USER MANUAL

MU 7095 EN C

UNI-2 ELECTRONIC CALCULATOR-INDICATOR DEVICE

For measuring systems of liquids other than water

Issue	Date	Nature of modifications	Written by	Approved by
C	2021/04/21	Monitoring of battery charge and discharge cycles. Menu Supervisor>Date time. Monitoring of the pulses number on the two counting channels. Functional changes and improvements	DSM	DRA
B	2020/05/18	How to improve battery life, add menu Maintenance>Reboot, Functional changes and improvements	DSM	SH
A	2020/01/27	Creation *[PJV158]*	DSM	SH

CONTENTS

1 PRESENTATION

1.1 General presentation

The ALMA UNI-2 electronic calculator-indicator is intended to be used as a part of measuring systems for measurement of liquids other than water. Used alone it's a non-interruptible calculator belonging to accuracy classes 0.5 or 1. Associated to the MPLS device, it's an interruptible calculator. It can be associated to other devices.

It can be integrated into autonomous measuring systems, into measuring system mounted on tank trucks or installed on a stationary loading terminal.

It can be installed directly on an ALMA ADRIANE turbine measuring device or in an independent case. Then it is connected with a cable to an ALMA pulse emitter such as 2B00, 2H00 or 2HP0.

Associated to a pulse emitter and a kit VAF, the whole is a dye meter.

Units and scale intervals of volume and flowrate are set in METROLOGICAL MODE. The volume displayed by the UNI-2 depends on the METROLOGICAL configuration. On the right side of the display screen, the pictogram 'Vm' indicates a volume at temperature whereas the pictogram 'V15', 'V20' or 'Vb' indicates a volume converted to the reference temperature (15°C, 20°C...).

The UNI-2 can:

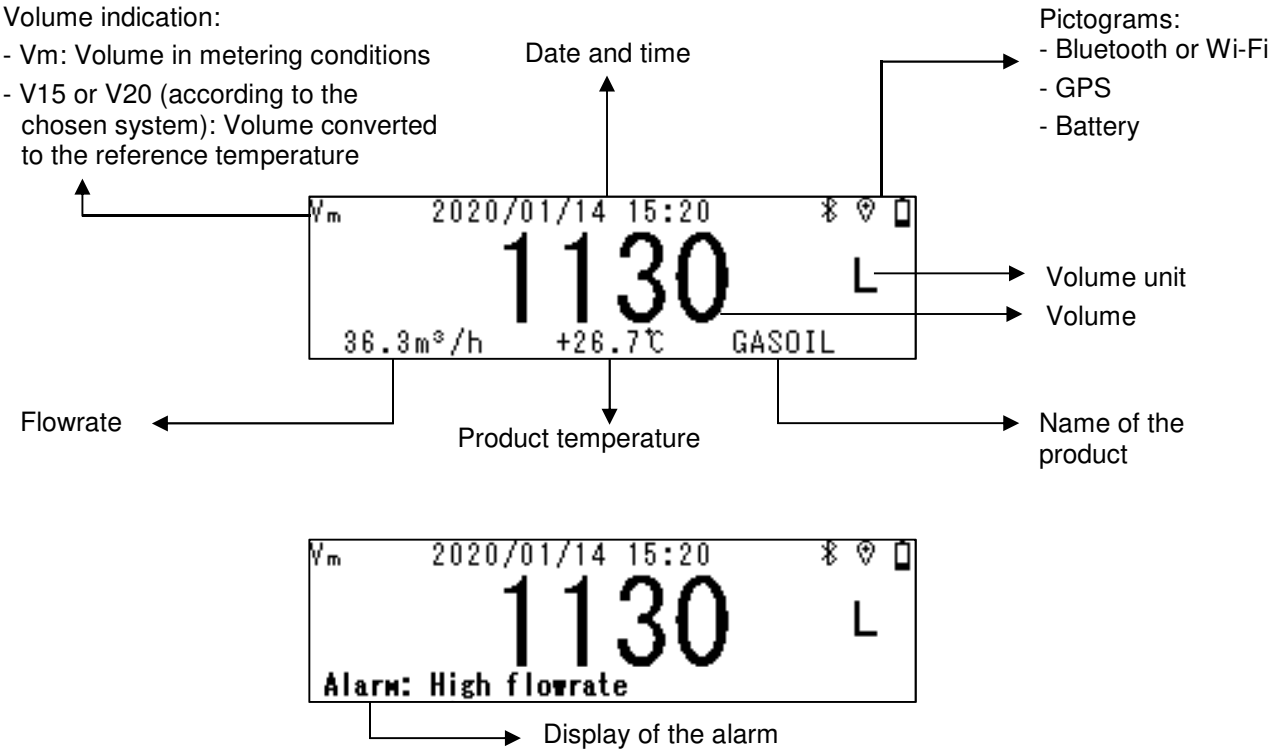
- Manage measuring operations. According to the flow direction, a measuring operation can be a delivery or a loading (non-guaranteed volumes). The UNI-2 sums the volumes in separate totalizers.
- Manage faults
- Measure quantities of products
- Communicate with an embedded computer or with a PC/tablet/portable device thanks to the wireless connection
- When it is associated to an MPLS device:
  - Control the process associated to the measuring system
  - Preset the volume
  - Command the pouring to stop when there is a significant failure

The optional functions are available:

- A wireless digital connection can be used to communicate with a CTD+ device. The measuring results and parameters are transferred to a PC through USB cable. Warning: The CTD+ is not an ATEX device, it must be used outside potentially explosive area
- The UNI-2 can be associated to a 3-wires Pt100 temperature sensor (example CT1001). In that case, it shows volume in metering conditions or volume converted to the reference temperature;
- The UNI-2 can be associated to one or two ALMA gas detectors type Honeywell LLE105000 or DLA01
- The UNI-2 MPLS can be associated to a printer for delivery ticket printing

1.2 Description

The UNI-2 has one display:



Meaning of the pictograms displayed in the upper right of the screen:

Bluetooth			Wi-Fi			GPS			Battery	
	blinking	steady		blinking	with signal strength					10 charge level
OFF	ON	Connected	OFF	Disconnected	Connected	OFF	ON without position	ON position OK	Charging	Battery is full charged

NOTE 1: Bluetooth and Wi-Fi connections are exclusives.

NOTE 2: To save the battery charge, if the Bluetooth or Wi-Fi connection is released if it's not successful within two minutes. If the Bluetooth or Wi-Fi connection is successful, it remains active for 10 minutes.

The UNI-2 has five keys:

		Lights the display during 10 seconds For autonomous equipment, lighting is inhibited when Wi-Fi is enabled
	MODIF	Normal mode: back to previous quantity Metrological mode: increment the flashing figure when imputing a value or return to previous menu
	SELECT	Normal mode, metering off: select the menu Normal mode, metering on: display the values (immediate flow, temperature) Metrological mode: select the figure to be modified or select the menu
	VALID	Normal mode: validate the selected menu or value Metrological mode: validate the displayed value or the selected menu In case of default: acknowledge the default
	RESET	The key is active when the UNI-2 is autonomous. Reset the volume to zero and record the data of the last measurement Reset the display when entering data

1.3 Metrological features

The UNI-2 performs the functions that follows:

- It ensures the acquisition and processing of the pulses from different transductors.
- It calculates and displays volume or weight in metering conditions corrected by the application with a correction factor determined during the calibration of the measuring system.
- In some cases, this volume in metering conditions can be corrected depending on the flowrate and/or the type of liquid measured.
- If required, it calculates and displays volume converted to base conditions. Volume is calculated by taking into account the mean temperature of the liquid during metering. Using a standard conversion formula, the conversion factor can be calculated according to density in base conditions. Density is set manually prior to metering.
- If required, it calculates and displays the mean temperature of the liquid when it is measured by a Pt100 temperature sensor.
- The indicating device is reset to zero manually or automatically.
- It memorizes and secures measurement information, which can be read from its user interface.
- If the measuring system is interruptible, optionally the volume or weight to be delivered can be preset.
- It registers accumulated weight or volumes in metering conditions, and if required, the accumulated volumes in base conditions.
- The automatic update processing of the date and time in case of clock loss.

The UNI-2 has two operation levels: the USER mode for operating: measurement, visualization, maintenance and the METROLOGICAL mode for the configuration of the device by authorized personnel.

2 OPERATING RECOMMENDATIONS

⇨ The operating temperature of the UNI-2 is between -20°C and +50°C.
⇨ When it is not used, it's better to close the UNI-2 cover.
⇨ The front face glass must be regularly cleaned for easy readability and better communication with the CTD+.

⇨ **Charge batteries outside potentially explosive area**
⇨ **Replace batteries outside potentially explosive area**
⇨ **Use the CTD+ outside potentially explosive area**

3 CONNECTED FEATURES AND SUPPLY OF THE UNI-2

	Autonomous equipment				Stationary equipment	
	Charging	Between 100% and 40%	Between 40% and 10%	Less than 10%	Battery switch open	Battery switch close
Metering	On *	On	On	Off	On	On
Wi-Fi	On	On	Off	Off	Off	On
Bluetooth	On	On	On	Off	Off	On
GPS	On	On	On	Off	Off	On

* Charge batteries outside potentially explosive area

Wi-Fi cannot work with Bluetooth or GPS

The Wi-Fi network name and the Wi-Fi password cannot exceed 10 characters. The allowed special characters are + and -

3.1 Connected functions

For stationary equipment, connectivity cannot be used if the battery-switch is open.

