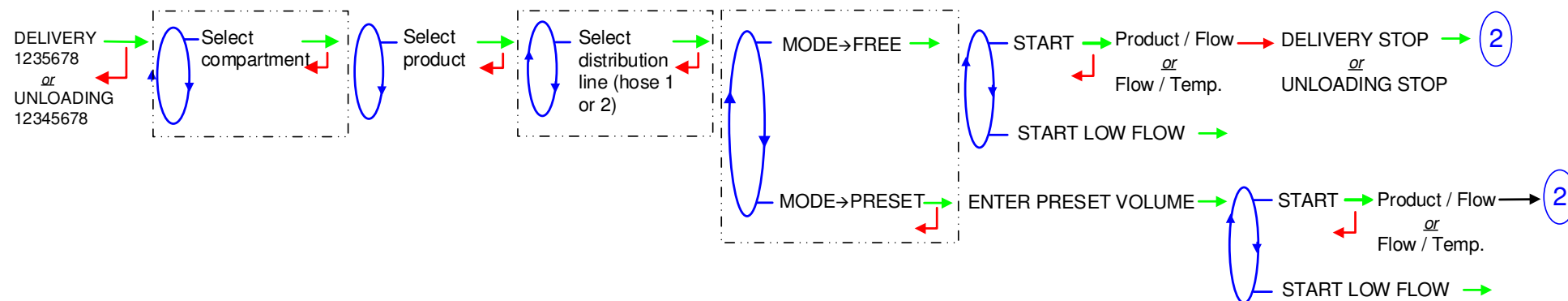


During measurement, you can see the instantaneous flowrate (m^3/h or L/min)

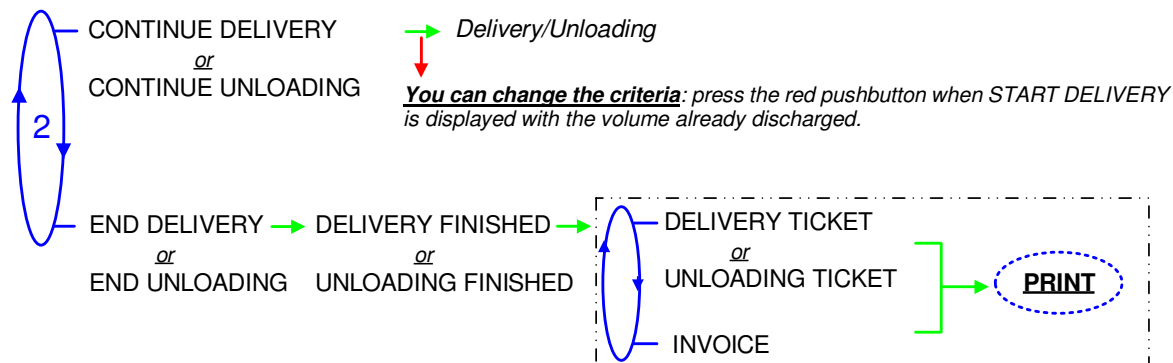


Back to normal display is automatic: DO NOT PRESS RED CLEAR BUTTON TO KEEP FROM INTERRUPTING THE MEASURING OPERATION.

3.1 Menu DELIVERY



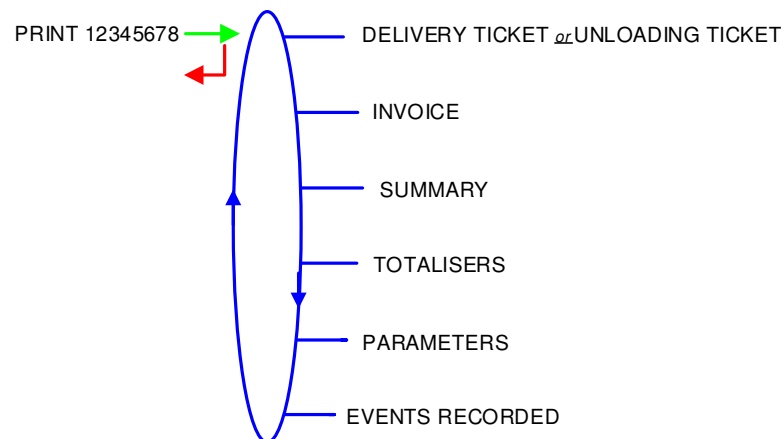
Non-systematic phase: Only if there are more than one compartment
 Non-systematic phase: Only with two distribution ways
 Non-systematic phase: Only if both modes are available



Non-systematic phase: Only if the AIRTRONIQUE operates with a printer

3.2 Menu PRINT

This menu is available only if the AIRTRONIQUE operates with a printer (SUPERVISOR>PRINTER→ON).



DELIVERY TICKET or UNLOADING TICKET: Print the ticket of the last measuring operation.

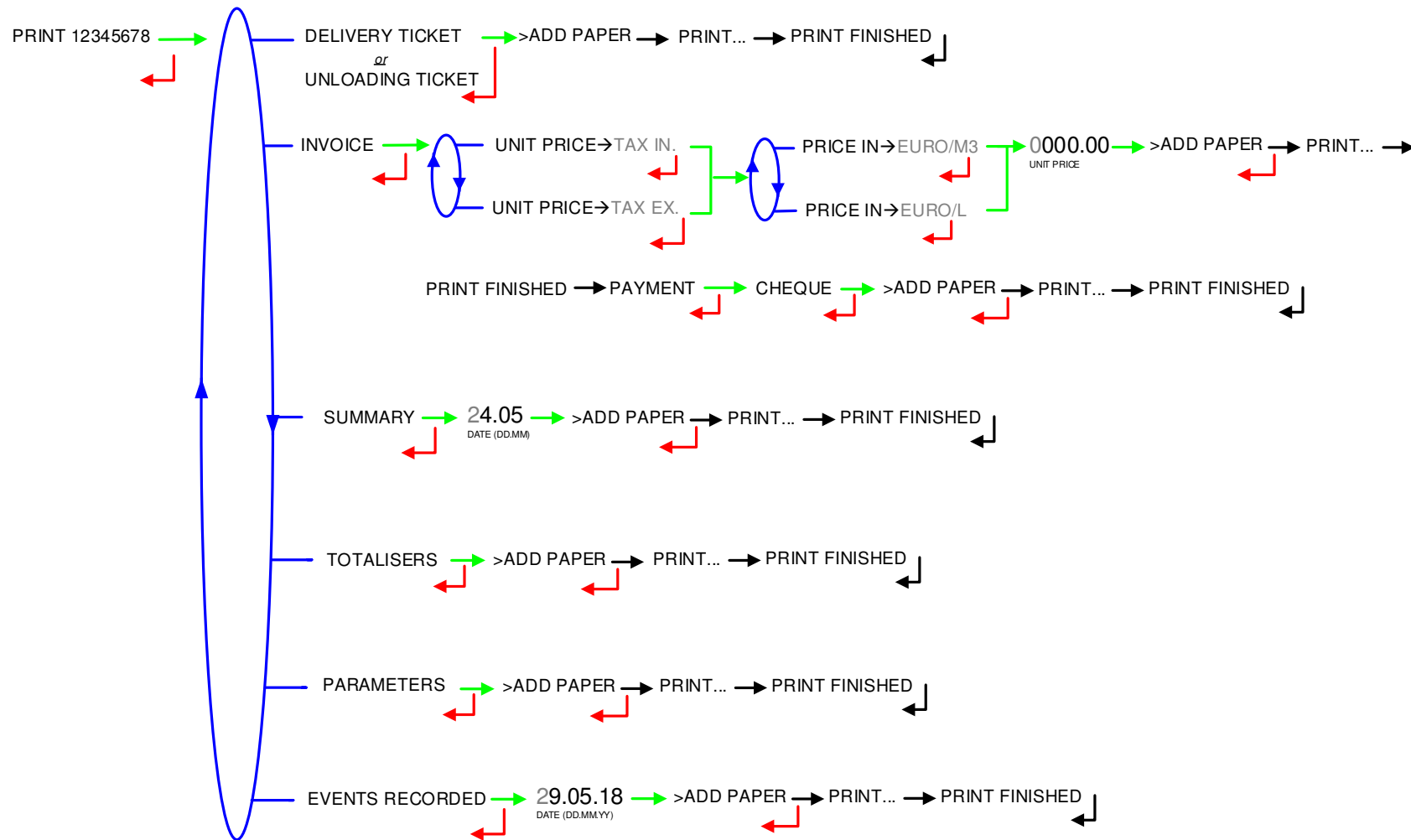
INVOICE: Print the invoice and the payment of the last measuring operation.

SUMMARY: Record a date and validate to print the summary of the measuring operations.

TOTALISERS: Print the products totalisers.

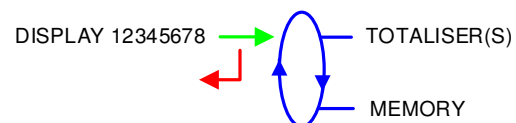
PARAMETERS: Print the recorded parameters.

