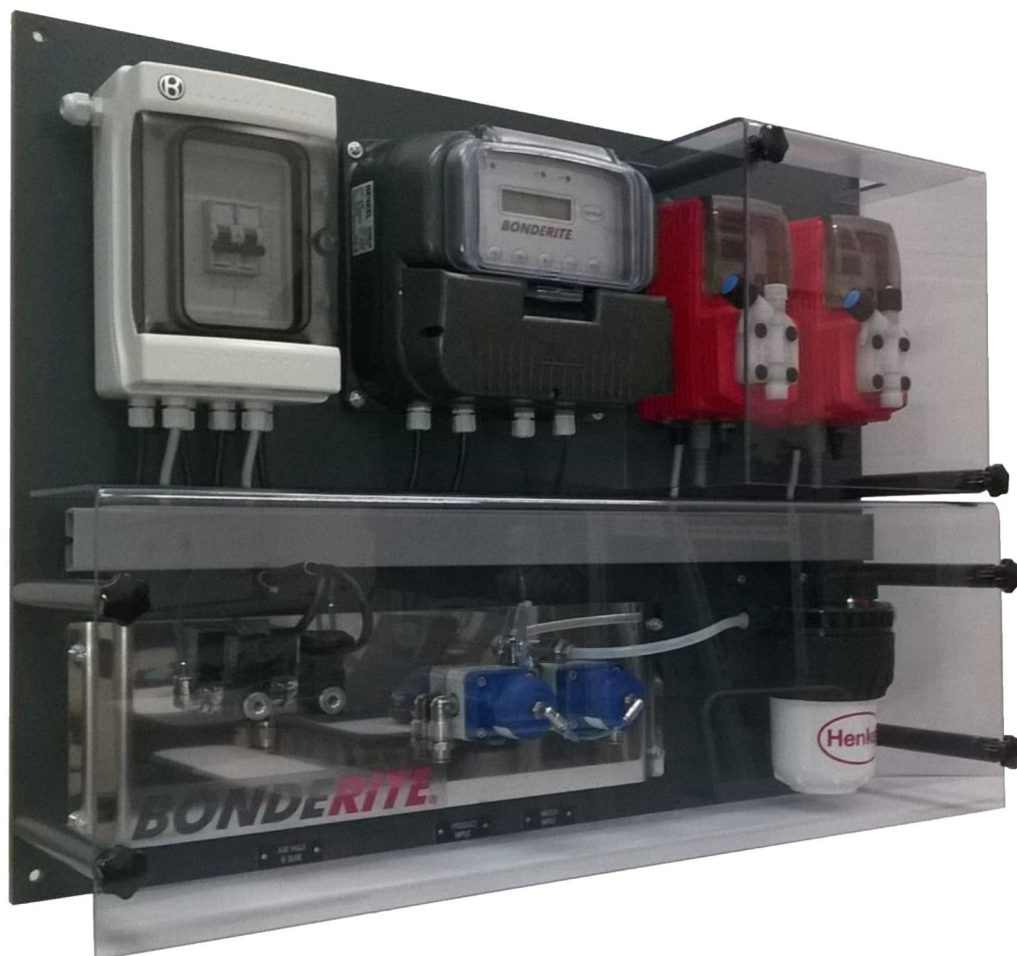


Installation & Programming Manual

Lineguard® SF2000 pH Panel



This manual is addressed to personnel specifically responsible for the installation, control, and repair of Henkel systems. Any work performed by unauthorized personnel or actions that are in conflict with the information in this manual will automatically exclude all liability of the company for any possible consequences.

WARNINGS

The instrument you have purchased is designed and tested in compliance with IEC n° 348 and EN 61010-1 and is supplied in perfect condition. This instruction manual contains all the information and warnings that must be observed by the user to ensure safe operation of the instrument and to maintain it in good working order through the course of time. The instrument is designed for indoor use. However, it may be occasionally subjected to temperatures of between +5 and -10 °C without impairing its safety characteristics. In compliance with CEI EN 61010-1, the S507 instrument can be installed in areas with pollution level 2. The instrument and the present manual therefore comply with CEI 66/1, 2, 3, EN 61010-1 and harmonised standards EN 50081-1, EN 61000-3-2, EN 61000-3-3, and EN 50082-1. If the instrument is not installed and used as prescribed, the level of protection may be impaired. All handling, maintenance and repairs of systems must be carried out exclusively by suitably skilled personnel. All maintenance and repair work must be carried out with the system disconnected from the electrical supply and isolated from the liquid circuit.

The disposal of waste material and consumables must be carried out in compliance with statutory legislation.

VALIDITY OF THE WARRANTY

All our instruments are warranted for a period of 12 months since the date of their purchase. The warranty will be not recognized for the instruments for which the instruction of installation, maintenance and operation, which are included into this manual, are not followed.

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1. PACKAGE CONTENTS

The Lineguard 2000 pH S507 version; present manual; cable 5 mt coaxial; pH electrode; flux probe; n°2 pumps; n°2 pneumatic valves; n°2 electrovalves.

2. DIMENSIONS



Made of PVC, overall dimensions 800 x 650, suitable for wall mounting using 4 screws, wall mounting

Protection rating: IP 66

Warning! The instrument is designed for panel mounting. It is prohibited to use the instrument if it is not correctly installed!

Weight: Approximately 9,5 Kg

Front panel: PVC

3. TECHNICAL SPECIFICATIONS

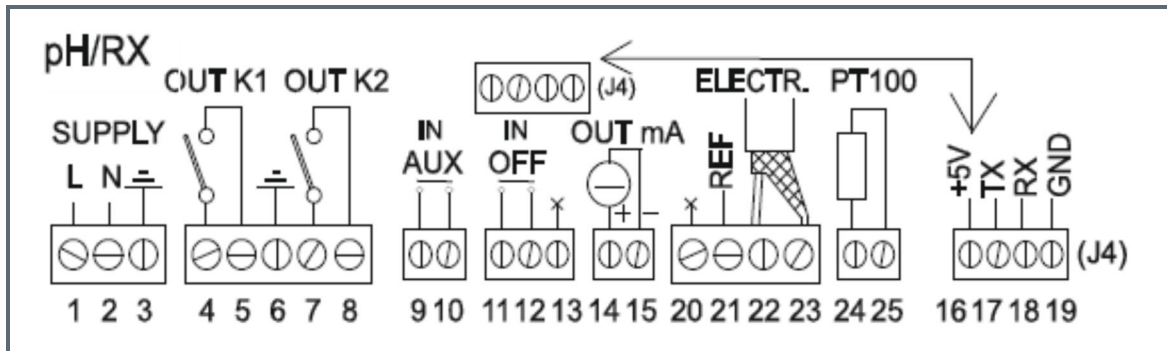
Power supply	230V~ +/- 10% 50-60Hz standard, 115V~, 24V~ +/- 10% 50-60Hz or 24V-+/- 10% on request (to be specified with order).
Power	7VA max (relay output version) 70VA max (version with K1 dosing-shot - pump magnet drive)
Protections	PTC Self-reset fuse, suitable for the supply voltage. Only with K1= dosing shot and power supply 230V~, fuse F2A size 5*20
Climatic conditions	Storage temperature -20...+60 °C Working temperature -10...+50 °C MAX humidity: 90% non-condensing
Display	LCD alphanumeric 16 characters * 2 lines
Analogue inputs	Precision better than 0.3% on F.S. Repeatability better than 0.2% on F.S.
Normalized input	On removable 4-pin terminal board (specify type of input, scale and transducer power supply, if any, in the order).
Conductivity	On pull-out terminal block. For cell with two electrodes + shield.
Relay outputs	N° 2 independent outputs. On pull-out 5-pin terminal block. Max. contact rating 250 V~ 3 A resistive.
Dosing-shot output	N° 1, available in place of K1 relay for direct drive of pump magnet. Standard pulse 300V and 90msec, max. frequency 120 pulses/min. Not available with 24V- or 24V~ power supply.
Current output	0/20 or 4/20 mA (selectable from program) into max 600 Ω load. Max Err. 0.5% on F.S. Galvanic isolation option can be supplied if specified with order.
Serial output	Standard RS232 on removable 4-pin terminal board (or RS485, to be specified in the order).
Digital inputs	N° 1 OFF/LEV input to disable outputs (OFF in the case of standard K1 relay, level control (LEV) in the case of pump magnet drive relay K1). Accepts voltage-free contact. Voltage on terminals: 5V, max. current: 5mA. N° 1 temperature control (TC) input available only in the case of K1 prearranged for magnet drive, to be connected to motor protector coupled with magnet.

