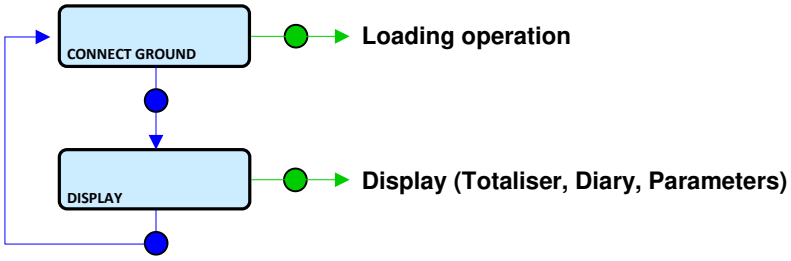
ALMA	**OPERATING GUIDE** **MICROCOMPT+ FOR TOP LOADING**	GU 7036_2 EN H www.alma-alma.fr

This document sketches out the main menus (please refer to operating manual MU 7036 EN for further information).

USING THE BUTTONS

- Red: - Come back to the previous stage
  - Increment the blinking figure
- Blue: - Choose the menu option
  - Access to the following figure
- Green: - Validate the displayed option
  - Validate the entry data



REMINDER:
VM: Volume measured at metering conditions
VB: Volume at base conditions (converted volume, usually V15)
MVT: Density at temperature, in kg/m^3
CTL: Conversion coefficient

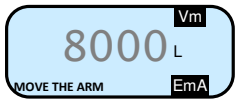
NOTE: If the MICROCOMPT+ communicates with a system via µConfig, the message ‘UCONFIG…’ appears on the prompter

RUN A LOADING OPERATION

1. PREPARE THE LOADING OPERATION

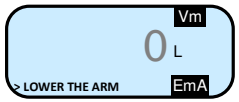
▲ CONNECT THE GROUND

Connect the ground



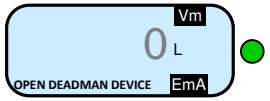
▲ MOVE THE LOADING ARM

Move the arm (right or left)



▲ LOWER THE LOADING ARM

Lower the loading arm

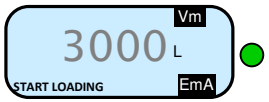


▲ OPEN THE DEADMAN DEVICE

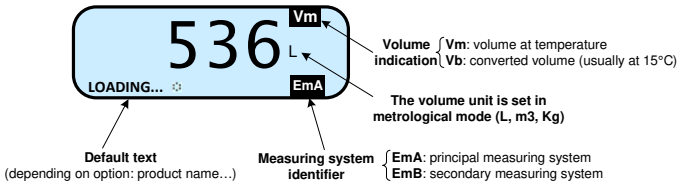
Open the deadman device

2. CARRY OUT THE LOADING OPERATION

▲ START LOADING OPERATION

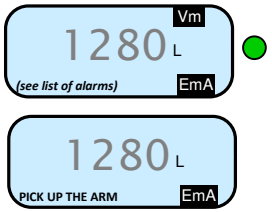


Display during the loading operation:



The loading operation may be interrupted by several situations:

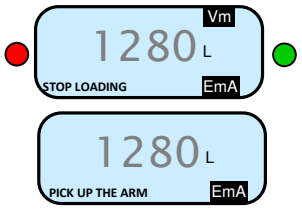
▶ *APPEARANCE OF A FAULT AND DISPLAY OF AN ALARM*



Pick up the arm

Continue or stop the loading operation (§3 or §4)

▶ *INTENTIONAL INTERRUPTION OF THE LOADING OPERATION*



Pick up the arm

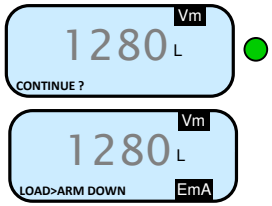
Continue or stop the loading operation (§3 or §4)

▲ DISPLAY LOADING INFORMATION

- Quantity
- Flowrate → Instantaneous flowrate
- Temperature → Instantaneous temperature (With active option)
- Pressure → Instantaneous pressure (With active option)
- Quantity (With conversion) → Instantaneous density
  - Instantaneous reference density
  - VM
  - VB
  - Mass
  - CTL

