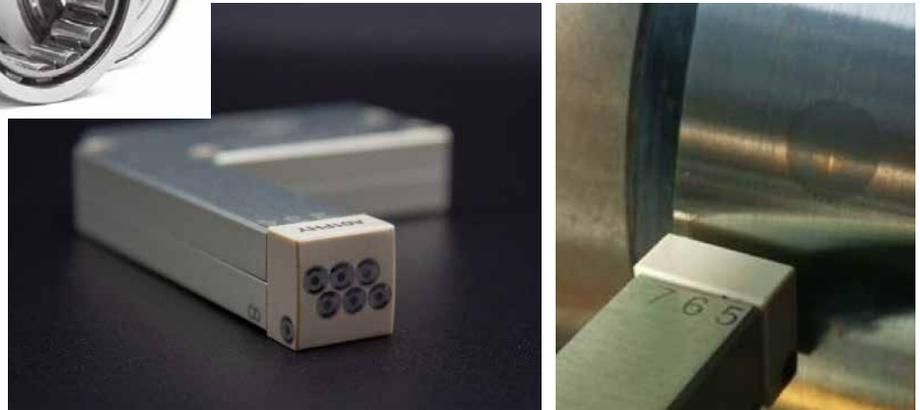


# Combined testing for cracks and grinding burns on bearing rings and rolling elements with a single sensor and a sensor array



8-fold sensor array KDA-129 with six sensor elements arranged in two rows for testing the running surface of bearing rings and two sensor elements each arranged at a 90° angle to the others for testing the run-up rims.



## Contact free, quick, high-resolution and efficient

In addition to the solutions for various tasks requested by industry, testing for cracks and grinding burns on bearing rings and rolling elements is a current issue. These client requirements can be addressed in a semi- and also a fully automated manner. Depending on the testing task, single sensors or sensor arrays can be used.

In the example, when testing rolling element components, the detection of even tiny cracks and grinding burns is essential. Sensor array technology is used increasingly for these applications, in order to maintain the required cycle time of the automated testing systems.

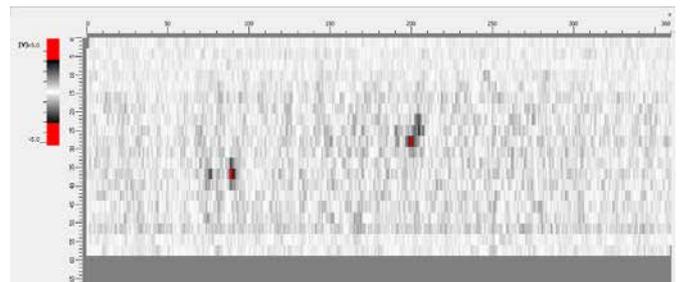
An 8-fold sensor array is used in the present case to test the inner and the outer ring. Six sensors are arranged in two staggered rows to test the running surfaces. One sensor each is arranged at a right angle (90°) to test the lateral surfaces (rims). The sensor array is controlled accordingly by the ELOTEST PL600 and suitable sensor elements are selected for each test respectively.

Every sensor is a combined differential / absolute sensor. The absolute coil can be used for both the electronic lift-off/ distance compensation and (at the same time) the additional testing for extensive grinding burn.

The sensor array is connected to the testing channel of the ELOTEST PL600 via a fast 8-fold multiplexer.

ELOTEST PL600 is a digital eddy current testing instrument and it is ideally suited for all types of eddy current testing such as testing for cracks, heat treatment, material mix-up and grinding burns.

It is provided with a connection for active sensor arrays with up to 64 sensors per channel. The high multiplex rate allows for testing at very high velocities and thus significantly reduces the test cycles and increase the throughput time of the testing system. ELOTEST PL600 with its sensor array technology is thus ideally suited for a fast and efficient testing for cracks and grinding burns in automated systems.



Display, evaluation and documentation of test results with the Scanalyzer software.