Sensing Success: Designing in the Right Sensor

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The biggest challenge for many medical device designers is selecting sensors that can help them optimize designs for size, cost, and complexity. A modular sensor design provides a single device that can be optimized for a variety of markets or customers, enabling a designer to select the right sensor with the appropriate functionality. This eliminates the need for a costly custom device.

As part of a modular approach, a sensor can integrate the calibration, amplification, and compensation circuitry, which eliminates the need for additional components and reduces cost. Temperature and humidity sensors may also be housed in a single package, reducing design-in complexity and saving board space.

For further size reductions, it is possible to minimize the need for tubing and wires by selecting the right physical architecture. For example, a sensor with a manifold mounting option eliminates the need for tubing, thus achieving a more compact design.

Medical devices also require a variety of supply voltages and interfaces, depending on the design and application. A modular platform can help ease design complexity across a product portfolio by providing a single sensor that offers several power and I/O options to match a wide range of design specs.

Finally, the sensor should meet worldwide standards and local regional requirements without additional circuitry or tweaking. This makes it easier to re-design a medical device with the same sensor for use in different regions of the world.

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