

***Basik* Module**



- SINGLE FREQUENCY FIBER LASER
- ULTRA NARROW LINEWIDTH AND LOW PHASE NOISE
- SMALL COMPACT OEM MODULE FOR INDUSTRIAL SYSTEMS
- REDUCED VIBRATION SENSITIVITY
- IDEAL FOR USE IN E.G. OIL & GAS EXPLORATION SYSTEMS

Description

KOHERAS BASIK™ Module is a single frequency distributed feedback (DFB) fiber laser system in a new rugged package with passive vibration reduction, offered as single laser or building block for e.g. multi-channel DWDM systems. Specifications include up to 20 mW output, wavelengths (e.g. ITU grid) within 1535-1575nm, optionally with fast piezo-electric modulation.

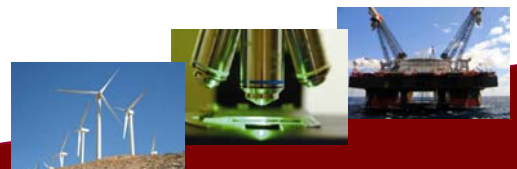
The BASIK™ Module features ultra-narrow linewidth in the Hz range and exceptionally low frequency and intensity noise superior to other comparable sources. The BASIK™ Module is ideal for coherent sensor applications in oil/gas exploration, perimeter and submarine detection, and wind LIDAR.

Key Features

- Stable single mode and single polarization operation
- Low phase and intensity noise
- Burst noise and mode hop free operation
- Ultra narrow linewidth and long coherence length
- High wavelength selectability
- Power and wavelength control via digital interface
- Piezo tuning capability (optional)
- PM output (optional)
- Very compact and robust module
- Multi-channel solutions

Examples of Applications

- Sensor interferometry
- Oil and Gas exploration system
- Acoustic sensing for e.g. marine and security applications
- Motion and intrusion detection
- Laser spectroscopy, gas absorption measurement
- Test and measurement equipment for telecom
- Scientific applications



BasiK Module

Optical specifications

KOHERAS BASIK™ MODULE	E15	C15	Y10
Center wavelength [nm] ¹	1535-1575, optionally other	1535-1575, optionally other	1030-1121
Laser emission	CW - single frequency	CW - single frequency	CW - single frequency
Beam quality	M ² < 1.05	M ² < 1.05	M ² < 1.05
Output power [mW]	up to 20	up to 20	up to 10
Line width (120 μsec) [kHz]	< 1	< 50 (optionally <10)	< 70 (optionally <10)
Phase-noise [rad/rt(Hz)] (typical values)	<-120 @500Hz / <-110 @10Hz	<-100 @500Hz / <-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 ²	<-115 @ 1MHz/<-140 @ 10MHz
Optical S/N [dB] (50 pm res.)	> 50	> 70 (typ. > 75)	> 65 (typ. > 70)
PM output	Optional	Optional	Optional
Thermal tuning	Standard	Standard	Standard
Thermal tuning range [nm]	> 0.5	> 0.5	> 0.35
Fast Piezo tuning capability ³	Optional	Optional	Optional
Piezo-electric tuning range [pm]	> 20 (0-200 V DC)	> 20 (0-200 V DC)	> 15 (0-200 V DC)
Piezo-electric tuning bandwidth [kHz]	up to 100	up to 100	up to 100
Optical monitor output	Incl (FC/APC)	Incl (FC/APC)	Incl (FC/APC)

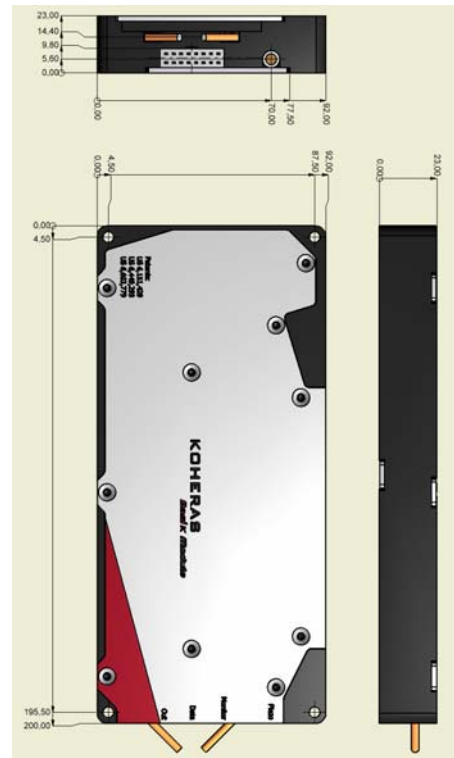
- 1) The center wavelength is selectable within the specified range.
- 2) Shot noise limited > 10 MHz.
- 3) External piezo driver required.

Other specifications

KOHERAS BASIK™ M ODULE	E15/C15/Y 10
Power supply requirements [VDC]	12V
Control connector	IDC-16 (Digital PC interface)
Fiber pigtail length [m]	app. 0.5 m
Connectors	FC-APC
Dimensions (HxWxD) [mm]	23x92x200
Operating temperature range [°C]	15 - 50
Storage temperature range [°C]	-20 - 50

Electrical pin-out specifications

PIN no.	Function
pin 1	Not used
pin 2	Laser active LED
pin 3	RS485-
pin 4	RS485+
pin 5	GND
pin 6	General System Enable
pin 7	Not used
pin 8	Interlock
pin 9-12	GND
pin 13-16	12 VDC



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