



## Position Sensor Systems for Compact Robots

**Leinfelden-Echterdingen, 25 February, 2021. Industrial automation is proceeding. More and more robots are used for a great variety of tasks. At the same time, they are becoming ever smaller and yet more precise. The position sensor systems from EBE sensors + motion offer themselves for compact industrial robots. They excel by extremely small sizes and robustness.**

Some branches of industry are no longer imaginable without robots. In this context, pictures of huge industrial robots handling car bodies or machine parts often come to mind. They are firmly established in the market. Compact industrial robots, however, increasingly take over extremely small-scale tasks with remarkable precision. In doing so, the machines have to convince by reliability and robustness in their work routine. Furthermore, the components of these machines should be as compact as possible to meet the constrained spatial conditions.

Due to their high precision even under difficult operating conditions the intelligent angle and distance measuring systems from EBE sensors + motion are particularly suitable for this task. The function of the sensors is based on the induTEC® technology developed by EBE. The inductive measurement principle recording the position and displacement of a metallic object by a coil structure proves to be highly reliable and error-resistant. Temperature and aging influences as well as the scattering of components are compensated by a differential coil structure. The sensors show a high sensitivity in combination with extremely low tolerances. In more complex and particularly demanding applications wound sensor coils can be used. They allow to create a magnetic measuring field which offers additional degrees of freedom. A particularly cost-efficient solution of the position sensor system offers itself by realizing the coils as PCB-inductivities. This sensor setup has been proven millions of times in the area of white goods and in industrial applications.

Due to the individual adaptation to the requirements of each customer special wishes with respect to the development of position sensor systems can be considered which could not be realized by conventional sensors. To give an example, a wide variety of system interfaces is realized on demand. Furthermore, due to their particularly flat design the sensors are highly suitable for direct installation on the joint axis of the rotary table bearings in small sorting robots. In spite of the heavy strain and narrow spatial conditions the induTEC® sensors convince by their precision and longevity.



Picture file: EBE\_Weg\_Winkel\_Sensoren\_kompakte\_Roboter.jpg

Picture text: Compact robots place special demands to sensor components. Both constrained installation spaces and robustness need to be considered during their development.

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.

### **Contact**

EBE Elektro-Bau-Elemente GmbH  
External Press Officer, Doris Tischer  
Sielminger Str. 63, 70771 Leinfelden-Echterdingen, Germany  
Tel. +49 711 79986-0, E-Mail: [press@ebe.de](mailto:press@ebe.de)