# senseca B-H86.0.2X.DK2-4.0 Dissolved Oxygen Measuring Device Instruction Manual



**OPERATING MANUAL**
**ECO 531**
**Dissolved oxygen**
**measuring device**
**B-H86.0.2X.DK2-3.1**

Contents



## About this documentation

### 1.1 Foreword

Read this document carefully and familiarize yourself with the operation of the device before you use it.
Keep this document ready to hand and in the immediate vicinity of the device so that it is available to the personnel/user for reference at all times in case of doubt.
The user must have carefully read and understood the operating manual before beginning any work.

### 1.2 Legal notices

The liability and warranty of the manufacturer for damages and consequential damages are voided with misuse, disregarding this document, disregarding safety notices, assignment of inadequately qualified technical personnel and arbitrary modifications of the device.
This document is entrusted to the recipient for personal use only. Any impermissible transfer, duplication, translation into other languages or excerpts from this operating manual are prohibited.
The manufacturer assumes no liability for print errors.

### 1.3 Further information

Software version of the device:

- V1.1 or later

For the exact product name, refer to the type plate on the rear side of the device.

**Note**

For information about the software version, press and hold the ON button to switch on the device for longer than 5 seconds. The series is shown in the main display and the software version of the device is shown in the secondary display.

## Safety

### 2.1 Explanation of safety symbols

 **Danger**

This symbol warns of imminent danger, which can result in death, severe bodily injury, or severe property damage in case of non-observance.

 **Danger**

This symbol indicates danger for living tissue as well as a variety of materials, which can be damaged or destroyed when coming into contact with this chemical. Caustic effect, protective equipment required!

 **Danger**

This symbol indicates danger for all life forms, which can result in death or acute or chromic damage to the health after inhaling, swallowing or absorbing this chemical through the skin.

**Caution**
This symbol warns of potential dangers or harmful situations, which can cause damage to the device or to the environment in case of non-observance.
**Note**
Blue underlining indicates processes, which can have a direct influence on operation or can trigger an unforeseen reaction in case of non-observance.


**Note**
This symbol instructs the use of eye protection, which protects the eyes from harmful influences when working with powerful light, UV radiation, laser, chemicals, dust, splinters or weather influences.


**Note**
This symbol instructs the use of protective gloves, which offer protection from mechanical, thermal, chemical, biological or electrical hazards.

### 2.2 Foreseeable misuse

The fault-free function and operational safety of the device can only be guaran-teed if applicable safety precautions and the device-specific safety instructions for this document are observed.
If these notices are disregarded, personal injury or death, as well as property damage can occur.

**Danger:** Incorrect area of application!
In order to prevent erratic behavior of the device, personal injury or property damage, the device must be used exclusively as described under intended use.

- Do not use in safety / Emergency Stop devices!
- The device is not suitable for use in explosion-prone areas!
- The device must not be used for diagnostic or other medical purposes on patients!
- The device is not intended to come into direct contact with food. For measurement in foods, samples must be taken and discarded after the measurement!
- Not suitable for use with requirements on functional safety, e.g. SIL!

### 2.3 Safety instructions

**Danger:** Potassium hydroxide!
The oxygen sensors contain potassium hydroxide. H290 can corrode metal. H314 causes severe caustic burns. All contact with the skin, clothing and eyes should be avoided.
Nevertheless, should contact occur, take the following measures.

- As a fundamental rule, protective equipment (e.g. gloves) must be worn as intended for the purpose of use!
- Do not eat, drink or smoke in areas where chemicals are used!
- In case of problems, consult with trained, qualified personnel immediately!
- Eyes: Flush with flowing water for at least 15 minutes, seek medical attention!
- Skin: Wash with large amounts of water for several minutes!
- Clothing: Remove immediately!
- If swallowed: Drink large amounts of water, do not induce vomiting and seek medical attention!

**Caution**

- For a reliable determination of the measured value, it is important that the device with the oxygen measuring cell are in good condition (no deposits on the electrode, …).

In addition, it is important to carry out a correct calibration on a regular basis.

