

# Koheras BoostiK™ System

*Ultra narrow linewidth fiber laser in 1 μm or 1.5 μm range*

- Single frequency fiber laser
- Ultra narrow linewidth and low phasenoise
- Turn-key 19" 2U benchtop box system
- Available with KHz frequency modulation (option)

Koheras BoostiK™ is a high power, narrow linewidth single wavelength distributed feedback (DFB) fiber laser system in a compact turn-key design. This fiber laser features a unique narrow linewidth combined with high output power.

The product is supplied as a stand-alone unit packed in a 19" rack system including controller electronics. The Koheras BoostiK™ is delivered with a suitable power supply unit ready for operation. It is ideal for laboratory work and experimental research.

Technical specifications	
<b>KOHERAS BoostiK™ System</b>	<b>E15/C15/Y10</b>
Power supply requirements [VDC]	90-240 VAC; 50-60Hz
Fiber pigtail length [m]	> 1
Connectors	FC/APC or collimated
Dimensions (HxWxD) [mm]	104x449x383 (19" 2U)
Operating temperature range [°C]	15 - 40
Storage temperature range [°C]	-20 - 50

1. The center wavelength is selectable within the specified range.
2. Depends on the center wavelength.
3. Shot-noise limited > 5 MHz.
4. External piezo driver required.
5. All optical specifications are valid up to 10kHz PZT bandwidth.

Optical specifications			
Koheras BoostiK™ System	E15	C15	Y10
Center wavelength [nm] <sup>1</sup>	1535-1575, optionally other	1535-1575, optionally other	1030-1121
Laser emission	CW - single frequency	CW - single frequency	CW - single frequency
Beam quality	M <sup>2</sup> < 1.05	M <sup>2</sup> < 1.05	M <sup>2</sup> < 1.05
Output power [mW] <sup>2</sup>	Up to 2 W (optional higher)	Up to 2 W (optional higher)	Up to 5 W
Line width (120 μsec) [kHz]	< 1	< 50 (optionally <10)	< 70 (optionally <10)
Phase-noise [μrad/√Hz] 1m opt. path	<-120 @ 500MHz/ <-110 @ 10Hz	<-100 @ 500MHz/ <-95 @ 10Hz	NA
RIN peak [MHz]	app. 0.3	app. 0.9	app. 1.5
RIN level [dBc/Hz]	<-115 @ 1MHz/<-140 @ 10MHz	<-120 @ 1MHz/<-140 @ 3MHz <sup>3</sup>	<-115 @ 1MHz/<-140 @ 10MHz
Optical S/N [dB] (50 pm res.)	> 50 (depending on wavelength)	> 50 (depending on wavelength)	> 50 (depending on wavelength)
PM output	Optional	Optional	Optional
Thermal tuning	Standard	Standard	Standard
Thermal tuning range [nm]	> 0.8	> 0.8	> 0.5
Thermal tuning range (incl. Piezo feature)[nm]	> 0.7	> 0.7	> 0.4
Fast Piezo tuning capability	Optional	Optional	Optional
Piezo-electric tuning range [pm]	> 16 (0-200 V DC)	> 16 (0-200 V DC)	> 9 (0-200 V DC)
Piezo-electric tuning bandwidth [kHz] <sup>5</sup>	up to 100	up to 100	up to 100
Optical monitor output	Incl. (FC/APC)	Incl. (FC/APC)	Incl. (FC/APC)

Specifications are subject to change without notice.  
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### Key features

- Stable single mode and single polarisation operation
- Burst noise and mode hop free operation
- Ultra narrow linewidth
- High wavelength selectability
- PM output (optional)
- Compact and reliable stand-alone unit in 19" rack system
- High power output
- Unprecedented low phase and intensity noise
- M<sup>2</sup> < 1,05 (single mode fiber output)
- Digital control interface

### Examples of applications

- Aerosol backscattering
- LIDAR
- Oil and gas exploration
- Harmonic generation
- Atom trapping
- Scientific applications



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