

The ALG control continuously measures the chlorophyll fluorescence of different algae classes in realtime. Compared to time-consuming sample preparations and counting by microscope, the on-line fluorescence monitoring provides quick determination of the chlorophyll content in for example lakes, rivers and reservoirs.

**Instrument Specifications:** The ALGcontrol can do 5 classes: green, blue (cyanobacteria, phycocyanin), brown (diatoms and dinoflagellates), red algae (incl. crypto) and total chlorophyll.

**Instrument Ranges:**

- Total chlorophyll: 0-200 µg/l (Chl.-a, green algae + blue-green algae)
- Cyano chlorophyll: 0-200 µg/l (Chl.-a, blue-green algae)
- Precision: 0,2 µg/l - Turbidity: 0-400 TU
- 1programmable pump (sample / cleaning)
- 2programmable valves.

**Specifications Communication:**

- Integrated PC with Windows-based
- Graphical user interface with interactive touch screen operation
- Fullnetwork capability via direct LAN connection
- Allstandard communications interfaces are supported, LAN, RS232 or RS485
- Protocols: Modbus RTU, Modbus TCP
- 1xoutput 4 - 20mA



**Technical Details:**

- Protection classification: IP 54 (optional IP65)
- Dimensions (HxWxD): 470 x 450 x 321
- Cabinet material: St. Steel
- Sample pressure: 0 bar (max 0.05 bar overpressure)
- Sample temperature: 10 - 35°C
- Sample flow rate: 3 l/h
- Environmental temperature: 15 - 35°C
- Power: 220V – 50Hz or 110V – 60Hz
- Power consumption (average): 45W.
- Certification: CE

**Automatic cleaning:**

- User selectable cleaning cycles
- Cleaning solution (sodium hypochlorite solution < 0,05% active) or H2O2 prevents fouling and unattended usage for several weeks.

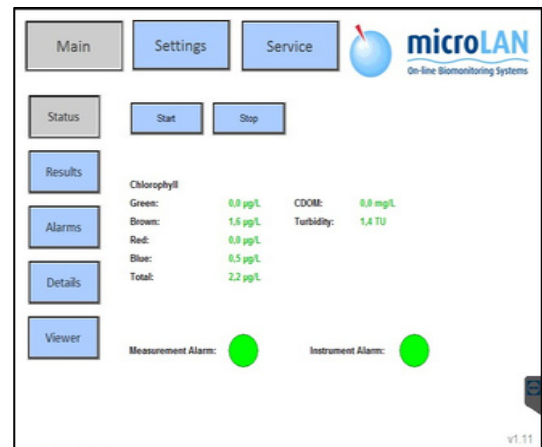
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# ALGcontrol

## Principle fluorescence technique



The ALGcontrol makes use of fluorescence excitation. When chlorophyll molecules absorb light, a fraction of the energy absorbed is reemitted as fluorescence. Algae of the same division contain a similar quantity and quality of pigments, their fluorescence excitation spectrum (with a fixed emission wavelength at 680nm) is significant. Thus, it is possible to differentiate divisions of algae by their fluorescence excitation spectrum. Other fluorescing matter are detected to enhance the accuracy. DOM = dissolved organic matters measured with the 370nm wavelength and turbidity is measured with the 710nm wavelength. The ALGcontrol uses 7 Light Emitting Diodes or LED's for fluorescence excitation. The LED's emit light at 7 selected wavelengths (370nm, 450nm, 525nm, 570nm, 590nm, 610nm and 710nm).



The LED's in the ALGcontrol are switched on, one after the other, at high frequency. The fluorescence signal for each LED is measured and averaged during a pre-defined time. The fluorescence values for each of the LEDs are given in "counts" after the measurement and shown as raw data. The concentration of the algae will be calculated from these values (counts) to µg/l and the results are displayed in a graph. Correction for other fluorescing matters (DOM and turbidity) will also be calculated automatically.