- Please also refer to the corresponding chapters under “Measurement Basics” and “Automatic calibration in the air”.
- Empty batteries and batteries of inferior quality can leak more easily, which can destroy the device. Please also observe the instructions in the chapter “Operation and maintenance”.

**Note**
This device does not belong in children’s hands!

**2.4 Intended use**
The device is designed for analysis of the oxygen concentration and/or oxygen saturation in freshwater and salt water. It is used, for example, for the monitoring of wells, sewer lines and aquaria. A minimum flow to the sensor of approx. 30 cm/sec is necessary for a correct measurement.

**2.5 Qualified personnel**
For commissioning, operation and maintenance, the relevant personnel must have adequate knowledge of the measuring process and the significance of the measurements. The instructions in this document must be understood, observed and followed.
In order to avoid any risks arising from interpretation of the measurements in the concrete application, the user must have additional expertise. The user is solely liable for damages/danger resulting from misinterpretation due to inadequate expertise.

## The device at a glance

LCD Display


Front view

**3.1 Display elements**
**Display**

| | | |
|---|---|---|
|  | Battery indicator | Evaluation of the battery status |
|  | Unit display | Display of units or type of mode, min/max/hold |
|  | Main display | Measurement of the current O2 value or value for min/max/hold |
|  | Auxiliary display | Corresponding temperature for the displayed O2 value with unit. |
|  | Bar graph | Progress for calibration and visualization of the electrode e valuation |

**3.2 Operating elements**

| | | |
|---|---|---|
|  | On / Off button<br>Press briefly<br>Long press | Switch on the device<br>Activate / deactivate lighting<br>Switch off the device<br>Reject changes in a menu |
|  | Up / Down button<br>Press briefly<br>Long press<br>Both simultaneously | Display of the min/max value<br>Change value of the selected parameter<br>Reset the min/max value of the current measurement<br>Rotate display, overhead display |
|  | Function button<br>Press briefly<br>Long press, 2s<br>Long press, 4s | Freeze measurement (Hold)<br>Call up next parameter<br>Start menu “configuration”, (ONF appears in the display<br>Start automatic calibration, (AL appears in the display |
| Operating status | device is in measured value<br>display device is in a menu | |

## Operation

### 4.1 Opening the configuration menu

1. Press the Function key for 2 seconds to open the Configuration menu.
2. (ONF appears in the display. Release the Function key.

| Parameter | Values | Meaning |
|---|---|---|
|  |  | |
| INP | Measuring unit | |
| | SAT % | Oxygen saturation in percent |
| | (ONC mg/l | Oxygen concentration in mg/l |
| | (ONC ppm | Oxygen concentration in ppm |
| SET.P | Pressure | |
| | 500 .. 4000 | Environmental pressure in hPa, corresponding to mbar |
| SAL | Salinity correction | |
| | 0 .. 70 | Salinity in the measuring medium in PSU, corresponding to g/kg |
| POFF | Shut-off time | |
| | OFF | No automatic shut-off |
| | 15, 30, 60, 120, 240 | Automatic shut-off after a selected time in minutes, during wh ich no buttons have been pressed |
| L,TE | Backlight | |
| | OFF | Backlight deactivated |
| | 15, 30, 60, 120, 240 | Automatic shut-off of the backlight after a selected time in sec onds, during which no buttons have been pressed |
| | ON | No automatic shut off of the backlight |
| UN,T | Temperature display unit | |
| | °( | Temperature display in °C |
| | °F | Temperature display in °F |
| IN,T | Factory settings | |
| | NO | Use current configuration |
| | YES | Reset device to factory settings.<br>After confirming with the function-button, the display shows: I N,T DONE |

**4.2 Adjustment of the temperature measuring input**

The temperature input can be adjusted with the zero point correction and the gradient correction. If an adjustment is made, you change the pre-adjusted factory settings. This is signaled with the display text T.OF or T.SL when switching on.