EVENTS RECORDED: Record a date and validate to print the events recorded.



3.3 Menu DISPLAY

This menu is available in standby mode or when you stop temporarily the measurement. You can see the totaliser value and the measurement results.



3.3.1 Sub-menu TOTALISER(S)



3.3.2 Sub-menu MEMORY

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

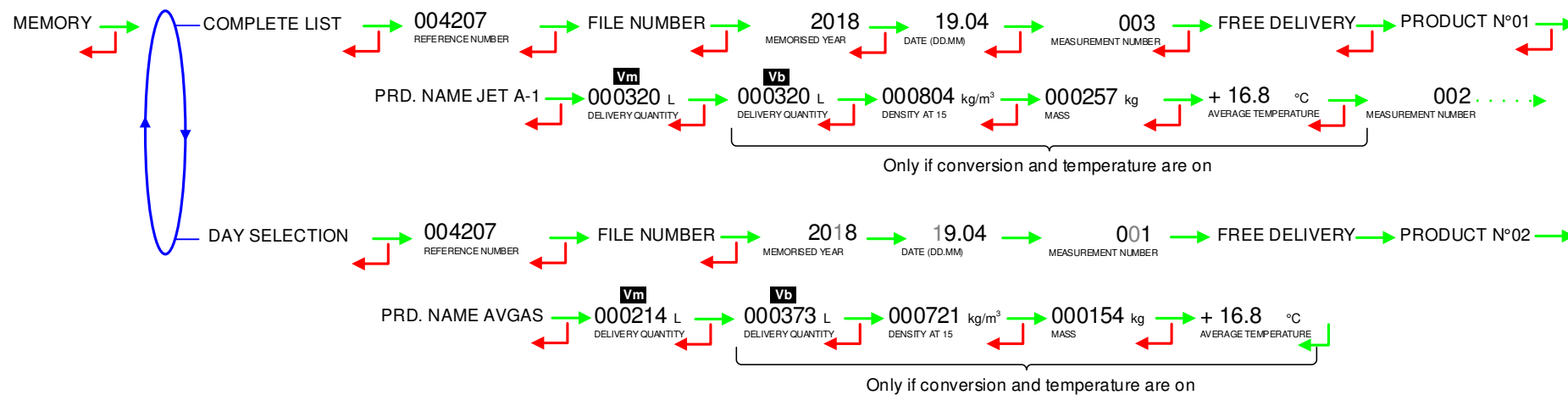
COMPLETE LIST: Display all the measurement details recorded, from the newest to the oldest, sorted by day then by measurement number.

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

For each measurement, you can read:

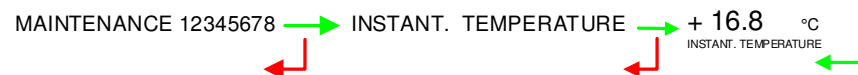
- The distribution mode
- The product number
- The name of the product
- The measured quantity
- The temperature.

Example:



3.4 Menu MAINTENANCE

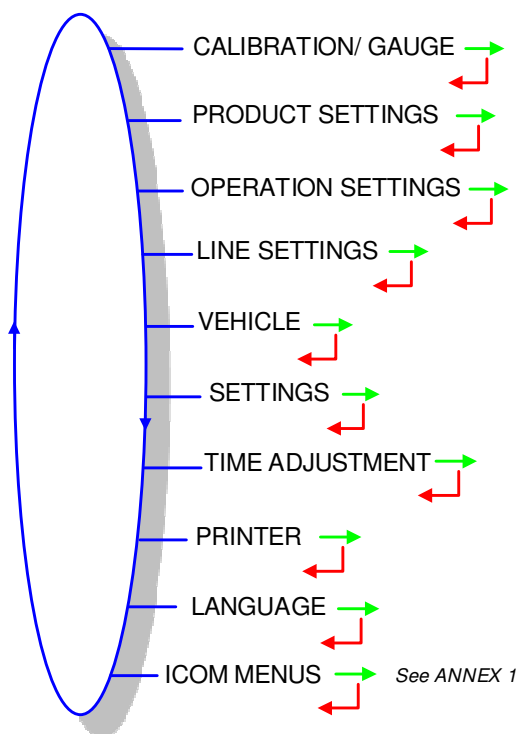
This menu is available only if the AIRTRONIQUE controls the temperature product.



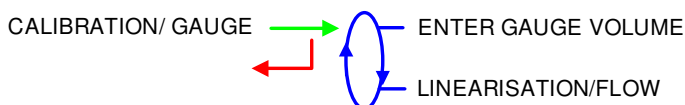
3.5 List of alarms

		DISPLAY	MEANING	ACTION
USER		STOP	Intentional interruption of delivery or return	Continue, stop or finish the delivery or unloading
		PRINTER DEFAULT	Communication with the printer lost Jammed paper in the printer	Check the connection cable, on-off switch and fuse Use the RELEASE button to eject paper
		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 (RFID key)
		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)	
REPARATOR		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	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
		TOTALISER 1 LOST	Loss of totaliser	Substitution of the backup battery
		TEMPERATURE 1 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	Substitution of the backup battery
		DATE AND TIME LOST	Loss of date and time	Set date and time in supervisor mode (RFID 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	

4 SET THE AIRTRONIQUE: SUPERVISOR MODE



4.1 Menu CALIBRATION/ GAUGE



4.1.1 Sub-menu ENTER GAUGE VOLUME

This menu is used to do a check of the accuracy of the measuring system. The MICROCOMPT+ calculates the measuring device error, the new corrected coefficient and the average flow.

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

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

Enter the volume read on the gauge and validate. The MICROCOMPT+ displays the information that follows:

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



4.1.2 Sub-menu LINEARISATION/FLOW

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

When you validate the menu LINEARISATION/FLOW, the calibrated values are displayed; you need to unseal the MICROCOMPT+ to switch in METROLOGICAL mode and record the values via the menu EMA (PUMP MODE)>METER COEFFICIENT.

To linearize the curve, two tests are necessary:

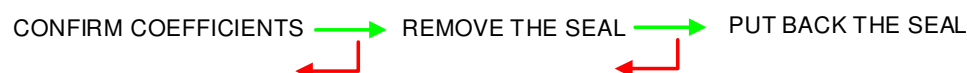
- Fill the gauge in high flow [$\text{flowmin}^3 \leq \text{high flow} < \text{flowmax}$], and enter the volume read on the gauge in the menu CALIBRATION/STANDARD>ENTER GAUGE VOLUME as described above
- Record the volume read on the gauge in the menu CALIBRATION/GAUGE>ENTER GAUGE VOLUME as described above.
- Select CALIBRATION/GAUGE>LINEARISATION/FLOW and validate. It is then possible to see the coefficients and the flow rates data for the two tests carried out.



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

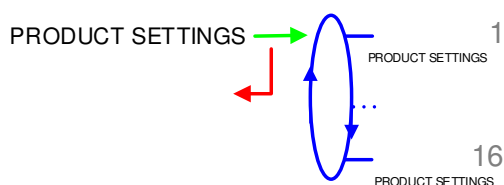
- LARGE GAP K1/K2: Correction between both measuring points more than 0.5%
- FLOWS TOO CLOSE: High flowrate value is out of range. It needs to be: [$\text{flowmin}^3 \leq \text{high flow} < \text{flowmax}$].
- LO-FLOW OUT OF RANGE: Low flowrate value is out of range. It needs to be: [$\text{flowmin} \leq \text{low flow} \leq \text{flowmin}^2$]
- 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 MICROCOMPT+ displays the sequence that follows:



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

4.2 Menu **PRODUCT SETTINGS**



You can configure the parameters that follow for a maximum of 16 products:

NAME: Record the name of the product. Default name for product 1: JET A-1, default name for product 2: AVGAS.

UNIT PRICE: Select if the price includes taxes or not.

CURRENCY: Record the currency of the price.

PRICE IN: Select the unit of the price: m³ per hour or liter per hour.

UNIT PRICE/DEFAULT: Record the default value of the price.

