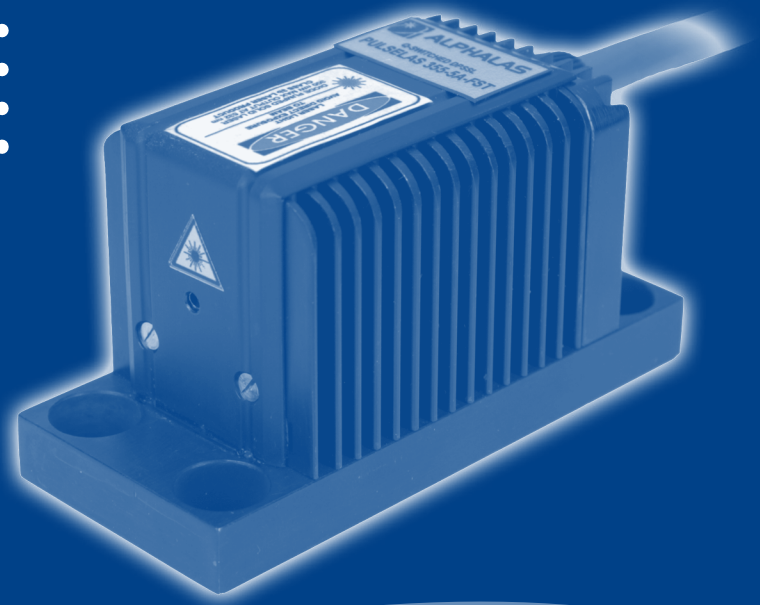
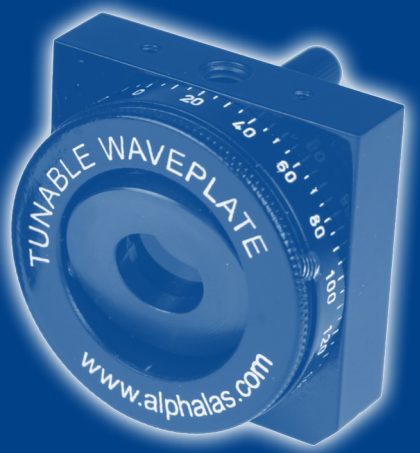
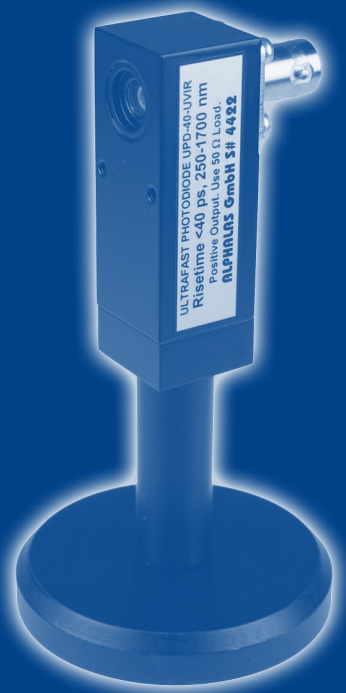
Lasers, Optics, Electronics. Made in Germany.

ALPHALAS GmbH





- **DPSS & Diode Lasers**
  Modelocked (100 fs - 100 ps)
  Q-Switched (microchip, <1 ns, >1 mJ)
  CW (single-frequency, green & IR)
- **Laser Kits for Education & Research**
  Diode-Pumped (CW & Q-Switched),
  Picosecond, Femtosecond
- **Ultrafast Photodetectors**
  From < 15 ps, 170-2600 nm
- **Advanced Digital CCD Line Cameras**
- **Laser Diode & TEC Drivers**
- **Pockels Cells & Drivers**
- **HV Switches & Nanosecond Generators**
- **Unique Tunable Z. O. Waveplates**
  150-6500 nm, 1-21 µm
  Best for Femto Lasers
- **Laser & Nonlinear Crystals**
- **Optical & Laser Components**
- **Custom Design, Contract Research & Consulting**



ALPHALAS

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ALPHALAS GmbH was founded in 1997 as a high-tech company in the fields of lasers and optoelectronics.
Our company offers a wide range of products:

DPSS & Diode Lasers

Modelocked diode-pumped solid-state & fiber lasers with pulse lengths from 100 fs to 100 ps and repetition rates from 10 MHz to 1 GHz depending on the model and modelocking method. The models start with low-cost versions (500 mW, 10 ps, 1064 nm) and reach up to 10 W, with frequency conversion to 532 nm, 355 nm and 266 nm.

Picosecond diode lasers of the PICOPOWER™-LD series deliver short light pulses (50 - 200 ps) directly from current-modulated laser diodes. The repetition rate is from single shot to 100 MHz. Applications include time-resolved fluorescence measurements, nonlinear optics, testing of high-speed photodetectors and optoelectronic devices, etc.

Q-switched subnanosecond DPSS lasers. Compact, diode-pumped actively and passively Q-switched lasers of the PULSELAS® series with EO-Q-switch or microchip design deliver pulses < 1 nanosecond at 1030 nm and 1064 nm with high peak-power of 5 kW to 1.5 MW and pulse energy from 5 µJ to 1.5 mJ, the highest peak power and energy for this type of lasers available on the market. The repetition rate is up to 100 kHz, and the average power ranges from 100 mW to 1 W, depending on the model. Frequency conversion to 532, 355 and 266 nm is available as option. Actively Q-switched lasers with similar parameters and extremely low jitter < 1 ns are available as well.
Applications include material processing, micromachining and marking, nonlinear optics, time-resolved fluorescence measurements, DNA-analysis, LIDAR, laser ranging, supercontinuum generation, etc.

Continuous wave (CW) DPSS & diode lasers of the MONOPOWER™ series include single-frequency green lasers and infrared lasers for applications in interferometry, holography and research.

Diode-pumped (CW & Q-switched), picosecond and femtosecond laser kits for education & research belong to our best-selling products.

Laser Diagnostic Tools & Laser Electronics

Ultrafast photodetectors of the UPD series are designed for measuring the pulse form and pulse duration of laser pulses, precise synchronization and triggering. They have rise times starting from < 15 ps and cover the spectral range from 170 to 2600 nm. Exclusively offered by ALPHALAS are the UV-sensitive InGaAs photodiodes with rise time < 40 / 70 ps and sensitivity from 350 to 1700 nm.

Advanced digital CCD line cameras are suited for beam analysis and spectral measurements. These cameras feature high sensitivity with UV option, high frame rates, USB 2.0 and include drivers & applications for NI LabVIEW & C++.

High-frequency amplifiers BBA-type are used for amplification of photodiode signals, with bandwidth up to 15 GHz.

A large variety of ***laser diode drivers*** cover the range from milliamperes to hundreds of amperes in CW and pulsed modes, most models are also featuring TEC (Peltier) drivers. Unique proprietary drivers deliver 250 ps high current pulses up to 1 A for driving picosecond diode lasers.

Pockels cell drivers, ***high-voltage high-speed switches*** and ***high-voltage nanosecond generators*** are used in laser radiation control.

Optics & Laser Components

ALPHALAS GmbH offers various ***optical and laser components***, ***polarization optics***, ***laser and nonlinear crystals***.

Our unique ***tunable zero-order waveplates*** can be used over the spectral range 150 to 6500 nm and from 1 to 21 µm, with bandwidth up to 300 nm. Available as quarter, half-wave or variable phase retarders, they replace tens of ordinary waveplates. Best suited for applications with femtosecond lasers and optical parametric oscillators.

Our strengths are fast delivery, flexibility and custom design. We also perform contract research and development. Please do not hesitate to contact us for further details.

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