

# SuperK SELECT

Multi-channel tunable AOTF filter



# Acousto-optical tunable filters give wide spectral coverage

## Tunes over one octave of optical frequency

The SuperK SELECT is a tunable wavelength filter based on Acousto-Optic Tunable Filters (AOTF).

AOTFs tune over one octave of optical frequency and the SuperK SELECT can integrate two AOTF crystals to provide wide spectral coverage, thereby giving easy-to-use and flexible access any wavelength in the spectrum of our SuperK supercontinuum sources.



# SuperK SELECT

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## Applications

**Spectroscopy**

**Single-line laser replacement**

**Fluorescence-Lifetime**

**Imaging**

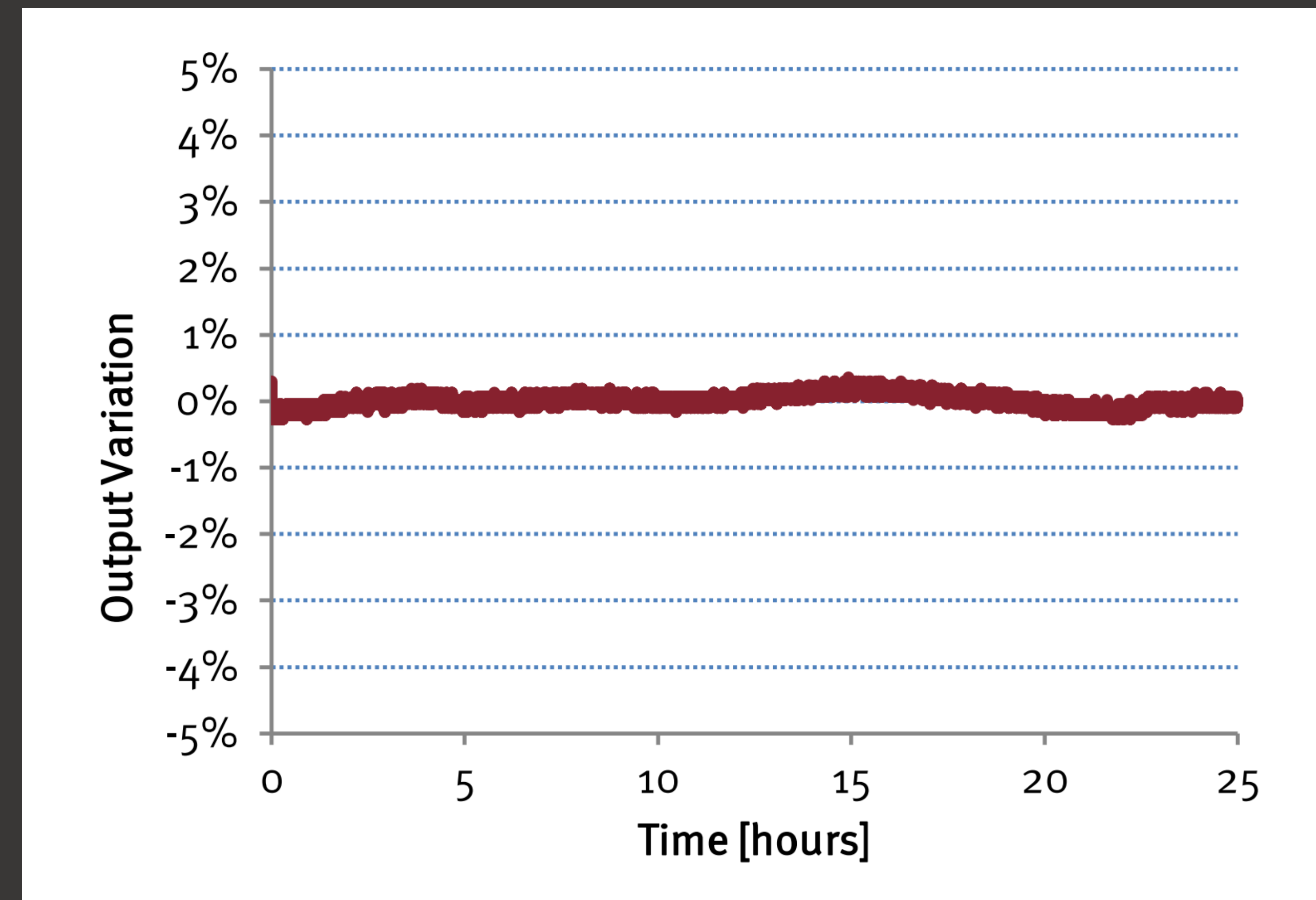
**Microscopy, FLIM**

# Ease of use

## Built-in intelligence and RF switch

When the SuperK SELECT is connected to the SuperK FIANIUM, the CONTROL software automatically recognizes and initializes the SELECT.

SuperK SELECT also features a built-in RF switch for toggling between the two AOTFs without physical cable connection changes



## Options

### Fiber delivery via SuperK CONNECT

The SuperK SELECT can be combined with our high-performance SuperK CONNECT fiber delivery system.

It comes complete with broadband fibers and a range of termination options such as FC/PC connectors or high-quality collimators.

Interfacing is handled by the CONNECT fiber coupling block which ensures easy and stable single-mode coupling that can be disconnected and reconnected without alignment.

### Power Lock - External power stabilization

The Power Lock option enables you to lock the power output of the SuperK SELECT via a built-in photodetector. Simply connect the detector to the External Feedback BNC connector of the SuperK.

Activate locking from the control panel to make the SuperK lock the power output of the SELECT. Power Lock monitors are available for both output ports.

The long-term stability of a locked output will typically be better than +/- 0.5 % (over many hours), depending on the wavelength.

# SuperK SELECT

## Features

400-2000 nm tuning range  
Up to 16 simultaneous, freely tunable channels

Dual VIS/nIR, VIS/IR, nIR/IR port access

Easy connection to SuperK FIANIUM

Robust and compact industrial design

Maintenance-free 24/7 operation  
Simple and intuitive user interface, NKT Photonics CONTROL, via SuperK FIANIUM