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

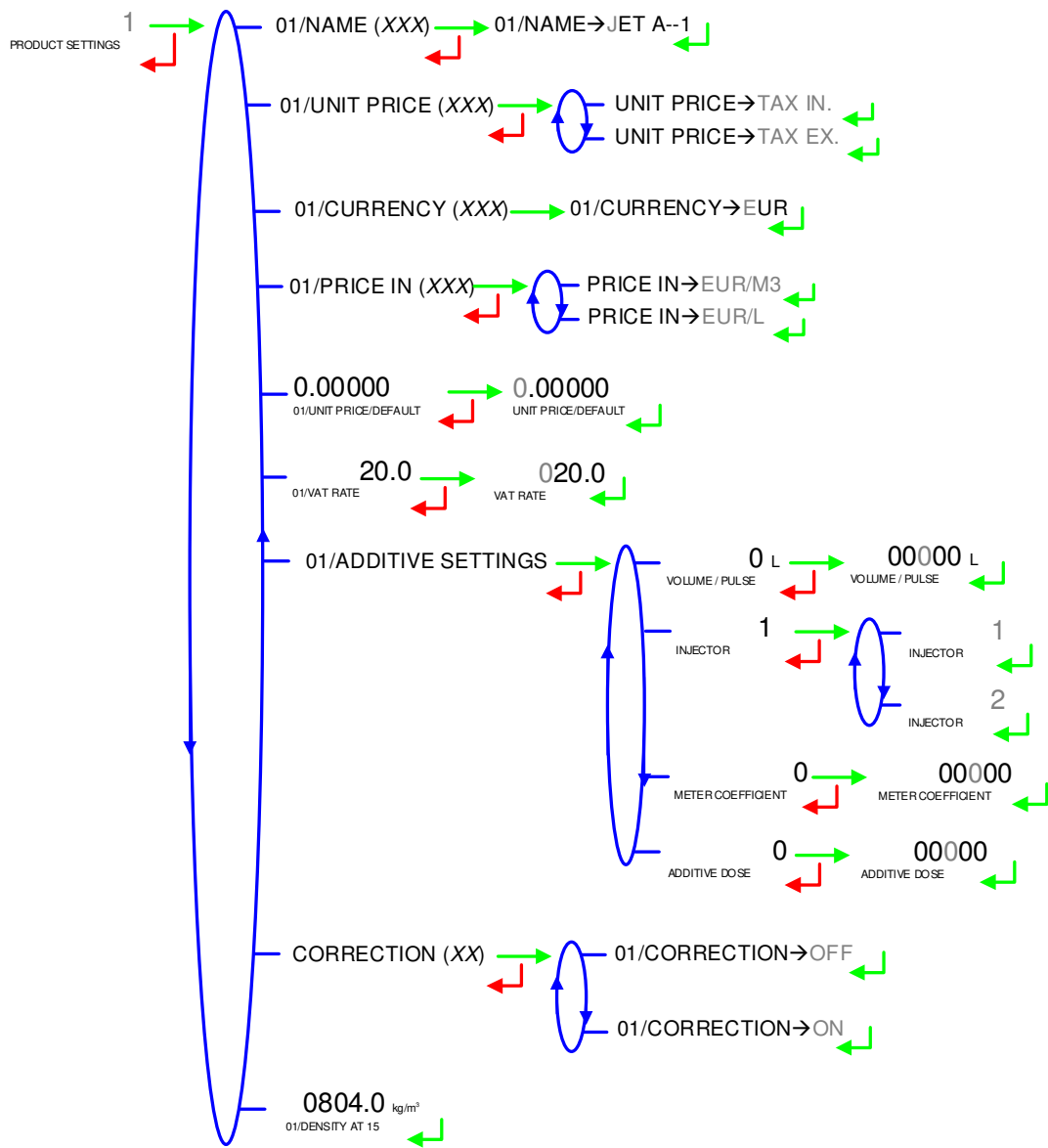
ADDITIVE SETTINGS: If the AIRTRONIQUE controls an additive injection device, you must configure the parameters that follow:

- **VOLUME/PULSE:** Record the volume of primary product. For example “00200”: the AIRTRONIQUE puts a dose of additive every 200 liters of primary product.
- **INJECTOR:** Select the injector.
- **METER COEFFICIENT:** Record the coefficient of the additive injection device.
- **ADDITIVE DOSE:** Record the volume of the additive dose in liter.

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

DENSITY AT 15: Record the product density in Kg/m³. **NOTE:** If the value is recorded during the configuration, you are not permitted to change it (See METROLOGICAL>CONFIGURATION>CONVERSION>PROD. CONFIG.).

Example for product 1:



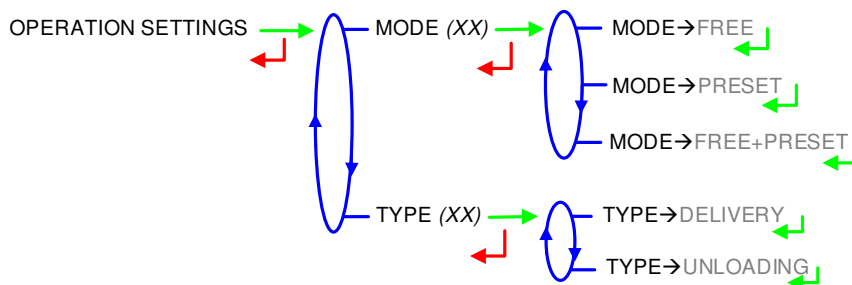
4.3 Menu OPERATION SETTINGS

You must select the mode and the type of measuring operation you want to do.

MODE: The AIRTRONIQUE can operate in three modes:

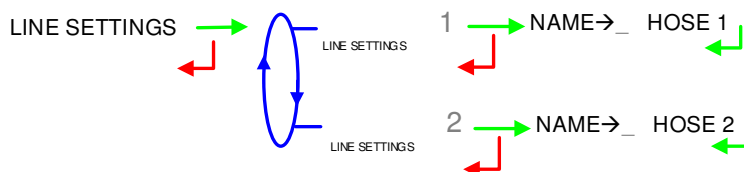
- **MODE→FREE:** The quantity of product is free for any measuring operation.
- **MODE→PRESET:** Before a measuring operation, you must set the quantity of product.
- **MODE→FREE+PRESET:** Before a measuring operation, you must select the mode.

TYPE: You must select the type of measuring operations the AIRTRONIQUE is for: delivery of product or unloading of product.



4.4 Menu LINE SETTINGS

There can be one or two distribution lines (see METROLOGICAL>CONFIGURATION>DISTRIBUTION LINE). Record the name of the distribution lines.

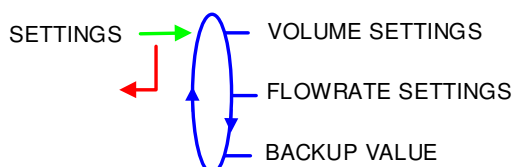


4.5 Menu VEHICLE

Record the vehicle registry number on which the AIRTRONIQUE is installed. This number is printed on tickets, invoices ...



4.6 Menu SETTINGS



4.6.1 Sub-menu VOLUME SETTINGS

You can set the volume parameters that follow:

END LOW FLOW VOLUME: Record the volume (in liters) delivered in low flowrate to complete the measurement.



4.6.2 Sub-menu FLOWRATE SETTINGS

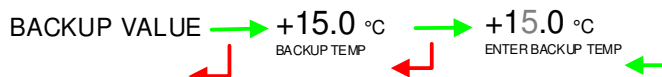
You can set the flowrate parameters that follow:

L TO H FLO THRESHOLD: Record the flowrate beyond which the AIRTRONIQUE switches from low to high flowrate.



4.6.3 Sub-menu BACKUP VALUE

Record the backup value for temperature. This menu is available when the conversion is ON in METROLOGICAL mode: CONFIGURATION>CONVERSION->ON.

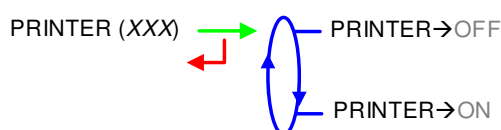


4.7 Menu TIME ADJUSTMENT

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



4.8 Menu PRINTER



If the AIRTRONIQUE operates with a printer, select the menu PRINTER->ON. Then, you can configure the parameters that follow:

TICKET: Select the format of the ticket.

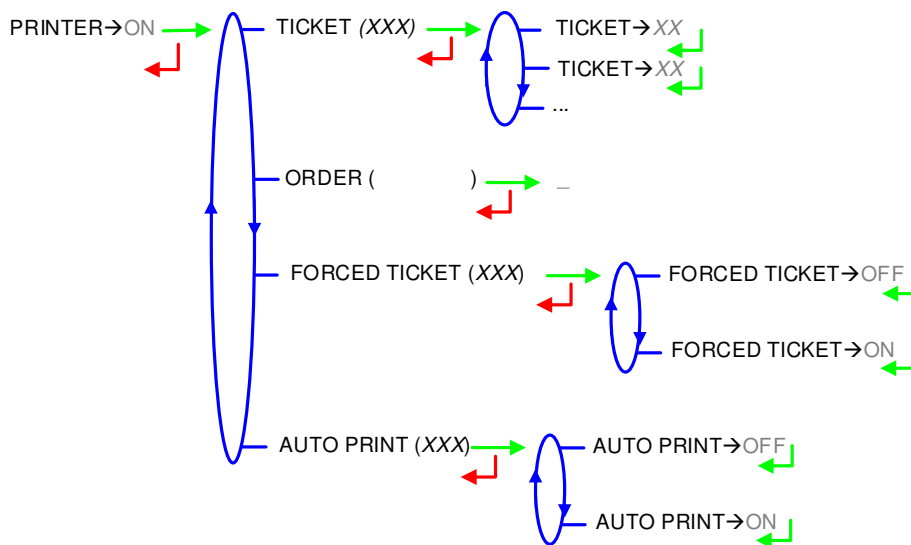
ORDER: Set the order for payment with a maximum of 20 characters. If you record the field, you can print the invoice and the payment at the end of the measuring operation. You can't print the ticket at the end of the measuring operation. But you can print it with the menu: USER>PRINT>DELIVERY TICKET or USER>PRINT>UNLOADING TICKET.

