



INTEGRAL™ OCT

Applications

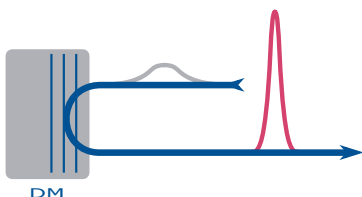
Optical Coherence Tomography

- Ophthalmology
- Dermatology
- Endoscopy
- Quality control



INTEGRAL™ OCT is a compact ultra broadband coherent light source, based on a low threshold femtosecond oscillator powered by an integrated diode pumped green solid state laser. Generation of ultra broadband laser radiation directly from a low loss laser oscillator is guaranteed by FEMTOLASERS' patented Dispersive Mirror (DM) technology.

Active thermal stabilization with feedback loops in combination with a compact design enable output parameters of unprecedented quality, stability, and reproducibility. Due to its turnkey operation, the INTEGRAL™ OCT is best suited for everyday use in medical, industrial, and scientific applications.



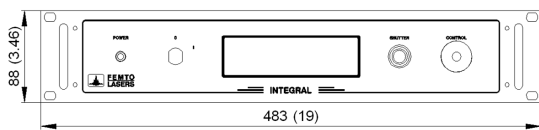
INTEGRAL™

OCT

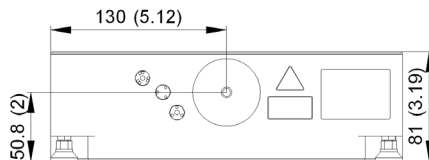
Extraordinary Features

- Integrated pump source
- Integrated Diagnostics system
- Active stabilization of system parameters
- Turn key system
- Sealed cavity
- Low noise
- Ultrabroad spectrum
- Fiber coupled

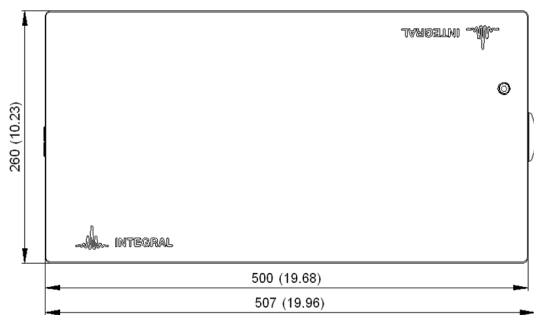
INTEGRAL™ - USER INTERFACE, Dimensions in [mm] ([in])



INTEGRAL™ - FRONT VIEW, Dimensions in [mm] ([in])



INTEGRAL™ - TOP VIEW, Dimensions in [mm] ([in])



SPECIFICATIONS

Bandwidth (FWHM) @ 800 nm

Mode locked output power (av.) ex fiber

Noise (measured 10 Hz - 100 KHz)

Power stability¹⁾

1) Measured over 8 hours after 30 min. warmup at constant environmental conditions

INTEGRAL™ OCT

> 120 nm

> 40 mW

< 0.05 % rms

± 1%

All specifications are subject to change without notice

Ultrashort Pulses

With DM technology, intracavity high order dispersion can be virtually eliminated, generating high quality, near Gaussian shape >120 nm spectra from a low threshold Ti:Sapphire oscillator. (A. Unterhuber et al., *Optics Letters*, Vol. 28, No 11, pp. 905-907, 2003).

Compactness

DM systems contain no intracavity elements other than the gain medium resulting in an extremely compact and simple design.

Stability & Reliability

The intracavity dispersion is not sensitive to cavity alignment, in strong contrast to prism controlled systems. Hence the day-to-day reproducibility as well as the stability of the laser output parameters are excellent in the >120 nm bandwidth regime.

Due to the compact DM resonator, the sealed cavity technology, as well as the active stabilization of system parameters, the INTEGRAL™ OCT features the highest stability demonstrated in the >120 nm bandwidth regime to date.

Fiber coupling

The INTEGRAL™ OCT output is coupled into a standard commercial single mode fiber, insuring maximum ease of use and compatibility with other systems. All parameters are measured at the fiber output.



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FEMTOLASERS' laser products are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by Center of Devices and Radiological Health on all systems ordered for shipment after October 1, 2003.