4. MAIN TECHNICAL NOTES

1. Facility to configure S507 output K1 as "magnet drive", i.e. suitable for direct control of the pump magnet.
The use of a dosing pump without electronics is economically advantageous and results in increased reliability, provided instrument S507 (i.e. the electronic section) is installed well away from possible sources of liquids/fumes/humidity etc.
2. The absence of calibration trimmers on the front panel increases the protection rating.
3. Facility to inhibit outputs temporarily by means of ON-OFF button (e.g. for maintenance requirements)
4. Output relays are configurable as set-points or maximum / minimum alarms.
5. Current output freely programmable throughout entire scale, hence with facility for recording or proportional regulation.
6. Galvanic isolation option on current output to avoid interference due to connections with a PC or PLC with references connected to ground.
7. Serial line with PC to create memory of data/programming. Software available.
8. Display and automatic compensation for temperature changes by means of PT100, both in pH version and in conductivity meter version.
9. Easily reconfigurable by means of programming and conductivity meter scale change.
10. Alarms and errors (diagnostics) presented directly on display.
11. Program data / calibration data stored in non-volatile memory (minimum data retention of 10 years).

5. ELECTRICAL CONNECTIONS

For the wiring connections, refer to the screen print diagram present on the terminal board, specific for each type of instrument (specifically see on last page).



POWER SUPPLY: The "POWER SUPPLY" terminal board is the first to the left, characterized by terminals 1..3.

The power specified on the data plate is supplied to the instrument with a maximum deviation of $\pm 10\%$.

K1 OUTPUT (relay output version product valve): Potential-free contact is available at terminals 4 and 5.

K2 OUTPUT: (relay output version water valve): Potential-free contact is available at terminals 7 and 8.

AUX INPUT: The auxiliary input is available at terminals 9 and 10, on closure of the contact, the outputs are deactivated and the situation is shown on the display (practically the LG 2000 is switched off).

OFF/LEVEL INPUT: It is present at terminals 11, 12 and 13. For this application is not used. Further details are given in the relevant paragraphs.

CURRENT OUTPUT: Available at terminals 14 (positive) and 15 (negative). Pumps signal.

SERIAL OUTPUT: Available at terminals 16 (+5V), 17 (TX), 18 (RX), 19 (GND). This terminal board is slightly inconvenient since it is placed higher than the others.

MEASUREMENT INPUT: The measurement input is available at terminals 20 ... 23; for the connections, refer to the relevant paragraphs. For this application is not used

TEMPERATURE INPUT: A temperature probe PT100 can be connected to terminals 24 and 25. In case of long connections (approximately more than 5m) it is advisable to use a shielded cable with 2-pins+shield, with the shield connected to terminal 24. For this application is not used

NOTES:

1. Further information concerning the connection of inputs is given in the specific headings.
2. Before performing any operations ensure that the instrument is disconnected from the power supply!
3. Inverting the positions of the live and neutral power feeding wires means that the internal protections of the power supply will be connected to neutral rather than live: this situation will not impair the correct operation of the instrument.
4. The power circuit earth wire (terminal 3) must be connected to the electrical mains earth. The connection is not mandatory for safety purposes in the case of relay type K1 output, although it is useful because it allows the dispersal of any electrical interference carried on the power lines. In contrast, in the case of output K1 for dosing pump magnet drive, this connection is mandatory in order to earth the dosing pump magnet (by means of terminal 14).
5. With regard to connection of the input signals, note that the relative cables must be as short as possible and must be always kept separate from the power cables. The maximum length of the sensor cable depends on various factors. In any event never exceed 20 m in the case of pH or RX, 5 m in the case of low conductivity values, and 10 m in the case of medium-high conductivity values. Only in the case of amplified piezo resistive sensors or standardized inputs is it possible to arrive at lengths of up to 50...60 m, provided shielded cables are utilized. If greater distances are required consider the use of a galvanic isolator (e.g. SG91).
6. In the case of supplementary shields, these must be connected to the REF terminal. Never connect the earth contact to the REF terminal.
7. The max. load on the relay outputs is 3A and 250V (resistive load); with an inductive load the maximum current is 1A (with 230V~ power supply pumps or solenoid valves up to 200 VA can be driven directly).
8. The output relay contacts are not protected. It is mandatory to install a fuse or an alternative protection system that is commensurate with the applied load.
9. In the case of inductive loads the outputs must be protected with suitable arc and interference suppression systems (RC networks or varistors if AC, diodes or varistors if DC).
10. In the K1 pump magnet drive version, correct operation is guaranteed with the original pump cable (5 m). If this cable must be extended for contingent reasons associated with the specific plant, always use a cable of the same cross-section (and ideally of the same colour) and install it well clear of the signal cables (input).
11. To achieve correct operation of the instrument even in the presence of the worst possible interference conditions, adhere to the following prescriptions:
 - a. radio frequency suppressor ferrite P/N 5072.0020 installed on the power feeding cable, as shown below
 - b. shielding of the signal cable with a metal sheath connected to earth or to the REF terminal (use the most favourable solution)

- c. ferrite P/N 5062.0020 installed on the input signal cables, as shown below
- d. RC suppressors (or equivalent) in parallel with the load (the suppressors must be suitably sized)
- e. efficient earthing of the electrical cabinet in which the instrument is mounted
- f. shield with earthing of the current output cable if 20 m length is exceeded

Make one or more loops (if the cable section is such as to allow this) around the ferrite.

Note: the ferrites supplied with instrument are 2 (one for power supply, the other for the input). In case of a second input (temperature) with cable separated from the main input, to request a third ferrite.