FORCED TICKET:

- FORCED TICKET→ON: It is mandatory to print the delivery ticket. The next measuring operation can't start.
- FORCED TICKET→OFF: It is not mandatory to print the delivery ticket.

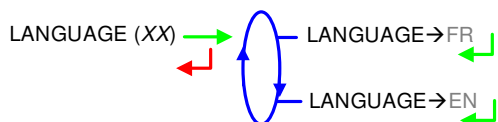
AUTO PRINT:

- AUTO PRINT→ON: The delivery ticket is automatically printed at the end of the measuring operation.
- AUTO PRINT→OFF: The delivery ticket is not automatically printed. You must push OK to print or CLEAR to cancel.



4.9 Menu LANGUAGE

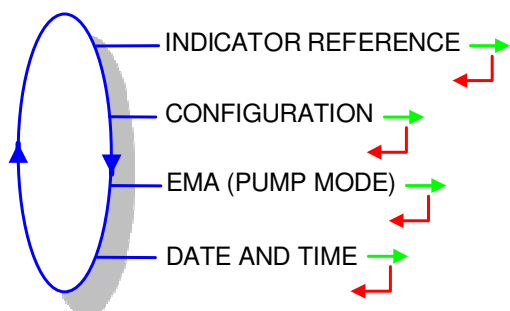
Select the display language. This menu is available if a translation catalogue is uploaded in the MICROCOMPT+.



4.10 Menu ICOM MENUS

See the ANNEX 1: Features of the connected MICROCOMPT+.

5 CONFIGURE THE AIRTRONIQUE: METROLOGICAL MODE

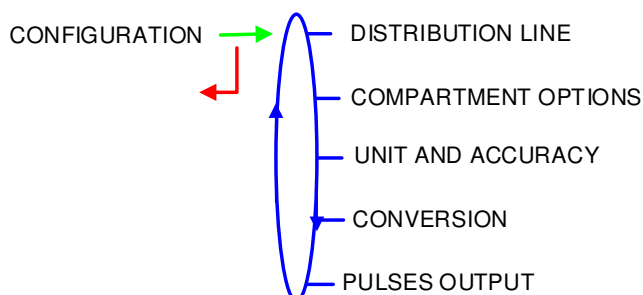


5.1 Menu INDICATOR REFERENCE

Record the MICROCOMPT+ serial number and then the slave number. It is useful for commissioning and maintenance operations with the µConfig tool.



5.2 Menu CONFIGURATION

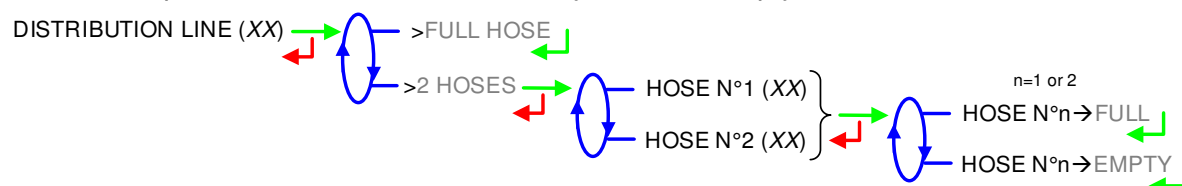


5.2.1 Sub-menu DISTRIBUTION LINE

You can configure one or two distribution lines. See the hydraulic configuration of the installation to see the number of available hoses.

FULL HOSE: Operation with one distribution line which is a full hose with authorization valve.

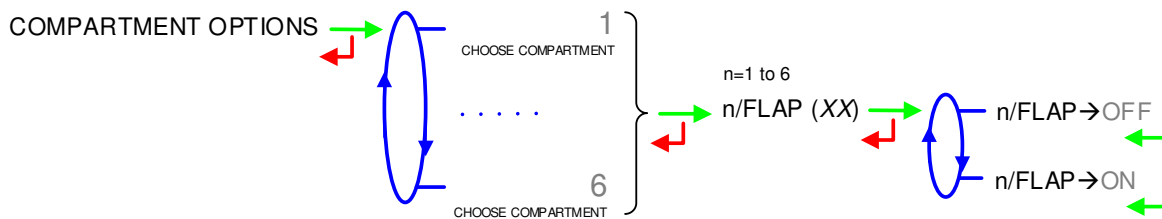
2 HOSES: Operation with 2 hoses. Each may be full or empty hose



5.2.2 Sub-menu COMPARTMENT OPTIONS

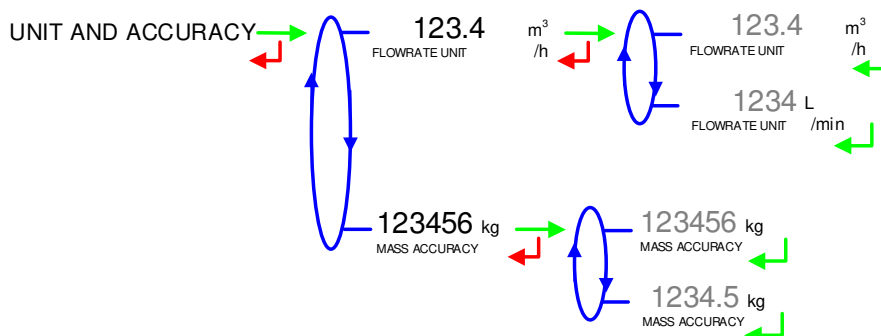
The AIRTRONIQUE can control a maximum of six compartments.

FLAP: You must validate FLAP→ON to control the compartment flap.



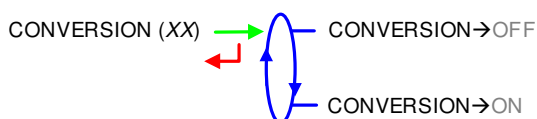
5.2.3 Sub-menu UNIT AND ACCURACY

Select the unit of the flow. The AIRTRONIQUE will show it on the display and the printer will print it. Then select the accuracy of the mass.



5.2.4 Sub-menu CONVERSION

The AIRTRONIQUE can operate with conversion or without conversion.



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

MAIN DISPLAY: Select the type for displayed quantity

VM: volume in metering conditions

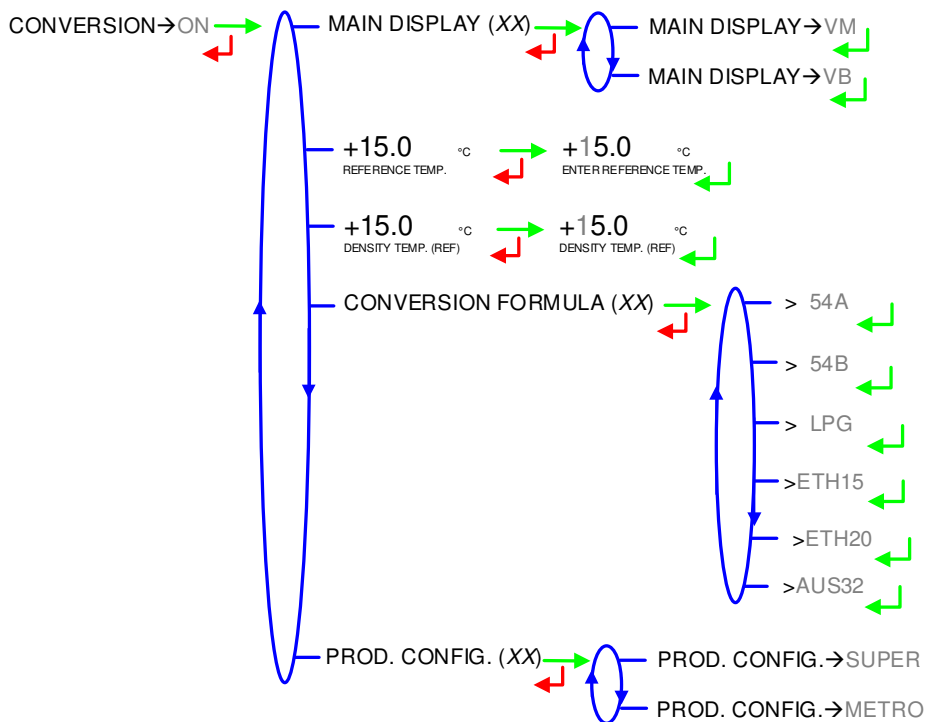
VB: volume converted to the reference temperature

