PAPI 004204-INTER5 ORP Controller Instruction Manual

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PAPI

PAPI 004204-INTER5 ORP Controller

Product Information

Specifications

- **Model:** PAPI004204-INTER5
- **Version:** 23.11
- **Language Options:** French, English, German

Product Usage Instructions

Principle of Operation
The device operates based on measuring ORP (Oxidation-Reduction Potential) in millivolts, providing an indication of the oxidative strength in the liquid being tested.

Installation
Follow the provided diagram for correct installation of the device. Ensure proper connection of the brown, yellow/green, and blue wires.

Precision on ORP Control
ORP measurement is crucial for monitoring the oxidative potential in the liquid, especially in conjunction with pH levels and active ingredients.

Interface and Indicators
The electronic box features buttons for control, red and green indicator lights, and a default display for readings.

Menu Meanings
The menu allows for calibration of the ORP probe and adjustment of ORP measurements.

ORP Probe Calibration

1. Initiate calibration mode on the device.

2. Remove the probe from the liquid and replace it with the provided cap.
3. Wait for a few minutes without touching the probe.
4. Follow on-screen instructions until calibration is complete.

ORP Measurement Adjustment

1. Select adjustment mode on the device.
2. Make necessary adjustments using the control buttons.
3. Validate the adjustments to save them.

Warranty
The product comes with a warranty for a specified period, ensuring coverage for any manufacturing defects or malfunctions.

FAQ

How often should I calibrate the ORP probe?
It is recommended to calibrate the ORP probe regularly, especially if there are significant changes in readings or after a prolonged period of non-use.

