



## Press Release

June 8, 2021

### Make every photon count

Highest transmission and extinction with TOPTICA isolators at all wavelengths.

TOPTICA Photonics manufactures optical isolators from the ultraviolet to the near infrared. They have the highest available transmission in the forward direction, and the highest extinction in the reverse direction. TOPTICA's isolators are designed for extreme performance, matching the demands on TOPTICA's lasers.

TOPTICA isolators ensure stability of TOPTICA's narrow linewidth, long coherence length lasers, and they can protect Watt-class lasers and amplifiers from damaging back reflections. TOPTICA can also offer custom form factors and wavelengths. For more than twenty years, TOPTICA has offered narrow linewidth, single frequency, external cavity diode lasers. The spectrum and power of these lasers can be extremely sensitive to reflections from downstream optics, so it is critical that no light returns to the laser cavity. These stringent demands drove TOPTICA to develop its own line of single-stage (>35 dB) and double-stage (>60 dB) optical isolators.

Watt-class lasers and amplifiers suffer not only instability, but also damage due to back reflected light. TOPTICA's isolators are designed to handle 40 W of optical power and a maximum intensity of 4 kW/cm<sup>2</sup>.

Isolator design can be very flexible to meet an application's needs. Deployed quantum technology systems may require compact laser systems, and TOPTICA has developed < 1 cm<sup>3</sup> isolators to fit into very small laser systems. TOPTICA also has delivered high performance compact isolators at wavelengths < 400 nm and at 488 nm. These wavelengths are difficult to achieve with typical approaches to optical isolators.

### Make every photon count

With TOPTICA's isolators, you can make every photon count for your application, and count on having no photons returned to your laser or amplifier. Contact us to discuss how to move your project forward with TOPTICA isolators!

#### Key Features

- Highest transmission & extinction in the UV, VIS, and NIR.
- Unique compact, high transmission isolator < 400 nm and at 488 nm.
- Custom wavelengths and form factors available, as small as < 1 cm<sup>3</sup>.



With TOPTICA's isolators, you can make every photon count for your application, and count on having no photons returned to your laser or amplifier.

#### Key Applications:

- Protecting single-frequency lasers from instabilities caused by optical feedback.
- Protecting high power fiber lasers and amplifiers from damage due to back reflection.
- Injection locking of laser diodes.
- Faraday rotation.

For details and help please get in touch: [www.toptica.com/forward](http://www.toptica.com/forward)

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TOPTICA has been developing and manufacturing high-end laser systems for scientific and industrial applications for 20 years. Our portfolio includes diode lasers, ultrafast fiber lasers, terahertz systems and frequency combs. The systems are used for demanding applications in biophotonics, industrial metrology and quantum technology. TOPTICA is renowned for providing the widest wavelength coverage of diode lasers on the market, providing high-power lasers even at exotic wavelengths. Today, TOPTICA employs 340 people worldwide in six business units (TOPTICA Photonics AG, TOPTICA eagleyard, TOPTICA Projects GmbH, TOPTICA Photonics Inc. USA, TOPTICA Photonics K.K. Japan, and TOPTICA Photonics China) with a consolidated group turnover of € 76 million.