

Press Release

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New: OEM laser dfTune released

Tunability and single-frequency performance combined

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At this year's Optatec exhibition, TOPTICA Photonics presents the new OEM laser module **dfTune**. Based on near-infrared Distributed Feedback (DFB) diode laser technology, the dfTune provides a diffraction-limited beam profile, single-frequency emission (linewidth < 5 MHz), and wide continuous wavelength tuning (up to 4 nm). Applications are absorption spectroscopy, gas sensing, LIDAR seeding, interferometry, and difference frequency mixing for tunable THz generation.



Diode laser modules dfTune with integrated beam shaping and fiber coupler.

In order to support OEM integration, attention was paid to a highly compact footprint (smallest version 58 x 44 x 30 mm³). An RS 232 interface enables direct access to power and wavelength settings as well as read-out of operation hours and temperature. Changing the laser diode temperature allows for mode-hop free frequency tuning up to 1400 GHz. Simultaneously, the laser can be rapidly scanned by modulating the driver current via an external connector port. Depending on the experimental requirements, beam shaping (elliptical or circular beam), optical isolation and even fiber delivery can be integrated into the laser head.

The dfTune laser is insensitive to vibrations or ambient temperature drifts and does not display unwanted mode hops. An intensity stability of 0.1%/h is routinely attained. Typical lifetimes in excess of 10.000 hours (MTBF) allow for low operation costs and maintenance-free performance. The laser module is available within the complete spectral range from 760 nm to 2800 nm, with output power levels up to 150 mW at selected wavelengths.

TOPTICA Photonics AG develops, manufactures, services and distributes technology-leading diode and fiber lasers and laser systems for scientific and industrial applications. Sales and service is offered worldwide through TOPTICA Germany and its subsidiary TOPTICA USA, as well as all through 13 distributors. A key point of the company philosophy is the close cooperation between development and research to meet our customers' demanding requirements for sophisticated customized system solutions and their subsequent commercialization.

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