

EXPERTS IN ANALYSIS

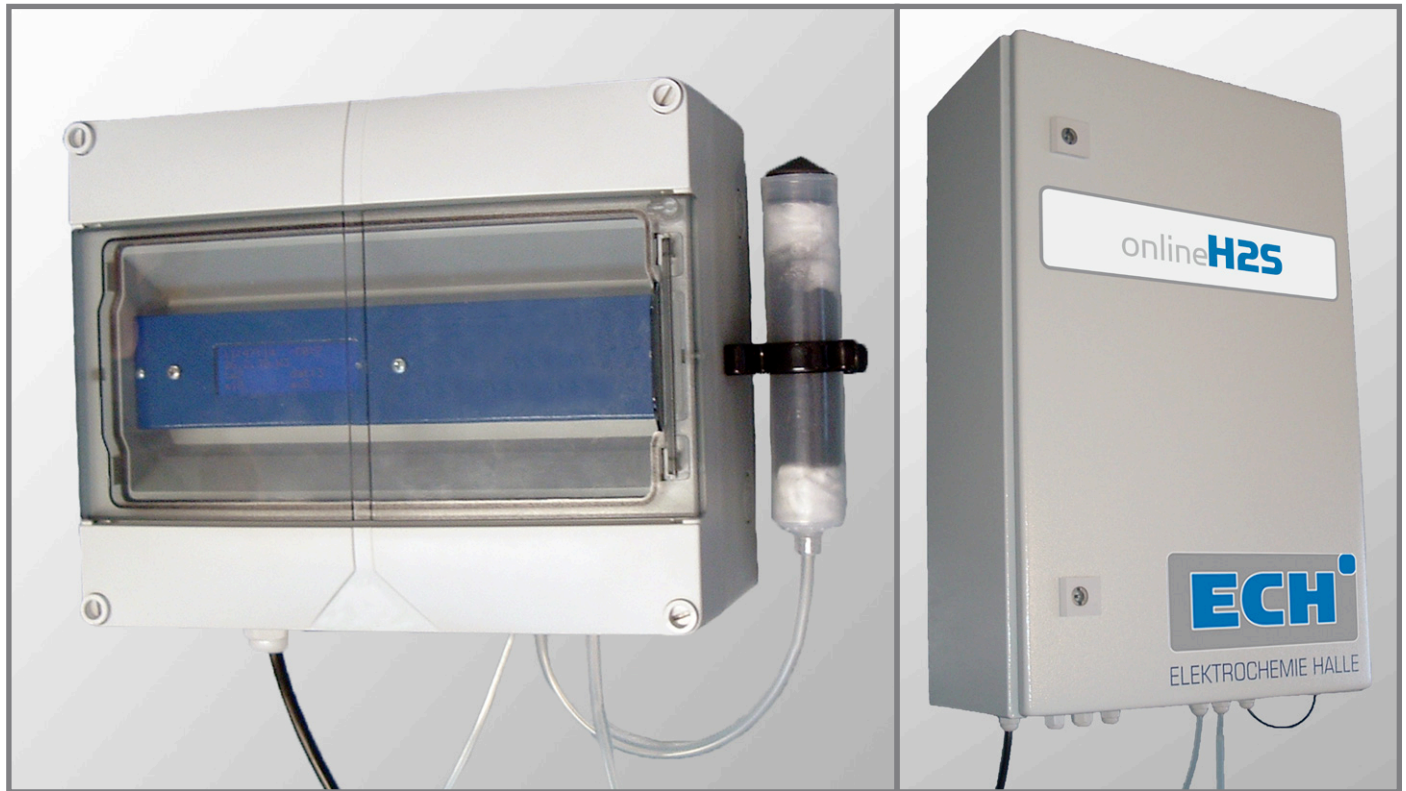


online**H<sub>2</sub>S**

Microcontroller Device for  
Online-H<sub>2</sub>S-Control

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## onlineH<sub>2</sub>S



### Description

onlineH<sub>2</sub>S includes a microcontroller-unit for a quantitative determination of the released H<sub>2</sub>S from the sewer with sensor technology at two or more selected measurement points. It serves as the basis for H<sub>2</sub>S-adapted regulation of chemicals for water treatment in sewage systems.

The H<sub>2</sub>S-measurement works with selective electrochemical sensors. The mobile microcontroller includes a data acquisition and data transmission tool, digital and analogue input connections for various measurands as well as digital and analogue alarm output connections (4-20mA) for controlling of dosing pumps for treatment-chemicals, valves etc.. Data can be downloaded by a secured internet transfer line at any time.

The control-algorithm includes an intelligent self-learning system of settings, which reacts immediately to local circumstances of the sewage-volume and H<sub>2</sub>S-carriage. By evaluating those information, an optimal dosing-value will be determined automatically that will be used for the water treatment with chemicals in the sewage system.