6. OPERATING PRINCIPLE

The instrument is composed basically of the following modules:

1. Power supplier: connected to the power source, the power supplier provides the necessary power for operation of the other modules while minimizing the presence of interference and fluctuations.
2. Microprocessor: this is the heart of the instrument; the microprocessor acquires the analogue parameters transmitted by the "input" module and converts them into the required scale. It then relays these values to the "display" module for viewing so that the main measurement can be correlated with the programmed values in order to decide the status of the "digital outputs" (K1 and K2) and the "analogue output" in mA. The microprocessor also reads the status of the keys for display/editing of data stored in the memory.
3. Input: depending on the type of instrument, this stage can be of different types; irrespective of the configuration it generates a signal that is compatible with the microprocessor input, adding an interference filter and relative protections.
4. Digital outputs: these are output relays complete with their control circuit
5. Analogue output: makes it possible to "export" the value of the main measurement to peripheral devices. The instrument can be equipped with "galvanic isolation" in the case of connection to a PC/PLC which sometimes create short circuits to ground that have a negative effect on the acquired measurements.
6. Display: module designed to display all data, primarily the measurement data, and secondly the programming data.

7. POWER-ON



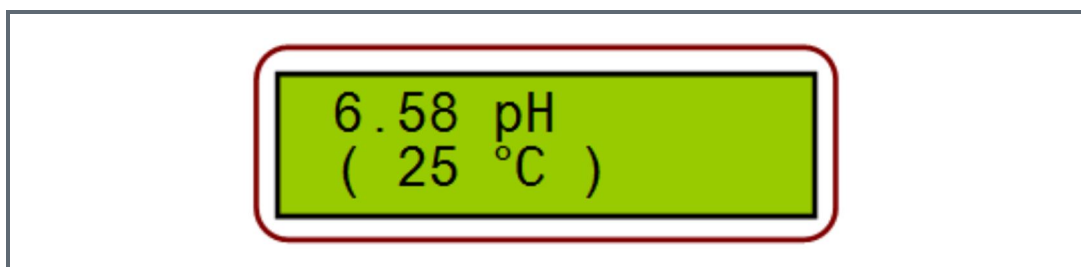
When the LG 2000 pH S507 is powered on it Performs a brief display test by activating all the segments and then presents a code relative to the instrument/software version; it then checks the status of memory data and presents any error codes or warning messages if the data are incorrect for any reason. For a detailed description of errors refer to the "ERRORS" heading.

After this phase the instrument assumes normal operating status and displays the incoming measurements, updating the current outputs and relays accordingly. If the + and – keys are pressed simultaneously at the time of power-on, instrument S507 performs a "test" program: the digit "0" is displayed and the ON LED flashes. This value, which simulates the measurement, can be increased or decreased using the + and – keys. Consequently the operation / programming of the current output and relays can be tested. To exit from this test, press NEXT.

8. FRONT PANEL DESCRIPTION

In addition to the display, the front panel has 5 keys and 3 LEDs:

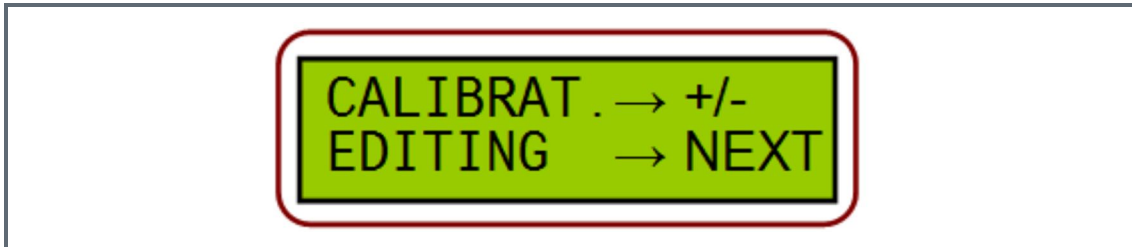
1. [ON] key → Enables / disables the mA output signal
2. [CAL] key → Allows the user to enter the "PROGRAMMING" and "CALIBRATION" routines
3. [+] key → Displays the "GAIN" value in normal display mode and increases the displayed variable when in setting and/or calibration mode.
4. [-] key → Displays the "OFFSET" value (deviation from zero) in normal mode or decreases the displayed variable when in setting and/or calibration mode..
5. [NEXT] key → Changes the display of the main measurement to temperature and vice versa; eliminates the modifications made to the displayed variable in setting and/or calibration mode. In the K1 magnet drive version this key provides access to manual mode.
6. LED [K1] → This LED shows the status of relay 1: illuminated = relay ON =contact closed.
7. LED [K2] → Status of relay 2: illuminated = relay ON = contact closed.
8. LED [ON] → When steadily illuminated this LED indicates that the instrument is ON and no faults present. When flashing, indicates an operating fault (refer to the Errors heading) or outputs deactivated by means of the ON button.
9. Display → This is a normal display visualization. Temperature is between brackets indicating the PT100 absence. In this case the working temperature programmed is displayed (P04). If PT100 is inside, the value indicated the real value and it appears without brackets.



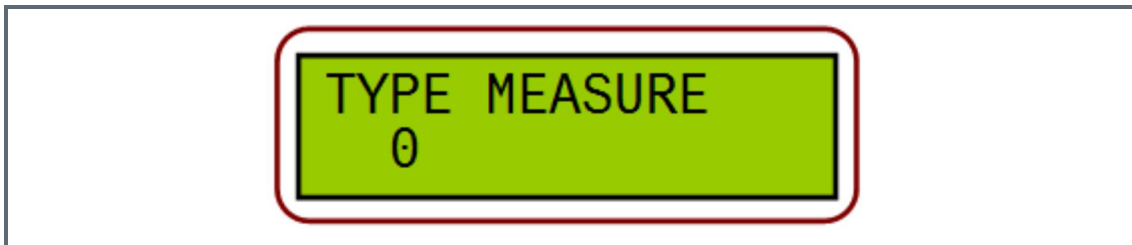
9. PROGRAMMING WITH THE FRONT KEYPAD (see also last pages)

The following section describes the procedure for programming the 16 editable parameters from the front keypad.

Press the [CAL] key and keep it pressed for at least 2 seconds and it appears



Press the [NEXT] key the display shows the message << P01 >> indicating the possibility to edit the first parameter



The display shows the message indicating the possibility to edit the first parameter

Press the [CAL] key

The value of first parameter will appear.

Press the [+] key to increase the value

Press the [-] key to decrease the value

Press the [CAL] key to confirm the new value

Press the [NEXT] key to retain the original value

The display shows the message for the second parameter, this being the next parameter in the sequence

Proceed as per points 6...11

Continue as above until reaching the final parameter

To quit the programming function press the [NEXT] key

10. LIST OF PARAMETERS

Parameter No.	Description	Min. value	Max value	Default value
P01	Type of measurement	0	2	0
P02	Parameter 02	0,00	4	0
P03	Parameter 03	0	100	0
P04	Working temperature	0	100	25
P05	Unused	1	120	/
P06	Unused	0	120	/
P07	Type of K1 operation	0	5	5
P08	Flushing time	0	90	2
P09	Reading time	0	90	2
P10	Washing time	0	90	1
P11	Break time	0	90	45
P12	Unused	0	5	/
P13	Unused	-1000	2000	/
P14	Unused	-1000	2000	/
P15	Unused	0	120	/
P16	Unused	0	120	/
P17	Power ON delay	0	60	0
P18	Type of mA output	0	1	0
P19	mA output scale start	-1000	2000	4,8
P20	mA output full scale	-1000	2000	5,2
P21	mA value in case of error	0,0	21,0	0,0
P22	RS485 address	1	9	1
P23	Password	0	999	0
P24	Language	0	3	1
P25	UR/OR operation	0	7	0
P26	Autoset	0	100	0

11. PARAMETERS EXPLANATION

PARAMETER 01 (standardized input version) MEASUREMENT TYPE

This version is prearranged and pre-calibrated for pH, ORP and temperature can be configured as follows: 0 = pH meter; 1 = ORP meter; 2 = thermometer.