1. Switch the device off.
2. Hold the down button and press the On/Off button briefly to switch on the device and open the Adjustment menu.
3. The display shows the first parameter. Release the down button.

| Parameter | Values | Meaning |
|---|---|---|
|  | | |
| T.OF | **Zero point correction of the temperature** | |
| | 0.00 | No zero point correction |
| | -5.00 … 5.00 | Zero point correction in °C. (at °F -9.00 .. 9.00) |
| T.SL | **Gradient correction of the temperature** | |
| | 0.00 | No gradient correction |
| | -5.00 … 5.00 | Gradient correction in % |

Formula used by device:
Temperature = °C: Display = (measured value – T.OF) * (1 + T.SL / 100)
Temperature = °F: Display = (meas. value – 32 °F – T.OF) * (1 + T.SL / 100) + 32 °F

## Measurement Basics

### 5.1 The oxygen sensor

#### 5.1.1 Explanation

The oxygen sensor is an active sensor. It consists of a platinum cathode, a lead anode and potassium hydroxide (KOH) as an electrolyte. If oxygen is present, it is reduced on the platinum cathode and the sensor delivers a signal. If no oxygen is present, no signal is delivered. The anode is consumed by the oxygen measurement. The sensor ages.
Furthermore, the sensor loses water through the permeable membrane, in particular, when it is stored in dry air. Therefore, it should be checked and maintained regularly and replaced as necessary.

 **Danger Potassium hydroxide!**
The oxygen sensors contain potassium hydroxide. H290 can corrode metal. H314 causes severe caustic burns. All contact with the skin, clothing and eyes should be avoided.
Nevertheless, should contact occur, take the following measures.

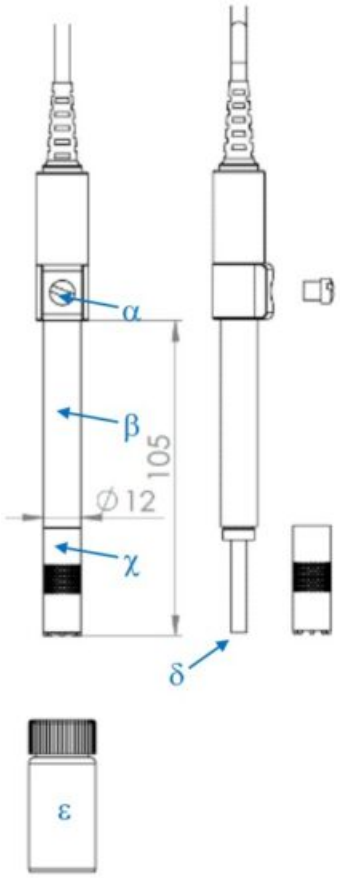
- As a fundamental rule, protective equipment (e.g. gloves) must be worn as intended for the purpose of use!
- Do not eat, drink or smoke in areas where chemicals are used!
- In case of problems, consult with trained, qualified personnel immediately!
- Eyes: Flush with flowing water for at least 15 minutes, seek medical attention!
- Skin: Wash with large amounts of water for several minutes!
- Clothing: Remove immediately!
- If swallowed: Drink large amounts of water, do not induce vomiting and seek medical attention!

**Note**
Always store the oxygen sensor damp. It should always be stored in a storage bottle filled with water or in a container filled with water. After storage for an ex-tended period, any potential deposit layers, such as algae, must be cleaned off of the membrane with a soft paper towel prior to measurement.

 **Note**
Protective glasses must be worn when commissioning, filling and servicing the sensor.

 **Note**
Protective gloves must be worn when commissioning, filling and servicing the sensor.

**Design**




**α Filling hole:**
If the electrode is used at high temperatures or if it has been stored without its protective flask for a longer period of time, some electrolyte will be lost due to evaporation.
Please refer to Refilling description below.
**β Shaft**
**χ Membrane head:**
It will be filled with KOH electrolyte and screwed onto the electrode shaft (no air bubbles). Damages in the membrane, large air bubbles or air bubble rings in the membrane head will result in erroneous measurements. This may also be the rea-son for errors in the calibration.
The membrane head (GWOK 02) is a spare part and can be ordered individually.
**δ Platinum electrode:**
If oxygen is present, it is reduced on the platinum electrode and the sensor delivers a signal. Soiling on the platinum electrode or between the membrane and electrode can influence the measurement.
**ε Protective flask:**
The protective flask is used to moisten the membrane.
This prolongs service life of the electrode. The protective flask contains water.

