



Press Release

LASER World of Photonics: Increased energy efficiency with industrial VCSEL heating solutions

High energy efficiency and low power VCSEL heating modules for battery manufacturing // Next generation of TruHeat VCSEL modules // Sensing applications benefit from the superior optical characteristics of VCSEL // Live demonstrations on speed and distance measurement and particulate matter sensing

Ulm, June 19, 2023 – TRUMPF Photonic Components, a global leader in VCSEL solutions for industrial laser heat treatment and industrial sensing is showcasing the latest product developments of its TruHeat VCSEL series and live applications of optical sensing at LASER World of Photonics 2023 in Munich, Germany. The VCSEL-based heating systems offer direct and homogeneous heat treatment for processes such as drying, sealing or softening. At the laser show, TRUMPF demonstrates two new heating solutions for e-mobility. “One example is our next generation TruHeat VCSEL systems for battery foil drying, offering even higher efficiency and lower power consumption,” says Ralph Gudde, Vice President Marketing and Sales at TRUMPF Photonic Components. “A small footprint, high process quality, fast processing and lower CO₂ emissions are the benefits customers get, when processing using TruHeat VCSEL systems”, Gudde adds.

Live demonstrations: Highly precise sensing with VCSELS

Production control and quality management is supported by smart optical sensing solutions to measure speed, distance and position of various materials. Single-mode VCSEL solutions with polarization control are the key enabler for demanding non-contact processing sensor applications due to their superior optical characteristics. A live demonstration will highlight the variety of applications the VCSEL light sources can cover. In addition to VCSEL components, TRUMPF offers integrated packages for easy and robust handling and the option to customize by integrating optics or electronics. In a second live demo, TRUMPF shows the real-time measurement of air quality. In cooperation Bosch Sensortec and TRUMPF developed the world’s smallest, highly accurate

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particulate matter sensor based on a VCSEL with integrated photodiode. The VCSEL solution is a compact, reliable laser source, that is maintenance free and insensitive to sunlight.

Visit TRUMPF at LASER World of Photonics 2023 at Hall A3, Booth 341

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High efficiency and low power consumption with TruHeat VCSEL systems

Laser heat treatment processes benefit from highly efficient TruHeat VCSEL systems. The VCSEL-based technology requires low power consumption and a small footprint.



Integrated VCSEL solutions for optical sensing

TRUMPF offers a highly automated process to integrate VCSEL diodes in more complex systems. This also enables customer-specific adaptations such as the integration of driver electronics or special optics.

About TRUMPF Photonic Components

TRUMPF Photonic Components is a global technology leader, supplying VCSEL and photodiode solutions for consumer electronics, datacom, automotive, industrial sensing and heating markets. So far, more than two billion VCSEL chips and photodiodes have been shipped worldwide. The staff continues to drive its technological know-how, that has been established for over 20 years now in order to maintain its leadership position. The long-established technology was acquired by TRUMPF in 2019. The company has its headquarters in Ulm, Germany, with further sales locations in the Netherlands, China, Korea and the USA.



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TRUMPF Photonic Components belongs to the TRUMPF Group, a high-technology company that offers production solutions in the machine tool and laser sectors.

TRUMPF is one of the world technological and market leaders for machine tools used in flexible sheet metal processing, and also for industrial lasers and metal 3D printing. In the 2021/22 fiscal year, the company employed some 16,500 people and generated sales of about 4.2 billion euros. With over 80 subsidiaries, the TRUMPF Group is represented in nearly every European country, in North America, South America and Asia. The company has production facilities in Germany, France, the United Kingdom, Italy, Austria, Switzerland, Poland, the Czech Republic, the United States, Mexico and China.

For more information about TRUMPF Photonic Components visit:

www.trumpf.com/s/VCSEL-solutions

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