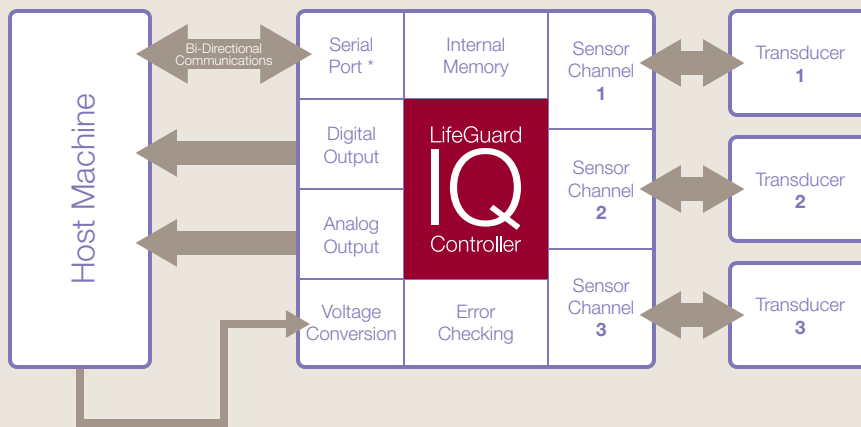


LifeGuard IQ™

An advanced fluid sensing platform that offers more functionality and flexibility than traditional fluid sensors.

The LifeGuard IQ fluid sensing platform offers advanced capabilities such as multi-functionality, multiple input channels, bidirectional communication with host system, adjustable alarm threshold, rich data output, and much more.



Top view of LifeGuard IQ prototype sensor housing.

- ▶ Microcontroller-based sensors that are configurable and can be adapted to various user requirements. Sensors can be configured to detect: air/fluid in-line, blood leak, occlusion, fluid level, fluid temperature, tubing placement, etc.
- ▶ Multiple input channels allow up to three sensors to be driven using a single LifeGuard IQ unit (air-in-line detector, blood leak detector, and occlusion detector, for example).
- ▶ Much richer data output from the sensor than the typical digital or analog signal. For example, when set to detect air-in-line the LifeGuard IQ is able to quantify bubble size, count number of bubbles, and quantify accumulated volume of air.
- ▶ LifeGuard IQ incorporates proven LifeGuard swept frequency technology.
- ▶ Microcontroller allows the sensor to tune into the resonant frequency thereby sweeping a narrower range around a "sweet spot". This enables the sensor to sweep more rapidly and more often, resulting in increased sensor efficiency.
- ▶ Bidirectional communications with the host system.
- ▶ Allows threshold for alarm to be set depending on the strength of the signal in a non-alarm state.
- ▶ Allows custom filtering (such as high pass, low pass, or windowing).

Possible sensor choices include, but are not limited to:

- ▶ Ultrasonic Air Bubble Sensing
- ▶ Blood Leak Detection
- ▶ Occlusion Sensing
- ▶ Temperature Sensing
- ▶ Liquid Level Sensing
- ▶ Tubing Placement Sensing



The LifeGuard IQ received the Best of Sensors Expo 2009 Silver Award.