NKT Photonics

SuperK FIANIUM OCT

Low-noise supercontinuum white light laser

BROADBAND OUTPUT AND LOW NOISE

Ideal for Optical Coherence Tomography

The SuperK FIANIUM OCT series is a supercontinuum source optimized for ultra-high resolution Optical Coherence Tomography and multimodality applications.

The ultra-broad output and low noise makes SuperK supercontinuum lasers ideal OCT sources when micron resolution or a special wavelength range is needed.

Applications

- Optical Coherence Tomography
- White light interferometry
- Multimodality OCT applications:
  - Autofluorescence
  - Spectroscopy
  - Doppler OCT

SUPERK FIANIUM OCT

Optimized for ultra-high resolution OCT

The new SuperK FIANIUM OCT series from NKT Photonics is a supercontinuum source optimized for ultra-high resolution OCT and multimodality applications.

The SuperK FIANIUM OCT series have the market's lowest noise. It is optimized for low-noise performance to yield high-contrast, low-noise images in OCT systems.

Combined with a broadband spectrometer, the SuperK FIANIUM OCT can power Optical Coherence Tomography systems down to 1-2 µm axial resolution.

## Replaces expensive Ti:Sapphire lasers

Due to its low noise and broadband output, it matches the performance of the bulky and costly Ti:Sapphire lasers.

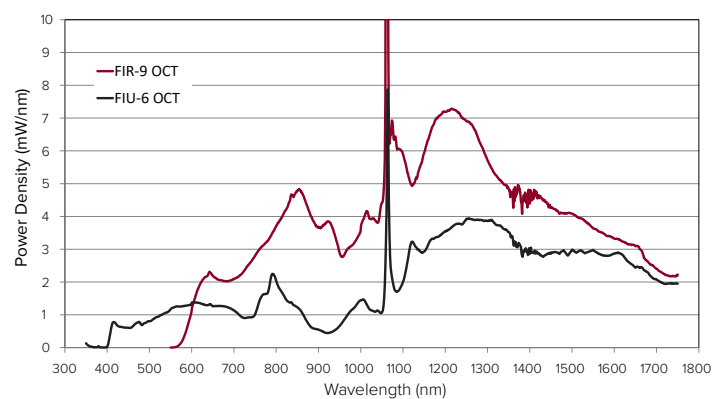| Model	FIR-9 OCT	FIU-6 OCT
Cut-in wavelength	<580 nm	<425 nm
Visible power	>900 mW	>600 mW

Features

- Low noise
- Broadband output
- True single-mode output
- Multimodal OCT light source
- Replaces Ti:Sapphire lasers and SLEDs
- Unsurpassed reliability and lifetime
- OCT optimized filter option

Relative Intensity Noise
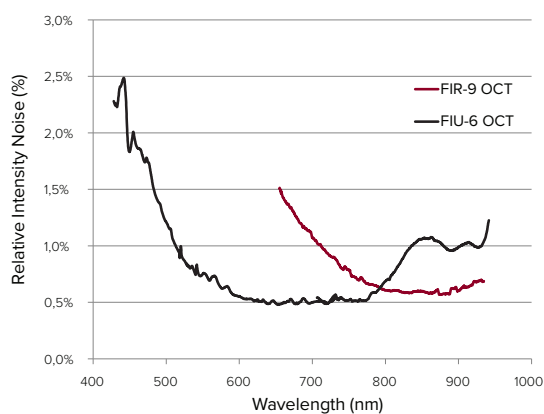
Typical output spectrum

SPECIFICATIONS

Optical

Model	FIR-9 OCT	FIU-6 OCT
Cut-in wavelength [nm]	< 580	< 425
Visible power (350-850 nm) [mW]	> 900	> 600
Total power [W]	6.5	6.5
Repetition rate [MHz]	312 ± 3	312 ± 3
Power stability [%]	< ± 0.5	< ± 0.5
Polarization	Random	Random
Beam output	Gaussian, single mode	Gaussian, single mode
Beam quality	$M^2 < 1.1$	$M^2 < 1.1$
Collimated beam diameter [mm]	≈ 1 @ 530 nm	≈ 1 @ 530 nm
	≈ 2 @ 1100 nm	≈ 2 @ 1100 nm
	≈ 3 @ 2000 nm	≈ 3 @ 2000 nm
Beam divergence (half angle) [mrad]	< 5	< 5
Beam pointing accuracy [mrad] [1]	< 1	< 1