The wireless connection enables the UNI-2 to communicate with an embedded computer or with a PC/tablet/portable device

The connected functions of the UNI-2 are:

- Incoming data flow processing
- Recovery of parameters
- Recovery of maintenance information
- Geo-tracking of each measurement, the instantaneous position of the UNI-2
- Recovery of the clock

Communication modules are listed below:

- Bluetooth Low Energy 4.1 or Wi-Fi (IEEE 802.11 b/g/n (2.4GHz)

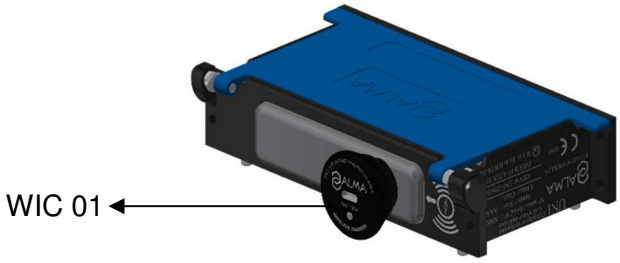
They are used for outsourcing of measurement data and parameters of the UNI-2 for the customer. The customer uses a local interface that can be one of his tools or a tool supplied by ALMA. These features are exclusive.

- GPS. It is used to locate measurements and synchronize the clock again.

3.2 Power supply

The UNI-2 is powered by two rechargeable batteries. These internal batteries have a five years lifetime. The UNI-2 operates with or without its charging module. It has at least one week battery life.

For mobile equipment, use only the USB cable and the charging module WIC 01, supplied with the equipment.



Charge batteries outside potentially explosive area

For the stationary equipment installed on vehicles, use an external cable and the vehicle power supply to charge the batteries.

To save battery life:

- The Bluetooth or Wi-Fi connection are activated manually in the menu Interfaces of the USER mode.
- Wi-Fi cannot work with Bluetooth or GPS
- For autonomous equipment, lighting is inhibited when Wi-Fi is enabled
- The communication modules are automatically switched to standby after a period of inactivity.
- The GPS turns on automatically during measurements only

To set date and time, you can switch on the GPS manually to synchronize the clock again. This operation lasts one minute and must be done outdoors. Turn of the GPS at the end of synchronization (see Connect>Start GPS).

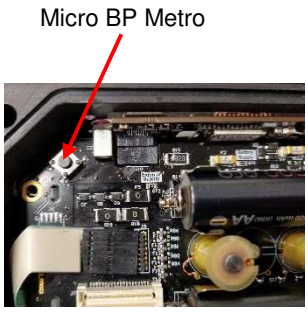
4 CONFIGURATION, SETTINGS AND CALIBRATION

4.1 Configure the UNI-2

You must configure the UNI-2 during commissioning and sometimes during metrological controls. Break the seals protecting the opening of the case, remove the four screws and press the micro BP Metro. See below.

Then you enter the METROLOGICAL mode. Details are available in the section CONFIGURE THE UNI-2: METROLOGICAL MODE.

NOTE: Only approved persons are permitted to remove the seal.



4.2 Set the UNI-2

You must set the UNI-2 before any operation. Then choose:

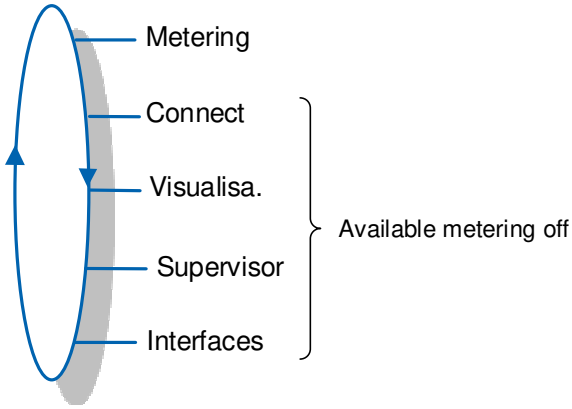
- Menu User>Connect to enable the possible external connections
- Menu User>Interfaces to set the active connections

4.3 Calibrate the UNI-2

To calibrate the UNI-2, choose the menu User>Supervisor>Calibration. To modify the coefficient, remove the seal to switch in METROLOGICAL mode.

NOTE: Only approved persons are permitted to remove the seal.

5 USE THE UNI-2: USER MODE

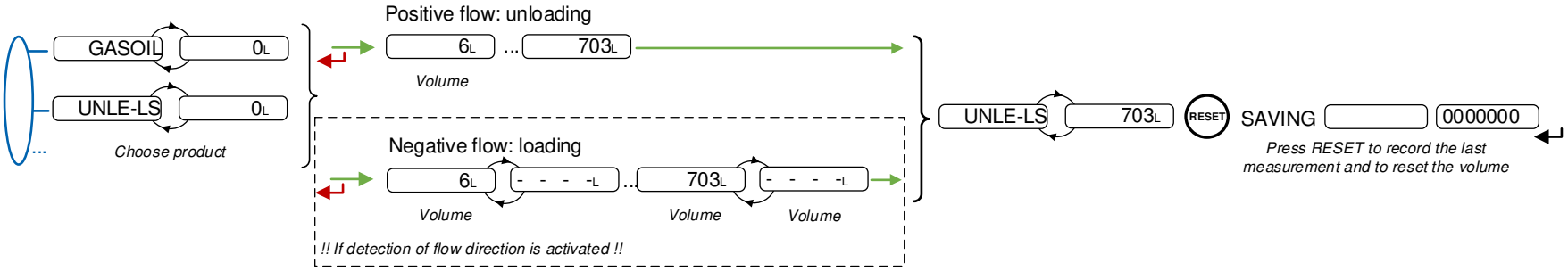


The displayed volume depends on the configuration set in METROLOGICAL mode. A pictogram at the upper left of the screen, indicates Vm for volume at temperature, or V15/V20/Vb for a volume converted to the reference temperature.

5.1 Menu Metering

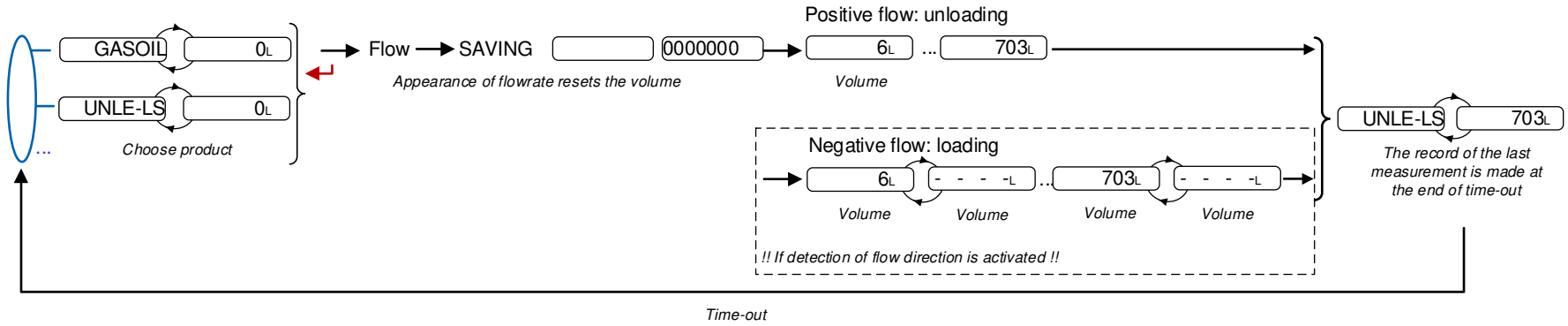
5.1.1 Measurement with UNI-2

The manual recording sequence starts at the end of measurement by pressing RESET. The last measurement data is then recorded and the volume is reset.