⚠ **Attention**
Use water only; never use potassium chloride (KCl); this is only required for storage of pH-electrode.
**5.1.2 Service life**
Expected life is 3 years or more and is application and maintenance dependent.
The sensor signal deteriorates relatively quickly at the end of the service life of the sensors.
The electrode evaluation in %, therefore, can only be used as a guide value. A value of 70% does not mean that exactly 70% of the service life is still available, rather that the electrode signal has 70% of a comparison signal.
**Note**
The sensor evaluation is updated by the measuring device after a successfully performed calibration of the oxygen sensor.
The nominal service life can be reduced significantly due to use.
Influential factors include:

- Storage / operating temperature

- Contamination of the measured water
- Mechanical stress of the sensor membrane
- Storage in dry air
- Continuous use in elevated carbon dioxide concentrations.

**5.1.3 Operating position**
The oxygen sensor should be arranged vertically upwards with the connecting cable.
A slight angle of inclination does not impair the measurement.
**5.1.4 Residue**

| | |
|---|---|
|  | Significant deposits on the membrane and matt platinum electrode.<br>Deposits already have an effect on the measurement.<br>=> Carry out maintenance to remove these. |
|  | Slight deposits on the edge of the electrode, predominantly blank platinum electrode.<br>No significant influences on the measurement to be expected.<br>=> Maintenance not absolutely necessary.. |
|  | Deposits on the membrane, bare platinum electrode.<br>=> no maintenance required. |
|  | Polished platinum electrode during maintenance. |

Before screwing the membrane head on sensor body again they should be washed off, to avoid them getting in between platinum cathode and membrane.
A fast occurrence shortly after first filling or an unusual high amount of them (e.g. within some days) may be a sign of air in the sensor – either because of incorrect filling (bubbles), not sufficiently closing membrane head or filling screw or a leaking membrane.
**5.2 Instructions for oxygen measurement**
The following must be observed when measuring dissolved oxygen:

- The storage bottle must be removed before the measurement.
- The sensor must have been calibrated.
- The temperature of the sensor and the liquid to be measured should be equalized to avoid measuring errors. The adjustment can take up to 15 minutes for large temperature differences.
- (The most accurate measurement is provided when calibrating at the measuring temperature).
- The sensor must be immersed at least 3 cm into the liquid to be measured.
  A flow speed of at least approx. 30 cm/sec is necessary for exact measurements. Either stir continuously or use an appropriate stirring device
- The measurement is sensitive to jarring! Therefore, make sure that the container is not struck with the sensor while stirring, because this can significantly impair the measured value.
- The oxygen partial pressure, oxygen concentration in mg/l and oxygen saturation in % are calculated from the

sensor signal and temperature.

- The measurement is relative to water-vapour-saturated air.

**5.2.1 Salinity correction**

With increasing salinity SAL, which is the value for the salt content in the water, the solubility of oxygen in water decreases, i.e. with the same oxygen partial pressure, fewer mg of oxygen are dissolved per liter of water.
To determine this oxygen concentration, therefore, the salinity of the medium must be entered first; see chapter 4.1.
A salinity correction is not necessary in freshwater; the value is 0. A salinity of approx. 35 PSU is normal for sea water. The salinity correction is adjusted to aqueous media having a chemical composition corresponding to sea water. The International Oceanographic Tables (IOT) are used as a basis for the correction

**5.2.2 Environmental pressure, water depth and air pressure**

The environmental pressure, water depth and air pressure play an important role at the place of measurement for the following points:

- Calculation of oxygen saturation in %. Clean water can achieve 100 % saturation in air.

  There must be no oxygen-depleting processes, such as biological decaying processes, chemical effects or oxygen enhancing processes, such as excessive ventilation or photosynthesis. This could result in an oversaturation above 100%.
- Calculation of the oxygen concentration in mg/l
- The valuation of calibration.

