

NEW VERSION

BLAZE The Complete Solution

Fully-Integrated Femtosecond Ti:sapphire Laser and OPO System



Key Features

- Single sealed enclosure with fully-integrated design.
- Wide tuning across 730 - 1550 nm and 1620 - 4000 nm without any change of optics. 365 - 730 nm optional.
- Three outputs available: 1) Ti:sapphire laser, 2) OPO signal, 3) OPO idler.
- Independent tuning of Ti:sapphire and OPO outputs available.
- High power with >2.5 Watts at the peak of the tuning range.
- Controllable pulse duration across the spectral range.
- Excellent beam pointing stability with TEM₀₀ spatial quality.
- Hands-free operation with a dedicated control software for both pump and OPO. Control drivers available.
- Integrated spectrometer.

Applications

- Multi-photon excitation (MPE) microscopy
- Coherent anti-stokes Raman spectroscopy (CARS)
- Time-resolved spectroscopy
- Vibrational overtone spectroscopy
- Semiconductor research and spectroscopy
- Multiple wavelength pump-probe experiments
- Fiber optics and optical communications

Radiantis introduces the Blaze, the first commercial broadly tunable femtosecond laser system in a single platform incorporating both a Ti:sapphire pump laser and an optical parametric oscillator (OPO) for maximum stability, compactness and simplicity.

The unprecedented fully-integrated design of the Blaze includes three output ports which deliver: 1) the OPO signal (across 1000 - 1550 nm), 2) the OPO idler (across 1620 - 4000 nm) and 3) the Ti:sapphire (across 730 - 1020 nm). An important feature of the Blaze is the incorporated Ti:sapphire pump bypass which enables the selection of 100% of the pump (with no signal power) or 100% of the signal and idler power (simultaneous) with 0% of the Ti:sapphire. A wavelength extension into the UV and visible (across 365 - 775 nm) is available upon request.

To ensure shortest pulse durations across the spectral range, an advanced dynamic dispersion compensation module is included within the Blaze, allowing independent optimisation of the pulse duration for different wavelengths. Excellent beam pointing stability with time and wavelength is provided, which increases usability in applications where reduced beam misalignment due to laser beam displacement is required.

Full-automation is provided via dedicated control software and drivers. The Blaze's sealed, compact and hands-free design combined with virtual maintenance-free operation offers a superior and cost-effective laser system for applications such as multi-photon microscopy, time-resolved spectroscopy or CARS.

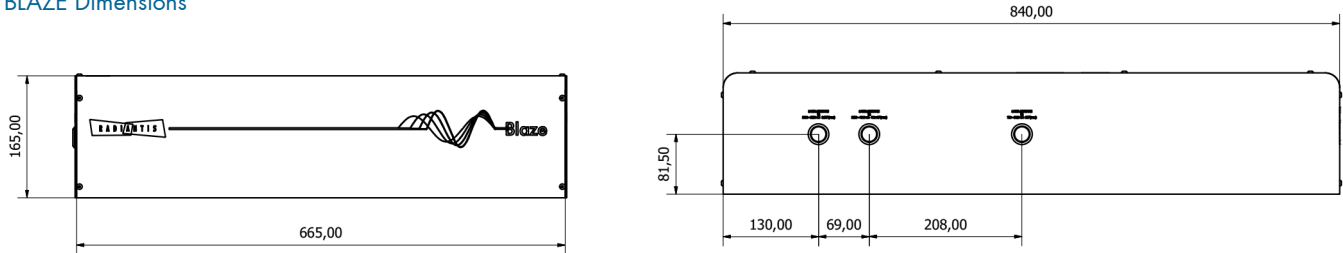
Specifications⁽¹⁾

| Output Characteristics | Blaze | Blaze XT |
|--|---|---|
| Signal tuning range ⁽²⁾ | 1000 - 1550 nm | 1000 - 1550 nm |
| Idler tuning range | | 1620 - 4000 nm |
| Ti:sapphire wavelength ⁽³⁾ | 730 - 1020 nm | 730 - 1020 nm |
| Signal output power ⁽⁴⁾ | > 800 mW | > 800 mW |
| Idler output power | | > 250 mW |
| Ti:sapphire output power | > 2.2 W | > 2.2 W |
| Ti:sapphire pulse width | < 150 fs (adjustable) | < 150 fs (adjustable) |
| Signal pulse width | < 200 fs (adjustable) | < 200 fs (adjustable) |
| Idler pulse width | | < 120 fs 1620 – 2000 nm |
| Beam diameter at 1300 nm | 1.4 mm +/- 10% | 1.4 mm +/- 10% |
| Beam divergence | < 1 mrad | < 1 mrad |
| Signal beam displacement with wavelength | < 600 µm / 540 nm (at < 40 cm from output) | < 600 µm / 540 nm (at < 40 cm from output) |
| Signal beam pointing with wavelength | < 300 µrad / 540 nm (at < 40 cm from output) | < 300 µrad / 540 nm (at < 40 cm from output) |
| Spatial mode | TEM ₀₀ (M ² ≤1.2) | TEM ₀₀ (M ² ≤1.2) |
| Signal noise at 1300 nm | < 1% rms | < 1% rms |
| Output ports | 1) Signal 2) Idler 3) Ti:sapphire bypass | |
| Polarization | Horizontal | |
| Repetition rate | 80 MHz | |
| Size (W x L x H) | 840.0 x 665.0 x 165.0 mm (33.1 x 26.2 x 6.5 inch) | |

Notes

- ¹ Specifications are subject to change without notice
- ² UV-VIS extension available upon request
- ³ Alternative pump wavelengths available upon request
- ⁴ At peak of pump and OPO signal tuning range

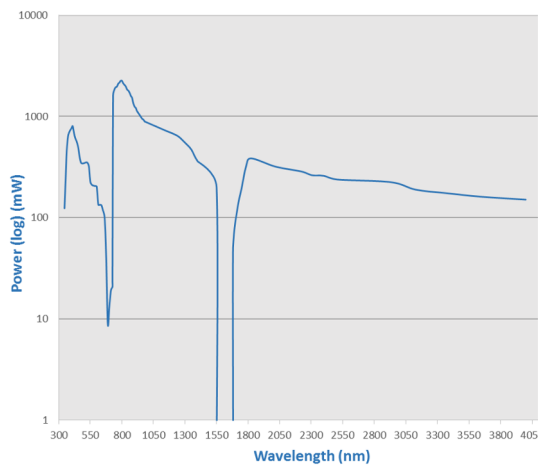
BLAZE Dimensions



Dimensions in mm



BLAZE HP XT UV VIS - Typical Tuning Curve



BLAZE Diamond Chart

