

Technical Data Sheet

UV lights

Long-term underwater measurements are heavily influenced by the encrustation of the probes.

This fouling process, which occurs rapidly (within a few weeks, algae growth starts to impact chlorophyll-a fluorescence measurement), has emerged as a serious problem when aiming to achieve consistent and reliable measurements. Traditional control solutions, such as mechanical cleaning, are ineffective and costly in the long term due to the fast re-fouling process, especially at stations that can be serviced only a few times a year.

Alternative mechanical solutions, such as wipers, can cause significant damage to the surfaces, creating a major challenge for camera and light lenses.

The use of UV-C light underwater offers a non-toxic solution to this problem.

Used combination of underwater LED lights with optical lenses leads to an energy efficient, long life and low cost alternative to the control of fouling. This game-changer solution, vital to scientific measurement operations, can also be applied in many other areas where underwater measurements play a major role, or in long-term operations that depend on battery power.

Mariscope, always at the forefront of environmentally responsible underwater technology, has obtained the license for serial production from IOW (Institut für Ostseeforschung Warnemünde), the developer of this solution.



DESIGNED
ENGINEERED &
MADE IN GERMANY

The UV-Antifouling LED Lamp is a underwater fouling prevention system. It uses a UV-C (275nm) light emitting diode to break up DNA and therefore preventing that living organisms can survive in its lightbeam. The Lamp is made for underwater usage and has a pressure housing which can withstand 15bar of pressure.

An acrylic glass cap is strapped before the UV-C exit point to prevent unintentionally exposure with UV-C light while handling or programming the lamp. It also serves as a UV-C light indicator.

The cap is coated with a transparent paint on the inside which fluoresces and emits blue light when exposed to UV light. The acrylic glass absorbs UV-C and passes blue light.

Voltage input 10-30 VDC. (12 V DC nominal)

Maximum 1 watt.

Light output and duty cycle programmable via I2c protocol or Mariscope programmer.

If the lamp is to be switched on/off by external components, the use of the I2c protocol is recommended.

Included components

UV-Antifouling LED lamp

UV-Antifouling LED programmer

UV-Antifouling LED sealing plug male

UV-Antifouling LED sealing plug female

UV-Antifouling LED open connection cable

Power supply: surface power or battery power are offered, contact us for details

Technical specifications

| | |
|-------------------------------|--|
| Light source | Light emitting diode |
| Wavelength | 275nm ±5nm |
| Operational depth | 150 m |
| Dimensions (only lamp) | 127 x 50 x 30 mm |
| Lifespan of the LED | Depending on the programming of the output power, minimum 11.250 hours |

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