

Press release no. 205***colorCONTROL flexible-application colour sensors***

Uhingen. Whether for allocation, packaging, storing or sorting purposes: high-resolution colour sensors are always needed when producer goods in any variety of colours need to be reliably recognised, allocated or compared. Thanks to numerous innovative features, the new ELTROTEC colorCONTROL line of colour sensors can now be used even more flexibly when it comes to analysis or linking to production processes.



Abb1: Auszug aus der colorCONTROL Sensorfamilie

Here users benefit from being able to teach in, show and compare both pure RGB colour data and other L*a*b colour data (XYZ data) transformed in a "true-colour" process, including the corresponding tolerances. Models are also available with a very practice-related "multiple teach-in" system, which enables clearance, angular deflection and colour

fluctuations - in adaptation of application tolerance levels - to be "taught" to the production machine simply by pressing a button.

The colour sensors come as optical fibre sensors or as reflex optical sensors with ranges from 2 to 1200 mm and a light spot diameter of 0.5 to 70 mm for large-area integral colour evaluations through to colour cable detection as of diameters of 0.5 mm.

The reflex colour sensors have point-focal illumination optics as well as large-surface diffuse optics which light up a surface from various angles. The advantage here is that gloss effects on surfaces can be reduced or eliminated, which standard sensors are not able to do. Just like the human eye, these sensors apply the "true colour" measuring principle and can reliably recognise shades of colour in the range of $\Delta\varepsilon=1$. Dual-channel versions are also available. In this case one channel can be used as a reference while the other channel constantly observes a colour flow for any deviation. This method is particularly significant for long-term colour detection or for recognising colours in conditions with fluctuating temperatures, since the same source of light is used as a

reference for both channels. The series comprises 3, 4, 8, 31 and 250 colour memories with up to 25,000 colour comparisons per second.

The sensors can easily be integrated into any machine or network by means of PNP/NPN switching terminals and of RS 232, USB and Profibus interfaces. Colour sequences that have been "taught" can be logically combined and can be connected to a terminal as a good / bad function for a standard evaluation of complex colour inquiries.

Depending on the type of sensor, a colour may be entered with the "teach-in" system or may be parameterised with the Eltrotec colorCONTROL software program. As a technological highlight, the LEDCONTROL colour camera solution with applied optical fibres was developed in order to be able to test the function of colour LEDs or lamps in terms of colour, brightness and wavelength at 100 different points on the circuit boards of testing devices.

The use of achromatic colours and glossy colour structures such as those that occur in the area of varnishes, leather, textiles and interior decorating or also of shiny metals can be recognised particularly reliably nowadays when compared to the results of standard RGB sensors used in industrial processes.

Text: Claus Peter Hofmann, Bachelor of Engineering
Managing Director, Eltrotec Sensor GmbH
Photo: Use free of charge,
specimen copy on request
Address: ELTROTEC Sensor GmbH,
Heinkelstraße 2, 73066 Uhingen
Tel.: 07161 / 98872300,
Fax: 07161 / 98872303
Email: info@eltrotec.com
Internet: www.eltrotec.com
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Please request these from:
marketing@eltrotec.com
Tel.: 0049 7161 / 98872 300