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

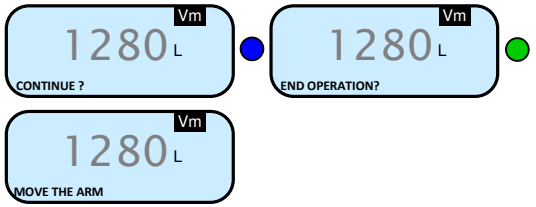
3. CONTINUE THE LOADING OPERATION



Lower the loading arm

Start the loading operation §2

4. END THE LOADING OPERATION

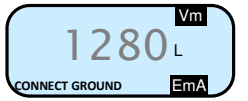


▲ PUT THE LOADING ARM ASIDE

Put the loading arm aside

▲ REMOVE THE GROUND

Remove the ground



Volume reset

▲ CLOSE THE DEADMAN DEVICE

Close the deadman device

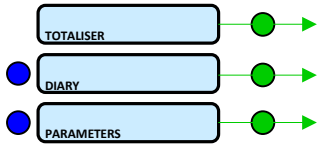
Back to main menu §1

MEANING OF SYMBOLS

- ▲ Mandatory action
- ▲ Optional action
- ▶ *Event during loading operation*
- Action by operator

DISPLAY THE LOADING DATA

This menu is available in stand-by mode or during an intermediate stop of the loading operation.

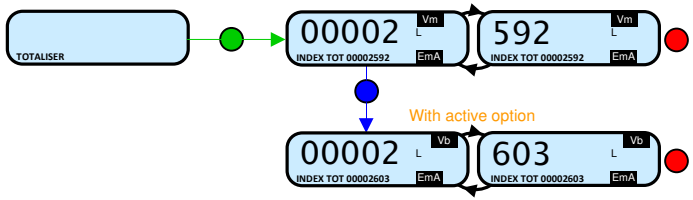


Display of the totaliser

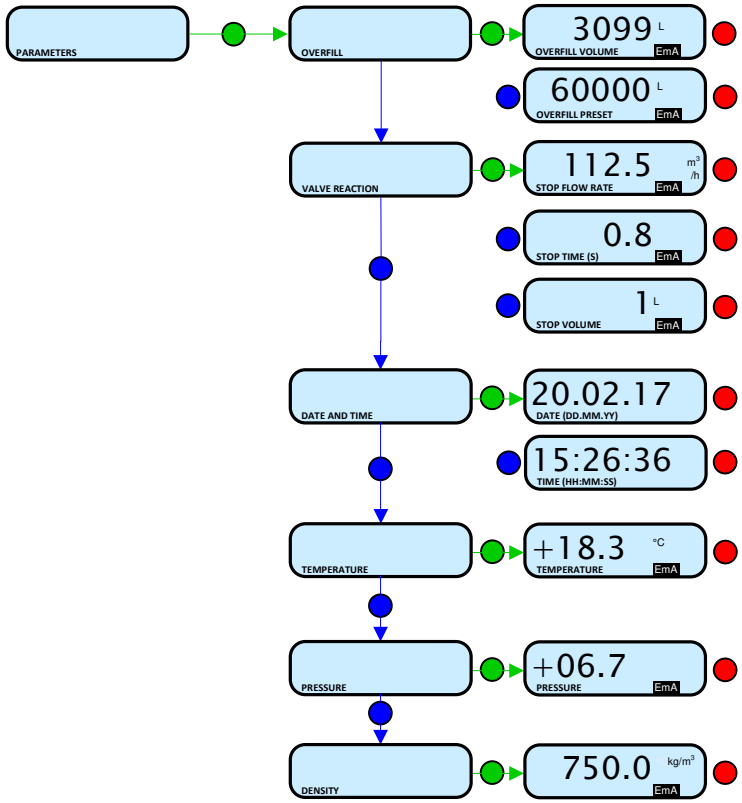
Visualization of the measurements information
With active option

