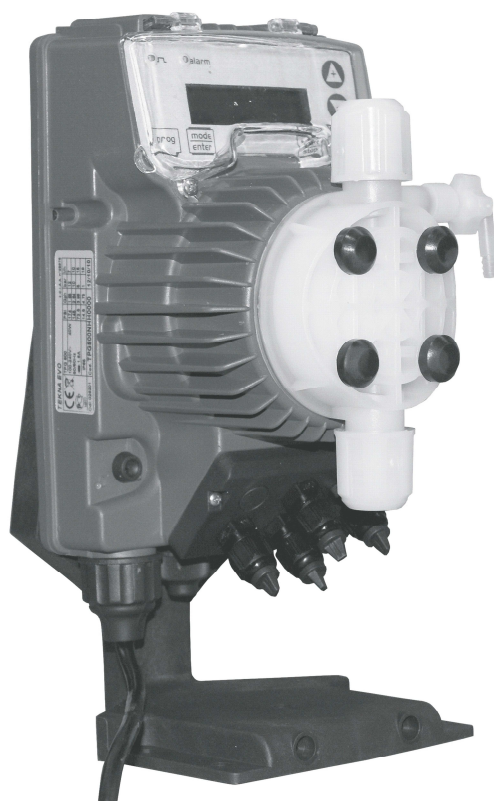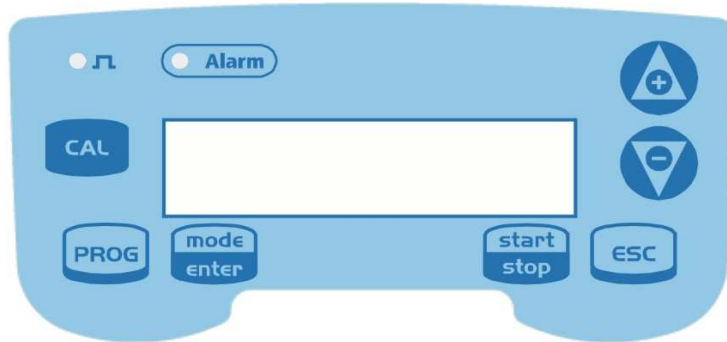# TEKNA EVO TPR

