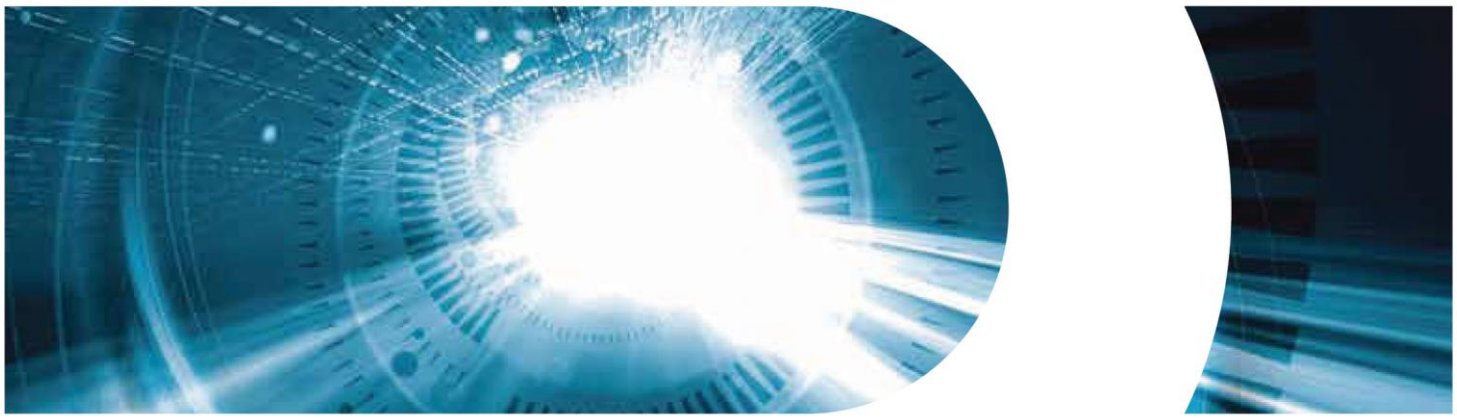


Sub-Systems
Continuous Fiber Lasers

GEVEL

1.0 µm CW PM Fiber Laser for Optical Tweezing

Key Features

- Up to 20 W output power
- Linear polarization
- Narrow linewidth
- Excellent beam quality
- Maintenance free operation
- OEM format or rackmount
- Air cooled

Applications

- Optical tweezing
- DNA manipulation
- Measurement

The GEVEL is a compact CW fibre laser delivering up to 20 W of output power, through a near diffraction limited linear polarized beam (M^2<1.1).

The narrow linewidth of this fiber laser makes it unique and an optimized light source for all optical tweezing applications.

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 laser, without any optical parts to align or to stabilize. The simple integration of the system requires no after-installation service.

3SPGroup offers two formats: OEM modules or rackmount.

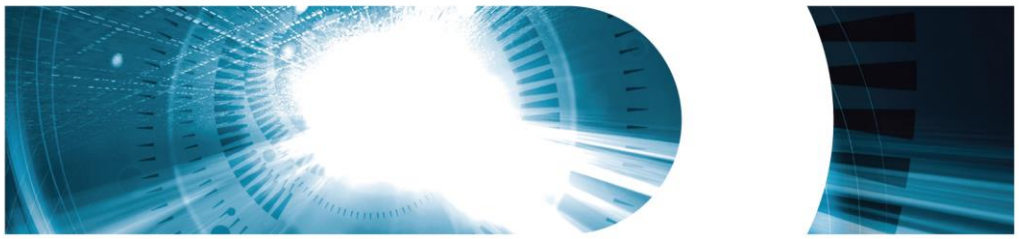
The GEVEL is the ideal solution for a broad range of scientific applications.

