



Capacitive Touch Sensors for Harsh Environments: EBE Launches Robust Touch Technology with the TCRC

Leinfelden-Echterdingen, June 25, 2025. EBE sensors + motion presents the new TCRC sensors, a groundbreaking solution for capacitive touch sensors that function reliably even under extreme conditions. This development addresses the challenges faced by manufacturers of operating panels in industrial, medical, and household applications.

In many application areas, such as construction machinery, medical technology, vending machines, and kitchen and sanitary facilities, reliably operating electronic systems under harsh environmental conditions is essential.

TCRC is a capacitive sensor system based on proven EBE corTEC® technology that delivers a robust, weatherproof, and waterproof solution specially developed for indoor and outdoor use. Whether in freezing cold, tropical heat, wet, or dusty environments, TCRC sensors work reliably. They can even be operated with gloves or dirty fingers and are not affected by water, oil, ice, food residue, or dirt. The technology accurately detects genuine inputs and distinguishes them from unintentional activations.

Based on EBE corTEC®: Intelligent Signal Processing for Maximum Reliability

TCRC touch sensors are based on EBE's proprietary corTEC® capacitive sensor technology. This combination of hardware and intelligent signal processing enables the reliable evaluation of touch behavior with fast response times, even in challenging electrical and mechanical environments. Operation is completely effortless, as no force is required. TCRC touch sensors can be flexibly integrated behind robust cover materials, such as glass or plastic, with a high degree of design freedom. They are particularly space-efficient, with a footprint of only 30 x 30 mm (1.18 x 1.18 in). They are also vandal-proof, thanks to the option of completely enclosed systems. Also the sensors are suitable for both indoor and outdoor use. Indoor applications include sanitary and medical technology, while outdoor applications include construction machinery and vending machines. They can also be used in areas with large amounts of water, such as with high-pressure cleaners and showers. Thanks to the encapsulation around the sensor, IP67 requirements can almost always be met while the button remains fully functional.

Quick Evaluation, Easy Integration

For development departments, EBE provides an evaluation kit for the TCRC including all necessary components with associated software and PC interface. This allows the button function and customization options to be tested directly in the planned application and individually adapted to the respective installation situation.

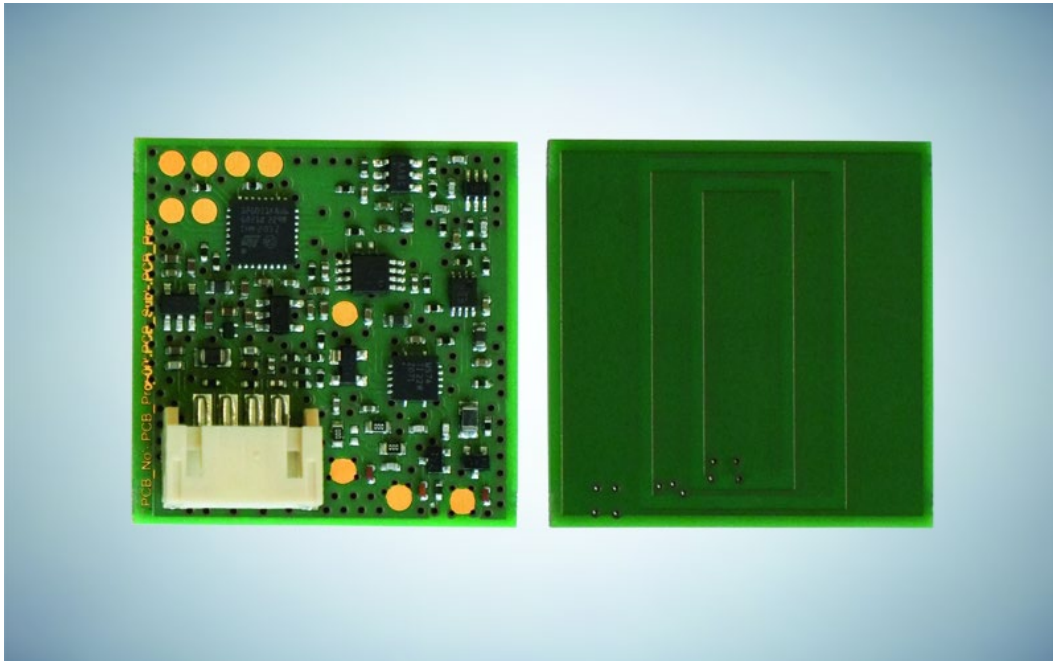


Image file: EBE_Touch_Sensor_TCRC

Image caption: The TCRC sensor also works reliably when dirty or completely covered with water.

Image source: EBE Elektro-Bau-Elemente GmbH

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Short Profile

EBE Elektro-Bau-Elemente GmbH (brand name: EBE sensors + motion), headquartered in Leinfelden-Echterdingen near Stuttgart, develops and manufactures OEM products in the field of sensor technology, components for human-machine interfaces (HMI) as well as actuators and mechatronics. The focus is on sensors and encoders based on in-house technologies for industry, household appliances, medical technology and mobility. The range of sensors includes, among others, level and quality sensors for fluids, position sensors and capacitive touch probes. EBE's magnetic encoders are optimized for reliable operation in demanding applications. EBE also develops and manufactures customer-specific electromagnets as well as robust rotary switches, push-buttons and mechatronic systems.

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