Adjusting the pressure parameter on the device is recommended prior to calibration. In the scope of measuring accuracy, specifying the current air pressure in the region based on meteorological data or the standard pressure based on sea level is sufficient.
For example: 0 m above NN: 1013 hPa
300 m above NN: 978 hPa
600 m above NN: 943 hPa
1000 m above NN: 899 hPa

**5.3 Commissioning, filling and maintenance of the sensor**

The sensor is delivered filled. Therefore, the sensor is ready for immediate operation. The initial filling is thereby unnecessary and you can begin with calibration of the sensor immediately – for this please refer to chapter 6.2.
If the sensor can no more be calibrated or only unstable values are displayed, it has to be maintained or even or the membrane head has to be exchanged.

**Note**

After filling a time of ~ 2 hours has to be considered, until the sensor has stabilized.

**Note**

- Wear suitable gloves*) and protect your eyes with safety goggles when filling the electrolyte!
- Do not touch the electrolyte with bare skin, if there was contact rinse sufficiently with water.

**Required material:**

- Filling pipette
- Electrolyte KOH
- Flat blade screw driver
- Paper towel
- Polishing foil (pink)
- Suitable gloves *), Safety goggles
- Wash basin

- eventually spare membrane head GWOK 02

**Procedure:**
First the membrane head is unscrewed and the old electrolyte is removed.
If the membrane is undamaged and free of deposits, the membrane head can be used again.
The platinum electrode must be bright and free of deposits!

- Unscrew the membrane head and the refill opening
- Attention! Old electrolyte will now leak out!
- Wipe off existing deposits from the platinum electrode with a cloth, if necessary polish the electrode using the pink polishing foil.
- Check membrane head GWOK 02: is it in good state? Is Membrane undam-aged?
- Open filling screw
- Fill pipette with KOH
- First fill the membrane head up to ¾ of its height, screw on membrane head tightly, rinse excess KOH with water.
- Then carefully fill the sensor, try to flick at the shaft from time to time, helping air bubbles coming out. In sum the sensor filling takes around 5 ml.
- If there are no more air bubbles and the filling hole is full, close with filling screw.
- Rinse excess KOH with water
- Turn sensor upwards: Are air bubbles visible below the membrane? If so: Refill once again.
- Wait approximately 2 hours for the sensor to stabilize, afterwards calibrate the sensor – the electrode state evaluation should deliver 100%.

*) suitable gloves: Acc. to DIN EN 420, e.g. natural latex, natural rubber, butyl rubber, nitrile rubber, polychloroprene, fluorinated rubber

## Operation and maintenance

**6.1 Operating and maintenance notices**
**Note**
If the device is stored at a temperature above 50 °C, or is not used for an extended period of time, the batteries must be removed. Leaks from the batteries are avoid-ed as a result.
The electrode should be stored in dry rooms at a temperature between 10 and 30 °C. If the storage temperature range is exceeded or undercut, the electrode can be destroyed. It should always be stored wet in distilled or deionized water.
**6.2 Automatic calibration in the air**
**Note**
Calibration takes place in air saturated with water vapor. The GCAL 3610 calibration container or the storage bottle can be used for this purpose. The membrane of the electrode must be dry for the calibration. Prior to performing the calibration of the
membrane, dab away water droplets from the membrane with a soft, dry cloth. The following must be observed when using the storage bottle:

- Only insert the electrode far enough into the storage bottle that the membrane does not come into contact with the water in the bottle.
- Unscrew the lid of the storage bottle and only position it so that a small exchange of air and pressure equalization can take place

1. Place the electrode in the calibration container. If necessary, wait until the temperature has equalized and a stable value has been achieved.
2. Press the Function key for 4 seconds to open the Calibration menu. The display shows (AL.
3. Release the Function key.
4. The device determines the correct value automatically.

After successful completion of the calibration the assessment of the electrode condition is displayed briefly in percent. Then, the current measurement is shown in the display again. An aged or contaminated electrode, incorrect adjustment of the pressure, contamination of the platinum electrode or a damaged membrane can be the cause for a lower evaluation.
If the calibration is not completed successfully an error message is displayed. (AL ERR. appears in the display (refer to “Error and system messages”).
Confirm the error message pressing the Function key. The device restarts and the standard value for the gradient is restored.

