

Sub-Systems Pulsed Fiber Lasers

Key Features

- Up to 30 W average power
- Up to 1 mJ per pulse
- Up to 8 kW peak power
- From 120 ns to 140 ns pulse width
- Back reflection output isolator
- Excellent beam quality
- Maintenance free operation
- OEM format
- Air cooled, including heat sink & fan

Applications

- Cutting
- Marking
- Micromachining
- Precision drilling
- Welding

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

MERKAN

1.0 μm Pulsed Fiber Laser

The MERKAN is a compact pulsed Ytterbium fibre laser delivering up to 8 kW peak power, 30 W of average power and up to 1 mJ per pulse, through a collimated output beam.

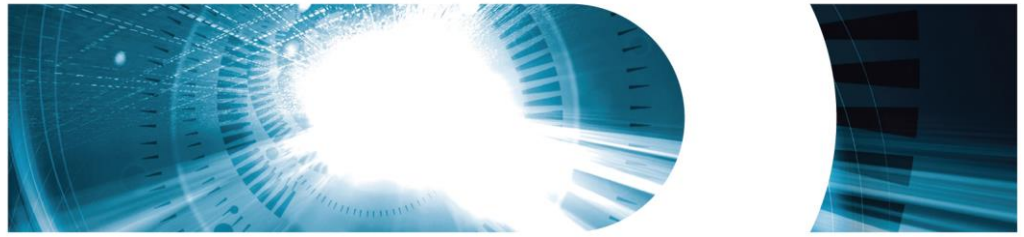
Both the pulse repetition rate and the output power can be controlled.

The excellent beam quality and power stability make the 3SP Group fibre laser a multi-purpose tool.

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.

The MERKAN is the ideal solution for a broad range of industrial applications.





ELECTRO-OPTICAL CHARACTERISTICS

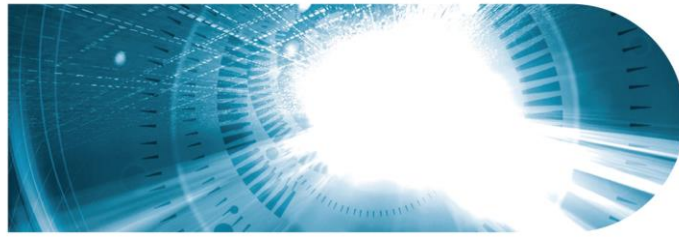
Parameters	Value (@ 20 °C)			Unit
Operating mode	Pulsed			-
Central wavelength	1060 - 1080			nm
Average output power (typ.)	10	20	30	W
Average output power (min.)	9	18	28	W
Energy per pulse	0.5	1	1	mJ
Pulse repetition frequency	20 - 60	20 - 60	30 - 60	kHz
Pulse duration (1)	90	120	140	ns
Output power tunability	10 - 100			%
Long term stability (2)	< 2			% RMS
Signal linewidth (FWHM)	< 3			nm
Polarization	Random			-
Output fibre length	2			m
Output fibre termination	Collimator			-
Beam diameter (at 1/e ²)	6 - 8			mm
Beam quality (typ.)	< 1.8			M ²
External TTL modulation frequency	up to 5.0			kHz
Storage temperature	-10 to +60			°C
Operating temperature	+15 to +40			°C
Operating voltage DC	24			V
Power consumption (typ.)	120	175	200	W
Dimensions	260 x 340 x 120			mm ³

(1) value given at respectively 20 kHz, 20 kHz and 30 kHz.

