

## **World Innovation: Omicron presents the first diode laser with almost infinite modulation capability**

Rodgau (mas) - The laser specialist Omicron has managed to create what no other manufacturer in the world has so far succeeded in doing: The newest diode laser from the Omicron house with the appropriate name "Deepstar" does not indicate any further residual fluorescence content in the "off" moment during modulation, even with very high modulation rates, and thus achieves almost infinite modulation capability. With the innovative temperature-stabilized diode laser of the LDM Series with high-speed modulation greater than 100 megahertz, the Omicron development team has created a sensational breakthrough in modulation technology for diode lasers.

The analog and digitally-modulated laser diode module Deepstar offers a modulation depth of significantly more than 100,000 to one. These lasers are particularly suitable for fluorescence excitation and all applications where absolutely no remaining light is allowed in the "off" moment during the modulation. Deepstar is the ideal source of light, for example for "Confocal Laser Scanning Microscopy" and "Flow Cytometry". With the ultradeep analog modulation greater than ten megahertz and a digital modulation greater than 100 megahertz with a signal rise and signal fall time of less than two nanoseconds, Deepstar is also suitable for those high-performance applications which, up to now, were possible only with CW lasers and AO modulators. The Deepstar diode laser is available with 20 milliwatt (mW) at 375 nanometers (nm), 60 mW at 405 nm, 50 mW at 442 nm, 20 mW at 473 nm, as well as with different powers up to 150 mW at 635 to 980 nm. The laser has a controller which is equipped with an RS-232 interface and is operated with 24 volt DC voltage. The analog and the digital signal input can be configured with respect to voltage and impedance so that adaptation to the existing signal sources can be implemented easily.

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Furthermore, the modular principle of the laser heads of the LDM Series offers further possibilities for customer-specific adaptation, such as single-mode fiber coupling with an efficiency of up to 75 percent, collimation for 0.5 to 15 millimeters of beam diameter, focussing objectives down to under one micrometer and a lot more.

The spectacular new Omicron diode laser by the name of "Deepstar" will be presented during the Optatec Trade Fair in Frankfurt at Stand Number D50. Further information about the lasers of the LDM Series can be found under [www.lasersystem.de](http://www.lasersystem.de).

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**Background information**

Omicron has been developing, constructing and producing innovative laser systems since 1989. Since then, the highly qualified team has specialized in the development of individual customer solutions in areas of application involving medicine, research and biotech, digital imaging and optical data storage, as well as quality assurance and measurement. Development and production correspond to both the European and the US-American directives. The Asiatic market is currently being conquered through epoch-making new developments in DVD mastering. The laser systems developed in modular design enable optimal satisfaction of individual customer requirements and support of customers in system integration. Omicron can claim to be one step ahead as the leader in product development and has not only set trends with its numerous new developments in laser technology, but has already also created a sensation internationally.