INSTALLATION MANUAL - **EN**

Control Panel – TEKNA TPR


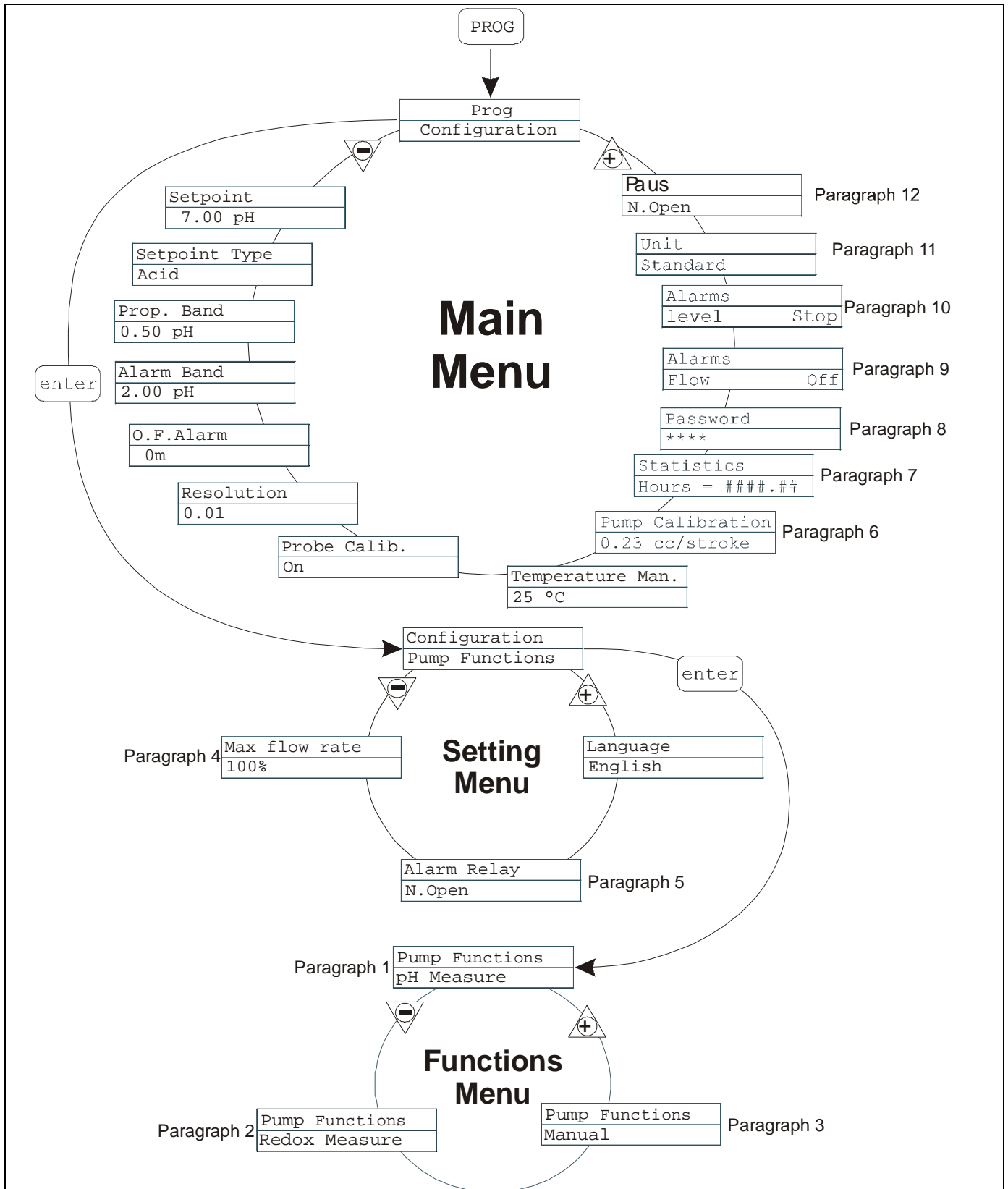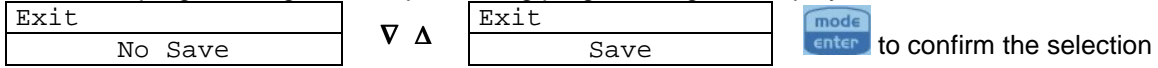|		
PROG	Access to the programming menu	
mode enter	When pressed during the pump operation phase, it cyclically displays the programmed values on the display; When pressed at the same time as the ⊕ ⊖ keys, it increases or lowers a value dependent on the selected operating mode. During programming it carries out an "enter" function, meaning that it confirms entry to the various menu levels and modifications within the same.	
start stop	Starts and stops the pump. In the event of a level alarm (alarm function only), flow alarm and active memory alarm, it deactivates the signal on the display.	
ESC	Used to "exit" the various menu levels. Before definitively exiting the programming phase, you will be asked if you wish to save any changes.	
CAL	Access to the pump calibration menu. If in Off mode, the calibration menu is not activated.	
⊕	Used to run upwards through the menu or increase the numerical values to be changed. Can be used to start dosage in Batch mode	
⊖	Used to run downwards through the menu, or decrease the numerical values to be changed.	
Flashing green LED during dosage		
Alarm	Red LED that lights up in various alarm situations	

Electrical connections			
	1	Alarm relay	
	2		
	3	Pole +	Exit 4-20 mA 500 Ω max load
	4	Pole -	
	5	Remote control input (start-stop)	
	6		
	7	Temperature probe input	
	8		
	9	Flow sensor input	
	10		
	B	Input level control	

You can access the programming menu by pressing the [PROG] key for over three seconds. The [+] [−] keys can be used to run through the menu items, with the [mode enter] key being used to access changes.