PARAMETER 02 RESERVED

This parameter is reserved for future implementations.

PARAMETER 03 RESERVED

This parameter is reserved for future implementations.

PARAMETER 04 WORKING TEMPERATURE

All S507 are calibrated for temperature measure, value used for the thermo compensation calculating. If the PT100 is not inside, the instrument can recognize the working temperature. When PT100 is missing, the indicated temperature is between brackets.

PARAMETER 05

Unused

PARAMETER 06

Unused

PARAMETER 07 OUTPUT K1 OPERATING MODE

Six different operating modes of output K1 are defined, with the following codes:

0 = Operation disabled with K1 = relay, manual operation with K1 = pump magnet drive

1 = Contact closing when threshold is exceeded (K1=relay) or pump injections start when threshold is exceeded (K1=magnet drive); used to acidify (pH meter case), decrease redox potential, maintain low conductivity.

2 = Contact opening when threshold is exceeded (K1=relay) or pump injections stop when threshold is exceeded (K1=magnet drive); used to increase the pH value, chlorinate (redox meter or residual chlorine meter), supply additives that increase conductivity, etc.

3 = Upward proportional regulation (dosage increases as measurement increases), only if K1 is preset for magnet drive. With this regulation output K1 is Off with measurements below the minimum threshold (P07), then it starts to pulse slowly as the measurement increases until reaching the maximum frequency (set in P04) on reaching the maximum threshold set in P08. This technique serves to provide "soft" injection of reagent avoiding sudden high magnitude regulation changes due to switching between injection/stopped status.

4 = Downward proportional regulation (dosage decreases as measurement increases), only if K1 is preset for magnet drive. This is the opposite to regulation type 3, i.e. injection is zero with measurements above the threshold set in P08 and subsequently injection frequency increases as the measurement value falls, until reaching the maximum value (P04) in correspondence with the minimum threshold set in P07.

5 =Self-cleaning cycle with timed flushing: at fixed intervals, the Lineguard freezes the measurement, activates the relay K1 (which will be connected, for example a solenoid with the water) for a predetermined time, and then unlocks the measure maintaining K1 active, the end of the second interval freezes the measurement, de-energizes K1 and K2 energizes (which will be connected, for example a solenoid with water) for the time necessary to complete the washing, and then de-energizes K2, keeping frozen the measure will wait for the next cycle.

PARAMETER 08 RELAY 1

K1 intervention minimum threshold, in accordance with the above indications.

In the case of self-cleaning cycle with flushing, this parameter is the flushing time (in minutes)

PARAMETER 09 RELAY 1

K1 intervention maximum threshold, in accordance with the above indications.

In the case of self-cleaning cycle with flushing, this parameter is the read time (in minutes)

PARAMETER 10 RELAY K1

A delay interval can be set for energisation of relay K1 if configured in operating modes 1 or 2. The value is entered in seconds. Enter zero to inhibit the delay interval (relay trips immediately).

In the case of self-cleaning cycle with flushing, this parameter is the time of washing (in minutes)

PARAMETER 11 RELAY K1 DE-ENERGISATION DELAY

As per parameter 9, but referred to de-energisation of relay K1.

In the case of self-cleaning cycle with flushing, this parameter is the dwell time between courses and later (in minutes)

PARAMETER 12 TYPE OF K2

Unused

PARAMETER 13 RELAY 2

Unused

PARAMETER 14 RELAY 2

Unused

PARAMETER 15 K2 RELAY

Unused

PARAMETER 16 K2 RELAY

Unused

PARAMETER 17 Power ON DELAY

At switch-On, it may so happen that the sensor connected to the input does not give correct values, while awaiting stabilization. During the measurement stabilization phase, the instrument however activates the outputs according to the value measured at the input. In certain cases, this may be a problem. Entering zero means this delay is not activated.

PARAMETER 18 OUTPUT TYPE IN CURRENT

This parameter accepts only value 0 or 1. The zero selects output type 0/20 mA, while one selects output 4/20 mA. N.B.: The precision at the current output refers to output values

greater than approx. 0.3mA. Consider therefore that the current output start scale in case of 0/20mA, is not accurate.

PARAMETER 19 OUTPUT SCALE START IN CURRENT

The measured value corresponding to the current output start (or the minimum set of pH).

PARAMETER 20 CURRENT OUTPUT FULL SCALE

The measured value corresponding to the current output full scale (or the maximum set of pH).

PARAMETER 21 CURRENT OUTPUT VALUE IN CASE OF ERROR

Set the current value which the output must assume in case of error (e.g. value measured in over-range or measurement disenabled because input is OFF, etc...).

PARAMETER 22 RS485 ADDRESS

Data to be used only if the instrument is set up for RS485 and is inserted in a small network consisting of a PC with suitable management SW and a number of S507 instruments. Each instrument in this network must have its own address so that it can be recognized correctly, and it is this parameter.

PARAMETER 23 PASSWORD

It is possible to block the instrument use putting a password (a value different from 0). Attention! If you missing the password is not possible to enter in the programming, send the instrument to the constructor!

PARAMETER 24 LANGUAGE

This parameter allows you to choose the display language for display messages:
Italian = 0, 1 = English 2 = Spanish 3 = French.

OPERATION PARAMETER 25 UR / OR

In the case of the input signal is too low or too high, the tool considers the measure out control: the display shows the relative error, the outputs K1 and K2 are disabled and the analog output in mA is forced to value set in parameter P21.

This is the mode of operation recommended by the manufacturer and set at the factory, which corresponds to include the value zero in this parameter.

In exceptional cases might arise the need to "hide" this anomaly in different ways, for example, by disabling the display of error message and / or leaving unchanged the state of outputs. To select the right combination, consider:

Relay value = 1; mA output value = 2; display error value = 4.

The sum of the values for the options you want the value to set for this parameter. For example, if in the case of Under / Over Range you want to see the error but leave unaltered state relays and mA output, set P25 = 1 +2 = 3.

PARAMETER 24 AUTOSET

By means of this parameter it is possible to set the S507 with the factory values (P01..P23). This operation may be useful in case absurd data have been set. The value to be entered for activating the autosest function (unless otherwise indicated) is 12. After setting this value, <<ESE>> appears on the display for about 3 seconds.

12. AUXILIARY DISPLAYS

Press the [-] and [+] keys in normal operating mode (i.e. not in the above described calibration procedures) to produce the following displays:

key [+] gain multiplication factor (0.750 ... 1.500)

key [-] offset in points (-100 ... 100)

N.B. : At the time of initial calibration the values are set as follows: OFFSET = 0, GAIN = 1.000.

When the keys are pressed together the display shows the value of injections/minute (only in the case of S507 with K1 output in dosing pump version).

