

## High-speed, high-precision color mark detection with the SPECTRO-3-FIO - also suitable for Ex areas

The **SPECTRO-3-FIO** is a **color mark detector** that detects color like a human, but with a considerably higher frequency of approx. 40 kHz.

Through a special reflected-light optical fibre white light that is provided by a super-bright white-light LED is directed onto the color mark to be detected. Various optical fibres and attachment optics units are available to allow a highly precise color mark detection. At a distance of approx. 10 mm from the object, the light spot thus may have a diameter of Ø 0.5 mm or dimensions of 2 mm x 0.2 mm or 4 mm x 0.7 mm. The light that is scattered back from the color mark towards the reflected-light optical fibre impinges on a so-called true-color detector that divides the light into a red, green, and blue component.

The controller that is integrated in the sensor then performs color calculation acc. to the L\*a\*b\* method, and can select the suitable color from up to 31 stored color marks.

Due to the use of optical fibres the system also is suitable for Ex area applications, where for optical fibre lengths of more than 2 m the **external white-light source SPECTRO-3-ELS** is available.