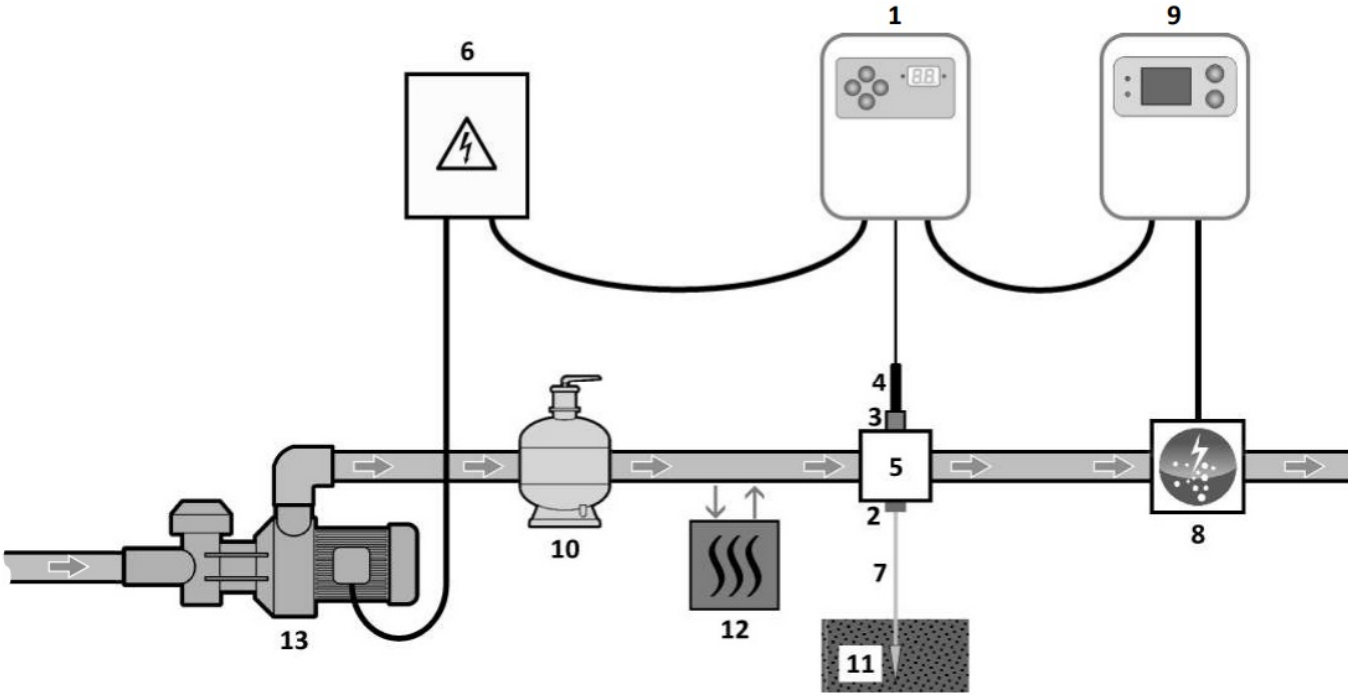
OPERATIONAL PRINCIPLE

Condition	**Immediate automatic action**
ORP measurement lower than the ORP setpoint	Switching on the electrolyser
ORP measurement higher than the ORP setpoint	Switching off the electrolyser
Forced operation activated	Switching on the electrolyser, for a fixed period and without interruption

INSTALLATION DIAGRAM

ELECTRICAL SHOCK HAZARD
Before switching on the power, make sure that all of the electrical wiring is undertaken.

SYSTEM OVERVIEW



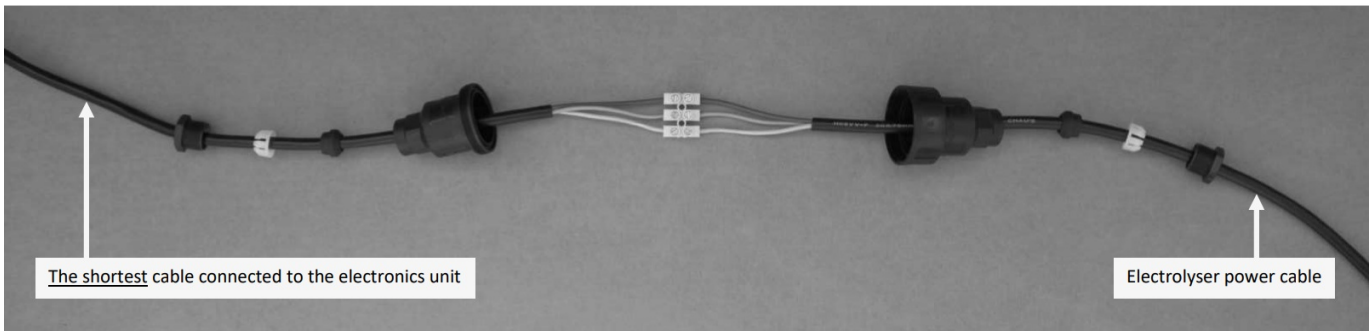
1. Electronics unit
2. Pool Terre (optional)
3. Probe holder
4. ORP probe
5. Bracket

ELEMENTS NOT SUPPLIED

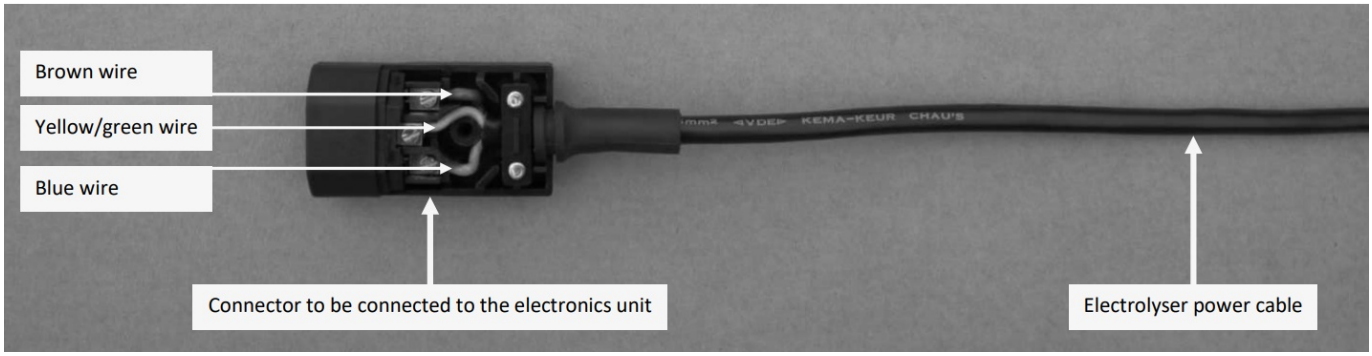
6. Electrical power supply
7. Copper cable
8. Chlorinator cell
9. Electrolyser
10. Filter
11. Ground rod
12. Heat pump
13. Filtration pump