The pump is programmed in constant mode in the factory. The pump automatically returns to the operating mode after 1 minute of no activity. Any data entered in these circumstances will not be saved. The [esc] key can be used to exit the various programming levels. Upon exiting programming, the display will show:

Exit		
No Save		

∇ Δ

Exit		
Save		

[mode enter] to confirm the selection

PROG

```
     Prog
  Configuration
```

Main Menu

Setpoint
7.00 pH

Setpoint Type
Acid

Prop. Band
0.50 pH

Alarm Band
2.00 pH

O.F.Alarm
0m

Resolution
0.01

Probe Calib.
On

Paus	— Paragraph 12
N.Open

Unit	— Paragraph 11
Standard

Alarms	— Paragraph 10
level   Stop

Alarms	— Paragraph 9
Flow   Off

Password	— Paragraph 8
****

Statistics	— Paragraph 7
Hours = ####.##

Pump Calibration	— Paragraph 6
0.23 cc/stroke

Temperature Man.
25 °C

enter

```
  Configuration
  Pump Functions
```

Setting Menu

enter

Max flow rate	Paragraph 4
100%

Language
English

Alarm Relay	Paragraph 5
N.Open

Pump Functions	Paragraph 1
pH Measure

Functions Menu

Pump Functions	Paragraph 2
Redox Measure

Pump Functions	Paragraph 3
Manual

Setting the Language

Programming	Operation
PROG ┌────────────┐ │ PROG │ Configuration │ └────────────┘ enter ┌────────────┐ │ Configuration │ Pump Functions │ └────────────┘ ▽ ┌────────────┐ │ Max flow rate │ P100% │ └────────────┘ ▽ ┌────────────┐ │ Alarm Relay │ N.Open │ └────────────┘ ▽ ┌────────────┐ │ Language │ English │ enter ▽ ⊕ enter └────────────┘ ▽ ┌ ─ ─ ─ ─ ─ ┐ ◄─── └ ─ ─ ─ ─ ─ ┘	Makes it possible to select the language. The pump is set in English in the factory. Changes can be made by pressing the [mode enter] key, then using the ⊕ ⊖ keys to set the new value. Press [mode enter] to confirm and return to the main menu

Paragraph 1 – Manual Dosage

Programming	Operation
PROG ┌────────────┐ │ PROG │ Configuration │ └────────────┘ enter ┌────────────┐ │ Configuration │ Pump Funtions │ └────────────┘ enter ▽ ⊕ ┌────────────┐ │ Pump Functions │ Manuel <- │ └────────────┘ enter ┌ ─ ─ ─ ─ ─ ┐ └ ─ ─ ─ ─ ─ ┘	The pump operates in constant mode. The flow can be manually regulated by pressing the [mode enter] ⊕ keys at the same time to increase the flow, or the [mode enter] ⊖ keys to decrease it.

Display during Operation	Display during Setting (MODE key)
Operating mode • Man = Manuel FLOW sensor status Current dosage value (depends on the selected unit of measurement) • Percentage, Frequency, l/h, Gph, ml/m ┌──────────────┐ │ MAN **F** │ │ Lev Stop P100% │ └──────────────┘ Alarms and statuses • Liv = Level alarm • Fls = Debit alarm Pump status • Empty = pump in start • Stop = pump stationary • Paus = pump in pause	Operating mode • Displays the corresponding frequency value ┌──────────────┐ │ F320s/m │ │ P100% │ └──────────────┘ Current dosage value • The maximum flow can be modified by pressing the + or – keys at the same time

Paragraph 2 – Dosage Proportional to the pH (factory setting)

Programming	Operation
	The pump measures and controls the pH of a solution, programming in sequence: set-point, set-point type, proportional band and alarm band Set-point type: acid Set-point type: alkaline It is also possible to programme: - the O.F.A. (Over Feed Alarm) time in minutes, or rather a time beyond which an alarm signal is triggered if the pH value does not reach the set-point. - The measurement resolution (1 or 2 decimal points) - Deactivation/activation of the calibration procedure - Manual temperature value in ºC (default) or ºF The maximum frequency can be modified during operation, by pressing the [mode enter] [+] keys at the same time to increase the flow, or the [mode enter] [–] keys to decrease it.

Display during Operation	Display during Setting (MODE key)
	Displays in sequence • SP = Setpoint value • BP = Proportional band value • BA = Alarm band value • OFA = O.F.A. value • Temp = Temperature value

Paragraph 3 – Dosage Proportional to the Potential Redox Measurement (O.R.P.)