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

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

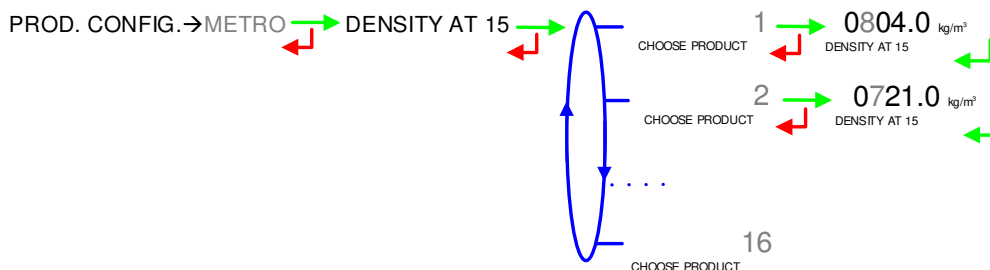
CONVERSION FORMULA: The choice of the conversion formula causes an implicit definition of valid density and temperature ranges to guarantee the conversion result. See the table below to select the conversion table 54B that corresponds to aviation fuel:

Product	Conversion formula
Crude products	54A
Refined products	54B
LPG and bitumen	LPG
Ethanol at 15°C	ETH15
Ethanol at 20°C	ETH20
Ad-Blue	AUS32



PROD. CONFIG.: This menu let you select if the configuration of the product density is available in METROLOGICAL mode or in SUPERVISOR mode. You can record the density of a maximum of 16 products.

- PROD. CONFIG. -> SUPER: You must record the density in SUPERVISOR mode
- PROD. CONFIG. -> METRO: You must record the density of products. You can see the value in SUPERVISOR mode but you are not permitted to change it.

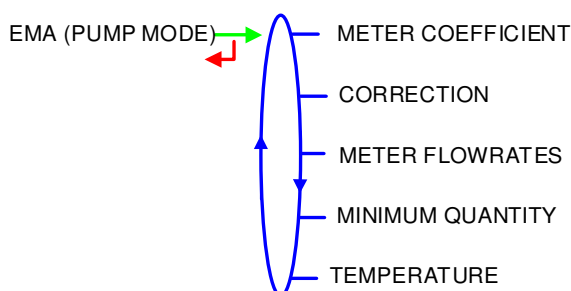


5.2.5 Sub-menu PULSES OUTPUT

Record the number of pulses per liter that corresponds to the quantity of liquid that the AIRTRONIQUE counts.



5.3 Menu EMA (PUMP MODE)



5.3.1 Sub-menu METER COEFFICIENT

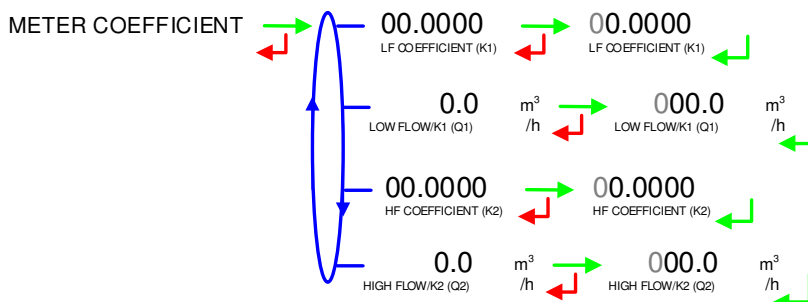
Set the coefficient of the measuring system meter (pulses/liter).

LF COEFFICIENT (K1): Coefficient for low flow (pulses/liter)

LOW FLOW/K1 (Q1): Low flow reference (m³/h)

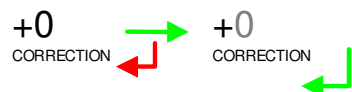
HF COEFFICIENT (K2): Coefficient for high flow (pulses/liter)

HIGH FLOW/K2 (Q2): High flow reference (m³/h)



5.3.2 Sub-menu CORRECTION

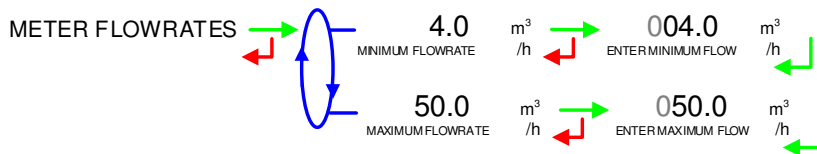
Record the correction factor per thousand (‰) of the AIRTRONIQUE for a measurement with low viscosity products. See the marking of the turbine meter or see the ALMA calibration certificate.



5.3.3 Sub-menu METER FLOWRATES

MINIMUM FLOWRATE: Record the metrological minimum flowrate of the AIRTRONIQUE in m³/h or l/min. You can select the flow unit in the menu CONFIGURATION>UNIT AND ACCURACY.

MAXIMUM FLOWRATE: Record the metrological maximum flowrate of the AIRTRONIQUE in m³/h or l/min. You can select the flow unit in the menu CONFIGURATION>UNIT AND ACCURACY.



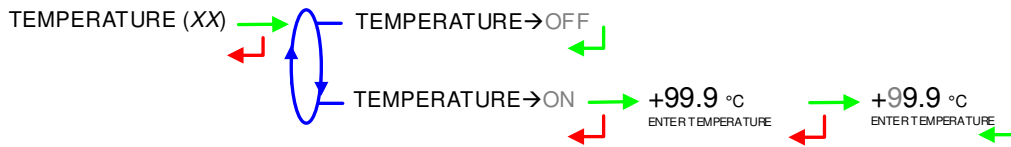
5.3.4 Sub-menu MINIMUM QUANTITY

Record the minimum quantity of the AIRTRONIQUE in liters. This value is given by the association of the turbine meter, the MICROCOMPT+ and other parts of the measuring system.



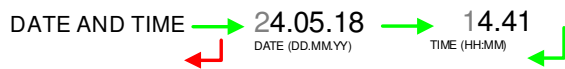
5.3.5 Sub-menu TEMPERATURE

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



5.4 Menu DATE AND TIME

Record the date. Then record the time at French format and validate (e.g. 14.41 means 2.41 pm).



ANNEX 1: FEATURES OF THE CONNECTED MICROCOMPT+

1. GENERAL PRESENTATION

The connected functions of the MICROCOMPT+ are:

- ⇒ Incoming data flow processing
- ⇒ Management of the communication modules below
- ⇒ Updating of the app, tickets and language catalogues as far as the MICROCOMPT+ has been switched into METROLOGICAL mode.

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

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

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

Left-hand LED: Wi-Fi or Bluetooth	Middle LED: GSM / GPS	Right-hand LED: NFC (RFID)
<p><u>Steady light:</u></p> <ul style="list-style-type: none"> • Blue* / Cyan*: Connection OK • Red: Waiting for initialization <p><u>Flashing light:</u></p> <ul style="list-style-type: none"> • Blue / Cyan slow flashing: Waiting for connection • Blue / Cyan rapid flashing: Communication in progress • Red: Initialization error 	<p><u>Steady light:</u></p> <ul style="list-style-type: none"> • Purple: Waiting for internet connection • White: Internet connection OK • Red: Waiting for initialization <p><u>Flashing light:</u></p> <ul style="list-style-type: none"> • White: Transfer in progress • Red every 2 seconds: Coordinates not found • Green every 2 seconds: GPS OK • Red: Initialization error 	<p><u>Flashing light:</u></p> <ul style="list-style-type: none"> • Green: Authentication of the RFID key OK • Red: Authentication error of the RFID key • Green/ Red: RFID key not accepted, but authentication is ok

(*): Blue: Bluetooth; Cyan: Wi-Fi

2. MENU SUPERVISOR>ICOM



User RFID key – Blue – Level 1

This key is associated to a single MICROCOMPT+. It is used to switch into SUPERVISOR mode to access the ICOM menu.