WIRING THE ELECTRONICS UNITTO THE ELECTROLYSER

Version A (depending on model)



Version B (depending on model)



DETAILS ABOUT THE ORP CHECK

- The amount of chlorine required can vary depending on several conditions :
  - **Covered pool (by sheeting, cover or panels)**
    Low chlorine requirement (because there is no UV).
  - **Sudden rise in the number of people using the pool**
    Very large amounts of chlorine needed, but on a temporary basis.
  - **Indoor pool or sheltered pool**
    Reduced need for chlorine (because of low exposure to external pollution), but which tends to increase depending on the frequency of use of the swimming pool.
- Given this range of possible configurations, chlorine production must be managed according to requirements. The ORP check enables you to react to each of these situations.
- The ORP measurement (in mV), reflecting the oxidation (or reduction) potential of the water, is a major indicator of
- According to the WHO, an ORP measurement of 650 mV guarantees disinfected water that is itself capable of disinfecting. Despite the use of this value as a reference, this can only be on a theoretical level, because ORP measurements can easily vary depending on the following parameters :
  - The pH.
  - The type of chlorine (stabilised or non-stabilised).
  - The presence of dissolved elements that can affect the water (metals, phosphates, surfactants).
  - The cleanliness of the filter.
  - The presence of stray currents.
  - The presence of flocculant (deposit on the ORP probe).
    The ORP measurement :
    - is not a measurement of free chlorine levels.
    - varies according to free chlorine levels and all elements in the water.

ESSENTIAL PREREQUISITES FOR AN OPTIMAL ORP CHECK :

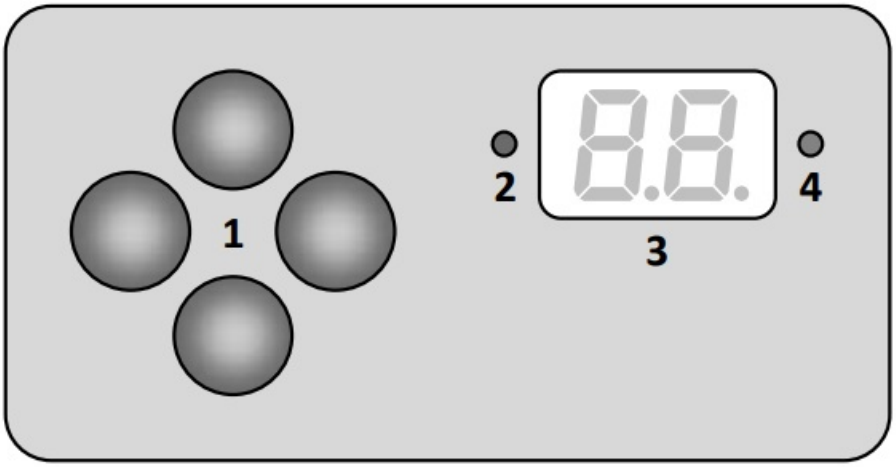
- Stable pH (with a pH regulator).
- Stabilizer level between 20 and 30 ppm.
- Earthing of the pipe where the ORP probe is installed (with a Pool Terre kit).
- Installation of the ORP probe at least 30 cm before the chlorinator cell.
- Balanced water profile (free chlorine levels at 1 ppm, and pH at 7.2).
- ORP setpoint adjusted according to the ORP measurement displayed (a value between 500 and 700 mV can

be considered as correct).

- The use of sulfates is permitted, provided they remain at levels below 360 ppm.
- The use of copper sulfates is strictly forbidden.
- The use of borehole water is strictly prohibited.
- When using a chemical (flocculant, waterline cleaning, sequestrant), check the ORP measurement before and after use of this product. If the ORP measurement drops sharply, stop the electronics unit for a few days, until the effects of the product on the ORP measurement disappear.
- Influence of chloramines on the ORP measurement: as chloramine levels tend to increase, the ORP measurement tends to decrease.