For more Info

Please contact us at:
Europe & Asia: +33 169 805 833
North America: +1 514 748 4848
+1 888 922 1044
sales@3spgroup.com

GEVEL

1.0 µm CW PM
Fiber Laser
For Optical Tweezing



ELECTRO-OPTICAL **CHARACTERISTICS**

Parameters	Value				Unit
Operating mode	CW - Modulated				-
Central wavelength (1)	1064 *				nm
Nominal output power	1	5	10	20	W
Output power tunability (2)	10 - 100				%
Long term stability (3)	< 2				% RMS
Modulation bandwidth	up to 10				kHz
Signal linewidth	<0.1		< 0.25		nm
Polarization	Linear				-
Polarization extinction ratio (PER)	> 20		> 17	> 15	dB
Output fibre length	3				m
Output fibre termination	Collimator				-
Beam diameter (at 1/e²)	2.2		5		mm
Beam quality	< 1.1				M²
Output isolator *	Optional				-
Control mode *	ACC				-
OEM HOUSING					
Model	OEM65				-
Storage temperature	-20 to +60				°C
Operating temperature (4)	+15 to +45				°C
Control interface	RS232				-
Operating voltage DC	12				V
Power consumption	< 20	< 30	< 100	< 200	W
Dimensions	230x178x65				mm³
Weight	< 3.5				kg
RACK HOUSING					
Model	TKS				-
Storage temperature	-0 to +55				°C
Operating temperature	+15 to +45				°C
Control interface	Front panel or USB				-
Operating voltage AC	88 to 264 (50 to 600 Hz)				V
Power consumption	< 40	< 50	< 150	< 300	W
Dimensions	3U 19": 448x451x132				mm³

* see the available options codification in the ORDERING **INFORMATION** section.

(1) other wavelengths available in the range 1030-1100 nm
(2) RS232 adjustment
(3) over 1h@25°C, 1 sec sampling rate
(4) optional extended range from -35 °C to +65 °C