Programming	Operation
	The pump measures and controls the pH of a solution, programming in sequence: set-point, set-point type, proportional band and alarm band

The pump measures and controls the pH of a solution, programming in sequence: set-point, set-point type, proportional band and alarm band

Set-point type: maximum

Set-point type: minimum

It is also possible to programme:
- the O.F.A. (Over Feed Alarm) time in minutes, or rather a time beyond which an alarm signal is triggered if the pH value does not reach the set-point.
- The measurement resolution (1 or 2 decimal points)
- Deactivation/activation of the calibration procedure

The maximum frequency can be modified during operation, by pressing the [mode enter] [+] keys at the same time to increase the flow, or the [mode enter] [-] keys to decrease it.

Programming sequence:
PROG → PROG Configuration → enter → Configuration Pump Funtions → enter → Pump Functions Redox Measure → enter → Setpoint 560 mV → Setpoint Type High → Prop. Band 50 mV → Alarm Band 200 mV → O.F.Alarm 0m → Probe Calib. On

Display during Operation	Display during Setting (MODE key)

Display during Operation:
- Setpoint type; High/Low
- Flow sensor status
- Potential Redox. measurement value

High **F** 560mV
Lev Stop P100%

Alarms and statuses
- Cal = calibration not completed
- Lev = Level alarm
- Flw = Flow alarm
- Alm = Measurement outside alarm band
- OFA = O.F.A. alarm

Pump status
- Empty = pump in start
- Stop = pump stationary
- Paus = pump in pause

Current dosage value (depends on the selected unit of measurement)
- Percentage, Frequency, l/h, Gph, ml/m

Display during Setting (MODE key):
Displays in sequence
- SP = Setpoint value
- BP = Proportional band value
- BA = Alarm band value
- OFA = O.F.A. value

SP 560mV
450mV P100%

Measurement value

Maximum set dosage value (depends on the selected unit of measurement)
- Percentage, Frequency, l/h, Gph, ml/m

Paragraph 4 – Setting the Maximum Flow

Programming	Operation
	This makes it possible to set the maximum flow offered by the pump, and the programmed mode (% or frequency) is used as the standard unit of measurement when displaying the flow. Changes can be made by pressing the [mode enter] key, then using the [+] [-] keys to set the new value. Press [mode enter] to confirm and return to the main menu

Programming sequence:
PROG → PROG Configuration → enter → Configuration Pump Functions → Max flow rate P100% → enter → Max flow rate P100% → Max flow rate F320s/m

Paragraph 5 – Setting the Alarm Relay

Programming	Operation
PROG PROG Configuration enter Configuration Pump Functions Max flow rate P100% Alarm Relay enter ▽ △ enter N.Open	This is used to set the alarm relay in the absence of an alarm situation, if open (default) or closed. Changes can be made by pressing the mode/enter key, then using the ⊕ ⊖ keys to set the new value. Press mode/enter to confirm and return to the main menu

Paragraph 6 – Flow Calibration

Programming	Operation
PROG PROG Configuration Pump Calibration 0,23 cc/stroke enter Pump Calibration enter Pump Calibration ▽△ enter Manual cc/stroke 0,23 Pump Calibration enter Automatic Cal. Automatic Start 100 strok. enter Automatic Cal. Strokes 100 Automatic Cal. ▽△ enter ml 20	The memorised cc value per strike appears in the main menu. It can be calibrated in two different ways: MANUAL – manually enter the cc value per strike using the ⊕ ⊖ keys and confirm by pressing the mode/enter key AUTOMATIC – the pump makes 100 strikes, which are started by pressing the mode/enter key. At the end of this process, enter the quantity sucked up by the pump using the ⊕ ⊖ keys and confirm by pressing the mode/enter key. The entered figure will be used in flow calculations.

Paragraph 7 - Statistics

Programming	Operation
PROG PROG Configuration Statistic Hours 10 enter Statistic Strokes 1000 Statistic Q.ty(L) 100 Statistic Power 10 Statistic enter Statistic Reset ▽△ enter Reset NO ESC Statistic Hours 10	The main menu displays the pump operation times. By pressing the mode/enter key you can access other statistics: - Strokes = number of strokes made by the pump - Q.ty (L) = quantity dosed by the pump in litres; this figure is calculated on the basis of the memorised cc/stroke value - Power = number of pump starts - Reset = use the ⊕ ⊖ to reset the counters (YES) or otherwise (NO), then confirm by pressing the mode/enter key. Pressing the ESC key will take you back to the main menu.