ELECTRONICS UNIT

Interface and indicators
Visual of the non-contractual interface :



1. CONTROL KEYS.
2. **RED LED.**
   - If lit continuously : electronics unit powered off.
   - If flashing : alarm activated.
3. **SCREEN.**
   If display flashing : information awaiting confirmation, or alarm activated.

DESCRIPTION OF THE DEFAULT DISPLAY		
Setting	**Displayed value**	**Meaning**
ORP measurement	From 00 to 99	From 0 to 99 mV
	From to 10. to 99.	From 100 to 990 mV

4. **GREEN LED.**
   - **If lit continuously :** electronics unit in operation.
   - **If flashing :** electrolytic cell under voltage.

Basic operations

- **Switching on and off :** long press on the left key.
- **Selecting a value or data :** top and bottom keys.
- **Confirmation of an entry** / **Entering a menu :** right-hand key.
- **Cancelling an entry** / **Returning to the previous menu :** left-hand key.

Meaning of the menus

MENU	FEATURE
CA	Calibrating the ORP probe
Ad	ORP measurement adjustment
SE	Setting the ORP setpoint
nA	Forced operation

Features

Calibrating the ORP probe
To ensure an optimal ORP check, it is imperative that the ORP probe is calibrated :

- when first commissioning the equipment.
- at the start of each season when it is commissioned.
- each time the probe is replaced.

1. Turn off the filtration (and therefore the electronics unit).
    - **If the probe is already installed :**
        1. Remove the probe from the probe holder, without disconnecting it.
        2. Remove the probe holder nut and replace it with the stopper supplied.
    - **If the probe is not already installed :**

      Connect the probe to the electronics unit.
2. Insert the probe into the ORP 475 mV calibration solution.
3. Wait a few moments, without touching the probe.
4. Turn on the electronics unit.
5. Press and hold down the right-hand key, until the menu nA flashes.
6. Press the top or bottom key x times until menu CA flashes.
7. Confirm by pressing the right-hand key : the message 47. flashes.
8. Press on the right-hand key.
9. Wait until one of the messages below is displayed.
    - If the message Oh is displayed : calibration was successful.
        - Press 3 times on the left-hand key : the default display reappears.
        - Rinse the probe under running water.
        - Drain the probe without wiping it.

- Install the probe into the probe connector.
- If the message Er is displayed : the calibration failed.
  - Press 3 times on the left-hand key : the default display reappears.
  - Visually check the condition of the probe.
  - Try the calibration again, several times if necessary. If the calibration still fails, change the probe and recalibrate.

ORP measurement adjustment
The adjustment of the ORP measurement requires a measuring device (not supplied) to obtain an actual ORP value.

- **Prerequisite :** the ORP measurement must be between 200 and 900 mV.
- **Possible settings :** from – to + 100 mV compared to the ORP measurement, in steps of 10 mV.
- **Default setting :** ORP measurement.

1. Press and hold down the right-hand key, until the menu nA flashes.
2. Press the top or bottom key x times until menu Ad flashes.
3. Confirm by pressing the right-hand key.
4. Select a value with the top/bottom keys.
5. Confirm by pressing the right-hand key.
   - If the message Oh is displayed : the adjustment was successful.
     Press 2 times on the left-hand key : the default display reappears.
   - The message Er is displayed : the calibration has failed.
     - Press 2 times on the left-hand key : the default display reappears.
     - Visually check the condition of the ORP probe.
     - Try the adjustment again, several times if necessary. If the adjustment still fails, replace the ORP probe and carry out a calibration of the ORP probe.

Setting the ORP setpoint

- **Possible settings :** from 20. to 90. (from 200 to 900 mV, in steps of 10 mV).
- **Default setting :** 67.

1. Press and hold down the right-hand key, until the menu nA flashes.
2. Press the top or bottom key x times until menu SE flashes.
3. Confirm by pressing the right-hand key.
4. Select a setpoint with the top/bottom keys.
5. Confirm by pressing the right-hand key : the selected setpoint freezes briefly.
6. Press on the left-hand key : the default display reappears.

Forced operation

- **Possible settings :** from 01 to 24 (i.e. from 1 to 24 h, in steps of 1 h).