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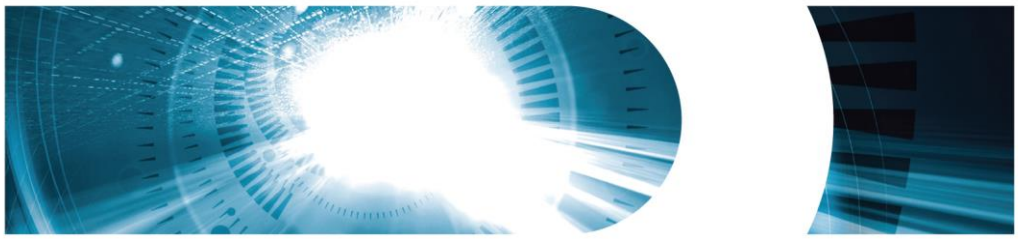
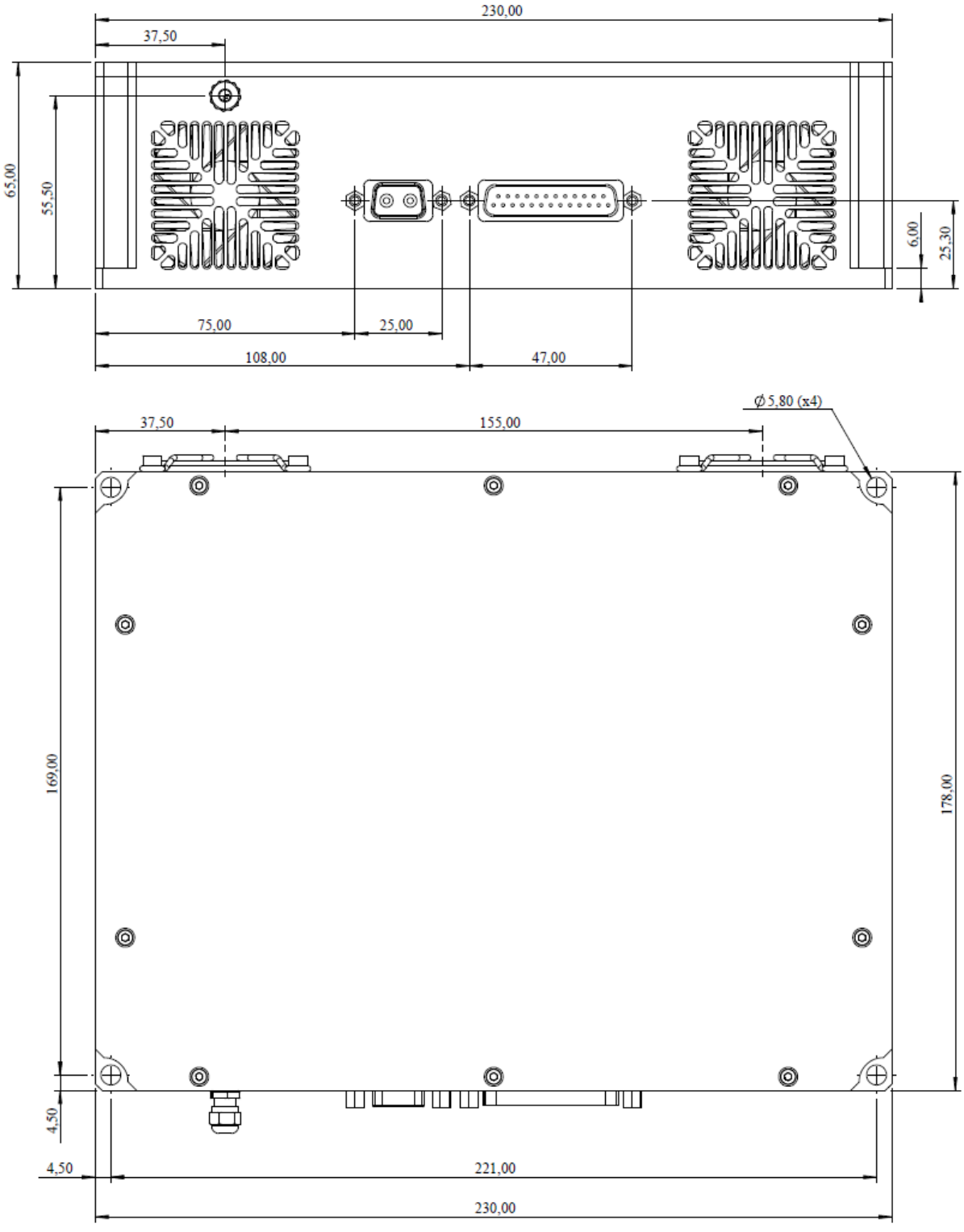