Paragraph 8 - Password

Programming	Operation
PROG PROG Configuration - - - - - - - - - Password **** enter Password 0000 ⊕ ⊖ enter - - - - - - - - -	By entering the password, you can enter the programming menu and see all the set values. The password will be requested whenever you seek to modify them. The flashing line indicates the number than can be modified. Use the ⊕ key to select the number (from 1 to 9), and the ⊖ key to select the number to be modified. Confirm by pressing the mode/enter key. By setting "0000" (default), the password is eliminated.

Paragraph 9 – Flow Alarm

Programming	Operation
PROG PROG Configuration - - - - - - - - Alarms Flow Off enter Alarm Flow Off enter ⊖ ⊕ Alarm Flow On Alarm Flow - On Signals 6 enter ⊖ ⊕ enter ESC Alarms Flow Off - - - - - - - -	This makes it possible to activate (deactivate) the flow sensor. When activated (On), press the ⊖ key to access the request for the number of signals that the pump waits for before an alarm is triggered. The number flashes when you press the mode/enter key, and you can then use the ⊕ ⊖ keys to set the value. Confirm by pressing the mode/enter key. Press ESC to return to the main menu

Paragraph 10 – Level Alarm

Programming	Operation
PROG PROG Configuration - - - - - - - - - Alarms Level Stop enter Alarm Level Stop enter ⊖ Alarm Flow Alarm enter ESC Alarms Level Alarm - - - - - - - -	This makes it possible to set the pump when the level sensor alarm is activated. In other words you can decide whether to stop dosage (Stop) or simply activate the alarm signal without stopping dosage. Changes can be made by pressing the mode/enter key, then using the ⊕ ⊖ keys to set the alarm type. Confirm by pressing the mode/enter key. Press ESC to return to the main menu

Paragraph 11 – Flow Display Unit

Programming	Operation
PROG PROG Configuration - - - - - - - Unit Standard enter Unit Standard <- ⊖ ⊕ Unit L/h enter - - - - - - - -	This makes it possible to set the dosage unit of measurement on the display. Changes can be made by pressing the mode/enter key, then using the ⊕ ⊖ keys to set the unit of measurement, choosing between L/h (litres/hour), Gph (Gallons/hour), ml/m (millilitres/minute) or standard (% or frequency, depending on settings). Press mode/enter to confirm and return to the main menu

Paragraph 12 - Setting the Pause

Programming	Operation
PROG PROG Configuration ⊕ Paus / N.Open enter ⊖ ⊕ enter ⊖ ⌐ - - - - - - - - ⌐ ◄─────	The pump can be paused by remote input. The factory setting is Normally Open. Changes can be made by pressing the [mode enter] key, then using the [⊕] [⊖] keys to set the new value (N. OPEN or N. CLOSED). Press [mode enter] to confirm and return to the main menu.

pH Calibration Menu
Pressing the CAL key for 3 seconds takes you into the calibration menu. If calibration was excluded during programming, the following appears on the display:

Calibration
Off

If calibration is active:
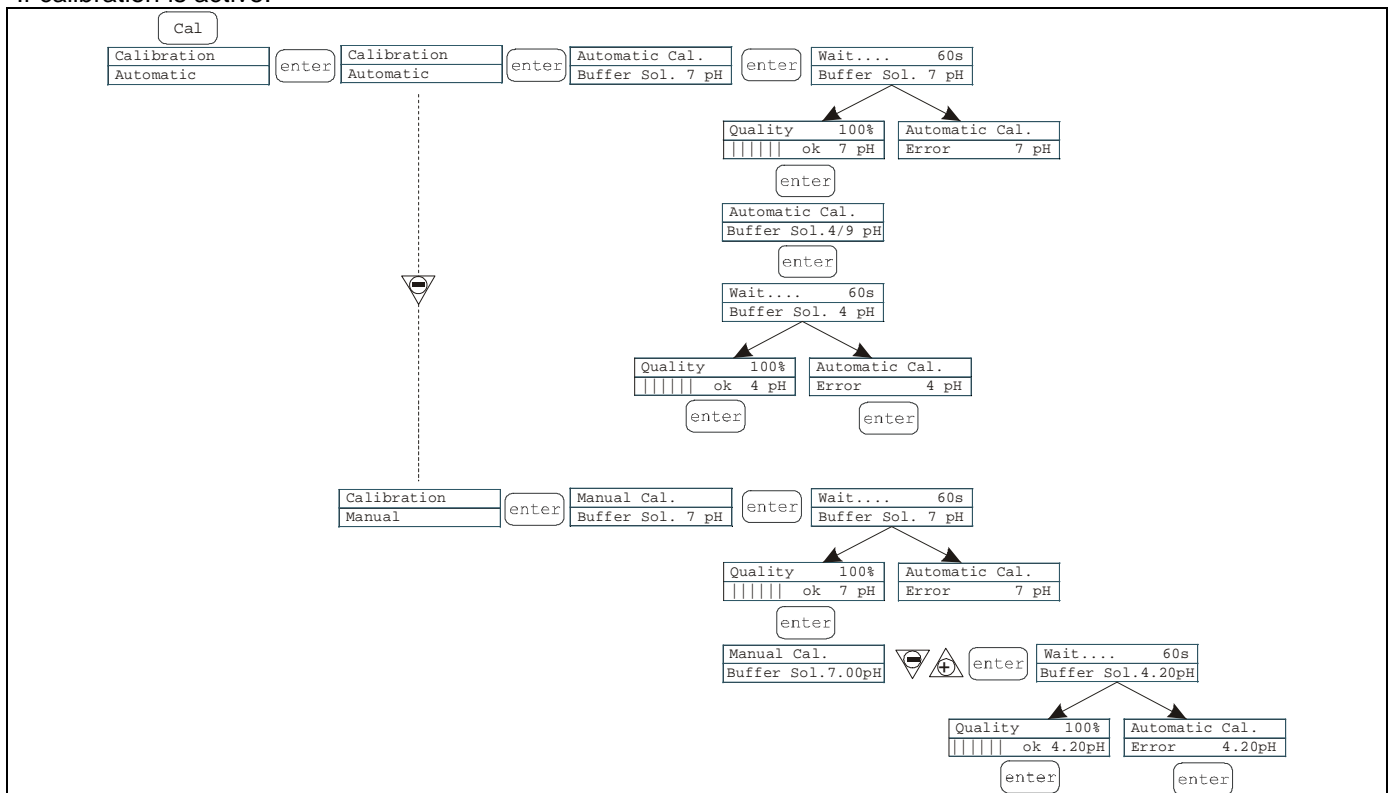
It is possible to select automatic or manual mode. In both cases, it is automatically calibrated to pH 7.
-    Automatic calibration:

The buffer solution value appears on the display. Enter the probe in the bottle and press the [mode enter] key. A 60 second countdown necessary to complete calibration will appear on the display. If the alignment quality is below 50%, an error message appears on the display and you should press [mode enter] to exit calibration (the pump exits automatically after 4 seconds). If the quality is above 50%, the value is shown on the display and, after pressing the [mode enter] key, the buffer solution at pH 4 or 9 will be requested. At this point the procedure is the same as above.
-    Manual calibration:

when the buffer solution value appears on the display, insert the probe in the bottle and press the [mode enter] key. A 60 second countdown necessary to complete calibration will appear on the display. If the alignment quality is below 50%, an error message appears on the display and you should press [mode enter] to exit calibration (the pump exits automatically after 4 seconds). If the quality is above 50%, the value is shown on the display and, after pressing the [mode enter] key, the value of pH 7.00 flashes on the display. Use the [⊕] [⊖] keys to enter the value of the solution in your possession, then press [mode enter] to confirm and start the calibration procedure as before.

Potential Redox Calibration Menu (O.R.P.)