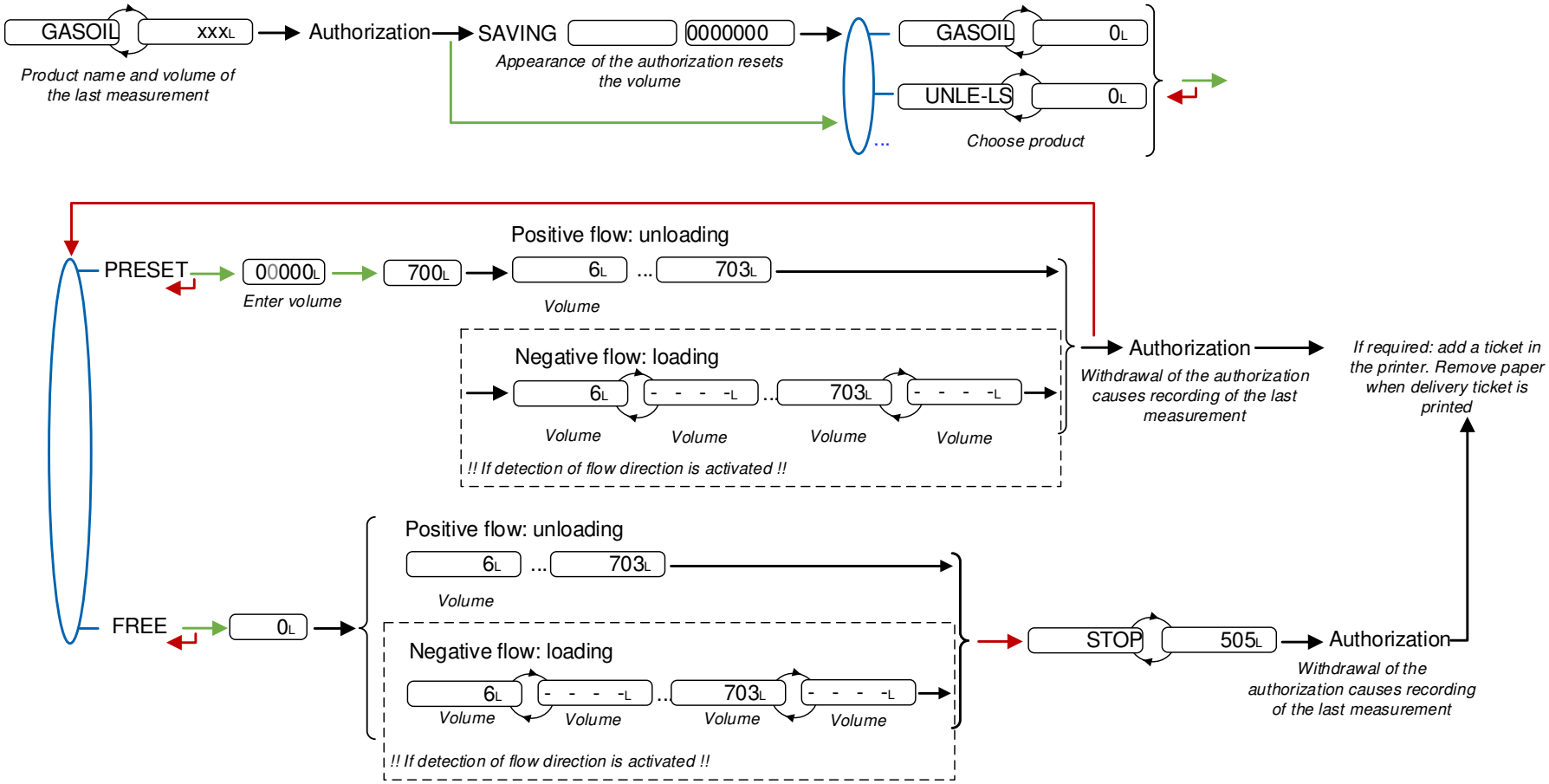
For the automatic recording sequence, the time-out is set in METROLOGICAL mode (menu Auto Save)

At the beginning of measurement, appearance of flowrate resets the volume. The last measurement data is automatically recorded at the end of measurement, at zero flow and when the time-out is up.



5.1.2 Measurement with UNI-2 AND MPLS

The UNI-2 MPLS operates with an external authorization (switch or other device). Appearance of the authorization resets the volume. Withdrawal of the authorization causes the end of measurement and the recording of the last measurement data. If required, to print the delivery ticket, you can add paper into the printer during pouring or at withdrawal of the authorization.



5.1.3 Data recording and volume reset

UNI-2

- Manual recording sequence: volume reset and recording of the last measurement data are triggered by pressing RESET at zero flow conditions
- Automatic recording sequence: the appearance of flowrate resets the volume to zero. The last measurement data are recorded when the time-out is up.

UNI-2 MPLS

Appearance of the authorization resets the volume. Withdrawal of the authorization at zero flow conditions causes the recording of the last measurement data.

5.1.4 Transfer measurement results and parameters

5.1.4.1 Transfer with the INSIDE app

The INSIDE app is used to transfer measurement results and parameters via Bluetooth or Wi-Fi. See the user guide GU 7094.

5.1.4.2 Transfer with CTD+

The CTD+ is not ATEX, this operation must be done outside potentially explosive area.

When flow rate is zero, you can transfer to the key the parameters and the measurement results of the N last days. Set N in the menu User>Interfaces>CTD+

See the user guide GU 7110

The file can be downloaded to a PC at '.csv' format.

NOTE: Do not plug the USB cable during data transfer.

5.1.5 Printing of a delivery ticket

5.1.5.1 Printing with the INSIDE app

Use the INSIDE app to print the delivery ticket. This feature is used to print delivery ticket as a PDF file. See the user guide GU 7094.

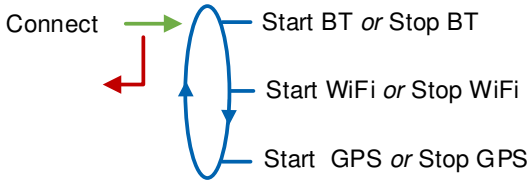
5.1.5.2 Printing with the CTD+ and the mobile printer kit

Use the CTD+ and the non ATEX mobile printer kit to print the delivery ticket. See the user manual MU 7087.

5.1.5.3 Printing with MPLS

If a printer is connected to the MPLS, simply add paper into the printer during pouring or at withdrawal of the authorization. Then the delivery ticket is printed when authorization is removed. You can print the ticket until next reset of the volume. Remove the ticket from the printer when printing is finished (example of a delivery ticket in ANNEX)

5.2 Menu Connect

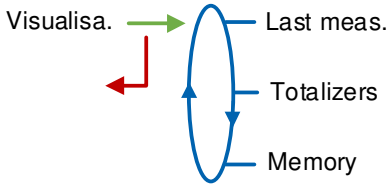


Start BT: Start or stop Bluetooth connection. The Bluetooth switches automatically to stand-by mode after two minutes of inactivity when connection is off and after ten minutes of inactivity when connection is on

Start Wi-Fi: Start or stop Wi-Fi connection

Start GPS: This menu is used to turn on the GPS manually to synchronize the clock again. This operation lasts one minute and must be done outdoors. Stop GPS at the end of synchronization.

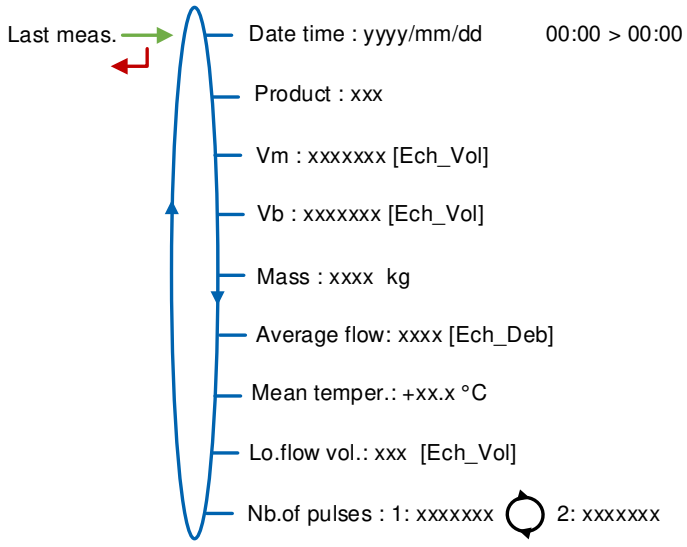
5.3 Menu Visualisa.



If the values are preceded by this display '-------'; it means they are no longer guaranteed.

5.3.1 Sub-menu Last Meas.

This menu displays the information of the last measurement. Information displayed depends on the UNI-2 configuration.



Date time: Date and time when measurement started and ended

Product: Product

Vm: Volume in metering conditions

Vb: Volume converted to the reference temperature

Mass: Mass

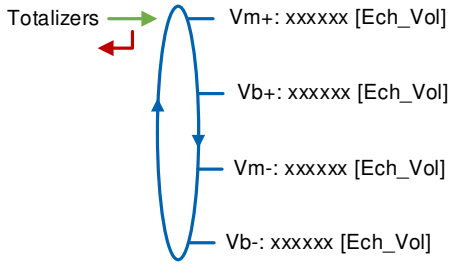
Average flow: Average flow of the measurement

Mean temper: Mean temperature of the measurement

Lo.flow vol: Volume measured under minimal flow rate during measurement

Nb.of pulses: Number of pulses by liter of the measuring device (way 1 alternating with way 2)

5.3.2 Sub-menu Totalizers



Vm+: Totalizer of volume in metering conditions

Vb+: Totalizer of volume converted to base conditions if the temperature option is activated

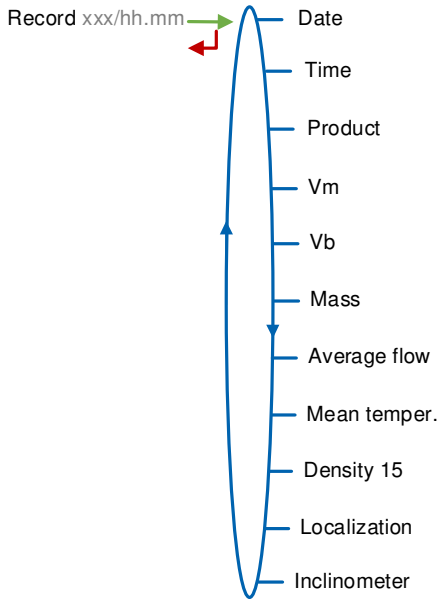
Vm-: Totalizer of volume in metering conditions for loadings, if flow direction is on

Vb-: Totalizer of volume converted to base conditions with temperature option, if the UNI-2 is configured to detect flow direction

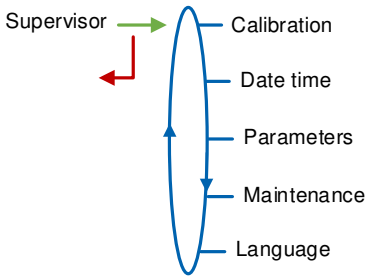
5.3.3 Sous-menu Memory

Enter or validate the date and the measurement number to access the relevant data.