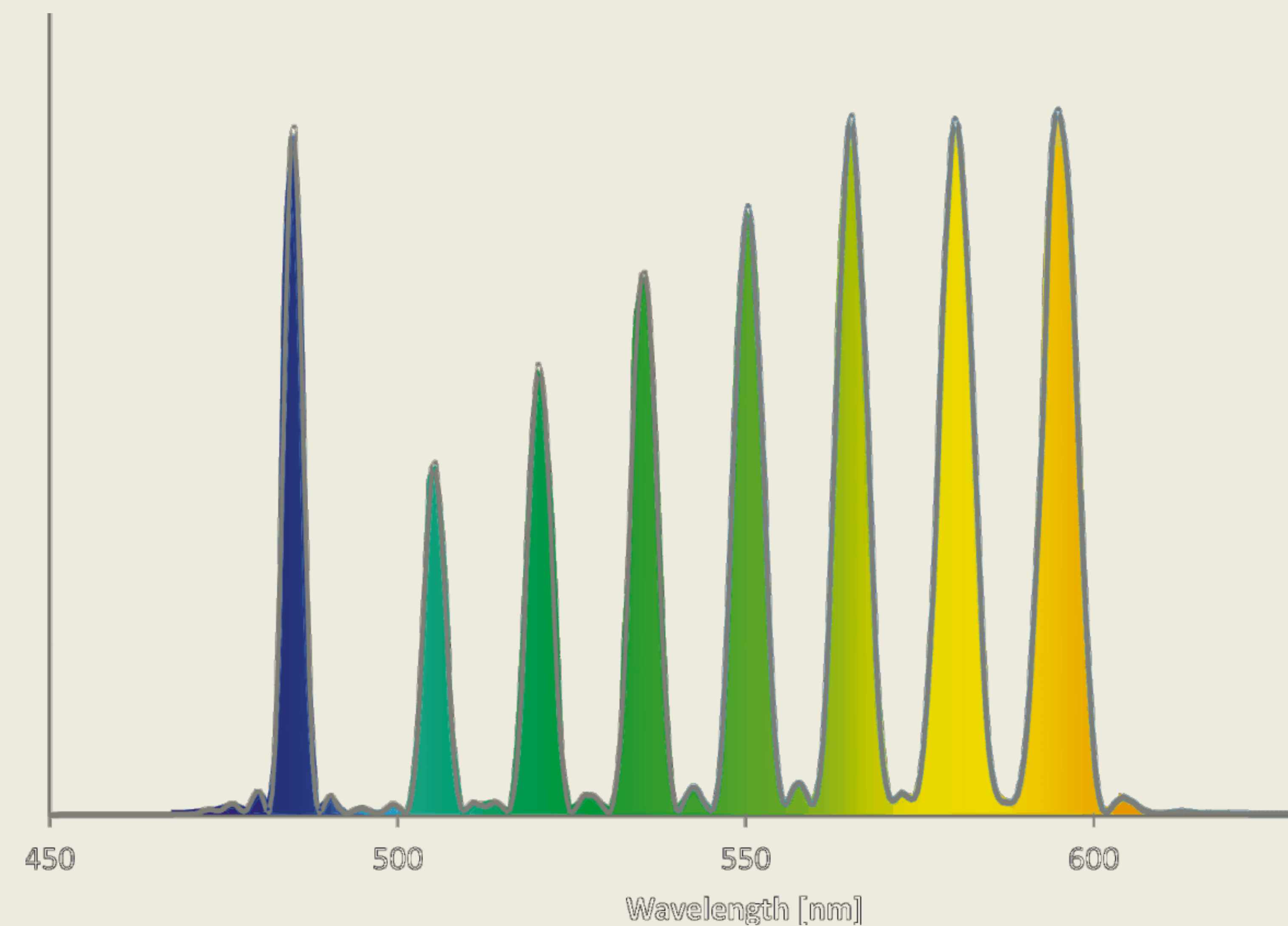
# Options

## Wavelength ranges

The SuperK SELECT offers a choice of AOTF crystals which must be selected to cover the needed wavelength range. Seven different crystals are available covering the wavelength range from 400 nm to 2000 nm.

Possible crystal combinations are listed below with wavelength ranges for each crystal and combination.

### Typical output spectrum [nm]



AOTF1/AOTF2	VIS-nIR	nIR1	nIR2	IR
	500-900 nm	640-1100 nm	800-1400 nm	1100-2000 nm
UV-VIS	400-650 nm/	400-650 nm/	400-650 nm/	400-650 nm/
400-650 nm	690-900 nm	690-1100 nm	800-1400 nm	1100-1200 nm
VIS (1x)	-	430-665 nm/	430-700 nm/	430-700 nm/
430-700 nm		690-1100 nm	800-1400 nm	1100-2000 nm
VIS (4x)	-	450-665 nm/	450-700 nm/	450-700 nm/
450-700 nm		690/1100 nm	800-1400 nm	1100-2000 nm
VIS-nIR	-	-	500-850 nm/	500-900 nm/
500-900 nm			900-1400 nm	1100-2000 nm
nIR1	-	-	-	640-1100 nm/
640-1100 nm				1200-2000 nm
nIR2	-	-	-	800-1100 nm/
800-1400 nm				1200-2000 nm

# SuperK SELECT

## NKT Photonics CONTROL

Via a SuperK laser, the SuperK SELECT 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 several lasers simultaneously. It is easy to use and supports touch input as well as traditional mouse+keyboard control.

# Specifications

## Optical

<b>Number of tunable lines</b>	<b>1 – 8 (per AOTF)</b>
Filter bandwidth of AOTF (UV-VIS) 1) [nm]	1.8 – 6.7
Filter bandwidth of AOTF (VIS1x/VIS4x) 1) [nm]	0.5 – 1.85 / 2.5 – 8.5
Filter bandwidth of AOTF (VIS-nIR) 1) [nm]	3.5 – 14
Filter bandwidth of AOTF (nIR1/nIR2) 1) [nm]	1.8 – 5 / 2.6 – 9.6
Filter bandwidth of AOTF (IR) 1) [nm]	6.4 – 19.8
AOTF deflection efficiency [%]	> 90 (1 – 8 channel operation)
Polarization 2)	Linear
Output mode	Fiber or free-space collimated
Mechanical shutter	Integrated for both ports
Laser safety interlock	Integrated

<sup>1</sup> Collimated free-space output, FWHM bandwidth.