Visualization of the parameters

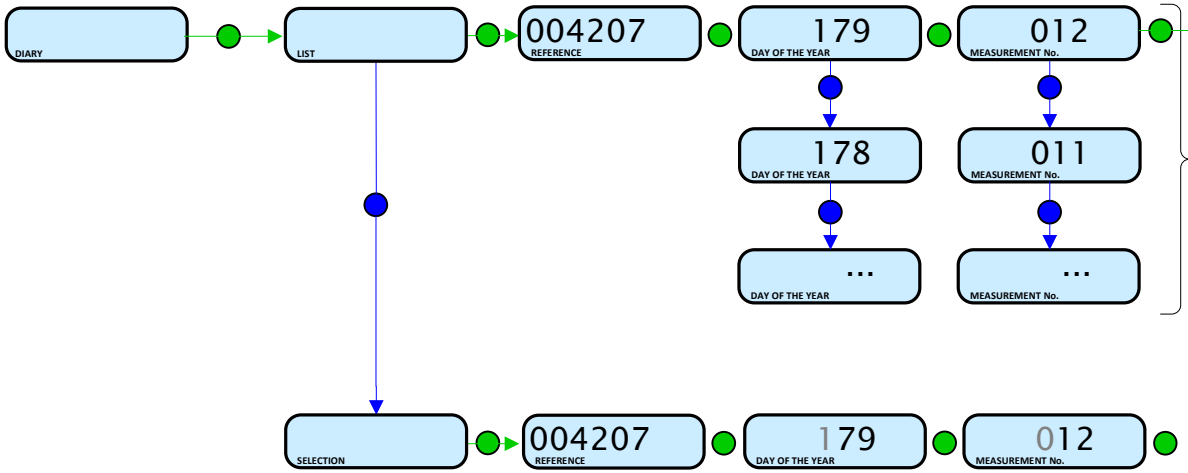
TOTALISER



PARAMETERS



DIARY



Metrological diary: Display all the measurements details recorded, from the newest to the oldest

Measurement start time
Measurement end time
Operation identifier (with relevant option)
Quality indication (with relevant option)
Volume of the principal product at temperature in °C
Temperature of the principal product (with relevant option)
Volume of the principal product at base conditions (with relevant option)
Density used for conversion to base conditions de base of the principal product (with relevant option)
Mass of the principal product (with relevant option)
Objective blending rate or PPM (with relevant option)
Volume of the secondary product at temperature in °C (with relevant option)
Temperature of the secondary product (with relevant option)
Volume of the secondary product at base conditions (with relevant option)
Density used for conversion to base conditions de base of the secondary product (with relevant option)
Mass of the secondary product (with relevant option)
Additive injector number
Additive PPM: objective PPM (additive injector ≠0)
Additive volume (additive injector ≠0)
Dye injector number
Dye PPM: objective PPM (injector for dye injection ≠ 0)
Dye volume (injector for dye injection ≠ 0)

Metrological diary: Display a specific measurement details, by selecting the day number (1 to 365)

