



Temperature Sensor TMP

MANUAL



Product type

Name of product:	Sensor Temperature TMP
Type:	TMP-50-SC
Art.-No.:	2500
Producer:	SENECT GmbH & Co. KG An 44 – No. 11 76829 Landau / Germany

Important note:

Please read this manual carefully and store it so that you can use it later. Read the warning and safety notes attentive.

Further information and latest software releases or documents can be downloaded from:





www.senect.de

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Used symbols and wording

	<p><i>DANGER!</i> Warning of life threatening dangers.</p> <p><i>WARNING!</i> Warning of possible life threatening and / or severe irreversible injuries.</p> <p><i>ATTENTION!</i> Warning of possible medium or slight injury.</p>
	<p><i>ATTENTION!</i> Follow the notes to avoid damage of equipment.</p>
	<p><i>NOTE!</i> Further information for the use of the device.</p>
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General Security Notes

The Temperature Sensor TMP is an electronic sensor unit for the measurement of the water temperature in aquaculture applications and must be used in combination with SENECT control units.

Since it is an electronic product the common prerequisites for a safe instrument usage must be fulfilled. The



corresponding control unit must be operated with 230 V AC (~50 Hz). Ensure that all cables are installed safely so that no obstacles for persons are built and all. Mount all cables and electric devices (especially the silicone coated electronic part) protected against direct environmental impacts like overheating by direct sunlight and water. Even if the product are protected against spray water, the product's lifetime will be elongated, if it is mounted on a protected place. The Temperature Sensor TMP uses 24 V DC supply voltage which is therefore not of danger for persons.

For many applications a ground fault circuit interrupter (interrupting current ≤ 30 mA) is required by law. Inform yourself about the valid legislation.

Intended use

The operating temperature of the device must be between 0°C and +50°C. It is not allowed to modify the sensor, to open the housing or to insert anything into the housing.

The Temperature Sensor TMP is designed to be operated by professional users. However, it can be operated by children of the age of at least 8 years and persons with limited physical, sensorial or cognitive ability, if they are supervised and trained in the usage of the instrument, so that no dangers or threats can result of the operation.

Please store this manual. We suggest the storage a copy of the manual in the vicinity of the device.

Technical and optical changes of this manual are subject to alterations.



Warning: Before starting any maintenance work, unplug all electrical devices in the water.

Intended use

The Temperature Sensor TMP can be used to measure the temperature of water in a range between 0°C and +50°C and

a resolution of 0.1°C in professional aquaculture applications.

Getting started

Scope of delivery

- 1 x Temperature Sensor TMP
- 1 x Manual

Note



Please check directly after delivery, that the package is not destroyed or damaged or was opened before. Please check also, that all parts as listed above are included. If anything is missing or broken, please contact us as soon as possible within 14 days. Unfortunately, we cannot accept later information of damage, which happened during the transport.

Installation and start-up



Choose a place for the electronic interface of the TMP which is clean, dry and protected from direct sunlight. Ensure that all cables are placed safely and all regulations are fulfilled.

Mount the sensor submerged at the position where the TMP will measure the temperature.

The sensor can be installed freely swimming with a float, e.g. when the water level changes or fixed mounted, e.g. with clamps. For tanks or pipes, the sensor can also be mounted with water tight cable glands.

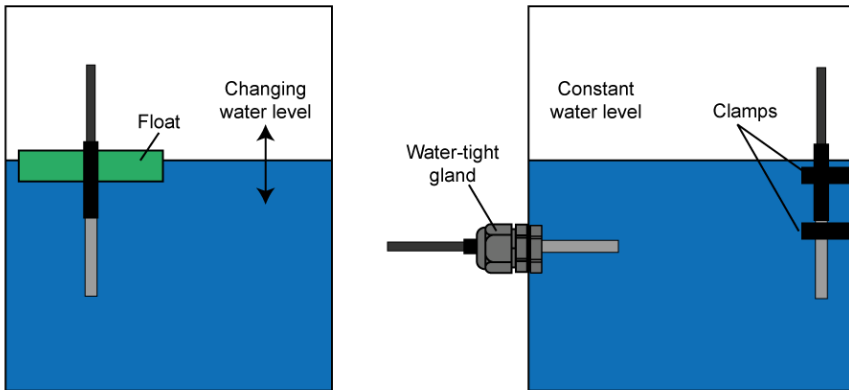


Fig. 1: Mounting possibilities of the temperature sensor TMP.

Connect the blue marked plug of the sensor with a sensor input port (also blue marked) of your control unit.

The SENECT control units recognize the sensor and start automatically the measurements.

The Temperature Sensor TMP is factory calibrated and need not to be recalibrated – under for aquaculture typical environmental conditions – within the first two years of operation.

Getting started – Short version

1. Mount the sensor submerged.
2. Mount the electronic interface at a protected location.
3. Connect the sensor cable with a control unit (plug „SENSOR“).
4. The control unit recognizes the sensor and starts the measurements.

Maintenance and cleaning

Cleaning

The sensor should be cleaned regularly by wiping with a soft water-dipped paper towel or a cotton swab **without cleaning agents**.

Do not steam-sterilize the sensor.