13. ERRORS & TROUBLESHOOTING

All errors or faults detected by the microcontroller are shown on the display, accompanied by flashing of the ON LED, also in accordance with the following codes:

A.01 : Warning 01

No operating mode has been set for output K1. The instrument will anyway continue to function correctly.

A.02 : Warning 02

No operating mode has been set for output K2. The instrument will anyway continue to function correctly.

E.01 : Error 01

Proportional regulation has been set for output K1 with minimum and maximum thresholds that are too close together (P08 and P09). In these conditions regulation with K1 will not work properly. Re-program P08 and P09.

E.02 : Error 02

An excursion on the mA output has been set with minimum and maximum thresholds that are too close together (P19 and P20). In these conditions the mA output will not work properly. Re-program P19 and P20.

E.03 : conductivity range choice

An impossible range has been requested. Re-programming P01.

Calibration error

An impossible calibration has been requested (e.g. pH offset with the electrode immersed in a solution at 4pH). Repeat the operation checking electrode, cables, buffer solution, etc..

OFF CONTACT LEVEL OR FLOW

The input contact to terminals 11 and 12 is closed, blocking the instrument (in this case t the outputs are inhibited). To verify the sensor:

S507 with K1 relay output version dosing-shot: level control indicates the water missing to inject. Replenish the level.

S507 with relay output K1: it is an external request indicating an external request to deactivate the outputs.

HOLD MEASURE CONTACT:

The input contact to terminals 9 and 10 is closed and the measure are blocked.

HEA : Temperature dosing-shot

Only with S507 with output K1 in dosing shot version: The temperature control connected to its input indicates overtemperature on the pump magnet. Wait for the temperature to return to within the acceptable range. In this condition the outputs are inhibited.

UR/OR : Under range/Over Range

The input signal is above the maximum value established for the instrument in question. Check the sensor connected to the input and relative cables. In this condition the outputs are inhibited.

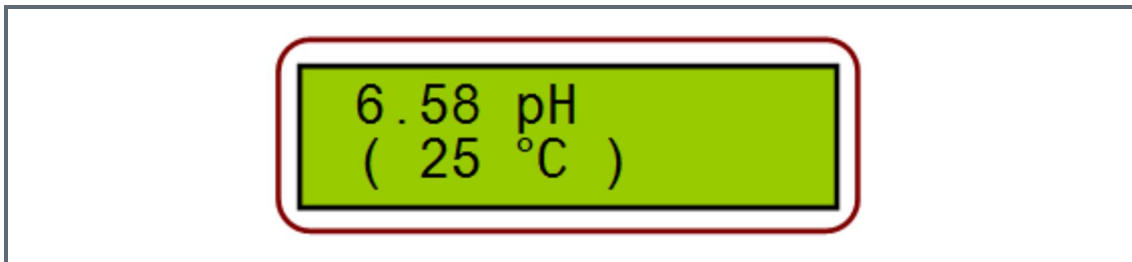
Note: All errors signalled by flashing of the ON LED result also in positioning of the mA output to the value set in parameter P20.

pH ELECTRODE CALIBRATION

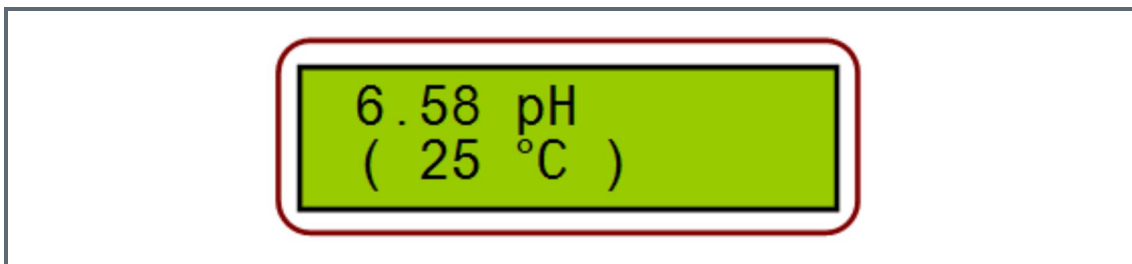
The following section describes the procedure for the pH electrode calibration

Before starting this procedure, make sure that freshly produced buffer solutions are available pH 7,01 & pH 4,01 (ensure the solutions have not degenerated).

Normal visualization:

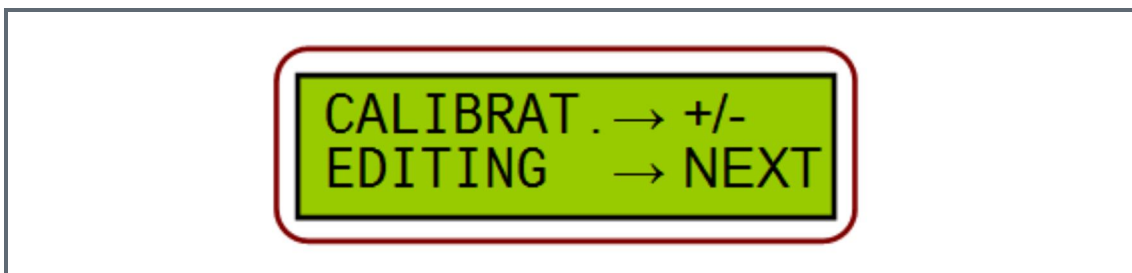


Press the [NEXT] key and keep it pressed for at least 2 seconds and it appears:



with the pH value unfreeze.

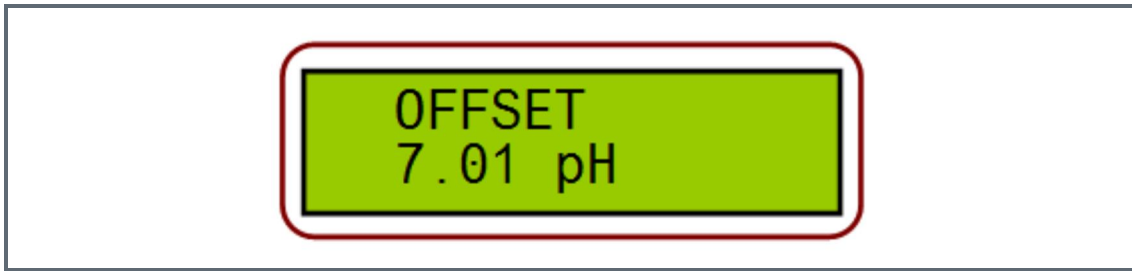
Press the [CAL] and keep it pressed for at least 2 seconds and it appears:



Wash the electrode with distilled water

Immerse the electrode in the 7.01 pH buffer solution

Press the [-] key, on the display appears:

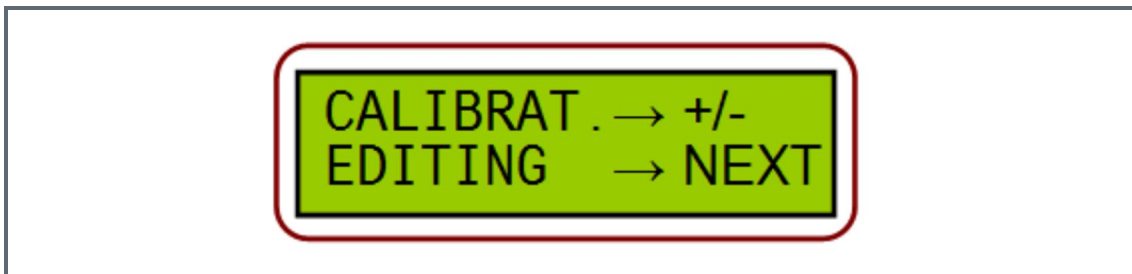


Press the [CAL] key to confirm the new calibration value

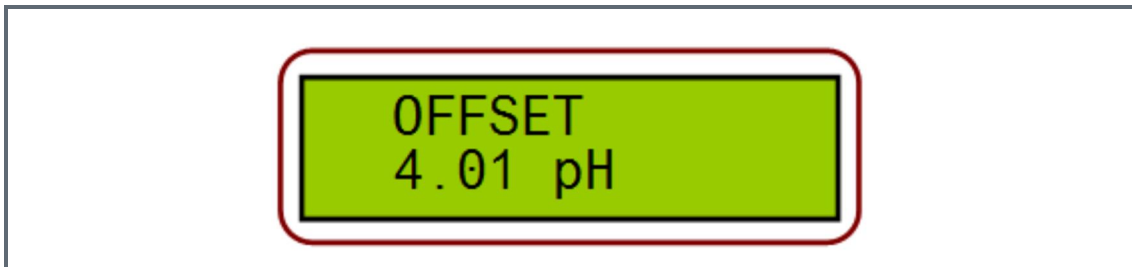
Wash the electrode with distilled water

Immerse the electrode in the 4.01 pH (or 9.01 pH) buffer solution

Press [CAL] and hold it down for at least 2 seconds and it appears:



Press the [+] key, on the display appears:



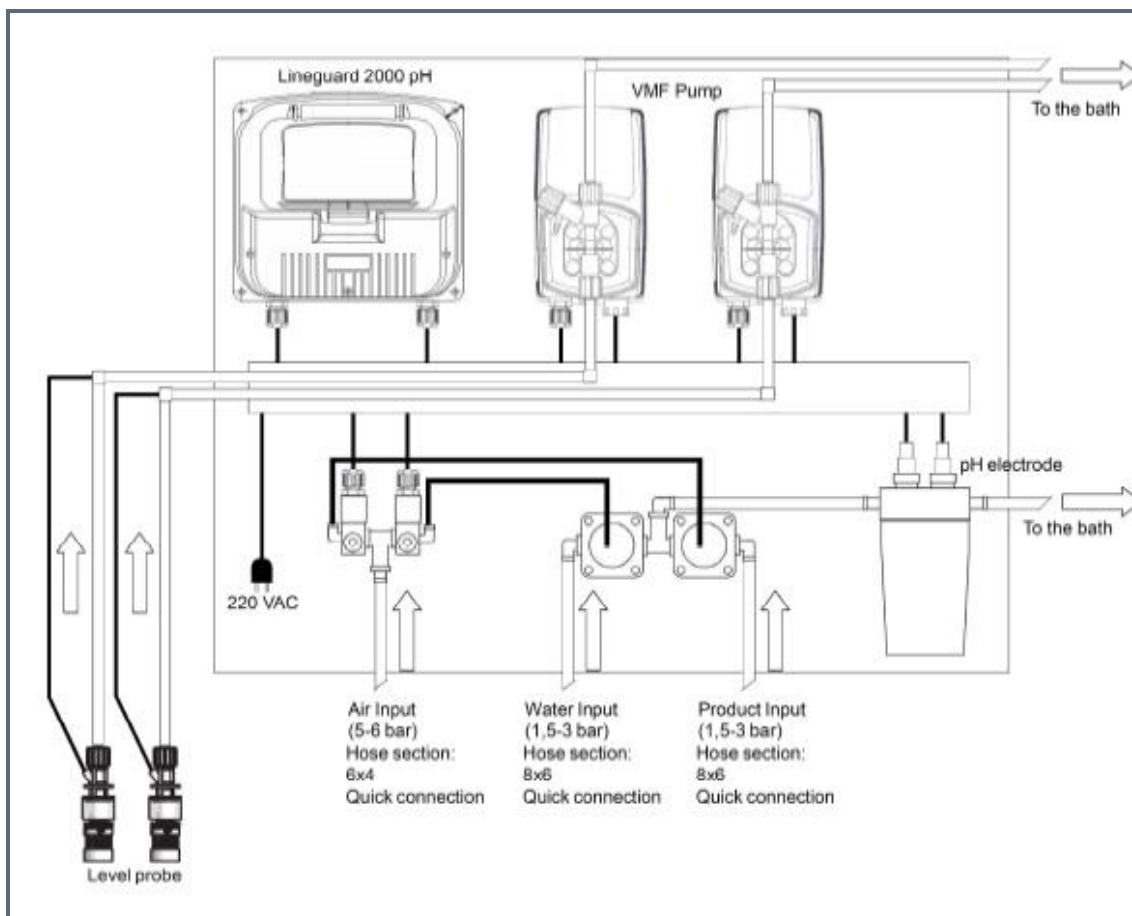
Press the [CAL] key to confirm the new calibration value

If the instrument fails to read the buffer solutions automatically there are three possible causes:

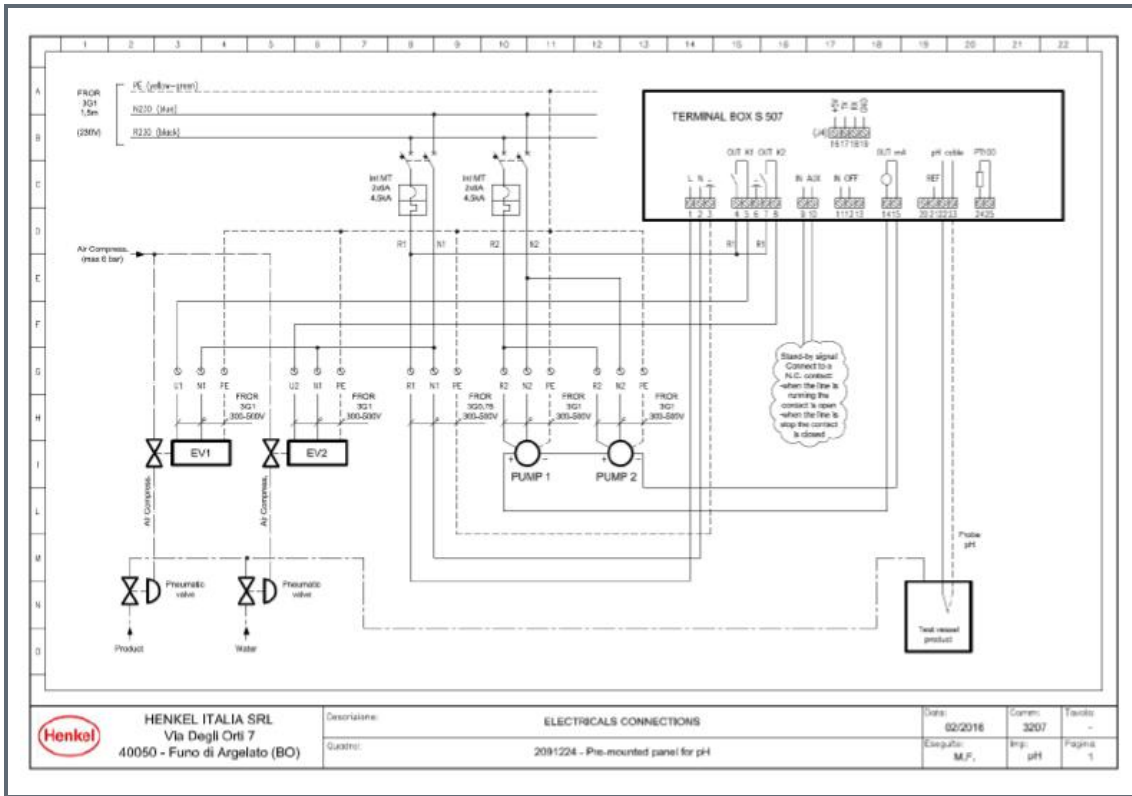
- a) The buffer solution has been modified
- b) The electrode is malfunctioning or the electrode material is depleted
- c) The electrode cable is not connected correctly