## Applications

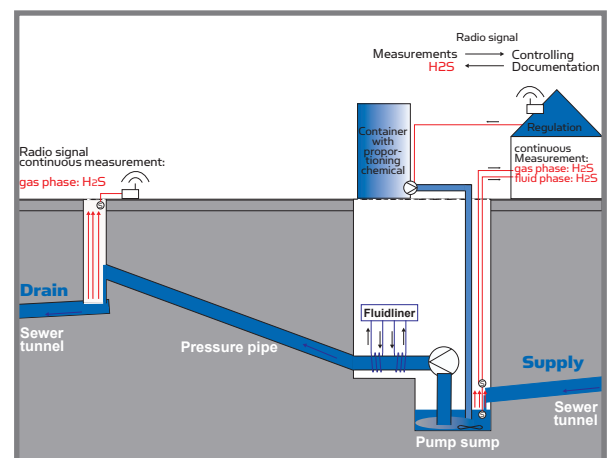
- Elimination scent annoyance from urban and industrial sewage (pressure pipes, sewer tunnels, grease separator, reduction of tension shafts, pump sumps, public streets and places)
- Prevention of the bio-corrosion at waste water-leading buildings
- Used for urban waste-water-communities, sewage plants, waste water treatment and purification plants



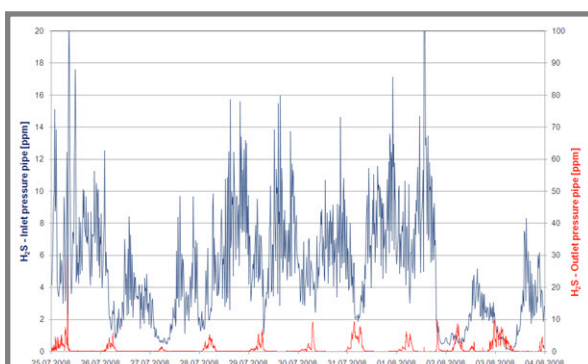
example for on-site application

## Principle

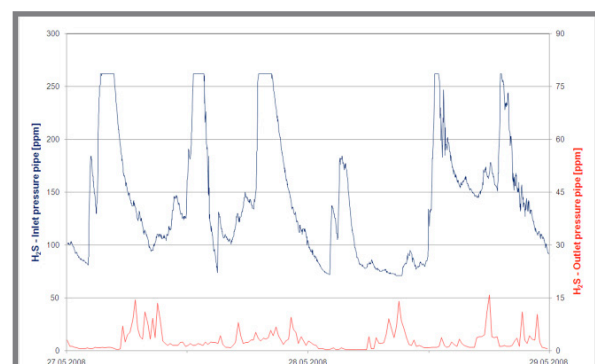
- Online-measurement of actual  $H_2S$ -concentration in waste water supply (e.g. pump sump) and waste water drainage (sewer tunnel or pressure pipes)
- Very high sensitivity (below 0.01 ppm) with the most precision
- Selective electrochemical sensors
- Integrated rinsing steps for the certainty of a steady current sample for analysis
- Direct calibration of actual sulfide-concentration in waste water
- Automatic zero-point-compensation
- Determination of a optimal control-algorithm for dosing chemicals of the waste water (4-20 mA signal) through adaptation at the current  $H_2S$ -carriage and water volume (4-20 mA signal)
- Threshold selectivity by an authorized person



principle of the Sulphox-4-method



Diagrams  $H_2S$ -pressure pipe inlet (blue) / outlet (red)



## Advantages

- Complete measurement system with data acquisition at two or more measurement-points by H<sub>2</sub>S-monitoring
- Calibration related to the concentration of sulphide in waste water
- High sensitivity (below 0.01 ppm)
- Suck of the gas sample by a transfer line (up to 50 m length and 10 m depth)
- Selective electrochemical sensors
- Low maintenance effort by automatic zero-point-compensation
- Long life-time of the sensor due to an intermittent gas path control
- Integrated rinsing steps in order to guarantee current samples for analysis
- Analogue input connections for various pumps and signals
- Potential free switching outputs (e.g. sewage pumps)
- Output signal (4-20mA) to control dosing pumps for water-treatment-chemicals in order to send the signals to a customers' process control system
- Direct data acquisition in the device for several months
- Data transmission via GPRS

## Specifications

Power supply:	mains or battery operated 115 - 230V, 50 - 60Hz, 12 VDC (internal battery)
Power input:	40 W maximum, 5 W standby-mode
Measuring range:	0.01 – 2000 ppm
Typical duration:	24 hour online-measurement
Input signal:	4 - 20 mA analogue (isolation amplifiers) or digital
Output signal:	4 - 20 mA analogue (isolation amplifiers) or digital to control the dosing pumps
Protection type:	IP65
Dimensions & weight:	H <sub>2</sub> S-Sensor: 200 x 250 x 122 mm, 2 kg
Dimensions & weight:	H <sub>2</sub> S-Controller: 380 x 210 x 600 mm, 10 kg

We are here for you



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