<sup>2</sup> Horizontal with respect to base.

## SuperK SELECT

### Support and warranty

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

# Specifications

**SuperK  
SELECT**

## Standard for fiber-to-fiber connections

AOTF1/AOTF2	VIS-nIR	nIR1	nIR2	IR
UV-VIS	FD1	FD1	FD1	FD1
	FD3	FD3 (FD4)	FD4 (FD5)	FD5 (FD6)
VIS (1x)	-	FD2	FD2	FD2
		FD4 (FD3)	FD4 (FD5)	FD5 (FD6)
VIS (4x)	-	FD2	FD2	FD2
		FD4 (FD3)	FD4 (FD5)	FD5 (FD6)
VIS-nIR	-	-	FD2 (FD3)	FD2 (FD3)
			FD4 (FD5)	FD5 (FD6)
nIR1	-	-	-	FD3 (FD4)
				FD5 (FD6)
nIR2	-	-	-	FD4 (FD5)
				FD5 (FD6)

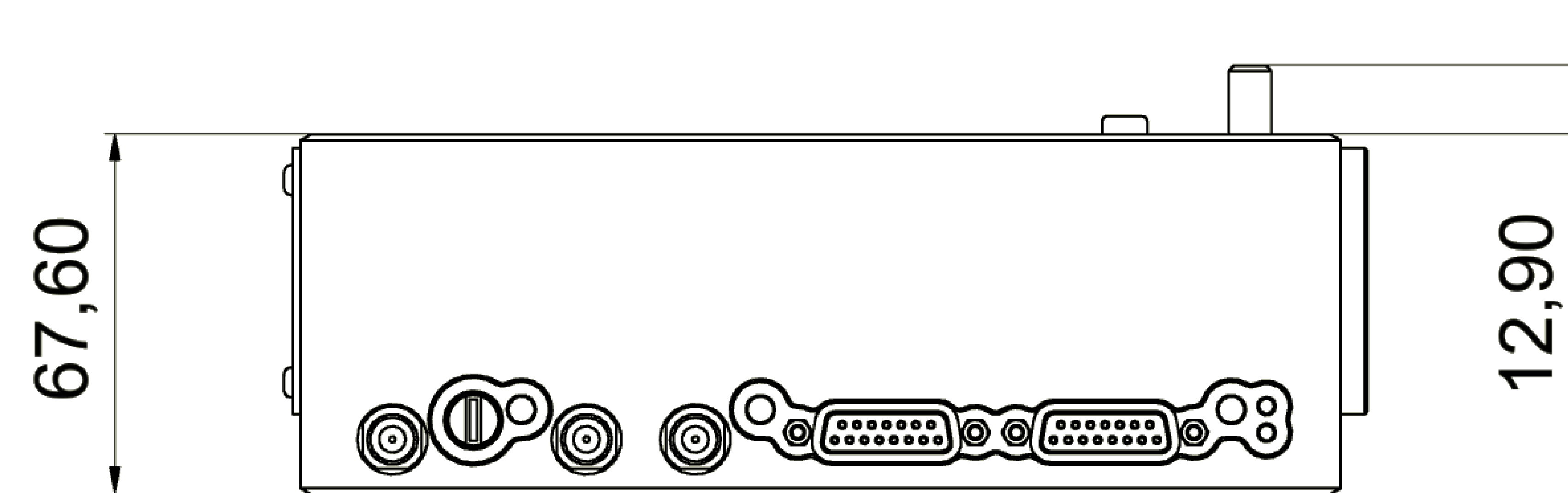