Available information depends on the UNI-2 configuration. Temperature, converted volume, and mass are displayed if the temperature option is activated. The measured volume of gas VG is displayed for information only. It has no metrological value.



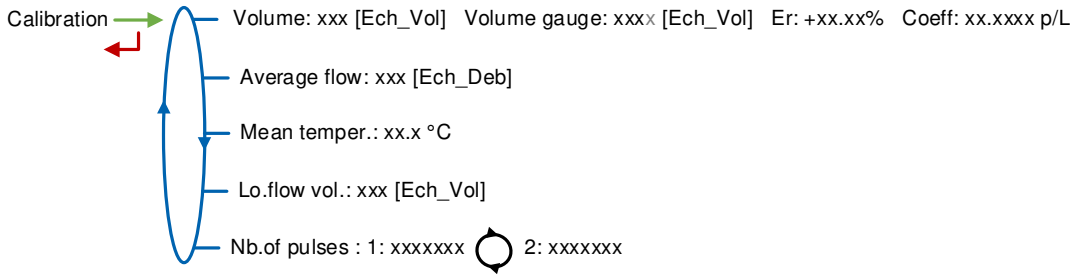
5.4 Menu Supervisor



5.4.1 Sub-menu Calibration

Measure the accuracy of the measuring system during the calibration. It is available after a measurement. With UNI-2 MPLS, remove the authorization.

NOTE: Only approved persons are permitted to remove the seal.



Volume: Display the volume; **Gauge volume**: Enter the volume read on the calibration mean; **Er**: Display the error in %; **Coeff**: Coefficient to be set only by an authorized person in METROLOGICAL mode, if required

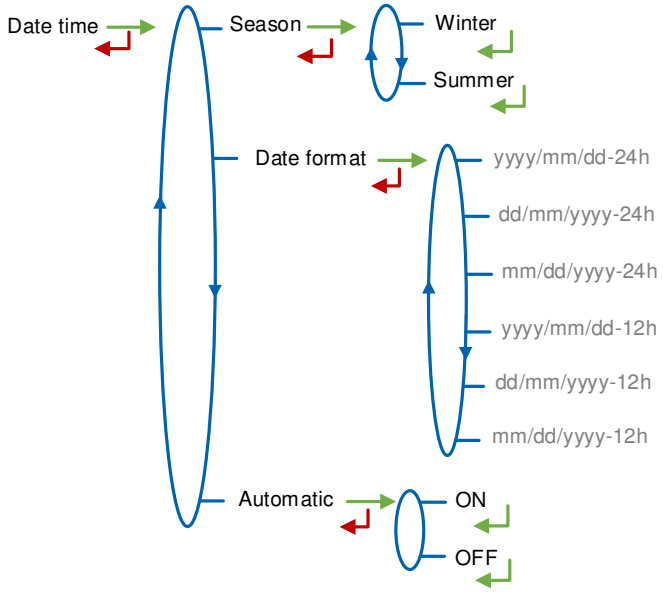
Average flow: Average flow of the measurement

Mean temper: Mean temperature of the measurement

Lo.flow vol: Volume measured under minimal flow rate during measurement

Nb.of pulses: Number of pulses by liter of the measuring device (way 1 alternating with way 2)

5.4.2 Sub-menu Date time

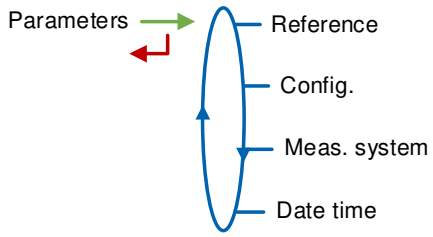


Season: This menu is used to change from summer to winter time (and back again).
Date format: This menu is used to choose the date format
Automatic:

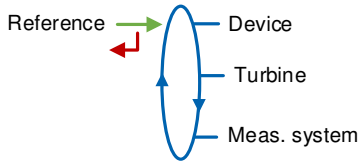
- **ON**: Timing recovery with the GPS
- **OFF**: Date and time are set manually

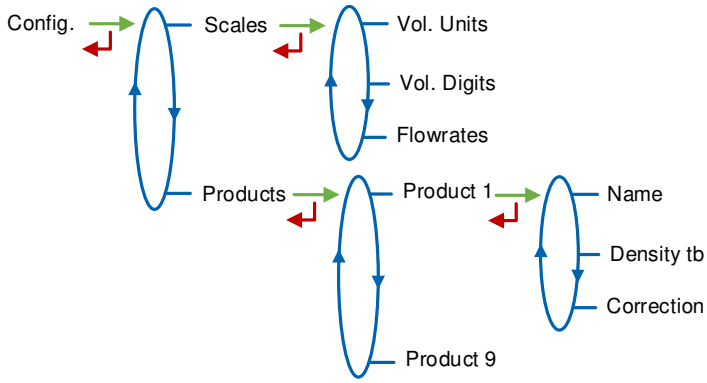
5.4.3 Sub-menu Parameters

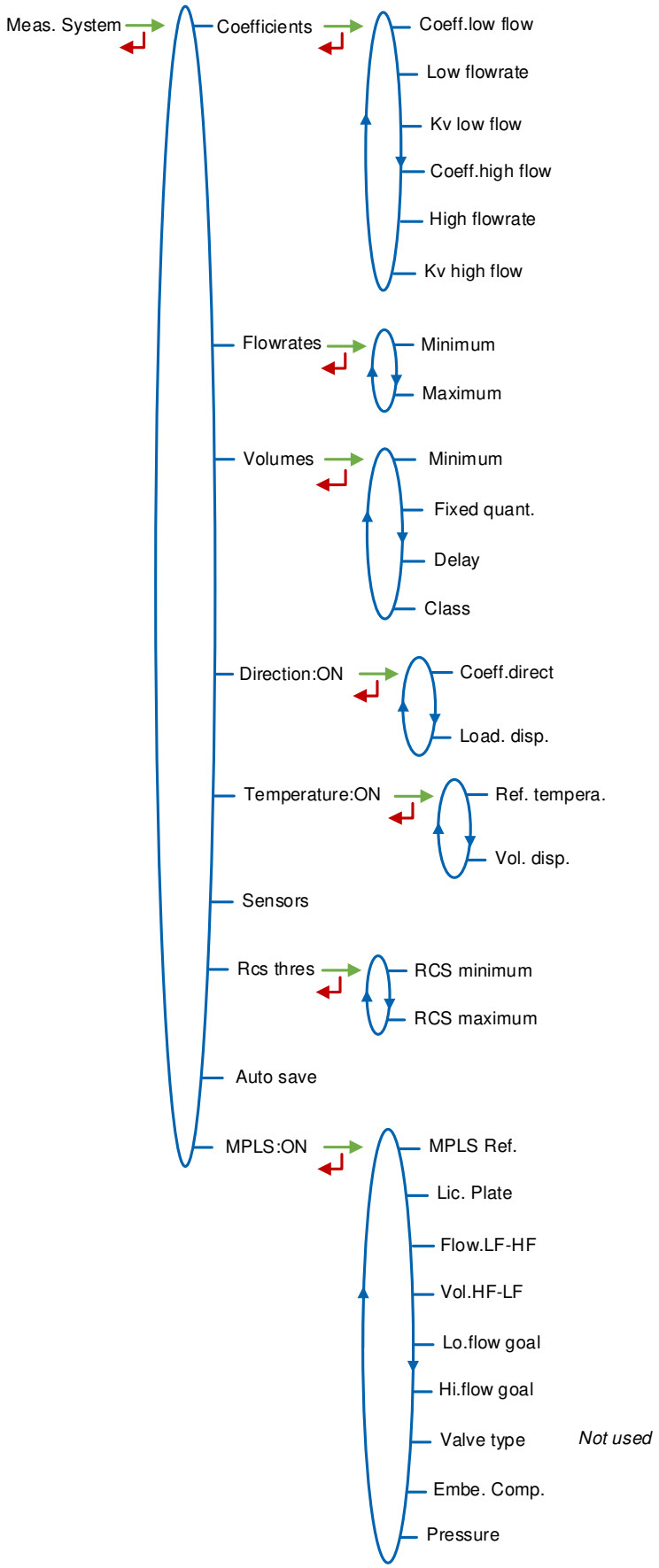
This menu is used to display the parameters set in METROLOGICAL mode. The values depend on the configuration. The values depend on the configuration.