### 6.3 Battery

#### 6.3.1 Battery indicator

If the empty frame in the battery display blinks, the batteries are depleted and must be replaced. However, the device will still operate for a certain length of time.
If the BAT display text appears in the main display, the battery voltage is no longer adequate for operation of the device. The battery is fully depleted.

#### 6.3.2 Changing battery

**⚠ Danger Danger of explosion!**
Using damaged or unsuitable batteries can generate heat, which can cause the batteries to crack and possibly explode!

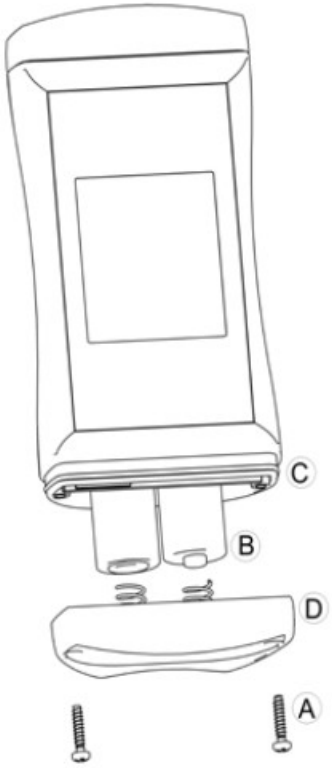
- Only use high-quality and suitable alkaline batteries!

**⚠ Caution Damage!**
If the batteries have different charge levels, leaks and thus damage to the device can occur.

- Only use high-quality and suitable alkaline batteries!
- Do not use different types of batteries!
- Remove depleted batteries immediately and dispose of them at a suitable collection point.

**Note**
Unnecessary unscrewing endangers the protection against moisture and should therefore be avoided.

- Read the following handling instructions before replacing batteries and follow them step by step.
- If disregarded, the device could be damaged or the protection from moisture could be diminished.




1. Unscrews the Phillips screws (A)and remove the cover.
2. Carefully replace the two Mignon AA batteries (B). Ensure that the polarity is correct! It must be possible to insert the batteries in the correct position without using force.
3. The O-ring (C) must be undamaged, clean and positioned at the intended depth.
4. Fit the cover (D) on evenly. The O-ring must remain at the intended depth!
5. Tighten the Phillips screws (A).

### Error and system messages

| Display | Meaning | Possible causes | Remedy |
|---|---|---|---|
| —- | Sensor cable defect Sens or or device defect Measuring range exceede d/undercut | • Cable breakage<br>• Sensor or device defect<br>• Measurement outside perm issible range | ▶ Send in for repair<br>▶ Send in for repair<br>▶ Stay within allowable measur ement range |
| No display, un- cl ear characters or no response whe n buttons are pre ssed | Battery depleted System e rror Device is defective | • Battery depleted<br>• Error in the device | ▶ Replace battery<br>▶ Send in for repair |
| BAT | Battery depleted | • Battery depleted | ▶ Replace battery |
| ERR.1 | Measuring range exceede d | • Measurement too high<br>• Faulty calibration<br>• Electrode or device defect | ▶ Stay within allowable measur ement range<br>▶ Perform calibration<br>▶ Check electrode<br>▶ Send in for repair |
| ERR.2 | Measuring range is undercut | • Measurement too low<br>• Electrode or device defect | ▶ Check electrode<br>▶ Send in for repair |
| SYS ERR | System error | • Error in the device | ▶ Switch device on/off<br>▶ Replace batteries<br>▶ Send in for repair |
| (AL ERR.2 | Slope is too low Incorrect oxygen reference | • Electrode contaminated or defective | ▶ Perform calibration in damp environmental air<br>▶ Maintain the electrode |
| (AL ERR.3 | Slope is too high Incorrect oxygen reference | • Electrode contaminated or defective | ▶ Perform calibration in damp environmental air<br>▶ Maintain the electrode |
| (AL ERR.4 | Incorrect calibration tempe rature | • Temperature too low or too high | ▶ Range of 5..40 °C |
| (AL ERR.5 | Time exceeded during aut omatic calibration | • Unstable electrode signal<br>• Contaminated electrode<br>• Temperature not equalized | ▶ Use calibration container<br>▶ Maintain the electrode<br>▶ Restart calibration |