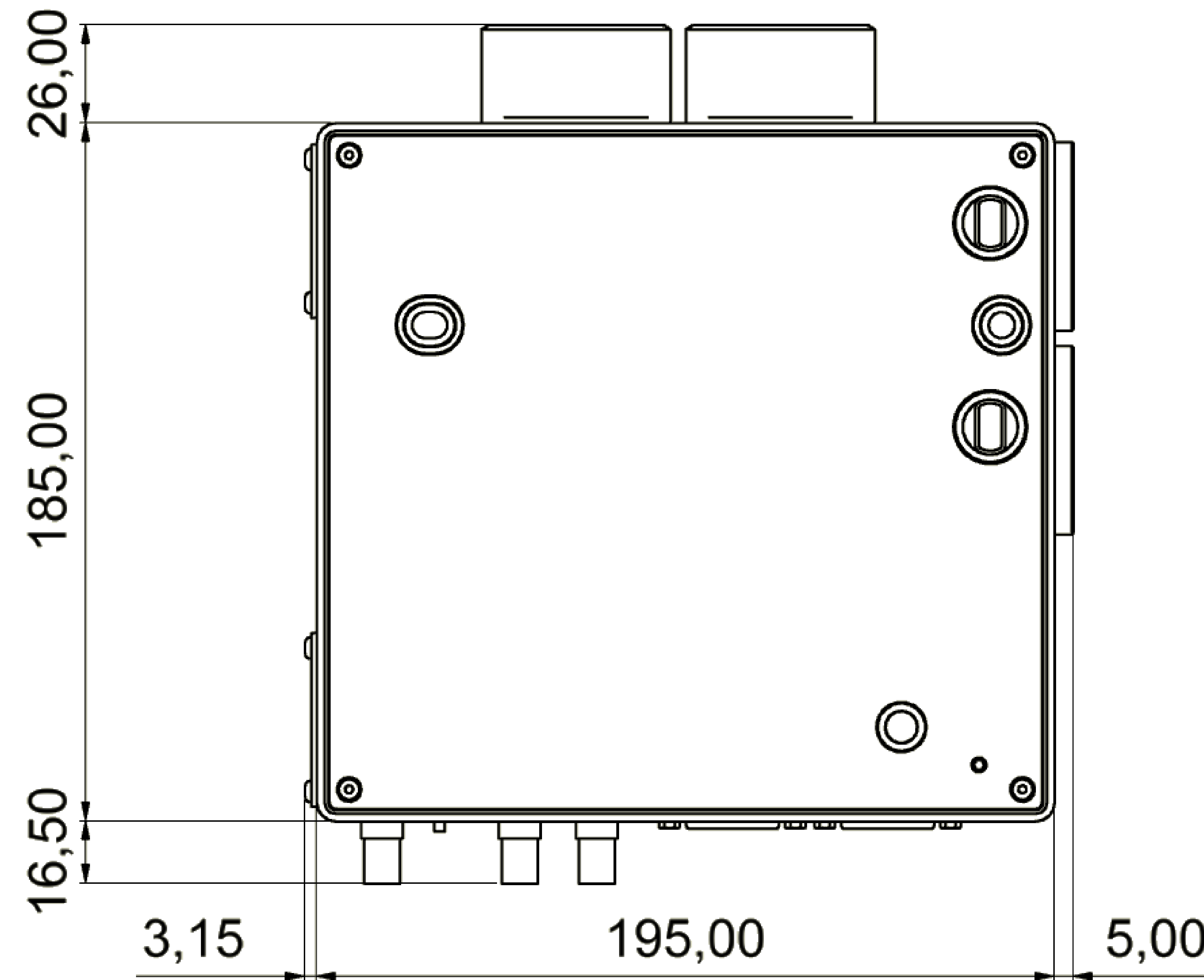
## Standard for fiber-to-free space connections

AOTF1/AOTF2	VIS-nIR	nIR1	nIR2	IR
UV-VIS	FD7	FD7	FD7	FD7
			FD9 (non-PM)	FD8 (non-PM)
VIS (1x)	-	FD7	FD7	FD7
			FD9 (non-PM)	FD8 (non-PM)
VIS (4x)	-	FD7	FD7	FD7
			FD9 (non-PM)	FD8 (non-PM)
VIS-nIR	-	-	FD7	FD7
			FD9 (non-PM)	FD8 (non-PM))
nIR1	-	-	-	FD7
				FD8 (non-PM)
nIR2	-	-	-	FD9 (non-PM)
				FD8 (non-PM)

# Technical Drawings

## SuperK SELECT

All NKT Photonics products are produced under our quality management system certified in accordance with the ISO 9001:2015 standard.



# SOLUTIONS FOR INNOVATORS