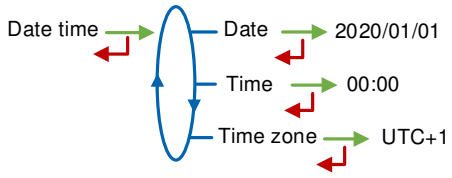


E.g.:

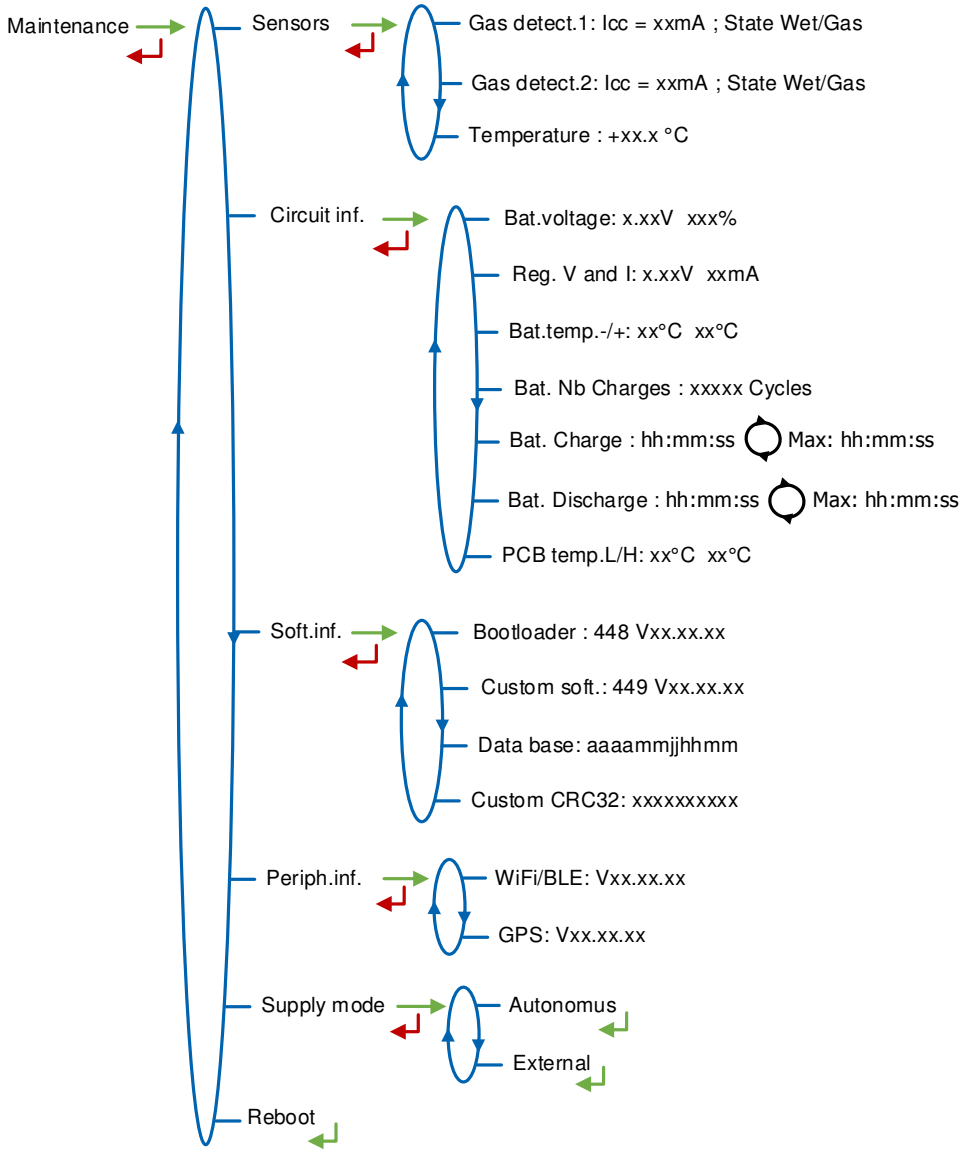





Meas. System
Coefficients
Coeff.low flow
Low flowrate
Kv low flow
Coeff.high flow
High flowrate
Kv high flow
Flowrates
Minimum
Maximum
Volumes
Minimum
Fixed quant.
Delay
Class
Direction:ON
Coeff.direct
Load. disp.
Temperature:ON
Ref. tempera.
Vol. disp.
Sensors
Rcs thres
RCS minimum
RCS maximum
Auto save
MPLS:ON
MPLS Ref.
Lic. Plate
Flow.LF-HF
Vol.HF-LF
Lo.flow goal
Hi.flow goal
Valve type
Not used
Embe. Comp.
Pressure



5.4.4 Sub-menu Maintenance



Sensors:

- **Gas detect. 1**: Current and status (wet or dry) of the gas detector 1
- **Gas detect. 2**: Current and status (wet or dry) of the gas detector 2
- **Temperature**: Product temperature

Circuit Inf.:

- **Bat.voltage** : Batteries voltage and remaining charge (from 0% to 100%)
- **Reg. V and I**: Internal supply voltage and current of the UNI-2 circuit

- **Bat. temp.-/+**: Minimum and maximum values of the batteries temperature
- **Bat. Nb Charges**: Number of charge cycles with the WIC 01
- **Bat. Charge**: Alternating display of the current and maximum charging time among all charging cycles with the WIC 01
- **Bat. Discharge**: Alternating display of the current and maximum discharging time among all discharging cycles with the WIC 01
- **PCB temp.L/H**: Minimum and maximum values of printed circuit operating temperatures in °C

Soft.Inf.: Information about the software, the database and the app

Periph.inf.: Information about peripherals (Wi-Fi/Bluetooth and GPS)

Supply mode:

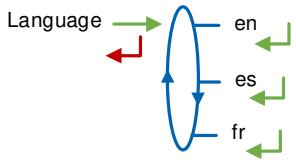
- **Autonomus**: For mobile equipment powered by batteries
- **External**: For the stationary equipment powered by the vehicle

Do not validate this menu if the UNI-2 is powered by batteries.

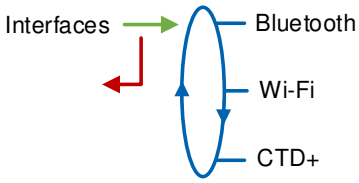
Reboot: When blocked, the UNI-2 reboots. Metrological and supervisor parameters are saved as well as the measurements recording

5.4.5 Sub-menu Language

Select the display language. This menu is available if a translation catalogue is uploaded in the UNI-2.



5.5 Menu Interfaces



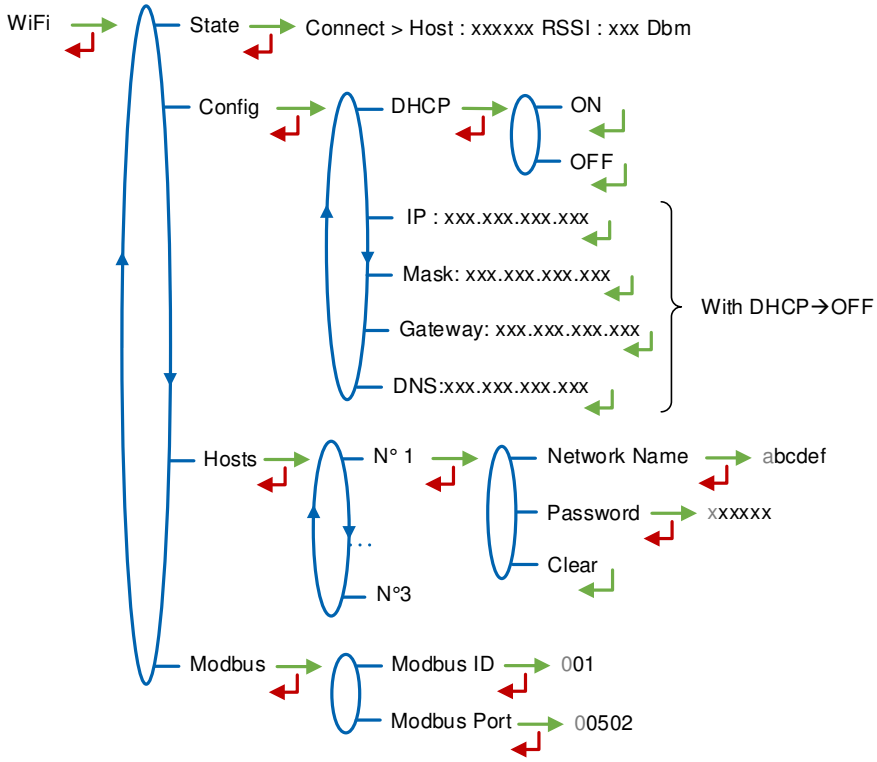
5.5.1 Sub-menu Bluetooth

State: Status of the Bluetooth connection

Name: Assign a Bluetooth device name to UNI-2 (alphanumeric value such as the serial number for example)

5.5.2 Sub-menu Wi-Fi

Characteristics of the wireless network access point



State:

- **Connect**: Status of the Wi-Fi connection

Config:

- **DHCP**:
  - **ON**: The Wi-Fi network automatically assigns an IP address to the UNI-2
  - **OFF**: The parameters of the Wi-Fi connection are set manually
- **IP**: IP address of the UNI-2
- **Mask**: Subnet mask (IP mask for the internal IP address allocation)
- **Gateway**: Gateway (IP Address for the internet access of the Ethernet interface)
- **DNS**:IP address to access a DNS server