MECHANICAL **DETAILS – OEM65**



Dimensions are in mm

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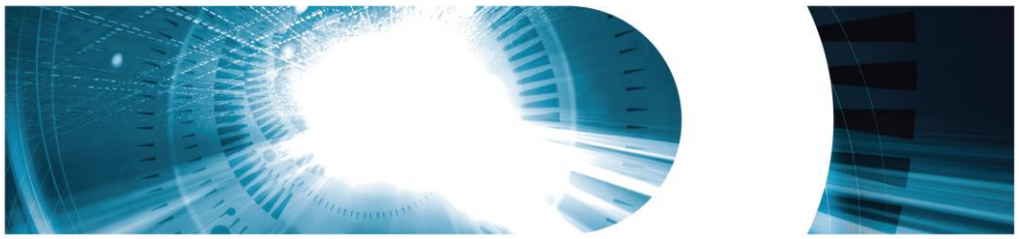
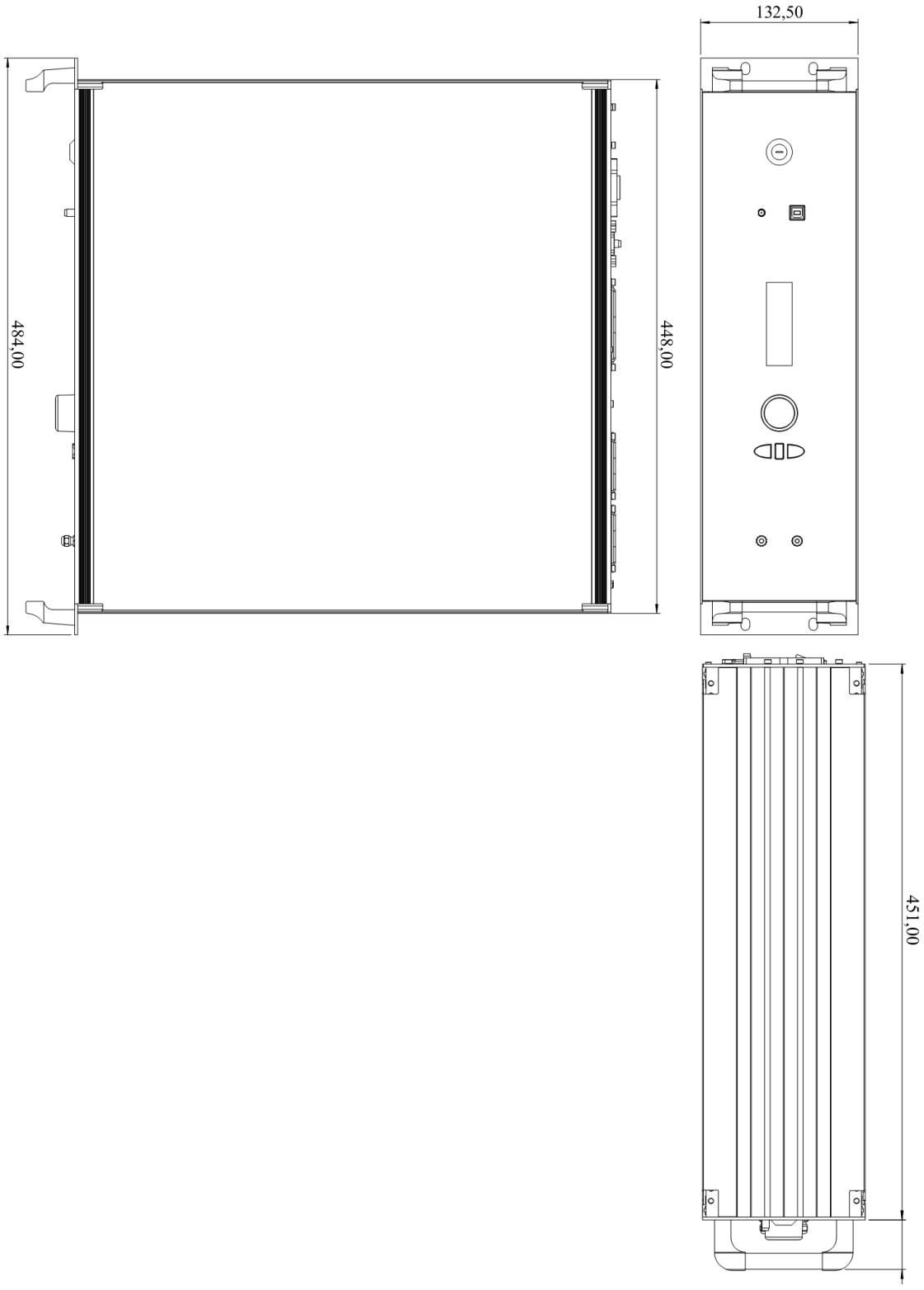


MECHANICAL **DETAILS – TKS**



Dimensions are in mm

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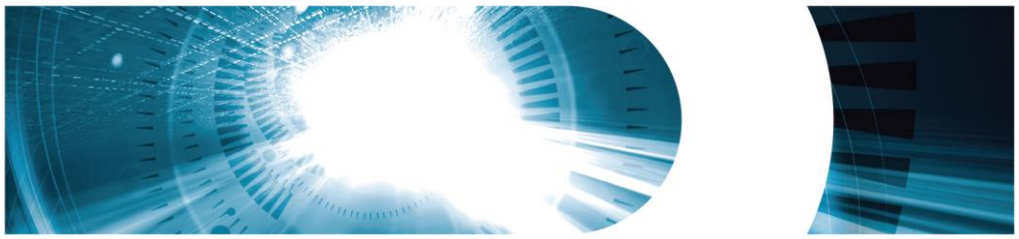

