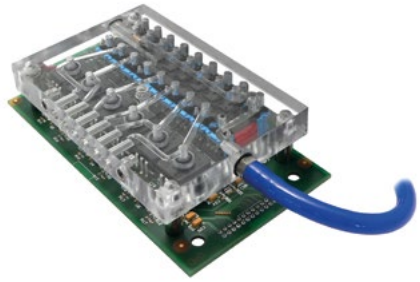
Customized sensors and senor systems

Customized multi-sensor modules, manifolds, and plug-and-play solutions from First Sensor allow you as a medical device manufacturer to shorten your design cycle, save development costs and achieve competitive advantages as well as fast innovations to the market. As a development service provider, we utilize state-of-the-art packaging technologies for the assembly and calibration of semiconductor chips and micro-optics under clean room conditions as well as long-standing technological experience.

Multi-sensor modules and manifolds

We develop and manufacture multi-sensor modules and manifolds which integrate components such as sensors, valves, pumps, microcontrollers, etc. to form compact OEM subsystems. The use of plastic manifolds enables the three-dimensional configuration of flow channels thus eliminating time consuming and error-prone piping procedures.



Optical systems

Our customized optical systems integrate LEDs, laser diodes, photodiodes, filters and lenses into compact units. The elements can be mounted on various substrate materials such as rigid or flexible printed circuit boards, ceramic circuit carriers or metal frames and can be encapsulated hermetically by transfer molding or potting. For flexible video endoscopes, we provide complete optical systems, which integrate the CCD image sensor chip and miniature lens systems into a compact unit.

Detector arrays

First Sensor produces large-scale X-ray detector arrays for computer tomography. Ultra-modern flip-chip technology is used to assemble the individual chips on a multilayer LTCC ceramic substrate and underfill them with a special plastic. The individual sensor elements attain the highest fitting accuracies with a tolerance of 10 µm in all three spatial directions, thereby ensuring the smallest dead spaces and a high filling factor.