



## Level Measurement in Medical Engineering

**Leinfelden-Echterdingen, 25 February, 2021. The biggest challenge in level measurement arises when outer walls of containers are covered with a film. This often occurs in medical engineering when blood or secretions are to be measured. Here, the corTEC level sensors from EBE sensors + motion demonstrate their abilities.**

The corTEC sensors from EBE were developed to significantly improve the level measurement of viscous media. If highly adhesive liquids are used, the level measurement with touchless sensor systems is often unreliable. When it comes to measuring film-forming media, conventional touchless level sensors usually reach their limits. At the same time, it is not possible to contact the medium in medical engineering, where safety and sterility have top priority. This is where the corTEC technology from EBE comes in.

Level sensors based on the corTEC platform reliably detect liquid columns in non-conductive containers and not only look through container walls but also through adhesions of blood, secretions, or liquid food. The level sensors are located completely touchless outside the container behind a protective wall or in a tight, gapless, and therefore easy to clean housing where they cannot be touched or damaged.

The evaluation algorithms developed by EBE can be designed for a great variety of ambient and usage conditions. For this purpose, the corTEC technology uses a multi-channel capacitive measuring process. This excites the measuring electrodes in a defined spectral range. Due to the adhesive film at the container walls, conventional capacitive sensors are likely to show incorrect measurements. For the corTEC sensor it doesn't matter how viscous, adhesive or conductive a medium is. The level is measured reliably at any time.

For OEM-partners EBE designs and manufactures level solutions ready for mounting, if desired including housing and customized interface. Thus, the sensors are ideally suited for use in dialysis machines, feeding or infusion pumps, for urine monitoring or secretion and wound aspiration. The sensors reliably measure levels of blood samples, suction pumps or in the area of laboratory diagnostics even in case of highly constrained space. In addition, the technology can be used for mere detection tasks. This also offers the possibility to implement hose monitoring applications by means of capacitive sensor systems.



Picture file: EBE\_corTEC\_Medizintechnik.jpg

Picture text: New developments of the corTEC level sensors from EBE are suitable for sensitive applications in medical engineering. The corTEC principle is based on a capacitive measuring process. The sensor system distinguishes liquid columns from film coatings at the inner wall of the container.

Picture source: EBE Elektro-Bau-Elemente GmbH

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### **Short Profile**

The company EBE Elektro-Bau-Elemente GmbH (brand name: EBE sensors + motion) based in Leinfelden-Echterdingen near Stuttgart develops and manufactures OEM-products in the fields of sensor and actuating technology, mechatronics and drive technology. The focus lies on capacitive and inductive sensors based on the technologies developed in-house and mechatronic solutions for industry, appliances, medicine and mobility. The sensor program also includes level sensors, pressure sensors, position sensors and capacitive buttons. Furthermore, EBE develops and manufactures customer-specific solenoids and robust rotary switches, buttons and encoders and adapts them to the customer requirements. The company sees itself as a competence center for the development and production of sensor systems and drive technology.

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