If you attempt to set the offset to values that differ significantly from 7.00 pH, the S507 instrument will automatically generate the message << ERR >> and reject the calibration. Also if you attempt to set the gain with buffer solutions whose pH is too close to the neutral value, instrument Lineguard will reject the calibration.

14. HYDRAULICS CONNECTIONS



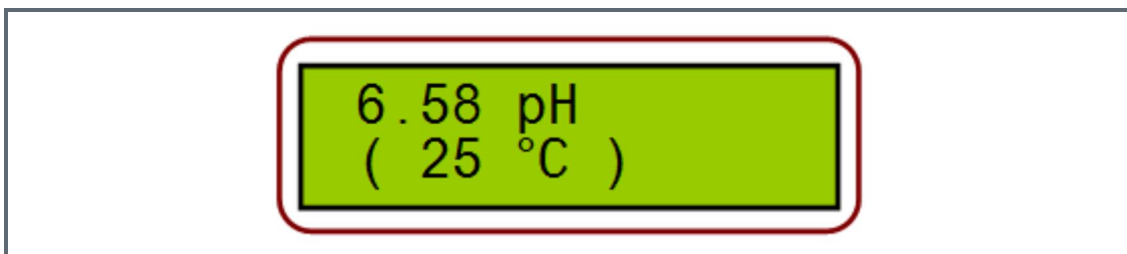
ELECTRICAL CONNECTIONS



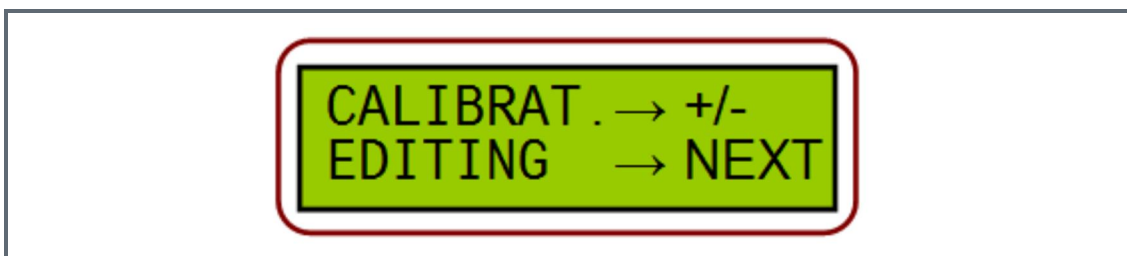
15. SHORT & QUICK PROGRAMMING WITH THE FRONT KEYPAD

The following section describes the procedure for programming the most important editable parameters from the front keypad.

Normal visualization:



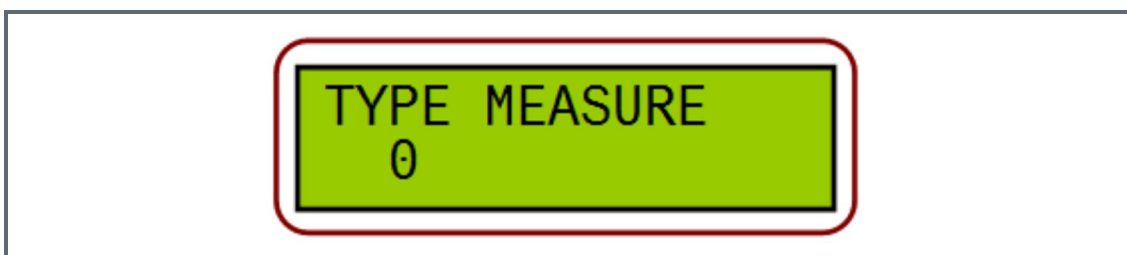
Press the [CAL] key and keep it pressed for at least 2 seconds and it appears



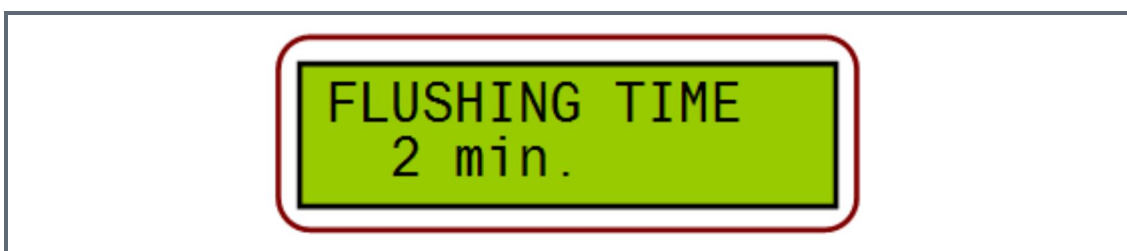
Press the [NEXT] key

The message << Edi >> is displayed until the [NEXT] key is released

The display shows:



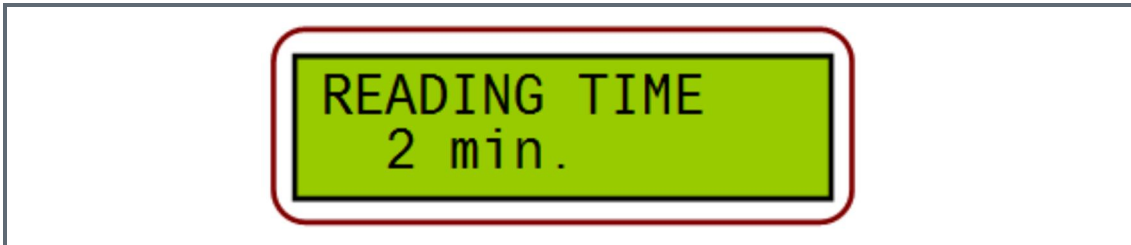
Press the [+] key, more time, until:



This parameter is the flow time of the product (opening pneumatic valve product)
Usually the default parameter is 2 minutes, but if is necessary to change it:

- a. press the [CAL] key
- b. press the [+] key to increase the value of minutes
- c. press the [-] key to decrease the value of minutes
- d. press again the [CAL] key to confirm the change occurred (the new value)