- **Default setting :** 24
  - **To activate forced operation :**
    1. Press and hold down the right-hand key, until the menu MA flashes.
    2. Confirm by pressing the right-hand key.
    3. Select a duration with the top/bottom keys.
    4. Confirm by pressing the right-hand key : the timer countdown is displayed in real time.
  - **To stop forced operation :**

    Press on the left-hand key : the default display reappears.

Alarm

Flashing display	Fault detected	Automatic action im mediate	Checks and solutions	Dismissal
	Deviation of + or – 400 m V between the ORP mea surement and the ORP s etpoint for 48 hours	Switching o ff the electr olyser	Check the ORP measurement in the swim ming pool with a recent analysis kit. Check that the [electrolyser + cell] assemb ly is functioning correctly. Check all the settings : – Calibrating the ORP probe. – ORP measurement adjustment. – Setting the ORP setpoint. – Forced operation not activated.	Press on the r ight-hand key

GUARANTEE

Before contacting your dealer, please have the following to hand :

- your purchase invoice.
- the serial no. of the electronics unit.
- the installation date of the equipment.
- the parameters of your pool (salinity, pH, chlorine levels, water temperature, stabilizer level, pool volume, daily filtration time, etc.).

  Every effort and all our technical experience has gone into designing this equipment. It has been subjected to quality controls. If, despite all the attention and expertise involved in its manufacture, you need to make use of our guarantee, it only applies to free replacement of the equipment’s defective parts (excluding shipping costs in both directions).

Guarantee period (proven by date of invoice)

- **Electronics unit :** 2 years.

- **ORP probe :** depending on model.
- **Repairs and spare parts :** 3 months.
- The periods indicated above correspond to standard guarantees. However, these can vary depending on the country of installation and the distribution network.

Scope of the guarantee

- The guarantee covers all parts, with the exception of wearing parts that must be replaced regularly.
- The equipment is guaranteed against all manufacturing defects within the strict limitations of normal use.

After-sales services

- All repairs will be carried out in the workshop.
- Shipping costs in both directions are at the user's own expense.
- Any downtime and loss of use of a device in the event of repairs shall not give rise to any claim for compensation.
- In all cases, the equipment is always sent at the user's own risk. Before taking delivery, the user must ensure that it is in perfect condition and, if necessary, write down any reservations on the shipping note of the carrier. Confirm with the carrier within 72 hours by recorded letter with acknowledgement of receipt.
- Replacement under guarantee shall in no case extend the original guarantee period.

Guarantee application limit

- In order to improve the quality of their products, the manufacturer reserves the right to modify the characteristics of the products at any time without notice.
- This documentation is provided for information purposes only and is not contractually binding with respect to third parties.
- The manufacturer's guarantee, which covers manufacturing defects, should not be confused with the operations described in this documentation.
- Installation, maintenance and, more generally, any servicing of the manufacturer's products should only be performed by professionals.
- This work must also be carried out in accordance with the current standards in the country of installation at the time of installation. The use of any parts other than original parts voids the guarantee ipso facto for the entire equipment.

The following are excluded from the guarantee :

- Equipment and labour provided by third parties in installing the device.
- Damage caused by installation not in compliance with the instructions.
- Problems caused by modifications, accidents, misuse, negligence of professionals or end users, unauthorised repairs, fire, floods, lightning, freezing, armed conflict or any other force-majeure events.
  Any equipment damaged due to non-compliance with the instructions regarding safety, installation, use and maintenance contained in this documentation will not be covered by the guarantee.
  Every year, we make improvements to our products and software. These new versions are compatible with

previous models. The new versions of hardware and software cannot be added to earlier models under the guarantee.

Implementation of the guarantee
For more information regarding this guarantee, contact your dealer or our After-Sales Service. All requests must be accompanied by a copy of the purchase invoice.

Legislation and disputes
This guarantee is subject to French law and all European directives or international treaties in force at the time of the claim, applicable in France. In case of disputes concerning its interpretation or execution, the High Court of Montpellier (France) shall have exclusive jurisdiction.

Documents / Resources

	PAPI 004204-INTER5 ORP Controller [pdf] Instruction Manual 004204-INTER5 ORP Controller, ORP Controller, Controller

References

- User Manual