LIST OF ALARMS

		DISPLAY	MEANING	ACTION
USER		STOP LOADING	Intentional interruption of the loading operation	Continue or stop the loading operation
		EMERGENCY STOP	Detection of an emergency stop	Check the status of the emergency stop
		COMMUNICATION FAULT	Absence of communication network	Check the status on the control device
		POWER SUPPLY PROBLEM	Power outage during discharge	Check the cause / Restore power supply
		LOW FLOW FAULT	Low flowrate (less than minimum flowrate)	Check the hydraulic system (valve, strainer, nozzle…)
		HIGH FLOW FAULT	High flowrate (greater than maximum flowrate)	Check the hydraulic system (valve, pumping)
		ZERO FLOW FAULT	Zero flow principal product	Check the hydraulic system (safety valve)
		METERING PROBLEM	Metering problem with the principal measuring device	Check if the pulse transmitter is powered (red indicators)
		OVERFILL FAULT	Over-filling of the compartment	Dry out the wet probe or end measurement
		MANDATORY END	Measurement end is required	End operation
		NO MORE AUTHORISATION	No more loading authorisation	Check the reason on the control device
		GROUND FAULT	Loss of ground signal	Check the connection of the dead-man switch
		TICKET FAULT	No ticket in the local mechanical printer	Check the ticket is well-positioned
		ARM POSITION FAULT	Loading arm in high-position	Check the loading arm position
		ARM ORIENT. FAULT	Problem with the orientation of the arm in low-position	Check the loading arm orientation (left or right)
		ORIENTATION /2 RACKS	Detection of a loading arm oriented on both sides of the rack	Check the loading arm orientation (left or right)
		DEAD MAN SWITCH	The dead man switch is not connected	Check the dead man switch
		LEAKAGE FAULT	Metering detection without measurement	Check the tightness of the loading valve
		SAMPLING FAULT	Problem with the sampler	Check the status of the sampler
		QUALITY SELECTION	No product selected	Choose a product
		TANK EMPTY	Product unavailable	Fill the tank with product
		GAS DETECTED	Detection of gas (principal product circuit EMA)	Make a purge (manual or automatic)
		NO ADDITIVATION	Additivation null	Check the additive hydraulic system
		ADDITIVE LEAKAGE	Metering detection without injection	Check the additive hydraulic system
		ADDITIVATION <--->	Additivation rate too low	Check the additive hydraulic system
		ADDITIVATION <+++>	Additivation rate too high	Check the additive hydraulic system
		ADDITIVATION FAULT	Problem with the additivation electronic device	Check the additivation electronic device
		DOSING FAULT	Problem with the dosing of the additive	Check the additivation electronic device
		ACDA FAULT	Problem with the ACDA (remote injector calculator)	Check the electronic device ACDA
		LINE RINSING FAULT	Rinsing cycle not finished by the injector	Wait for the end of the rinsing cycle
		INJECT. LEAKAGE	Metering detection on injector XX without injection	Check the additive hydraulic system
		DIARY FAULT	Reset of the events diary	Acknowledge the alarm, check the date in supervisor mode
REPARATOR	NON BLOCKING	DISPLAY FAULT	Problem with display card	If steady alarm, substitution of the display card
		WATCHDOG FAULT	Fault with display or power card or AFSEC+ card	If steady alarm, substitution of the faulty card
		VOLUME CONVER. FAULT	Problem during conversion of volume	If steady alarm, substitution of the AFSEC+ electronic card
		TOTALISER LOST	Loss of totaliser EMA	Substitution of the backup battery
		TEMPERATURE FAULT	Temperature determination failure EMA	If steady alarm, see a reparator for trouble shooting
		VALVE FAULT	Inappropriate reaction of the EMA control valve	If steady alarm, inspect the autorization valve
		FILTER FAULT	Filter fouling	The pressure switch and the product line must be cleaned
		ANTI-POLLUTION VALVE	Mismatch between the status awaited and the actual status of the antipollution valve	Check the status of the antipollution valve
		DENSITY L UNCONFORM.	Measure of the density meter lower than the density low set in supervisor mode	If blocking alarm: end delivery
		DENSITY H UNCONFORM.	Measure of the density meter higher than the density high set in supervisor mode	If non blocking alarm: validate
	BLOCKING	PRINTER FAULT <->	Problem with the IT2 mechanical printer	If steady alarm, inspect the printer
		PRINTER FAULT <+>	Problem with the IT2 mechanical printer	If steady alarm, inspect the printer
		MEMORY LOST (PILE)	Loss of saved memory	Substitution of the backup battery
		MEMORY LOST	Error on SIM memorization	Enter and exit the METRO mode / If steady alarm, substitution of the backup battery
		COEFFICIENTS FAULT	Deviation between coefficient LF/HF greater than 0.5%	Modification of the low flow coefficient (K1)
		PROM FAULT	Loss of software or resident integrity	Substitution of the AFSEC+ electronic card
		RAM FAULT	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	Loading diary is full	Substitution of the AFSEC+ electronic card
		DATE AND TIME LOST	Loss of date and time	Set date and time in supervisor mode (supervisor key)
		POWER BOARD FAULT	Disparity between the software and the version of the power supply board	Remove the disparity
		GAS DETECTOR FAULT	Problem with the EMA gas detector	Check the gas detector
		GAS DETECTOR HIGH	Problem with the high-point gas detector	Check the gas detector
		DENSIMETER MIN FAULT	Measure of the density meter lower than the minimum density set in metrological mode	Check the metrological configuration
		DENSIMETER MAX FAULT	Measure of the density meter higher than the maximum density set in metrological mode	Check the metrological configuration
		NO PULSE DENSIMETER	Unable to receipt pulses from the frequency density meter	Check the density meter
		VISCOSITY FAULT	Viscosity out of range	Check the curve in METROLOGICAL mode