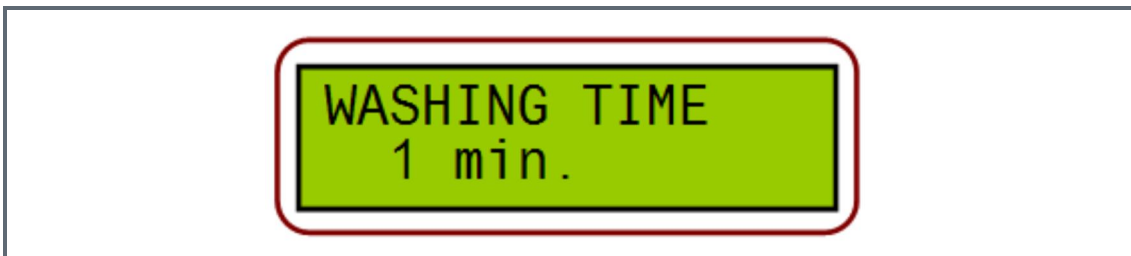
Press the [+] key:



This parameter is the reading time of the product (the pH value is unfreezing)
Usually the default parameter is 2 minutes, but if is necessary to change it:

- e. press the [CAL] key
- f. press the [+] key to increase the value of minutes
- g. press the [-] key to decrease the value of minutes
- h. press again the [CAL] key to confirm the change occurred (the new value)

Press the [+] key:

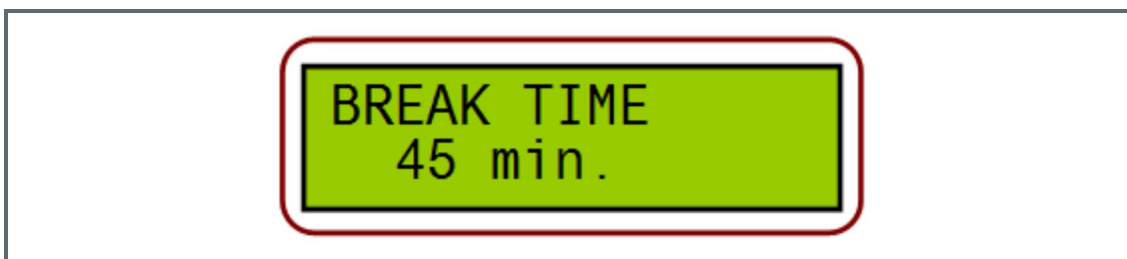


This parameter is the washing time of the water (opening pneumatic valve water)

Usually the default parameter is 1 minutes, but if is necessary to change it:

- i. press the [CAL] key
- j. press the [+] key to increase the value of minutes
- k. press the [-] key to decrease the value of minutes
- l. press again the [CAL] key to confirm the change occurred (the new value)

Press the [+] key:

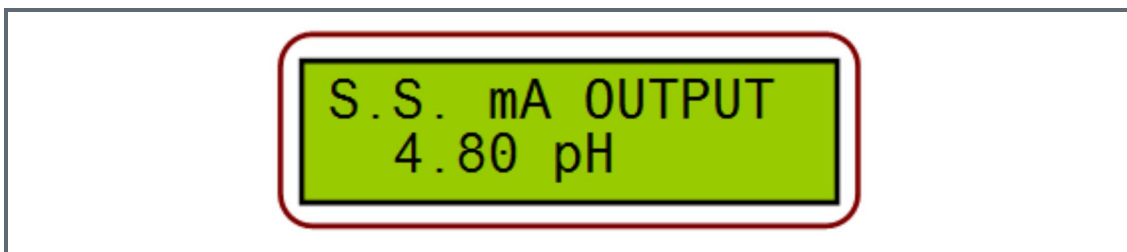


This parameter is the time between a cycle and the next

Usually the default parameter is 45 minutes, but if is necessary to change it:

- m. press the [CAL] key
- n. press the [+] key to increase the value of minutes
- o. press the [-] key to decrease the value of minutes
- p. press again the [CAL] key to confirm the change occurred (the new value)

Press the [+] key, more time, until:

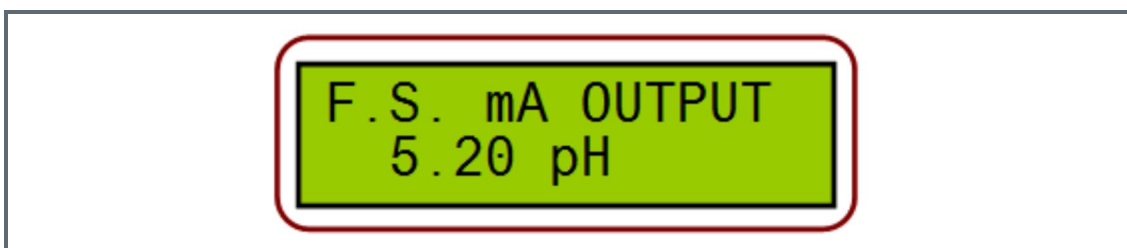


This parameter is the minimum threshold pH; below this value the pumps are OFF

Usually the default parameter is 4,80 pH, but if is necessary to change it:

- q. press the [CAL] key
- r. press the [+] key to increase the value of minutes
- s. press the [-] key to decrease the value of minutes
- t. press again the [CAL] key to confirm the change occurred (the new value)

Press the [+] key:



This parameter is the maximum threshold pH; above this value the pumps are ON

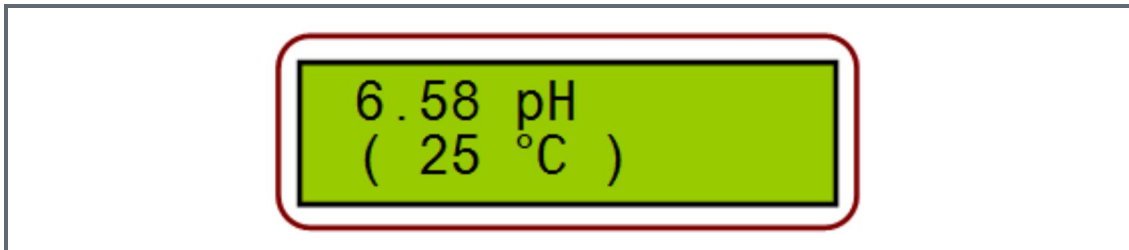
Usually the default parameter is 5,20 pH, but if is necessary to change it:

- u. press the [CAL] key

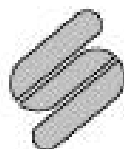
- v. press the [+] key to increase the value of minutes
- w. press the [-] key to decrease the value of minutes
- x. press again the [CAL] key to confirm the change occurred (the new value)

IMPORTANT: the difference between S.S. and F.S. must be minimum 0,4 pH

Now press the [NEXT] key:



16. CERTIFICATION



STEIEL

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The constructor

STEIEL elettronica s.r.l.

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Declares that the electronic controllers

S507 code 8006.001X

Are in conformity of these community directives:

CEE 73/23
CEE 89/336
CEE 93/68
And following amendments.

And these harmonized technical laws were applied:

EN 50081-1
EN 61000-3-2
EN 61000-3-2/A1
EN 61000-3-2/A2
EN 61000-3-3
EN 50082-1

EN 61010-1

Ponte S. Nicolò , 17/04/2007

Managing director

(Negrinotti Maurizio)