

PC & Industrie

11/2019 · November 2019

UNOFFICIAL ENGLISH TRANSLATION

The original article was published in German in PC & Industrie, a trade magazine published in Germany. Prepared for CRETEC. The German original remains the reference.

PC & Industrie Ausgabe 11.2019
Perfekte Beleuchtungsqualität



CRETEC Pressemappe

Stand: 05.2020

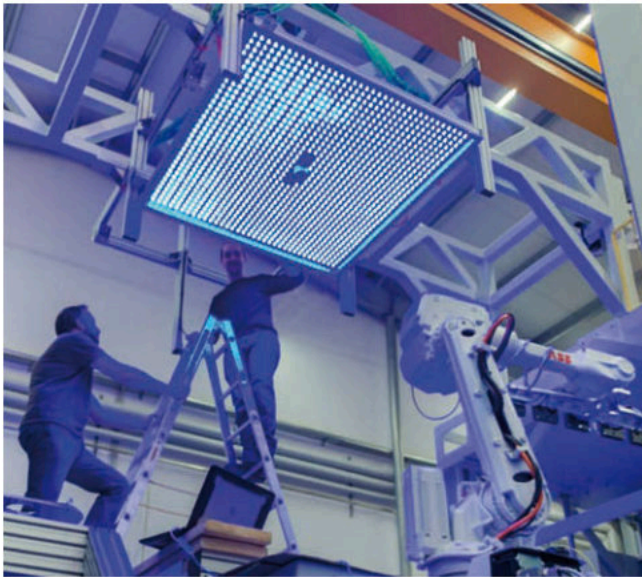
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Perfect illumination quality

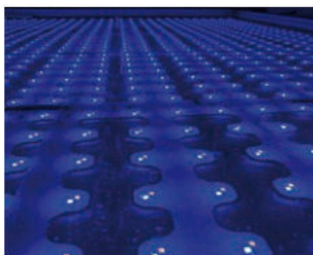
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Perfect illumination quality

Homogeneous LED area lighting for large test parts



The homogeneous light of a 1,500 × 1,500 mm LED light enables precise inspection of adhesive application on an automotive parcel shelf, with reliable detection at a resolution of 0.3 mm.



Large-area lighting modules with four-colour LEDs in strobe, colour-change or daylight mode enable an enormous range of industrial machine-vision applications.

High flexibility and very precise detection of features in industrial machine vision are directly linked to intelligently controlled lighting quality. Modular, variable LED systems in customised formats optimise precise image processing economically and technologically. Flexible automation requires increasingly fine detection of many different features on larger test objects under changing conditions. Optimising lighting quality through intelligent LED hardware and control software is therefore essential.

Broad product portfolio

For large test parts, Cretec GmbH offers a broad range of intelligent, large-area, modular LED lighting systems. These modules can be combined into variable geometric formats for backlighting extending to the edges or front lighting. They deliver economically and technologically efficient vision solutions even for highly complex requirements. This is

complemented by expertise and extensive experience in state-of-the-art lighting technology: how light travels from its source to the object, is reflected or scattered, and is ultimately captured through the lens of the camera sensor as an image with extremely precise feature detection.

Protection up to IP67

The LED modules are designed for harsh industrial environments, with protection up to IP67. Exactly the right light is available for every requirement. Basic LED modules can be arranged in any geometric format, for example bar lights for conveyor applications or other large-area arrangements. Illuminated areas range from 50 × 50 mm to 6,000 × 6,000 mm. All light colours are available in continuous or strobe mode. The LED boards are developed in-house and fitted with white, red, green, blue, infrared, ultraviolet, RGB or RGBW LEDs.

In the backlighting module,

the spacing between the dimmable LEDs and their distance from the cover - a special diffuser - are selected to create an optimised, homogeneous illuminated field extending to the edges. Openings for optics can be incorporated where required, allowing a camera behind the light to look through it. The large-area LED lights are factory-adjusted and require no further manual adjustment when the application changes.

Intelligent control

Intelligent control of the individual LED colours (RGB/RGBW), combined with image processing using tone mapping, can considerably improve reliable recognition of structures. In strobe mode, synchronised in the microsecond range, the test objects are effectively frozen with high image sharpness. The extremely short flash duration permits operation at a rated current 300% higher, enormously increasing the available illuminance.

Neuer Standard für Embedded Vision

Vision Components ist mit einem Konferenzbeitrag und Exponaten auf der Embedded VISION Europe vertreten. Firmengründer und Geschäftsführer Michael Engel spricht über MIPI-Kameras als neuen Standard für Embedded Vision. Vision Components ist als erster Hersteller von MIPI-Kameraplattformen umfänglich lieferfähig und bietet die größte Vielfalt an Bildsensoren mit Auflösungen bis 13 MP.

Die hochwertigen Platinen entsprechen den industriellen Standards und sind in großen Stückzahlen zu Verbraucherpreisen verfügbar. Gezeigt werden MIPI-Platinen, die an diverse CPU-Boards von Raspberry Pi, NVIDIA und anderen Herstellern angeschlossen werden können.



Michael Engel bei seinem Vortrag

Darüber hinaus bietet das Konferenzrahmenprogramm auch die Möglichkeit, sich über autarke Embedded-Vision-Systeme zu informieren: Vision Components zeigt aktuelle VC-Z-Kameras mit integriertem Xilinx-Zynq-SoC. Diese werden für Inspektion, Codelesen, Mustererkennung, 3-D-Vermessung, Bewegungsanalyse, Roboterführung und viele andere Anwendungen eingesetzt.

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