



Level



Pressure



Flow



Temperature



Liquid
Analysis



Registration



Systems
Components

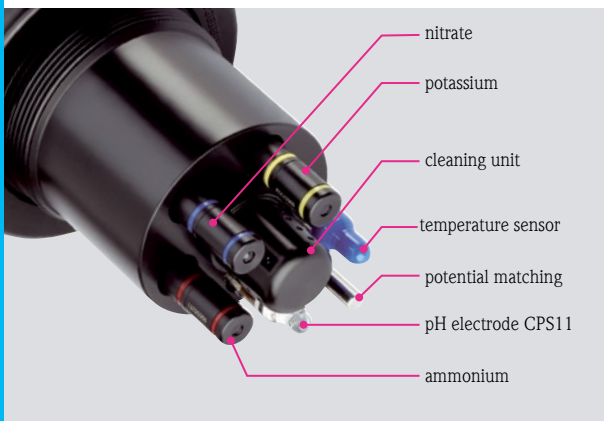


Services



Solutions

Ion-selective measuring system ISEmax CAS40D and Liquiline CM442



Real-time control of nitrification and denitrification with ammonium and nitrate measurement

Your benefits

- Plug&play by integration into the Memosens-Liquiline platform
- No reagents necessary
- Online measurement allows concentrations to be determined in real time
- Easy to use: no external sampling required
- Rugged membrane caps
- Potassium and chloride measurement, also for compensation of interference ions, and integrated pH measurement

Typical applications in a municipal wastewater treatment plant

- Determination of ammonium and nitrate concentration directly in the aeration basin
- Control and regulation of dynamic processes
- Determination of ammonium load (pH-compensated) in the inlet of the aeration basin
- Load-dependent aeration control

Endress+Hauser

People for Process Automation

Ion-selective measuring system for transparent processes

ISEmax CAS40D for measuring ammonium, nitrate, potassium and chloride is based on potentiometric measurement with ion-selective electrodes. It makes the processes of nitrification and denitrification transparent particularly in the area of wastewater treatment. It also visibly reduces the costs for power used in aeration systems.

The sensor consists of ion-selective electrodes and a pH reference which is installed in an immersion assembly. The sensor is mounted directly on the basin rim with a suitable retaining unit. It is immersed directly into the process with the electrodes.

Up to three ion-selective electrodes measure ammonium, nitrate and, where applicable, other measured variables simultaneously. They exhibit easily replaceable membrane caps which are selective for the ion to be measured. The new membranes are very robust and the integrated compressed-air cleaning system keeps them free from fouling and contamination. As a result, they are always operational.

ISEmax CAS40D is fully integrated into the Liquiline-Memosens platform. It can simply be connected to one channel of the Liquiline CM442 transmitter. The other channel remains free for the measurement of additional parameters. The sensor is based on the Memosens protocol and offers plug&play like all sensors of the platform.

Measuring ranges

- Ammonium-nitrogen:
0.1-1000 mg/l $\text{NH}_4\text{-N}$
- Nitrate-nitrogen:
0.1-1000 mg/l $\text{NO}_3\text{-N}$
- Potassium:
1-1000 mg/l K^+
- Chloride:
1-1000 mg/l Cl^-