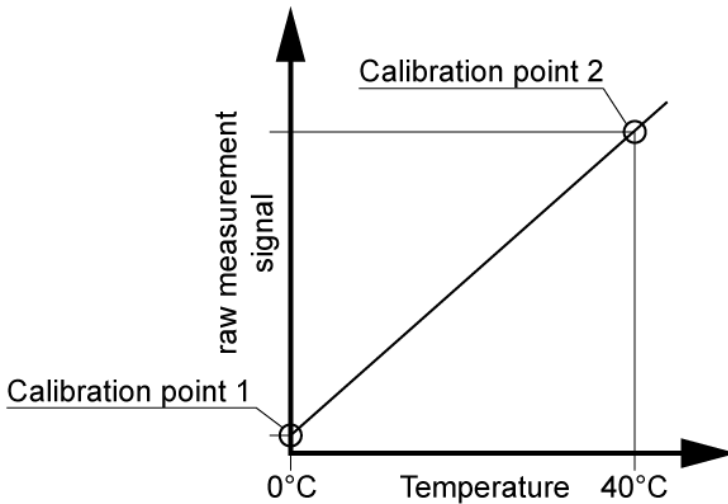
Recalibration

The **recalibration** is recommended for typical applications every 2 years. In some applications, e.g. under harsh environmental conditions, the sensor must be recalibrated more frequently to guarantee precise measurements.

Temperature: 2-Point-Calibration

To calibrate the temperature signal, two calibration points are necessary. The calibration point 1 must have a lower temperature (e.g. 0°C) than calibration point 2. This temperature (point 1) must be lower than 20°C.

The calibration point 2 (higher temperature) must be between 30°C and 50°C.



Submerge the sensor in a water bath with the lower temperature (calibration point 1) and wait, until the sensor has the same temperature as the water. Select in the menu

“Sensors / TMP / Sensor Calibration / Temperature / Calibration point 1”. Measure the water temperature with a reference thermometer and enter this temperature with the cursor keypad. Confirm the calibration point with **OK**.

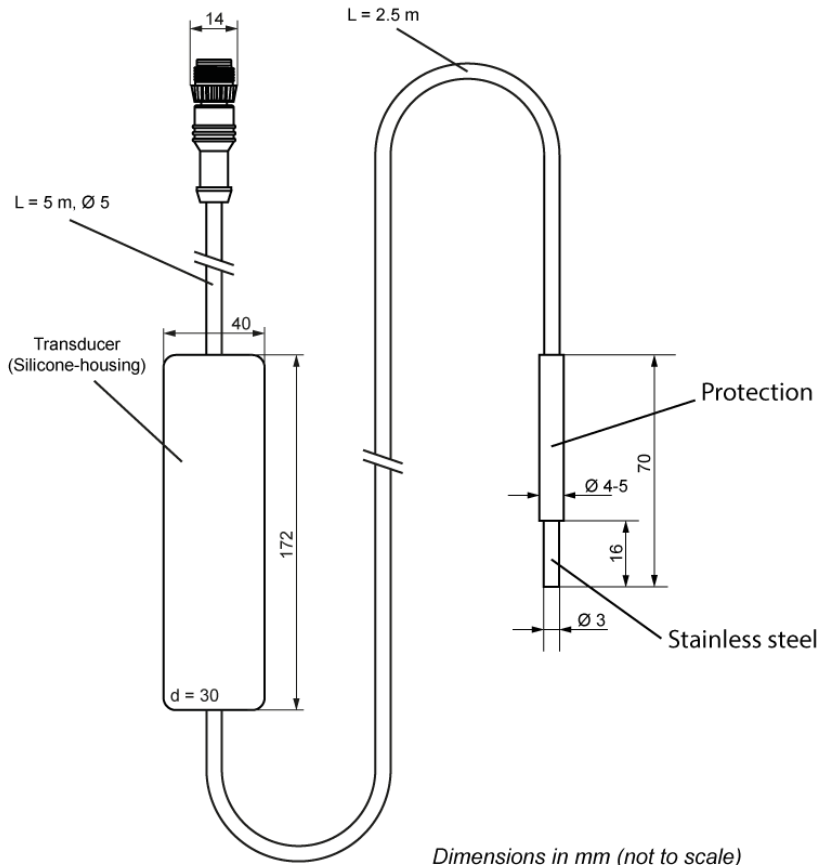
Repeat this procedure for the upper calibration point 2 with a temperature between 30°C and 50°C.

In general, both calibration points should span the range of the entire measurements.



Technical data

Dimensions:	Ø 3 mm, length: 85 mm
Cable length :	5 + 2.5 m
Supply voltage:	24 V DC
Power consumption:	<< 1 W
Measurement range:	0° to 50 °C
Precision:	< ±0,5°C
Response Time:	T ₉₀ < 60s
Ingress protection:	IP69



Information about the correct disposal



Your device is well packed at delivery. Please dispose the packaging material accordingly to the regulations in your country.

Do not throw the product in the casual litter bin. Make sure you are informed about the local disposal regulations and dispose your product accordingly. Alternatively, you can also send the product back to the producer.

The SENECT GmbH & Co. KG is member of the Stiftung Elektro-Altgeräte Register and the products are registered (WEEE-Reg.-Nr.: DE37193510).

Guarantee



Please check at delivery of your device, that all parts are delivered completely and that they function correctly. In case of any claims, contact us immediately per email or phone (info@senect.de or +49-6341 - 95 95 210). Please describe your claim as detailed as possible so that we can provide a solution as fast as possible. The product has a guarantee of 1 year and a warranty of 2 years. Furthermore, the § 377 HBG (German law) is valid.