



The coxsensor, an inline early warning water sensor

Summary

The coxsensor is an inline sensor for measuring (bio)fouling, corrosion or the load degree of ion exchange resin columns. The sensor continuously makes a fingerprint of its internal water volume providing detailed information about changes taking place in the fluid or on the internal sensor surface. This makes the sensor very feasible as early warning system. The features of the sensor, such as data processing and representation, can be tailor made.

Features of the coxsensor

- The inline sensor is a 316L stainless steel cylinder with a total length of 32 cm and screw connectors for liquid inflow and outflow.
- The active element in the sensor is a small printed circuit board (PCB) that can be cleaned or replaced after events.
- The steering unit of the sensor is placed in a IP66 industrial housing equipped with a Linux computer (Raspberry Pi) with professional open source mathematical & data analysis tools.
- The system produces amplitude versus frequency plots in the range between 10 kHz and 160 MHz with a maximum resolution of about 5.000 measuring points per plot. Typically, a plot contains about 600 measuring points.
- The data are logged onto a 64 GB memory stick and automatically date and time stamped, converted into a .csv file and stored for import into Excel for further analysis.
- A graphical representation of each AF plot is automatically generated as png or jpg file, date and time stamped and stored for later reference.
- The signal interpretation and translation of the data can be tuned depending on the application.
- All data are automatically uploaded to a remote webserver at a user defined frequency.
- It is equipped with 4G, 3G, GPRS, bluetooth, ethernet, wifi and phone call functionalities for remote access.
- It can generate alarms through SMS, phone call, e-mail.
- The system is equipped with 2 relays and can control other devices such as cleaning equipment / equipment for the dosing of chemicals.
- The system is prepared to measure, log and analyze 3 additional sensors e.g., temperature, conductivity, pH measurements.
- Software updates and sensor optimization can be executed remotely.
- A cost indication: A system produced in series of 10 pieces costs between 1.500 euro ex BTW and 3.500 euro ex BTW per system, depending on the specific application.

If you are interested the coxsensor, please contact me.

dr.ir. Mateo Mayer

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