## Technical data

| | | |
|---|---|---|
| **Sensor** | | Permanently connected oxygen sensor |
| **Measuring range** | | |
| | $O_2$ concentration | 0.0 .. 20.0 mg/l<br>0.0 .. 20.0 ppm |
| | O2 saturation | 0 .. 200 % |
| | Temperature | 0.0 .. 50.0 °C (32.0 .. 122.0 °F) |
| **Accuracy (at nominal temperature)** | | |
| | $O_2$ concentration | ± 1.5 % of measured value ± 0.2 mg/l |

| | | |
|---|---|---|
| | $O_2$ saturation | ± 1.5 % of measured value ± 2 % |
| | Temperature | ± 0.3 °C |
| **Temperature compensation** | | 0 .. 50 °C (or 32 .. 122 °F) |
| **Measuring cycle** | | approx. 2 measurements per second |
| **Display** | | 3- line segment LCD, additional symbols, illuminated (adjustable white, permanent illumination) |
| **Standard functions** | | Min/Max/Hold |
| **Adjustment** | | Offset and gradient correction for temperature, callable automatic O2-calibration at the air |
| **Housing** | | Break-proof ABS housing |
| | Protection rating | IP65 / IP67 |
| | Dimensions L*W*H | 108 * 54 * 28 mm, without electrode or kink protection |
| | Weight | 240 g incl. battery and electrode |
| **Nominal temperature** | | |
| | Device | -20 to 50 °C; 0 to 95 %RH (temporarily condensing) |
| | Electrode | 0 .. 40 °C |
| Storage temperature | | 0 .. 40 °C |
| **Current supply** | | 2 * AA batteries (mignon) |
| | Current requirement | approx. 0.8 mA, approx. 2.7 mA with lighting |
| | battery life | Service life > 3000 hours with alkaline batteries (without backlighting) |
| | Battery indicator | 4-stage battery status indicator,<br>Replacement indicator for depleted batteries: “BAT” |
| | Auto-power-OFF function | The device switches off automatically if this is activated |
| **Directives and standards** | | The devices conform to the following Directives of the Council for the harmonization of legal regulations of the Member States:<br>• 2014/30/EU EMC Directive<br>• 2011/65/EU RoHS<br>Applied harmonized standards:<br>• EN 61326-1:2013 Emission limits: Class B<br>Immunity according to Table 1 Additional errors: < 1 % FS<br>• EN IEC 63000:2018<br>The device is intended for mobile use and/or stationary operation in the scope of the specified operating conditions without further limitations. |

## Disposal

Separation by material and recycling of device components and packaging must take place at the time of disposal. The valid regional statutory regulations and directives applicable at the time must be observed.

**Note**

The device must not be disposed of with household waste. Return it to us, freight prepaid. We will then arrange for

the proper and environmentally-friendly disposal.
Private end users in Germany have the possibility of dropping off the device at the municipal collection center.
Batteries must be removed beforehand!
Please dispose of empty batteries at the collection points intended for this purpose

## Service

If you have any questions, please do not hesitate to contact us.


https://www.senseca.com
Senseca Germany GmbH
Hans-Sachs-Straße 26
93128 Regenstauf
GERMANY
INFO@SENSECA.COM
WEEE reg. no.: DE 93889386


## Documents / Resources

| | |
|---|---|
|  | senseca B-H86.0.2X.DK2-4.0 Dissolved Oxygen Measuring Device [pdf] Instruction Manual B-H86.0.2X.DK2-4.0, B-H86.0.2X.DK2-3.1, B-H86.0.2X.DK2-4.0 Dissolved Oxygen Measuring Device, B-H86.0.2X.DK2-4.0, Dissolved Oxygen Measuring Device, Oxygen Measuring Device, Measuring Device, Device |

## References

- Mess- und Regeltechnik | Senseca Germany GmbH
- User Manual