

Sub-Systems

Continuous Fiber Amplifiers

Key Features

Up to 15 W CW output power

Linear polarization

Single frequency amplification

Optically isolated stages

Excellent beam quality

Maintenance free operation

Rack mountable

Air cooled

Applications

Atom cooling

Spectroscopy

Nonlinear optics

Coherent sensing

Coherent communications

Metrology

For more Info

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HED

1.0 μm and 1.5 μm CW SLM PM Fiber Amplifier

The HED is a CW turnkey fibre amplifier delivering up to 15 W of output power through a near diffraction limited linearly polarized beam ($M^2 < 1.3$).

The HED is optimized for the amplification of Single Longitudinal Mode (SLM) laser sources of down to 1 kHz instantaneous Full Width at Half Maximum (FWHM).

The excellent beam quality and power stability make this fibre amplifier a multi-propose tool.

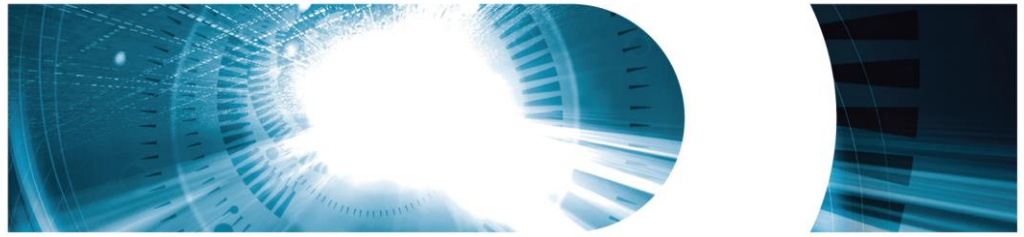
Our patented "Injection Technology" allows the use of highly reliable broad area laser diode pumps, for a cost-effective and maintenance-free operation.

The all fibre design guarantees the robustness of the amplifier, without any optical parts to align or to stabilize. The simple integration of the system requires no after-installation service.

The HED is the ideal solution for a broad range of scientific applications.



1.0 μm and 1.5 μm CW SLM PM Fiber Amplifier



ELECTRO-OPTICAL CHARACTERISTICS

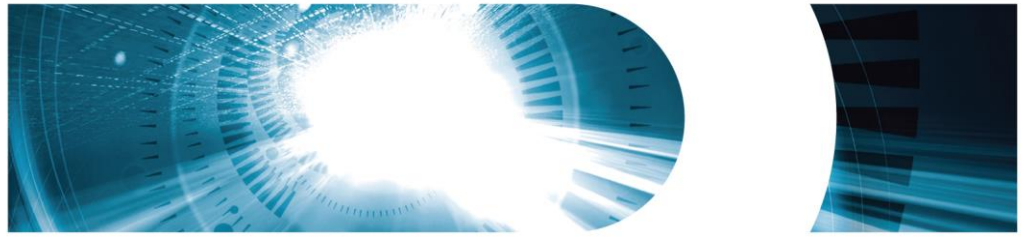
1064 nm product line

Parameters	Value					Unit
Operating mode	CW					
Nominal output power	1	3	5	10	15	W
Typical seed laser wavelength ⁽¹⁾	1064					nm
Output power tunability	30 - 100					%
Long term stability ⁽²⁾	< 2					%RMS
Seed laser instantaneous linewidth	> 1.0					kHz
Nominal input power	> 5.0					mW
Polarization	Linear					-
Polarization extinction ration (PER)	> 19			> 17		dB
Input fibre type	Panda 980					-
Input fibre length	100					cm
Input fibre termination	FC/APC					-
Output fibre length	50					cm
Output fibre termination	Collimator					-
Beam diameter (at 1/e ²)	< 2.2			< 1.0		mm
Beam quality	< 1.3					M ²
Output isolator	Installed at the input, inter-stage and output					-
Control mode	ACC					-
Housing type	Rackmount					-
Model	TKS					-
Storage temperature	0 to +50					°C
Operating temperature	+15 to +35					°C
Control interface	Front panel or USB					-
Operating voltage AC	88 to 264 (50 to 60 Hz)					V
Power consumption	< 150	< 250	< 320	< 350		W
Dimensions	3U 19": 448x451x132					mm ³
Weight	< 13					kg