Mechanical/Electrical/Environmental

Model	All models
Output fiber length [m]	1.5
Computer interface	USB 2.0/RS-232/Ethernet
Operation volatge [VAC, Hz]	100-240 VAC 50/60
Power consumption [W]	< 100
Door interlock connector [2]	2-pin LEMO
External bus interface [3]	16-pin sub-D
Cooling	Air
Operation temperature [°C]	18 – 30
Storage temperature (non-condensing) [°C]	-10 – 55
Dimensions (WxHxL) [mm^3]	440 x 251 x 400
Weight [kg]	18

1) Measured relative to the mechanical axis running through the center of the collimator.
2) The SuperK EXTREME is a class 4 laser and required to be connected to a door interlock/circuit.
3) External communication and power supply port for accessories.

TECHNICAL DRAWINGS

440

251

400
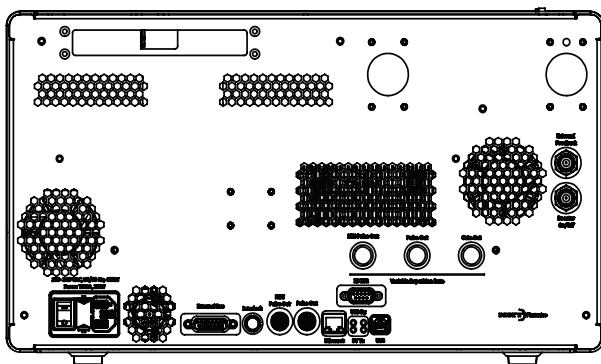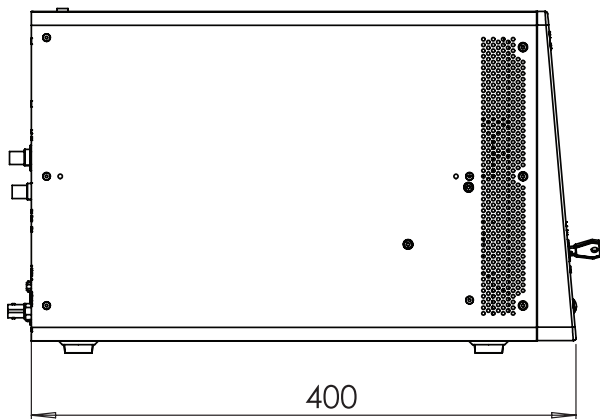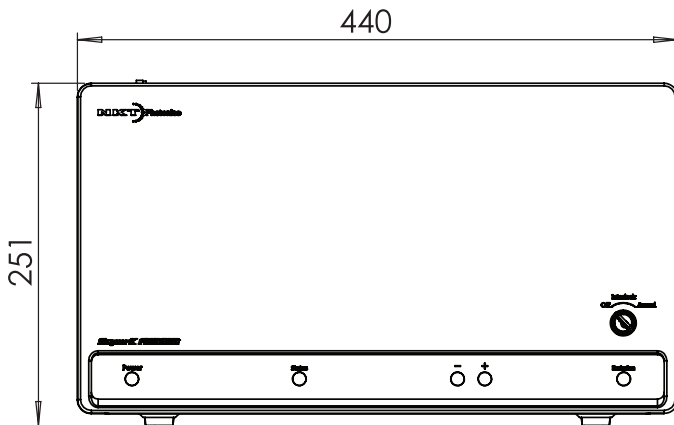
Software
— NKT Photonics CONTROL

Like other NKT Photonics lasers, the SuperK FIANIUM OCT can be controlled by our intuitive CONTROL software that gives easy access to all laser functions.

The software automatically detects all units attached to the computer. You can control the source and any filtering accessories from CONTROL. It is easy to use and supports touch input as well as traditional mouse+keybord control.

Support and warranty

SuperK warranty
All SuperK FIANIUM products comes with industry leading reliability and are backed by our standard 2 year warranty.

Lifetime and service
Before shipping, all our SuperK lasers undergo an extensive burn-in to ensure performance and conformity to specifications.

Our systems boast over 10,000 hours of continuous lifetime and underlines the high reliability of our NKT Photonics Crystal Fibre technology.

Maintenance-free in the entire lifetime
A SuperK laser is completely maintenance-free in the entire lifetime.

Should your laser be damaged, the modular platform ensures fast turnaround on service and repairs. Typically, it takes four weeks or less to get your laser back.

FORCE Certification
Systemcertificering
DS/EN ISO 9001 - Kvalitet

VISIBLE AND INVISIBLE LASER RADIATION
AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION

CLASS 4 LASER PRODUCT