PIN **ASSIGNEMENT for OEM65**

SUB-D 25 connector

Description	Pin N°		Description
GND	14	1	Pump power analog modulation input (0-10 V) - optional
Current alarm (active TTL high)	15	2	Reserved - do not connect
Temperature alarm (active TTL high)	16	3	Reserved - do not connect
+5 V DC output	17	4	Reserved - do not connect
Global enable (TTL input)	18	5	Reserved - do not connect
Power amplifier modulation input (active TTL high)	19	6	Reserved - do not connect
Reserved - do not connect	20	7	Reserved - do not connect
Reserved - do not connect	21	8	Reserved - do not connect
Reserved - do not connect	22	9	Reserved - do not connect
Emergency stop input *TTL high : laser ON* *TTL low or disconnected : laser OFF*	23	10	GND
Reserved - do not connect	24	11	RS232 RX
GND	25	12	RS232 TX
		13	GND

SUB-D 2W2 connector

Description	Pin N°		Description
GND	A2	A1	+12 V DC

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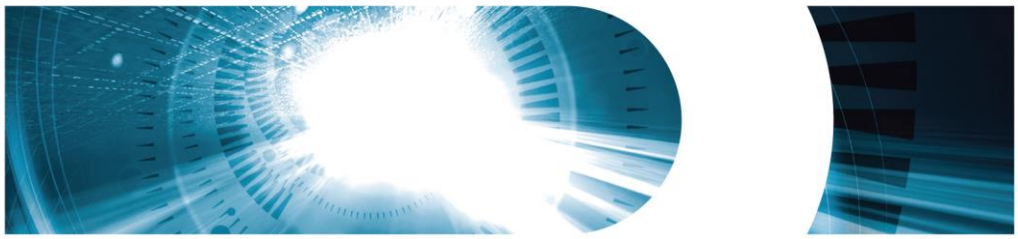

LASER SAFETY **INFORMATION**

This fiber laser 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. This laser is only intended for integration into other equipment. The system does not comply with CDRH 21 CFR 1040.10 or EN 60825-1. The customer is responsible for CDRH and/or 60825-1 compliance of their system.

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**

GEVEL FIBER LASER PRODUCT FAMILY

Nominal Power	Part number	
	OEM	RACK
1 W	ML1-CW-P-OEM65-OTS-i-m	ML1-CW-P-TKS-OTS
5 W	ML5-CW-P-OEM65-OTS-i-m	ML5-CW-P-TKS-OTS
10 W	ML10-CW-P-OEM65-OTS-i-m	ML10-CW-P-TKS-OTS
20 W	ML20-CW-P-OEM65-OTS-i-m	ML20-CW-P-TKS-OTS

Available options codification:

Symbol	Description	0	1
i	output isolator	Not installed	Installed
m	control mode	ACC only	ACC & APC

Other options upon request:

- Custom collimator
- Custom fiber length
- 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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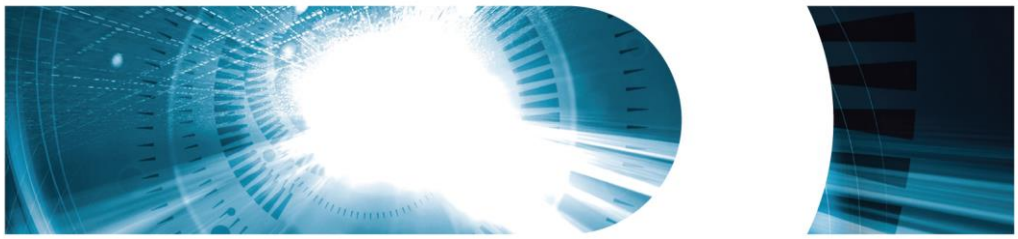

CONTACT **INFORMATION**

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sales@3spgroup.com
www.3spgroup.com

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