(1) other seed wavelengths available in the range 1060-1090 nm

(2) over 1h@25°C, 1 sec sampling rate

1.0 μm and 1.5 μm CW SLM PM Fiber Amplifier



ELECTRO-OPTICAL CHARACTERISTICS

1550 nm product line

Parameters	Value					Unit
Operating mode	CW					
Nominal output power	1	3	5	10	15	W
Typical seed laser wavelength ⁽³⁾	1550					nm
Output power tunability	30 - 100					%
Long term stability ⁽⁴⁾	< 2					%RMS
Seed laser instantaneous linewidth	> 1.0					kHz
Nominal input power	> 5.0					mW
Polarization	Linear					-
Polarization extinction ration (PER)	> 20			> 17		dB
Input fibre type	Panda 1550					-
Input fibre length	100					cm
Input fibre termination	FC/APC					-
Output fibre length	50					cm
Output fibre termination	Collimator					-
Beam diameter (at 1/e ²)	< 2.4			< 5.0		mm
Beam quality	< 1.1					M ²
Output isolator	Installed at the input, inter-stage and output					-
Control mode	ACC					-
Housing type	Rackmount					-
Model	TKS					-
Storage temperature	0 to +50					°C
Operating temperature	+15 to +35					°C
Control interface	Front panel or USB					-
Operating voltage AC	88 to 264 (50 to 60 Hz)					V
Power consumption	< 150	< 250	< 320	< 350		W
Dimensions	3U 19": 448x451x132					mm ³
Weight	< 13					kg

