

# BLU-SENTINEL SE MEASURING, CONTROL AND DOSING SYSTEM



## SHORT OPERATING INSTRUCTIONS

### NOTICE

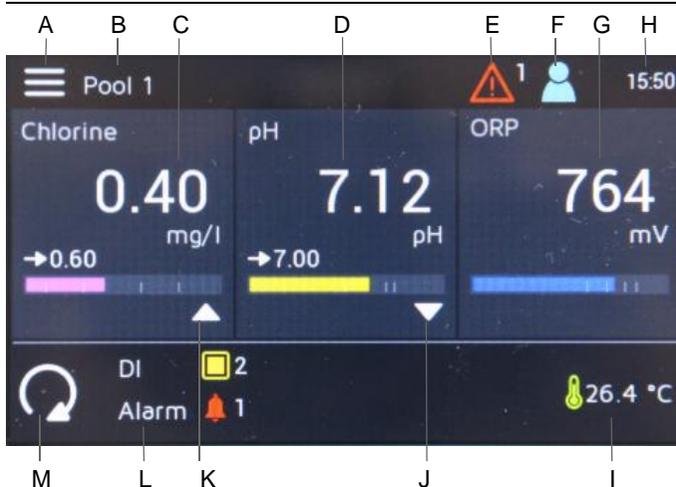
Access and work on system only by authorized and trained personnel! Please read the detailed instruction manual! This short operating instructions does not replace the full instruction manual! Damage caused by incorrect operation are not covered by the warranty!

### Display and control elements

#### CAUTION

#### Damage to the touchscreen!

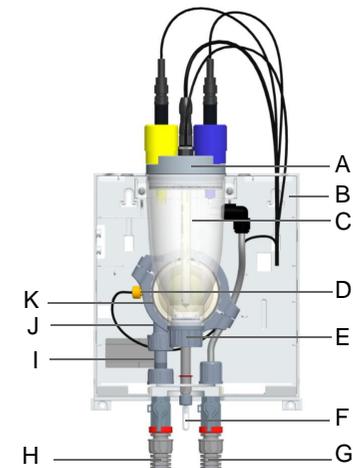
Touching the touchscreen with pointed or sharp objects or striking the touchscreen with hard objects will damage the surface. Only touch the touchscreen with your finger or a pen (PDA pen).



Picture 1 Main menu showing an error message

- A System menu
- B Device name
- C Menu field Measurement with current measured value for chlorine, setpoint display and bar graph
- D Menu field Measurement with current measured value for pH, setpoint display and bar graph
- E Error message
- F Logout/Login Level
- G Menu field Measurement with current measured value for ORP (Redox) and bar graph
- H Current time
- I Current temperature
- J Symbol Dosing on (reduce/positioner closed)
- K Symbol Dosing on (raise/positioner open)
- L Display area for alarms/digital inputs
- M Operation mode

### Blu-Sentinel SE flow cell



Picture 2 Blu-Sentinel SE flow cell (cover removed)

- A Cover to hold the sensors and LED glow stick
- B Plastic housing with removable housing cover
- C Cell body
- D Multi-sensor
- E Flow distributor cap
- F Flow cell drain (drain)
- G Sample water outlet with ball valve
- H Sample water inlet with ball valve
- I Filter unit without fine filter
- J Check valve housing

## Display and symbols

Symbols	Meaning
	Numeric keypad
	Enter key - save entry
	Upper-case character keypad
	Delete previous keypad entry
	Limit value Min. 1/2 not reached
	Limit value Max. 1/2 exceeded
	Menu Information
	Temperature display
	Setpoint controller
	Dosing on (raise/positioner open)
	Dosing on (reduce/positioner closed)
	Raise value
	Reduce value
	Change main menu
	Switch to previous screen
	Logout and Login levels Level 1 = white symbol Level 2 = green symbol Level 3 = blue symbol

Symbols	Meaning
	Message/error active Press the symbol to open the message window. Yellow symbol = alarm that cannot be acknowledged is active Red symbol = alarm that can be acknowledged is active or error message is active
	Menu Alarms
	Digital input active
	Sample water Stop
	Alarm active (1 to 8)
	Change calibration menu
	Change settings menu
	Acknowledgment button
	Selection disabled
	Selection enabled
	Controller Stop
	Controller manual mode
	Controller constant
	Controller automatic mode

Symbols	Meaning
	System menu
	Menu/Measurements display
	Confirmation prompt
	Information
	Note
	Abort/Close

## Password protection

To protect against unauthorized or accidental incorrect operation, the Blu-Sentinel SE electronics module works with three password levels.

### NOTICE

Depending on the user administration configuration (see Instruction Manual Chapter 6.3.8 "Menu "User administration""), three user levels with different rights are available. You can enter either a locking code or a password. The currently logged in user is also displayed in this screen. If the locking code entry is corrected, the pattern is displayed in green. If an incorrect locking code is entered, the pattern is displayed in red. If the user data can no longer be found, please contact your service partner.

## Calibration

### Free chlorine (Cl<sub>2</sub>) calibration

The free chlorine calibration is always a two-point calibration process: zero point followed by DPD calibration.