Hosts: You can set three access points

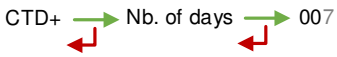
The Wi-Fi network name and the Wi-Fi password cannot exceed 10 characters. The allowed special characters are + and -

- **Network name**: Wi-Fi network name
- **Password**: Wi-Fi network password
- **Clear**: Clear the network data

Modbus:

- **ID**: UNI-2 Modbus identifier between 0 and 255
- **Port**: TCP/IP access port for Modbus protocol

5.5.3 Sub-menu CTD+



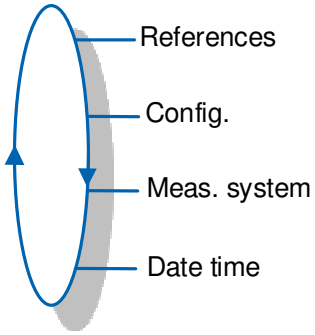
Nb. of days: Set the number of days N for the transfer of the measurement results on the CTD+. If N=007, the measurement results of the last 7 days will be transferred

5.6 List of alarms

Should a fault occur, the UNI-2 displays Alarm: name of the default at the bottom of the screen. The volume remains visible. The operator acknowledges the fault by pressing VALID (even when pouring). Apart from battery related faults, persistent faults cannot be acknowledged. Once the fault is acknowledged, the selected value is displayed alternately with "-------" to indicate that the measured values are no longer guaranteed.

		DISPLAY	MEANING	ACTION
USER	COMMON	Overflow	Volume greater than 4 194 304 liters	Reset the device
		Low flowrate	Flow rate less than the setting minimal flow rate	Do a check of the hydraulic configuration and the flowing
		No flowrate	No flowrate	Do a check of the hydraulic configuration and the flowing
		Pressure low	Pressure below the minimum threshold	Do a check of the setup / the transmitter status
		Sensor 1	High gas detector fault (GDh)	Use the maintenance menu to do a check of the detector status
		Sensor 2	Low gas detector fault (GDl)	Use the maintenance menu to do a check of the detector status
		Direction	Flow direction change during metering	Do a check of the hydraulic configuration and the flowing
		Failure	Problem with the transfer of the files to the CTD+	See GU 7110
		Bat too low	Battery is not charged enough to light the display or to start Bluetooth, Wi-Fi or GPS	Outside potentially explosive area: Charge the battery (min 50%)
		Init Bluetooth	Bluetooth module initialization problem	Restart the UNI-2 via the menu Supervisor>Maintenance>Reboot
		Init GPS	GPS module initialization problem	Restart the UNI-2 via the menu Supervisor>Maintenance>Reboot
		Init Wi-Fi	Wi-Fi module initialization problem	Restart the UNI-2 via the menu Supervisor>Maintenance>Reboot
		Stop	Intentional interruption of the discharge	End delivery
	MPLS	Authorization	The authorization has been removed during pouring	Stop delivery
		Leak	Counting of a volume greater than or equal to 1 liter (metering off)	Acknowledge the alarm to end measurement
		Preset	Volume ≥ preset volume+1% the minimum quantity	Acknowledge the alarm
REPARATOR	COMMON	Flowrates	Flow setting fault	Do a check of the parameters
		Frequency	Frequency fault	Do a check of the parameters
		Coefficients	Difference two coefficients is greater than 0.5%	Do a check of the coefficients setup
		Metering	Problem of metering with the meter	Do a check of the parameters
		High flowrate	Flowrate greater than the setting maximum flowrate	Do a check of the parameters
		Low flow high	Flow greater than 20m³/h while GDh dry	Do a check of the parameters
		Date time	Loss of date and time	Set date and time in metrological mode or use the menu Connect>Start GPS to switch on the GPS. This operation must be done outdoors. It lasts one minute to synchronize the clock
		Gas	GDh is wet but GDl is dry	Do a check of the hydraulic configuration / detector status
		Dry metering	When using a pump. The volume of gas is greater than the minimum measured quantity	Stop metering
		Coil	Loss of pulse transmitter signal	Do a check of the connection with the pulse transmitter
		Temperature	Faulty temperature measure. Temperature less than -20°C or greater than 50°C	Do a check of the temperature sensor (measure and calibration)
		Pressure	Incorrect measure of pressure	If steady alarm, substitution of the UNI-2
		Display	LCD display fault	If steady alarm, substitution of the UNI-2
		Watchdog	Fault with card	If steady alarm, substitution of the UNI-2
		Program	Error on the checksum of the metrological data	If steady alarm, substitution of the UNI-2
		RAM	Saved memory fault	If steady alarm, substitution of the UNI-2
		Memory	Bad writing into the memory	If steady alarm, substitution of the UNI-2
		Metrological	Loss of configuration	If steady alarm, substitution of the UNI-2
		Low Battery	The battery is no more charging	Substitution of the battery
		Totaliser	Totalizer fault	If steady alarm, substitution of the UNI-2
		Memory default	Problem with the measurement integrity: loss of backup data concerning the last measurement	If steady alarm, substitution of the UNI-2
		Micro SD card	Problem with the micro SD card	Make sure the micro SD card is in. Try another one if necessary
	MPLS	Reception	Problem of communication protocol between the UNI-2 and the MPLS	Make sure the device is supported
		Communication	No more communication on the IRDA link to the MPLS	Do a check of the IRDA link

6 CONFIGURE THE UNI-2: METROLOGICAL MODE



Setup should be done under cover, metering off, with dry gas detectors.

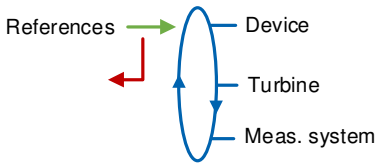
NOTE: Only approved persons are permitted to change parameters

The configuration parameters can only be modified by pressing the micro BP Metro on the electronic board.

Exit the METROLOGICAL MODE by pressing the micro BP Metro. The UNI-2 resets.

The option to display the volume (volume in metering conditions or volume converted to base conditions) is made in menu Meas. System>Temperature>Vol. disp. when the temperature is activated.

6.1 Menu References

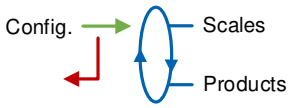


Device: Set the serial number of the UNI-2

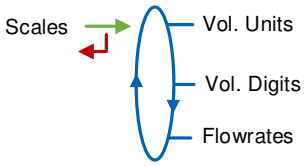
Turbine: Set the serial number of the turbine meter

Meas. system: Set the serial number of the measuring system

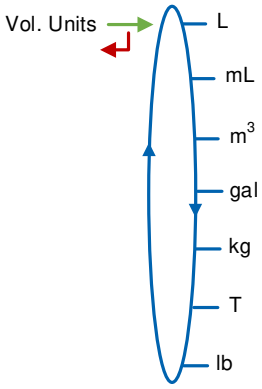
6.2 Menu Config.



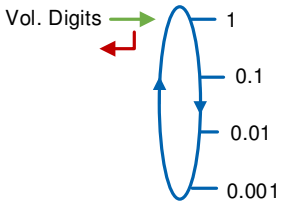
6.2.1 Sub-menu Scales



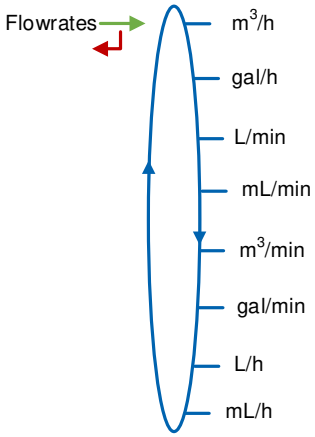
Vol. Units: Select the unit of the volume.



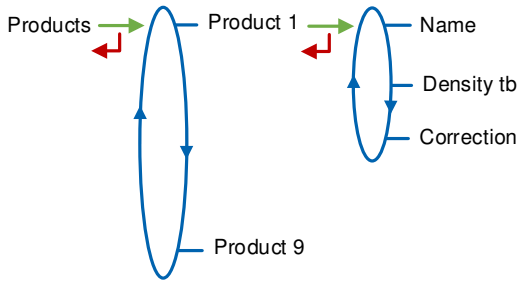
Vol. Digits: Select the accuracy of the volume.



Flowrates: Select the unit and the accuracy of the flowrate.



6.2.2 Sub-menu Products



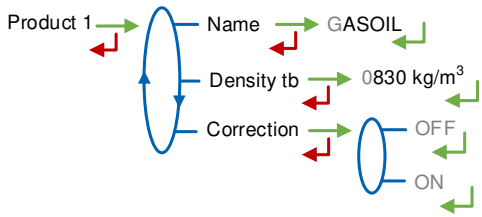
You can configure 9 different products.

