Summary of Design Requirements

The list below is a summary of attributes that the design of the sensor must have in order to meet the requirements for use in a distributed sensing network.

* The sensor must feature no direct contact of metal with water
* The sensor must be useful across the entire conductivity range from DI water to mine runoff
* The sensor must be reasonably inexpensive (below $30/unit) so that many can be used together
* The sensor must not require an inordinately large enclosure
* The sensor must have sufficiently low power consumption (<< 1W) such that a sensing system might operate for months at a time on a single set of batteries.
* The sensor must be able to be fabricated using techniques easily available to hobbyists
* The sensor must be relatively easy to calibrate
* The sensor must not require complex or expensive circuitry to drive and read
* The sensor must be easty to integrate with networking or mesh networking hardware