Manager RFID key – Green – Level 2

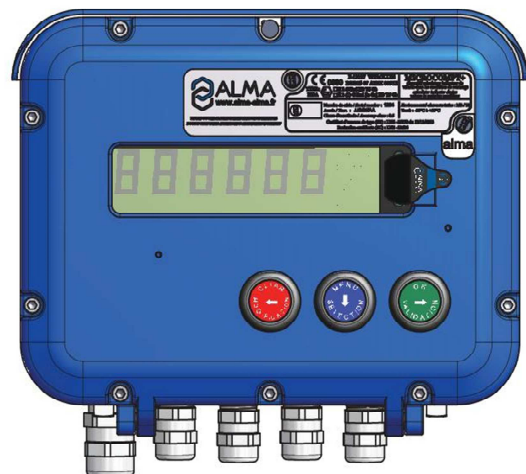
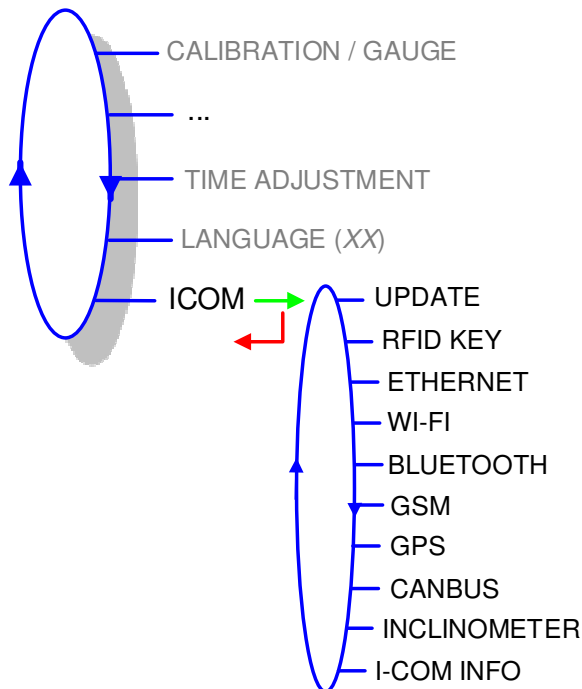
Many of these keys can be associated to a single MICROCOMPT+. Likewise, a single key can be associated to one or many MICROCOMPT+.

RFID key is used to switch into SUPERVISOR mode to access the ICOM menu. 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 document.



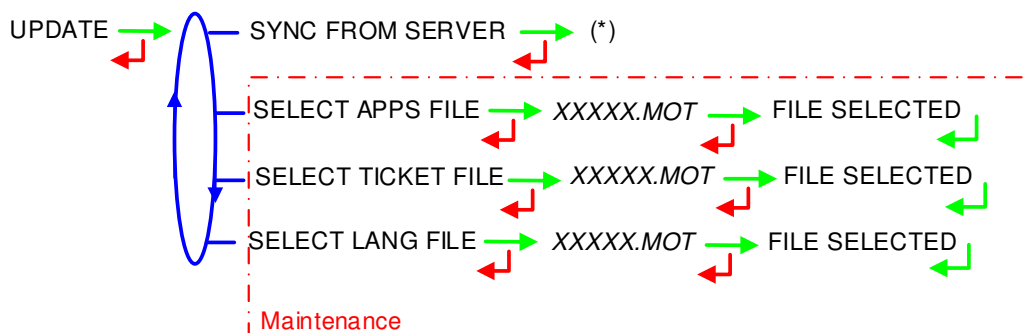
Maintenance RFID key – Red – Level 3

This key doesn't need to be associated to the MICROCOMPT+. It is used to switch into SUPERVISOR mode to access the ICOM menu. Specific menus are available that allow the maintenance operator to change parameters. The specific menus are indicated by red boxes within the document.



2.1. Menu UPDATE

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



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

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

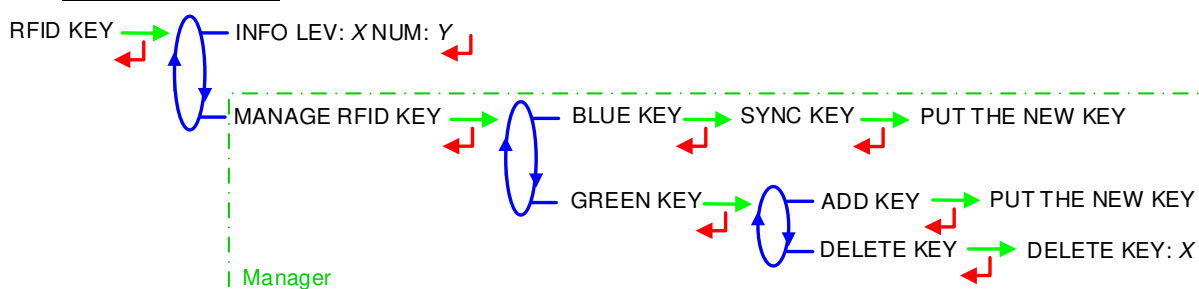
SELECT APPS FILE(*) – *Access restricted to the Maintenance:* Used to display and select the version(s) of the application available on the SD card. NO FILE is displayed if there's no file to download.

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

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

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

2.2. Menu RFID KEY



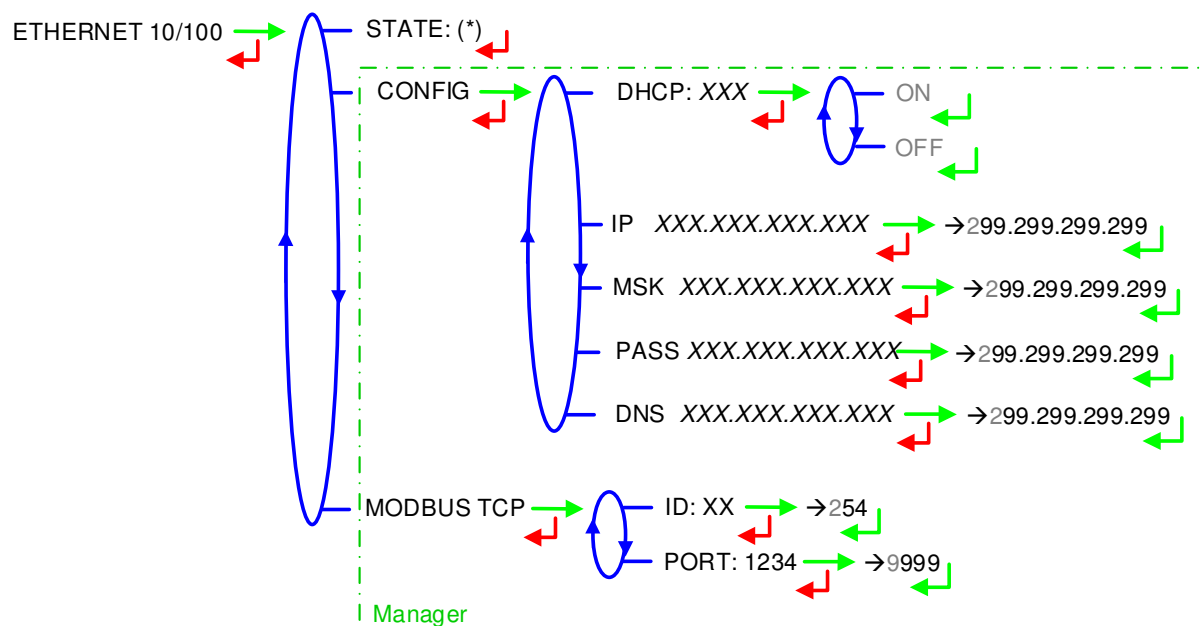
INFO: Display of the level and the identifier of the RFID key (Level 1/Blue/User, Level 2/Green/Manager, Level 3/Red/Maintenance)

MANAGE RFID KEY – *Access restricted to the Manager:*

BLUE KEY: Used to associate a user RFID key to the MICROCOMPT+

GREEN KEY: Used to associate a manager RFID key to the MICROCOMPT+ or to remove keys that have already been associated.

2.3. Menu ETHERNET



(*) CONNECTED / DISCONNECTED

STATE: Status of the Ethernet connection

CONFIG – Access restricted to the Manager:

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

IP: IP: eMICROCOMPT+ 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)