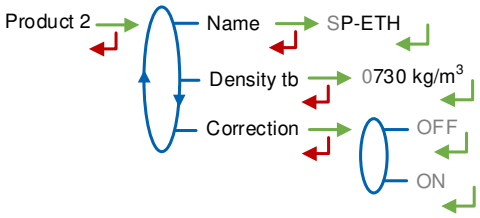
Name: Enter the product name (max 8 alphanumeric characters)

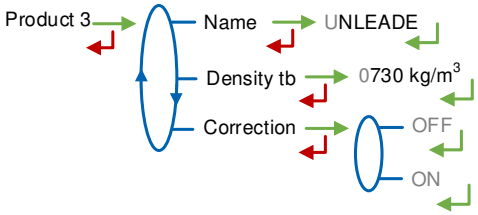
Density tb: Enter the density in kg/m^3 in base conditions (min: 550 max: 1100). Set 0000 to remove the product from the list displayed in USER mode

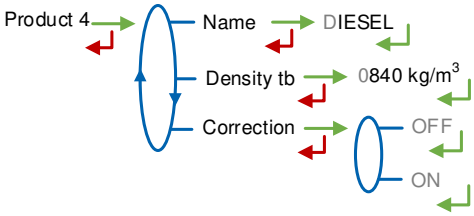
Correction: Select if the correction is on or off for the product. If Density tb≤750 → Correction=ON. Otherwise→ Correction=OFF

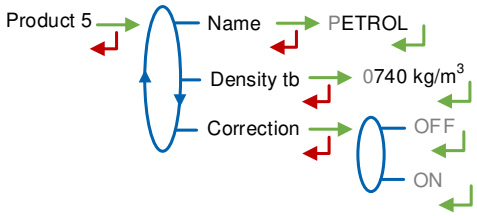
The UNI-2 is configured as follows:

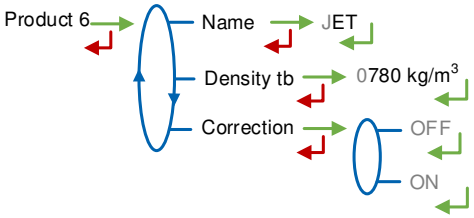


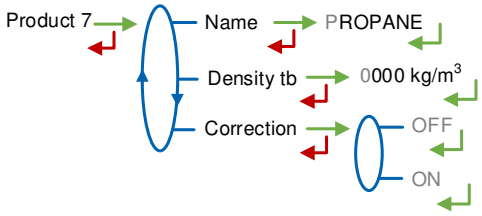


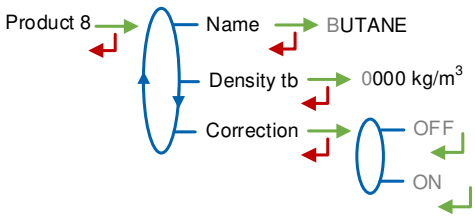


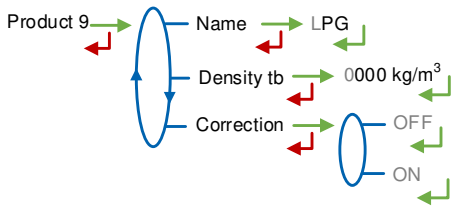




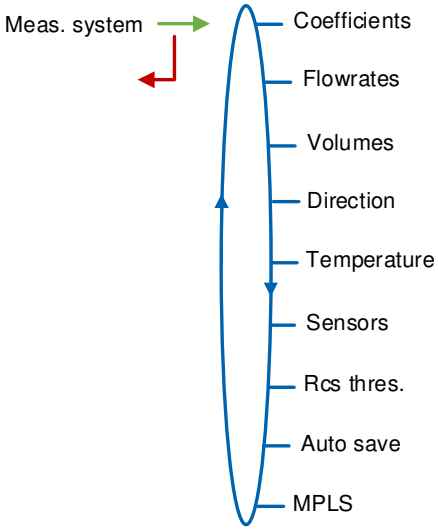








6.3 Menu Meas. System



6.3.1 Sub-menu Coefficients

Coeff.low flow: Coefficient for low flow (pulses/liter)

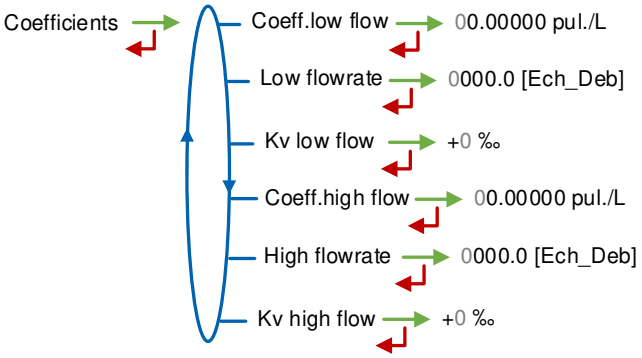
Low flowrate: Flowrate corresponding to Coeff.low flow. Unit depends on the configuration (Config.>Scales>Flowrates)

Kv low flow: Correction coefficient (‰) at low flowrate for low viscosity products

Coeff.high flow: Coefficient for high flow (pulses/liter)

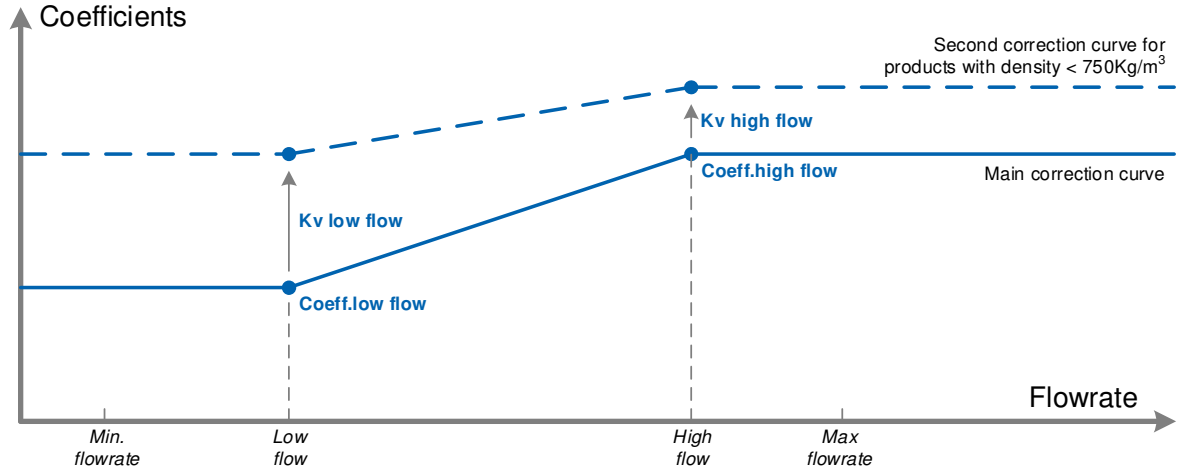
High flowrate: Flowrate corresponding to Coeff.high flow. Unit depends on the configuration (Config.>Scales>Flowrates)

Kv high flow: Correction coefficient (‰) at high flowrate for low viscosity products



When parameters **Low flowrate** and **High flowrate** are set to zero, parameters **Coeff.high flow** and **Kv high flow** are not applied.

Adjustment of coefficients for several flowrates:



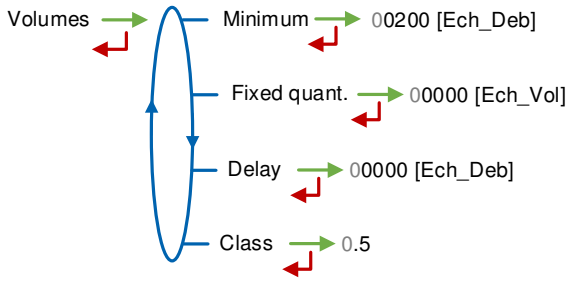
Coefficients applied in accordance with flowrate and product density

6.3.2 Sub-menu Flowrates

Minimum: Minimum flowrate of the measuring system. Unit depends on the configuration (Config.>Scales>Flowrates)

Maximum: Maximum flowrate of the measuring system. Unit depends on the configuration (Config.>Scales>Flowrates)

6.3.3 Sub-menu Volumes



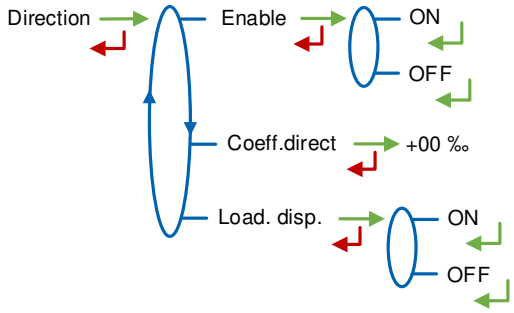
Minimum: Minimum measured quantity to guaranty the measurement. Unit depends on the choice made for the scale interval

Fixed quant.: End of counting fixed volume of the measuring system. Unit depends on the choice made for the scale interval. Not applicable without gas detectors

Delay: Delay for the additional volume (upper gas detector dry). Unit depends on the choice made for the scale interval. Not applicable without gas detectors

Class: Accuracy class of the measuring system. Authorized values: 0.5 or 1

6.3.4 Sous-menu Direction



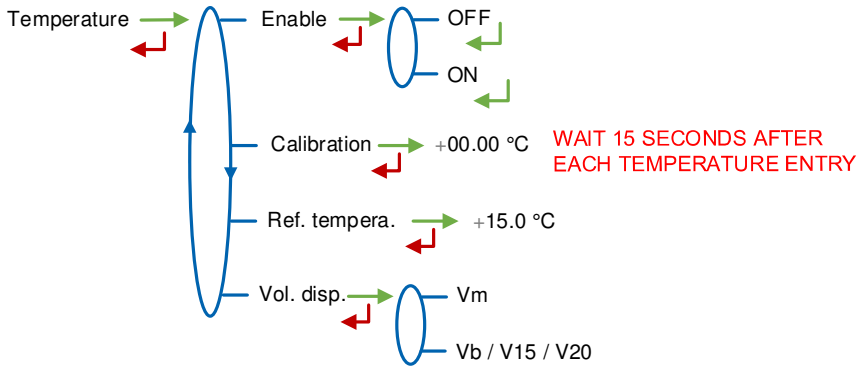
Enable: Choose ON if the UNI-2 is intended to detect the loading direction and is able to sum loading volumes in a specific totalizer (non guaranteed volumes)

Coeff.direct: Additional correction coefficient (‰) for loading direction. Authorized values: integer between ±30

Load. disp.: Choose ON to enable display and memorization of volumes for loading direction

6.3.5 Sub-menu Temperature

This menu is an option. It is used to calibrate the temperature into the UNI-2. See maintenance sheet FM 8513



Enable: Enable or disable the product temperature control

Calibration: The temperature calibration can be done either on two measuring points or on a single measuring point.

