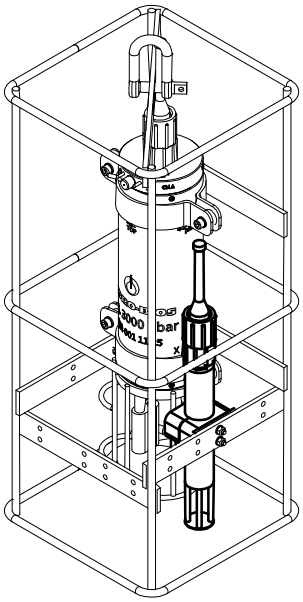


pH-Sensor AMT – 1200 m / 6000 m

OPERATION MANUAL

Product ID 700 050 / 700 078

Edition 12/25

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SAFETY INSTRUCTIONS

NOTICE



Please read this manual carefully before operating or performing maintenance on the instrument. Pay special attention to all danger, warning and caution statements. Failure to do so could result in serious injury and/or damage to the instrument. Keep manual available at all times.

LAYOUT AND MEANING OF WARNINGS

All safety instructions found in this operation manual are composed in accordance with the following pattern (signal words):

DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to personal injury.
NOTICE may also indicate a situation which, if not avoided, may cause damage to equipment.

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TERMINOLOGY

motor unit: pressure housing with electronics and motor

underwater unit: underwater device with mounted motor unit

probe housing: pressure housing with electronics (instruments without motor)

SCOPE OF THIS MANUAL

This manual describes the sensor's integration into the HYDRO-BIOS underwater unit, as well as it's usage through the Command Unit and OceanLab. It also includes basic maintenance information. For more detailed information (e.g. on how to ensure accurate measurements, calibration procedures and calibration formulae) refer to the manufacturer user manual as well as the help text visible in the OceanLab controlling window for this sensor.

GENERAL DESCRIPTION

The pH-SENSOR is a high-performance, low power instrument for in situ measurements of pH values. Its low power consumption, high sensitivity, wide dynamic range and 1200 meter or 6000 meter depth capability provide the power and flexibility to measure pH values in a wide variety of conditions.

The pH-Sensor requires the CT-Set with its built-in high performance Gen5 - electronics to power the pH-Sensor and to handle the measuring data.

The pH-Sensor is mounted inside the protective cage of the Multi Water Sampler / Multi Parameter Probe, the connection to the motor unit / probe housing is made by a supplied cable with underwater connectors.

The measuring data of the pH-Sensor is processed within the Command Unit and OceanLab.

STANDARD EQUIPMENT

1. 1 pH-Sensor with plastic protection cage and locking sleeve
2. 1 Clamp incl. screws and washers
3. 1 Connecting cable to the motor unit / probe housing
4. 1 Underwater connector SUBCONN, mounted to the back lid of the motor unit / probe housing
5. 1 Dummy connector SUBCONN with locking sleeve
6. 1 Operation manual

TECHNICAL DATA

Measuring principle:	potentiometry, combined electrode consisting of a glass electrode and a reference electrode
Reference electrode:	Ag/AgCl system, gel electrolyte / liquid electrolyte combination, ceramic diaphragm with pores
Measuring range:	0 – 14 pH (1200 m) 2 – 11 pH (6000 m)
Accuracy:	0.05 pH
Resolution:	0.003 pH (1200 m) 0.01 pH (6000 m)
Response time:	t63% approx. 1 second
Operating temperature:	-2 ... 60° C (1200 m) -2 ... 38° C (6000 m)
Operational depth:	1200 m or 6000 m (depending on sensor)
Power supply:	No extra power supply required (sensor is powered by the motor unit / probe housing).

DEPLOYMENT

The sensor electrode is shipped with a wetting cap covering the measuring end. This cap is filled with a buffer solution to protect the electrode.

Gently remove the wetting cap from the electrode by unscrewing the bottle from the cap and then sliding the cap and O-ring off of the electrode body. Soak in neutral buffer solution for approx. 10 minutes.

After use rinse with fresh water and immediately mount the wetting cap filled with buffer solution.

NOTICE

The diaphragm must never dry out!

SERVICE AND MAINTENANCE

The best maintenance for the pH-Sensor is to handle it with care.

The glass electrode is very sensitive. Any kind of shear forces and shocks have to be avoided.

Always attach the wetting cap with buffer solution after use.