Pressing the CAL key for 3 seconds takes you into the calibration menu. If calibration was excluded during programming, the following appears on the display:

```
Calibration
    Off
```

If calibration is active:
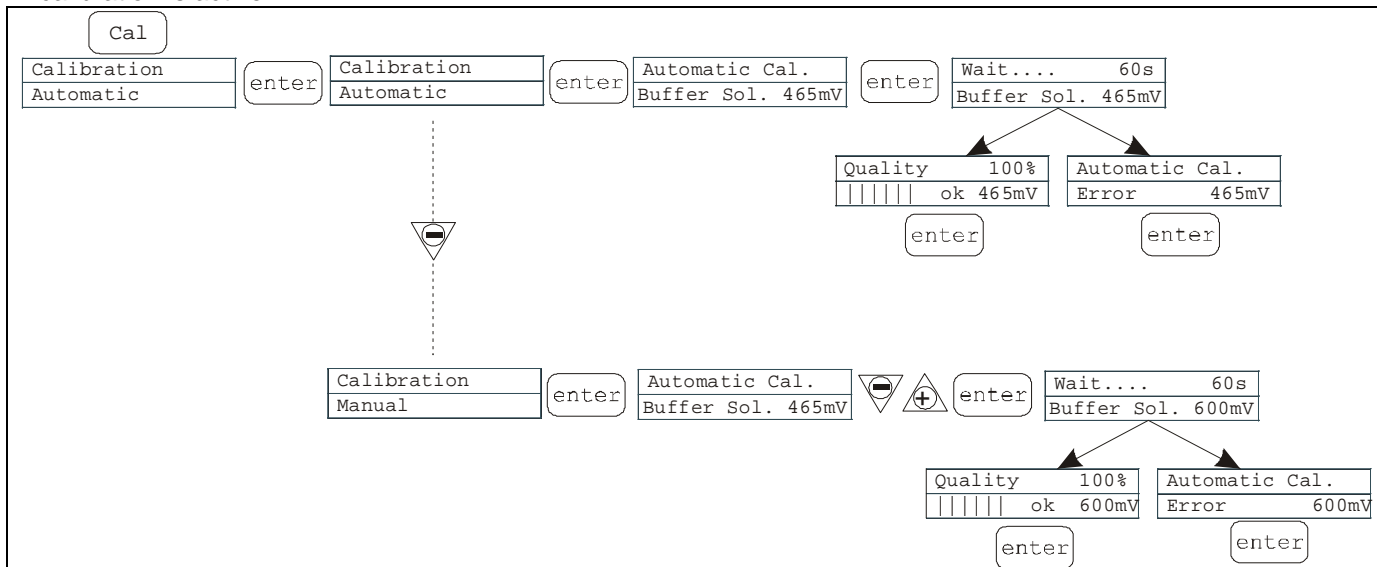
It is possible to select automatic or manual mode.

- Automatic calibration:

The buffer solution value appears on the display. Insert the probe in the bottle and press the [mode enter] key. A 60 second countdown necessary to complete calibration will appear on the display. If the alignment quality is below 50%, an error message appears on the display and you should press [mode enter] to exit calibration (the pump exits automatically after 4 seconds). If the quality is above 50%, the value is shown on the display and you should press the [mode enter] key to complete the procedure.

- Manual calibration:

The buffer solution value appears on the display. Insert the probe in the bottle and press the [mode enter] key. The value of 465 mV should now flash on the display. Insert the probe in your solution and use the [⊕] [⊖] keys to display the value of the solution in your possession, then confirm by pressing the [mode enter] key and begin the calibration procedure as before

Alarms

Display	Cause	Interruption
Fixed alarm LED Flashing word "Lev" I.e. Man Lev P100%	End of level alarm, without interrupting pump operation	Restore the liquid level.
Fixed alarm LED Flashing words "Lev" and "stop" I.e. Man Lev Stop P100%	End of level alarm, with interruption to pump operation	Restore the liquid level.
Fixed alarm LED Flashing word "Flw" I.e. Man **F** Flw P100%	Active flow alarm. The pump has not received the programmed number of signals from the flow sensor.	Press the [start/stop] key
I.e. Parameter Error PROG to default	Communication error with the eeprom.	Press the [PROG] key to restore the default parameters.
Flashing word "OFA" Flashing word "stop" I.e. High 475 mV OFA Stop P 75%	O.F.A. alarm	Press the [start/stop] key to stop the flashing word "stop". Press the key again to start up the pump again.
Flashing word "Alm" I.e. High 475 mV Alm P 75%	The probe reading is outside the set alarm band range	Make sure that the "Alarm Band" parameter is set correctly in the programme
Flashing word "Cal" I.e. High 475 mV Cal P 75%	Probe not calibrated alarm	Calibrate the probe

www.seko.cz