#### NOTICE

During the calibration procedure, feeder output signals can be maintained at constant output by enabling the "Hold function" first.

### Zero-point calibration

- 1 Press the  symbol.
- 2 Press the menu  Calibration.
- 3 Tap the measurement "Chlorine".
- 4 Press the parameter "Zero point".
- 5 Close the ball valve on the sample water inlet.

#### NOTICE

Make sure that the chlorine sensor is firmly screwed in. Otherwise the measurement accuracy will be affected by inhomogeneous flow and inadequate sand cleaning. When the sample water supply has been stopped, the display first drops rapidly, and after approximately one minute slowly approaches zero. During first commissioning, it is essential to wait for 5 minutes, even if the display shows "0.00" or flashes after a few seconds.

- 6 Wait until the displayed chlorine value no longer changes.
- 7 Press the "Calibration" button. An input field opens.
- 8 Press "Enter" to save the zero point.
- 9 Open the ball valve on the sample water inlet.

### Measuring value calibration (DPD)

- 10 After zero point calibration, wait at least 2 minutes.
- 11 Open the flow cell drain (drain) by approximately 1 turn and extract a specimen of the sample water.
- 12 Determine the content of free chlorine in the sample using a photometer.
- 13 Press the parameter "DPD".
- 14 Press the "Calibration" button. An input field opens.
- 15 Use the input keys to enter the determined value.
- 16 Press "Enter" to save the entry.

## pH calibration

#### NOTICE

During pH calibration, the buffer solution and the sample water should have the same temperature. If there is a temperature difference of > 8 °C, first bring the buffer solution to the same temperature as the pool water.

- 1 Press the  symbol.
- 2 Press the menu  Calibration.
- 3 Tap the measurement "pH".

### pH 7 calibration

- 4 Press the parameter "pH 7".
- 5 Close the sample water inlet and sample water outlet and briefly open the flow cell drain (drain) to release the pressure. Close the flow cell drain (drain) again.
- 6 Place the beaker into the bottom clip and fill the beaker with buffer solution "pH 7.00" or use the bag with buffer solution "pH 7.00".
- 7 Unscrew the pH sensor from the flow cell.
- 8 Dip the pH sensor through the top clip at least 2 cm deep into the buffer solution and move slightly until the indicated pH value remains constant.
- 9 Press the "Calibration" button. An input field opens.
- 10 Use the input field to enter the value to be calibrated for the buffer solution.
- 11 Press "Enter" to save the entry.

### pH X-span calibration

- 12 Remove the sensor from the buffer solution "pH 7.00".
- 13 Wash the sensor in distilled water to prevent carryover of buffer solution.
- 14 Press the parameter "pH X".
- 15 Place the beaker into the bottom clip and fill the beaker with buffer solution "pH 4.65" or use the bag with buffer solution "pH 4.65".

#### NOTICE

If buffer solutions other than those stated are used, the pH value of the buffer solution must be lower than pH 6 or higher than pH 8.

- 16 Dip the pH sensor at least 2 cm deep into the buffer solution and move gently until the indicated pH value remains constant.
- 17 Press the "Calibration" button. An input field opens.
- 18 Use the keypad to enter the value to be calibrated.
- 19 Press "Enter" to save the entry.
- 20 Remove the pH sensor from the top clip.
- 21 Screw the pH sensor into the cover of the cell body of the flow cell.
- 22 Open the sample water inlet and outlet again.

### Offset compensation

If external influences result in a constant difference between the displayed pH value and a pH value measured manually, this difference can be compensated and the comparative value entered in the Offset menu.

- 1 Press the  symbol.
- 2 Press the menu  Calibration.
- 3 Tap the measurement "pH".
- 4 Press the parameter "Offset".
- 5 Use the keypad to enter the value from the comparative measurement.
- 6 Press "Enter" to save the entry.

#### NOTICE

The offset entry is deleted each time a new pH-7 calibration or span calibration is performed.

## ORP calibration (Redox)

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### NOTICE

ORP sensors have long running-in times. This means that after calibration with calibration solution, it can take several hours for the measured value to stabilize.

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- 1 Press the  symbol.
- 2 Press the menu  Calibration.
- 3 Select the "ORP" measurement menu.
- 4 Press the parameter "Cal. value".
- 5 Place the beaker into the bottom clip and fill it with calibration solution "478 mV" or use the bag with calibration solution "478 mV" into the bottom clip.
- 6 Close the sample water inlet and sample water outlet and briefly open the flow cell drain (drain) to release the pressure. Close the flow cell drain (drain) again.
- 7 Screw the ORP sensor into the cover of the cell body of the flow cell.
- 8 Dip the ORP sensor through the top clip at least 2 cm deep into the calibration solution and move it slightly until the indicated pH value remains constant.
- 9 Press the "Calibration" button. An input field opens.
- 10 Use the keypad to enter the value to be calibrated.
- 11 Press "Enter" to save the entry.
- 12 Remove the ORP sensor from the top clip.
- 13 Screw the ORP sensor into the cover of the cell body of the flow cell.
- 14 Open the sample water inlet and outlet again.

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