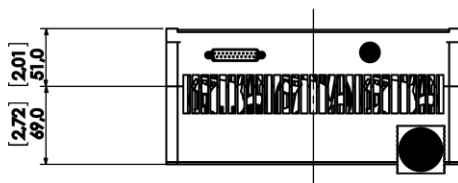
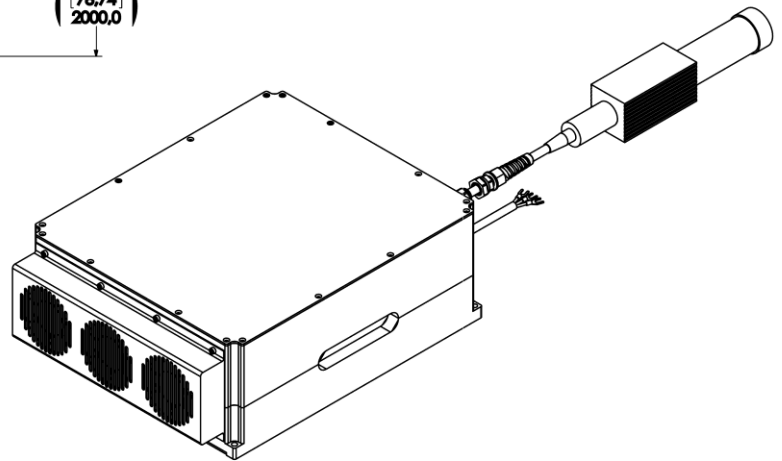
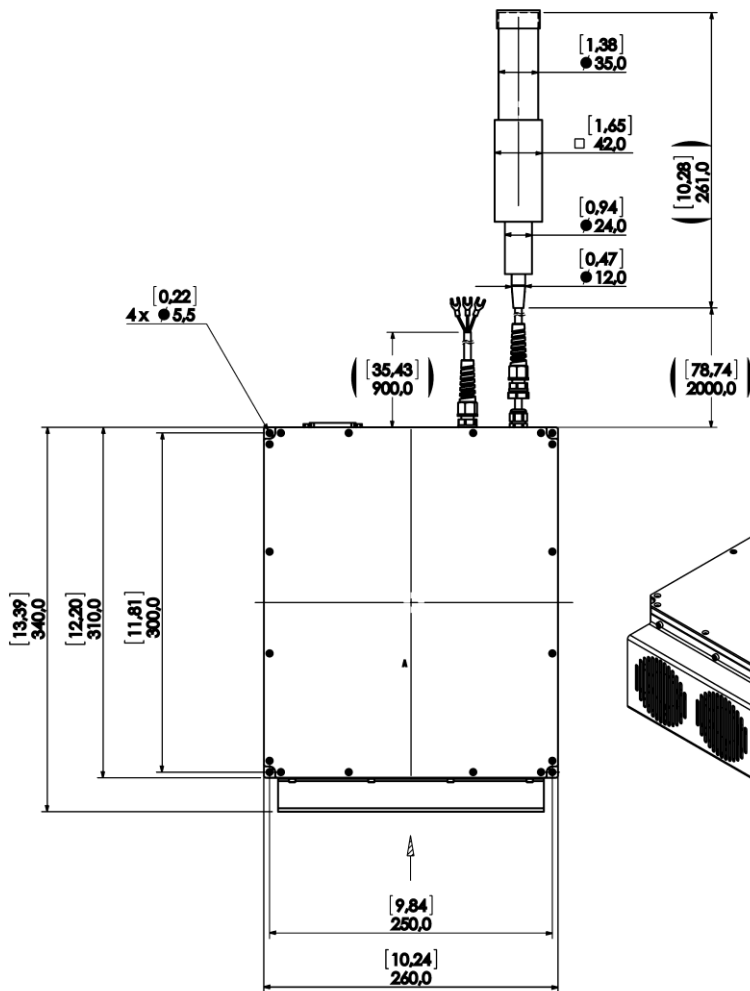
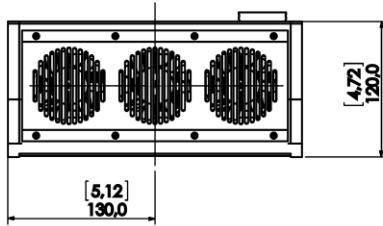
(2) over 1h@20°C, 1 sec sampling rate

PIN ASSIGNMENT

Description	N°		Description
Do not connect	14	1	Output average power setting (8 bits) Pin 1 : LSB Pin 8 : MSB 8 bits : 11111111 (FFh) : Output power 100% 8 bits : 10000000 (FFh) : Output power 50% 8 bits : 00000000 (FFh) : Output power 0% TLL inputs
GND	15	2	
Alarm : bit 0 (TTL output)	16	3	
Do not connect	17	4	
Master Oscillator enable (TTL input - active high)	18	5	
Power Amplifier enable (TTL input - active high)	19	6	
Trigger input (TTL input)	20	7	
Alarm : bit 1 (TTL output)	21	8	
Do not connect	22	9	Do not connect
Do not connect	23	10	GND
GND	24	11	Do not connect
Do not connect	25	12	Do not connect
		13	Do not connect



MECHANICAL DETAILS



Dimensions are in mm

1.0 μm Pulsed Fiber Laser



LASER SAFETY INFORMATION

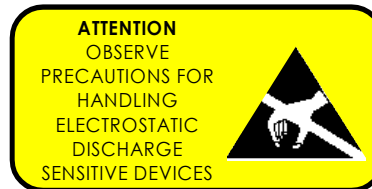
This fiber laser emits both visible and invisible light. This product is classified Class 2 and Class 4 Laser Product according to IEC-60825-1. Take appropriate precautions to prevent undue exposure to naked eye when the laser is in operation.

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

MERKAN FIBER LASER PRODUCT FAMILY

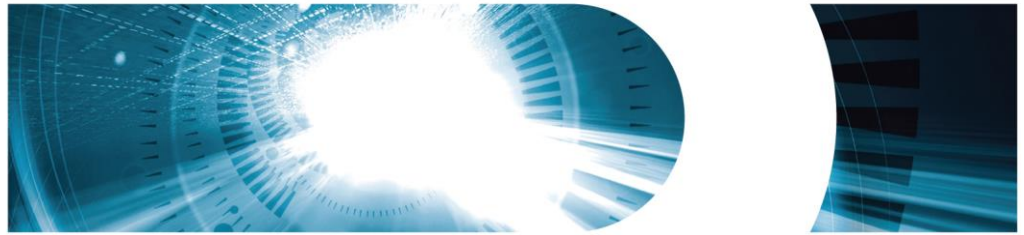
Maximum Average Output Power	Part number
10 W	3CN01693AA
20 W	3CN01694AA
30 W	3CN01695AA

Please contact your Sales Manager for details.

MERKAN

3SP Group

**1.0 μm Pulsed
Fiber Laser**



CONTACT INFORMATION

Europe & Asia: +33 169 805 833
North America: +1 514 748 4848
+1 888 922 1044

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