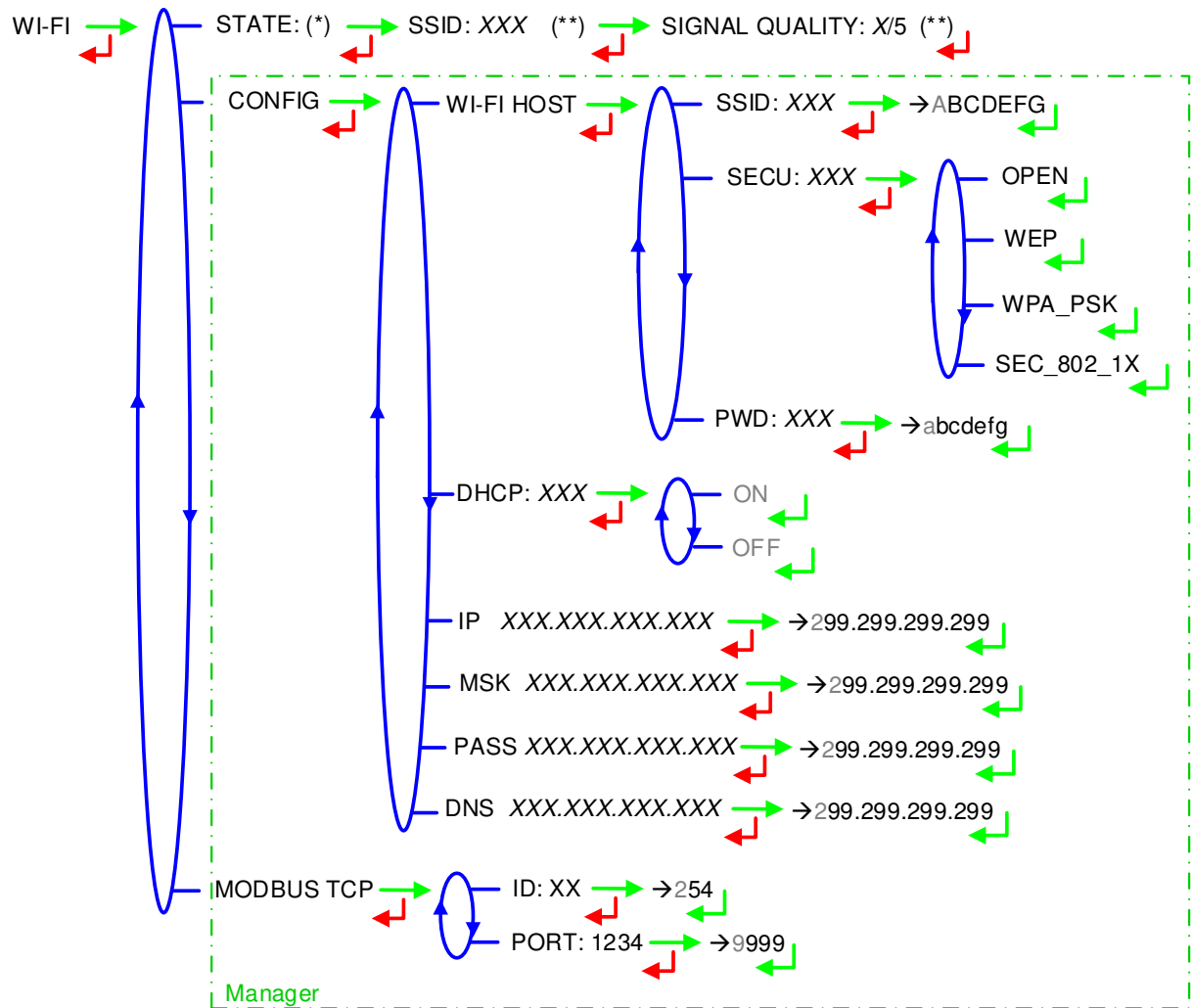
DNS: IP Address to access a DNS server

MODBUS TCP – Access restricted to the Manager:

ID: eMICROCOMPT+ Modbus identifier between 0 and 255

PORT: TCP/IP access port for Modbus protocol

2.4. Menu Wi-Fi



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

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

CONFIG – Access restricted to the Manager:

WI-FI HOST: Set the characteristics of the wireless network access point

SSID: 32 characters-alphanumeric key that identifies the wireless network uniquely

SECU: Type of security protocol for the network

OPEN: Free Wi-Fi

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

WPA_PSK: Encryption protocol by a 128 bits-dynamic key

SEC_802-1X: Encryption protocol compatible with the standard IEEE 802.1X

PWD: Network password. Permitted character: <space>!"#\$%&'()*+,-./

0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghijklmnopq
 rstuvwxyz{|}~ (See §3 visualization 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: IP: eMICROCOMPT+ 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)

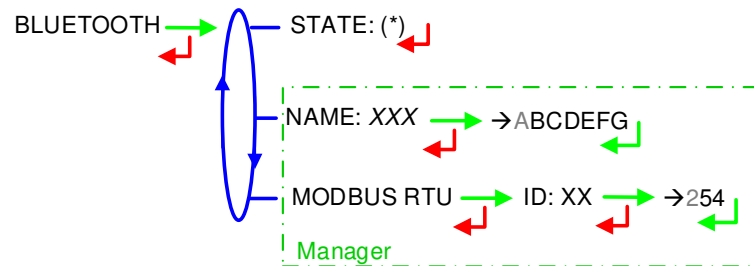
DNS: IP Address to access a DNS server

MODBUS TCP – Access restricted to the Manager:

ID: eMICROCOMPT+ Modbus identifier between 0 and 255

PORT: TCP/IP access port for Modbus protocol

2.5. Menu BLUETOOTH



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

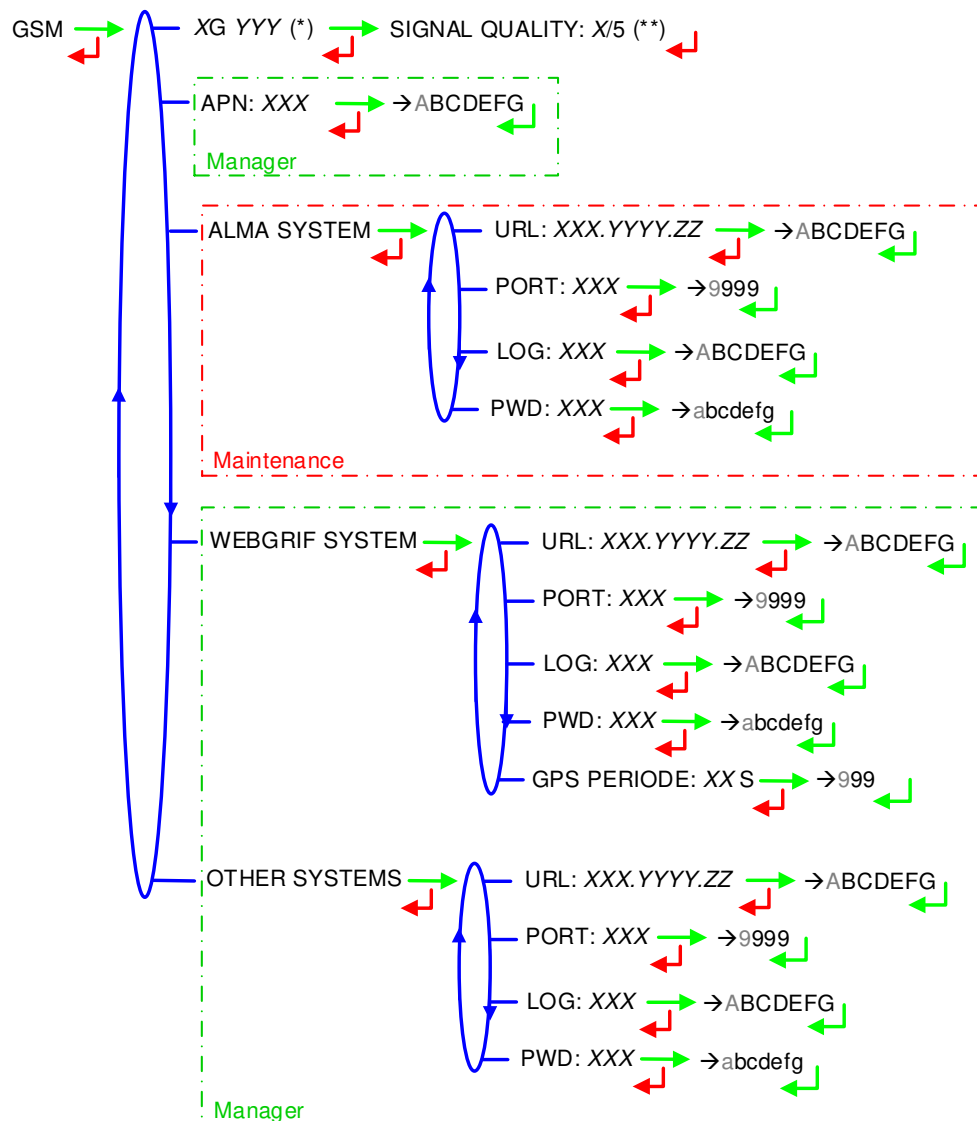
STATE: Status of the Bluetooth connection

NAME – Access restricted to the Manager: Set the connection name

MODBUS RTU – Access restricted to the Manager:

ID: Modbus identifier via Bluetooth (between 1 and 254)

2.6. Menu GSM



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

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

APN – Access restricted to the Manager: Name of the internet access point, only if ALMA does not supply it

ALMA SYSTEM – Access restricted to the Maintenance: 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;:<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[]^_`abcdefghijklmnopqrstuvw
xyz{ }~ (See §3 visualization on the MICROCOMPT+ display)

WEBGRIF SYSTEM – Access restricted to the Manager. 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;:<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[]^_`abcdefghijklmnopqrstuvw
yz{ }~ (See §3 visualization on the MICROCOMPT+ display)
- GPS PERIOD:** Backup period of GPS coordinates (from 1 to 999 seconds)

OTHER SYSTEM – Access restricted to the Manager. 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;:<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[]^_`abcdefghijklmnopqrstuvw
xyz{ }~ (See §3 visualization on the MICROCOMPT+ display)