(3) other seed wavelengths available in the range 1540-1560 nm

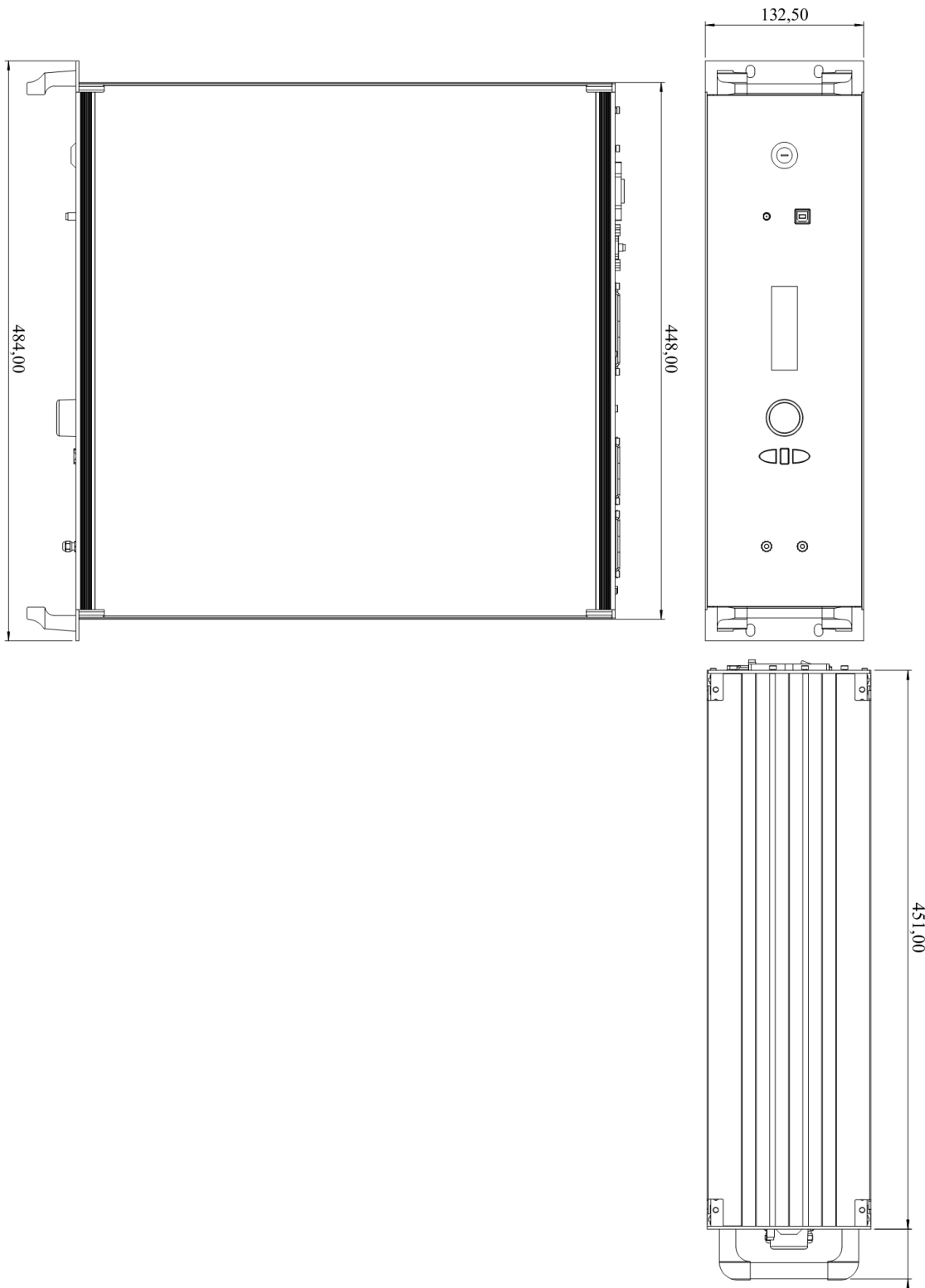
(4) over 1h@25°C, 1 sec sampling rate

HED

1.0 μm and 1.5 μm CW
SLM PM Fiber Amplifier

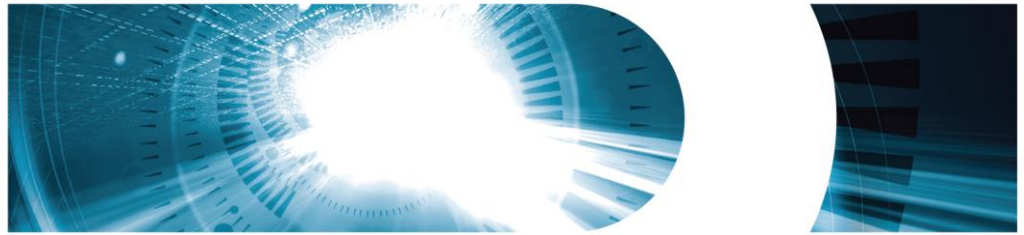


MECHANICAL DETAILS – TKS



Dimensions are in mm

1.0 μm and 1.5 μm CW SLM PM Fiber Amplifier



LASER SAFETY INFORMATION

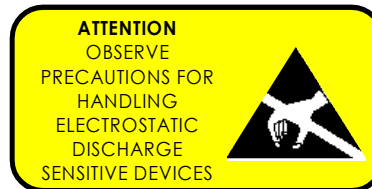
This fiber amplifier emits invisible light. Take appropriate precautions to prevent undue exposure to naked eye when the laser is in operation. This product is classified Class 4 Laser Product according to IEC-60825-1.

HANDLING

Caution! Handle the sub-system by its package only; never hold it by its pigtail.

Care should be taken to avoid supply transient currents and voltages.

Drive voltage out of the specified electro-optical characteristics section may cause permanent damage to the device.



ORDERING INFORMATION

HED FIBER AMPLIFIER PRODUCT FAMILY

Nominal Power	Part number	
	1064 nm	1550 nm
1 W	ML1-YFA-CW-SLM-P-TKS	ML1-EYFA-CW-SLM-P-TKS
3 W	ML3-YFA-CW-SLM-P-TKS	ML3-EYFA-CW-SLM-P-TKS
5 W	ML5-YFA-CW-SLM-P-TKS	ML5-EYFA-CW-SLM-P-TKS
10 W	ML10-YFA-CW-SLM-P-TKS	ML10-EYFA-CW-SLM-P-TKS
15 W	ML15-YFA-CW-SLM-P-TKS	ML15-EYFA-CW-SLM-P-TKS

Available options upon request:

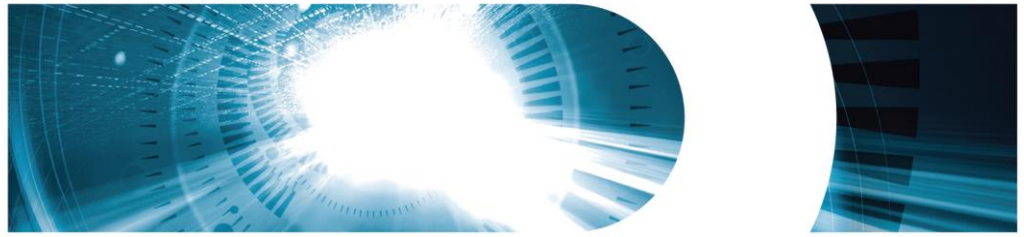
- Custom collimator
- x 10 beam expander / focuser
- Extended warranty

3SPGroup can also develop custom products to meet a wide range of technical requirements. Please contact your Sales Manager for details.

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SLM PM Fiber Amplifier



CONTACT INFORMATION

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IMPORTANT NOTICE

Information in this document is typical and must be specifically confirmed in writing by your supplier before it becomes applicable to any order or contract.

Information is subject to change without notice.

NOTES