- Calibration on two temperature measuring points:

  The measure must be done outside the range -20 to +50°C. First point at t<-20°C, second point at t>+50°C.
- Calibration on a single temperature measuring point:

  The measure must be done in the range -20 to +50°C.

Ref. tempera: Reference temperature (°C)

Vol. disp.: Choose the volume displayed in USER mode:

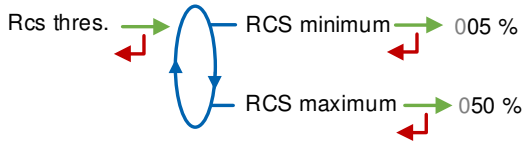
- **Vm**: Volume in metering conditions
- **Vb**: Volume converted to the reference temperature

6.3.6 Sub-menu Sensors

ON: Before validation, make sure both gas sensors are dry and well-connected to the UNI-2.

6.3.7 Sub-menu Rcs thres.

Detection thresholds of metering inputs at zero flow and at maximal flow.



6.3.8 Sub-menu Auto Save

Set the time required at the end of measurement before automatic recording of the measurement data (in seconds).

UNI-2

- Auto Save=0: Data recording is manual, it is done by pressing RESET. It causes the volume reset.
- Auto Save>1: Data recording is automatic, it is done when the time-out is up. The RESET key is disabled. The volumes counted during the time-out are added at recording of the measurement data.

  For example, the parameter can have the value that follows:

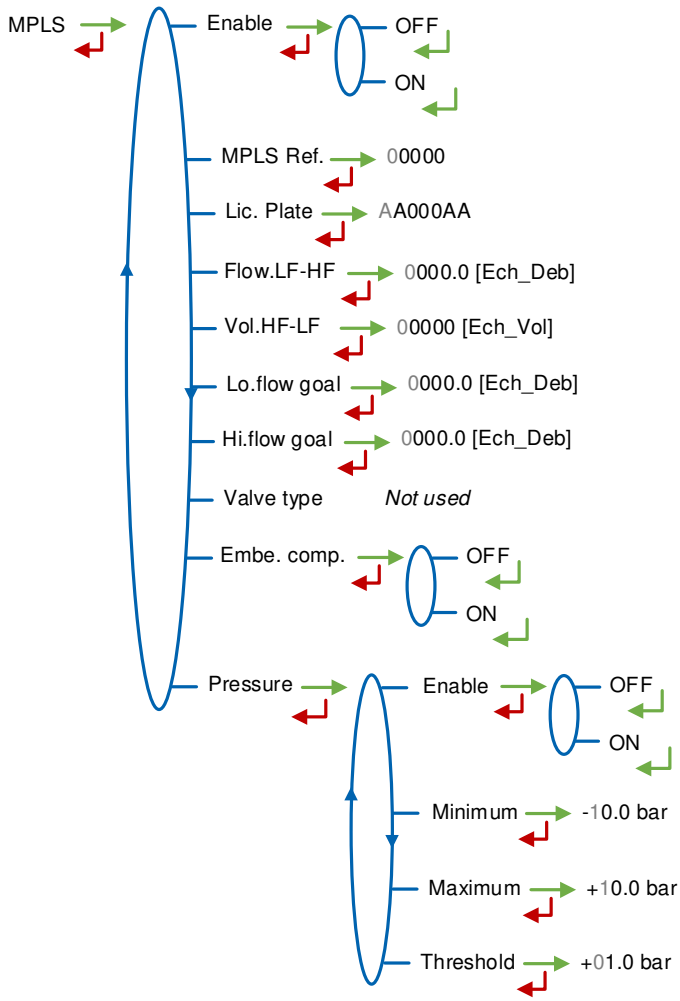
  Auto Save=060. Automatic recording with time-out 60 seconds

UNI-2 MPLS

This parameter is zero. Withdrawal of the authorization causes recording of the measurement data.

6.3.9 Sub-menu MPLS

This menu must be activated if the UNI-2 is associated to an MPLS device.



Enable: Choose ON to activate the option

MPLS Ref: Serial number of the MPLS

Lic. Plate: Vehicule licence plate

Flow.LF-HF: Flowrate beyond which the UNI-2 switches from low to high flowrate Unit depends on the choice made for the scale interval

Vol. HF-LF:Volume beyond which the UNI-2 switches from high to low flowrate. Unit depends on the choice made for the scale interval

Lo.flow goal: Objective low flow. Unit depends on the choice made for the scale interval

Hi.flow goal: Objective high flow. Unit depends on the choice made for the scale interval

Embe. comp.: Operation with or without an embedded computing

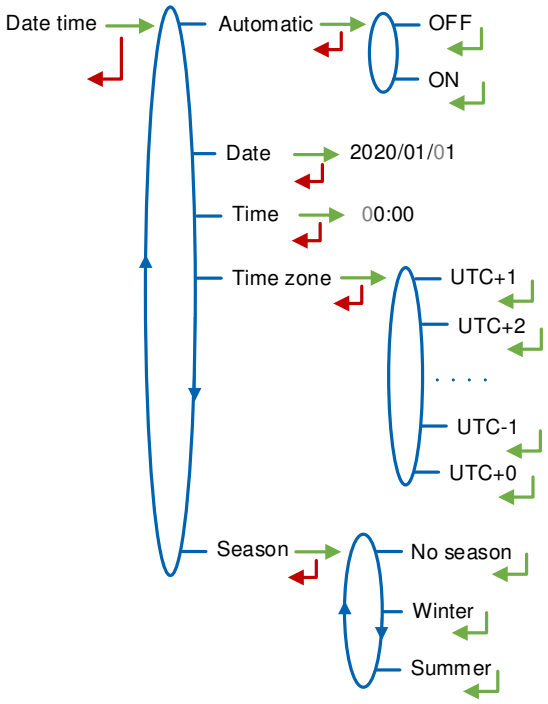
Pressure:

- **Enable**: Operation with or without pressure transmitter
- **Minimum**: Minimum pressure of the pressure transmitter (bar)
- **Maximum**: Maximum pressure of the pressure transmitter (bar)

- **Threshold**: Minimum pressure threshold below which a default occurs (bar)

6.4 Menu Date time

This menu is used to define date and time according to the destination country.



Automatic:

- **OFF**: Date and time are set manually
- **ON**: Timing recovery with the GPS

Date: Set the date yyyy/mm/dd. You can change the date format in USER mode with the menu Supervisor>Date time>Date format

Time: Set the time hour:minutes (hh:mm)

Time zone: Set the jet lag related to the time zone. E.g.: validate UTC+1 for the Brussels, Copenhagen, Madrid, Paris time zone

Season:

- **OFF**: No time change when the season changed
- **Winter**: Winter-time (at commissioning)
- **Summer**: Summer-time (at commissioning)

  Time change is done in USER mode with the menu Supervisor>Date time>Season.

ANNEX

Delivery ticket for measuring system connected to a printer
(UNI-2 MPLS).

Installation:	AA09C01
Indicateur/Indicator:	0000000123
Date (../MM/20..):	12/11/2019
Quantieme/Calendar:	295
Numero/Number:	001
Heure de fin/ End time:	15:22
Produit/Product:	GAZoLE
Quantite livree/ Quantity delivered:	0000499 (L)
Totalisateur/Totaliser:	
Index avant/before:	0012387
Index apres/after:	0012886

En cas de litige, les resultats de mesurage memorises par l'indicateur font foi. In case of dispute, the measurement results stored by the main indicating device providing proof.

RELATED DOCUMENTS

GU 7095	Operating guide: UNI-2
GU 7074	Operating guide: UNI-2 MPLS
GU 7110	Operating guide: Transfer parameters and measurement results of the UNI/UNI-2 to a computer
GU 7094	Operating guide: INSIDE App
FM 8014	Maintenance sheet: Replacement of the battery on the CTD+
FM 8512	Maintenance sheet: Adjustment of an ALMA measuring system equipped with a UNI-2
FM 8513	Maintenance sheet: Adjustment of temperature in the UNI-2