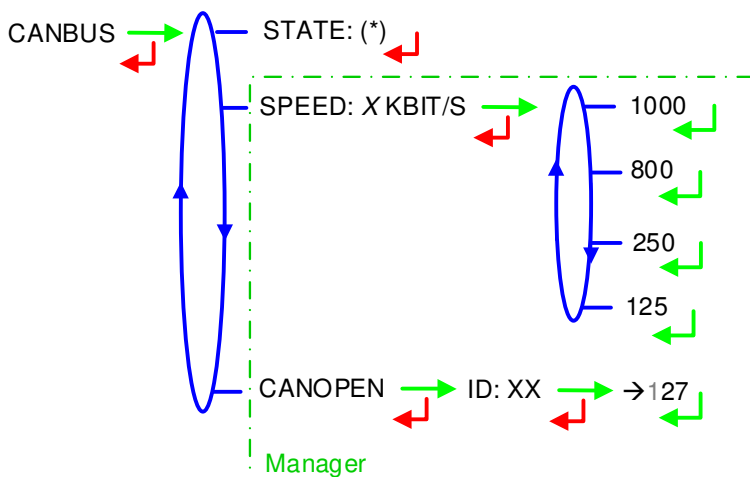
2.7. Menu GPS



(*) NO SIGNAL / 2DFIX / 3DFIX

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

2.8. Menu CANBUS



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

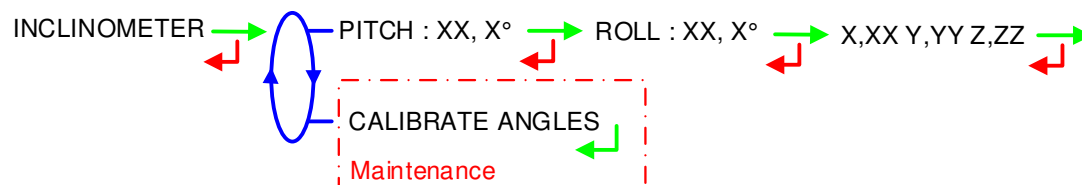
STATE: Status of the CANBus connection

SPEED – *Access restricted to the Manager:* Speed of the CANBus connection

CANOPEN – *Access restricted to the Manager:*

ID: Identifier for the CANopen protocol (between 1 and 127)

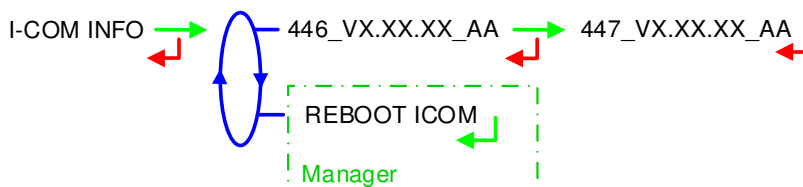
2.9. Menu INCLINOMETER



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

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

2.10. Menu I-COM INFO

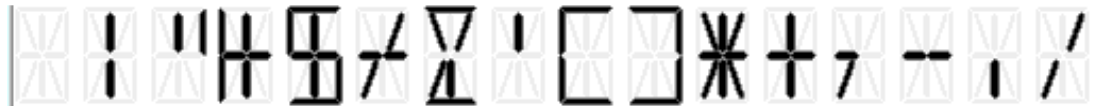


446_V...: Software’s number and version

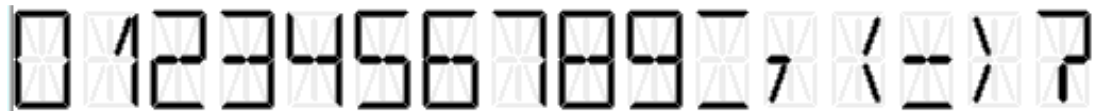
REBOOT COM – *Access restricted to the Manager:* Reset of the ‘interface com’ board.

3. VIZUALISATION OF THE PERMITTED CHARACTERS ON THE MICROCOMPT+

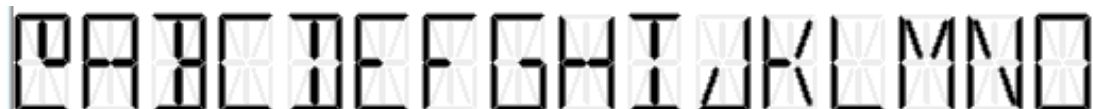
Visualization of the permitted characters on the MICROCOMPT+ display:




 <SPACE> ! " # \$ % & ' () * + , - . /




 0 1 2 3 4 5 6 7 8 9 : ; < = > ?



 @ A B C D E F G H I J K L M N O



 P Q R S T U V W X Y Z [\] ^ _



 ` a b c d e f g h i j k l m n o



 p q r s t u v w x y z { | } ~

ANNEX 2: PRINTINGS

SUMMARY:

AIRTRONIQUE 4051+.001
 VERSION 01.01.02 DATED 19.07.18
 PRINTED ON THE 20.07.18 AT 15:30
 VEHICULE : AA-215-EL
 INDICATOR : 03201

SUMMARY
 OF DELIVERIES OF 20.07.18
 DAY 201 - 006 MEMORISED RESULTS

**** DAILY TOTALISERS ****

JET A-1 (01) :	00001258 L	+16.9°C
AVGAS (02) :	00000638 L	+16.9°C
TOTAL FROM 1 TO 2:00001896 L		+16.9°C

***** DAILY SUMMARY *****

HR	HR	NO	(L)	(°C)	
START	END	MESUR	PROD	VM	TEMP
09:40	09:50	DF01	JET A	00210	+16.8
09:51	10:01	DF02	JET A	00226	+16.8
10:02	10:23	DF03	AVGAS	00047	+16.8
11:30	11:50	DF04	JET A	00454	+16.8
12:51	13:11	DF05	JET A	00368	+16.8
13:22	13:53	DF06	AVGAS	00591	+16.8

(D)ELIVERY;(U)NLOADING;
 PRE(S)ET; (F)REE.

PARAMETERS:

AIRTRONIQUE 4051+.001
 VERSION 01.01.02 DATED 19.07.18
 PRINTED ON THE 20.07.18 AT 15:30
 VEHICULE : AA-215-EL
 INDICATOR : 03201

***** PARAMETERS *****

OUTLETS/VALVE:	FULL HOSE
FLAPS:	OFF
MODE:	TRONIQUE
AUTO PRINT:	OFF
EMBEDDED COMPUTING:	OFF
EMA 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 QUANTITY:	00200 L
TEMPERATURE:	+16.8°C
PULSES OUTPUT:	+01.0 /LITER
FLOWRATE UNIT:	123.4 M3/H
CONVERSION:	
PROD. CONFIGURATION:	METRO
MASS ACCURACY:	123456 KG
JET A1 (01) OFF EUR	
AVGAS (02) OFF EUR	
OPERATION:	
MODE:	FREE
TYPE:	RETURN
LINE NAMES:	
LINE 1:	HOSE 1
END LOW FLOW VOLUME:	30 L
FLOW ACTIVATED HF:	7.5 M3/h
OBJECTIVE LOW FLOW:	9.0 M3/h
STOP FLOW AT 0.0 M3/H WITH 0.0 L	
PRESET END COEFF.:	0.1700

TOTALISERS:

AIRTRONIQUE 4051+.001
 VERSION 01.01.02 DATED 19.07.18
 PRINTED ON THE 20.07.18 AT 17:30
 VEHICULE : AA-215-EL
 INDICATOR : 03201

***** TOTALISERS*****

GENERAL TOTALISER 1: 00001896 L

JET A-1	(01) :	00011229 L
AVGAS	(02) :	00001269 L
	(03) :	00000000 L
	(04) :	00000000 L
	(05) :	00000000 L
	(06) :	00000000 L
	(07) :	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: 00012498 L

EVENTS RECORDED:

AIRTRONIQUE 4051+.001
 VERSION 01.01.02 DATED 19.07.18
 PRINTED ON THE 20.07.18 AT 17:30
 VEHICULE : AA-215-EL
 INDICATOR : 03201
 EVENTS ON 20/07/18

84 RECORD(S)

14:33:33 STOP
 14:24:33 DRIVER MODE

...

09:47:15 PARAM@ 62=91.540863
 09:47:06 PARAM@ 60=1.000000
 08:59:02 METROLOGICAL MODE
 08:58:57 SWITCH ON

DELIVERY/UNLOADING TICKET (according to customer):

AIRTRONIQUE

ID SYSTEME	N°	AA-215-EL
DELIVERY	N°	000009
DAY MEASUREMENT	N°	009
INDICATOR	N°	03201
DELIVERY DATE		03/05/18
STARTING		16:45
ENDING		16:53

PRODUCT	AVGAS
QUANTITY VM	00299 L
QUANTITY VB	*00000 L
MASS	*00000 kg
TEMPERATURE	+09.7°C

TOTAL BEFORE AND AFTER		
INDEX 000008	BEFORE	00006530
INDEX 000009	AFTER	00006829

Only the volume and mean
 temperature indications displayed
 by the indicator shall be deemed
 valid.



MU 7088 EN A
 AIRTRONIQUE

Page 37/38

This document is available on www.alma-alma.fr

RELATED DOCUMENTS

GU 7088	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 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 8510	Adjustment of a temperature chain in a MICROCOMPT+