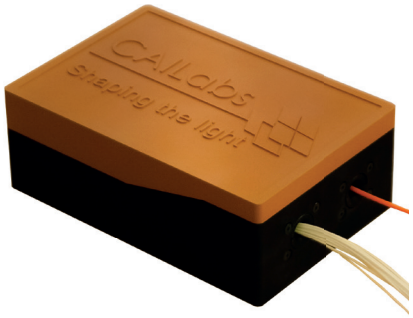
CAILabs
Shaping the light

CANUNDA-MP

High Energy Laser Beam Shaper and Combiner



Features

- **Free-form beam shaping**
- **CW and pulsed operation**
- **High peak-power handling**

Applications

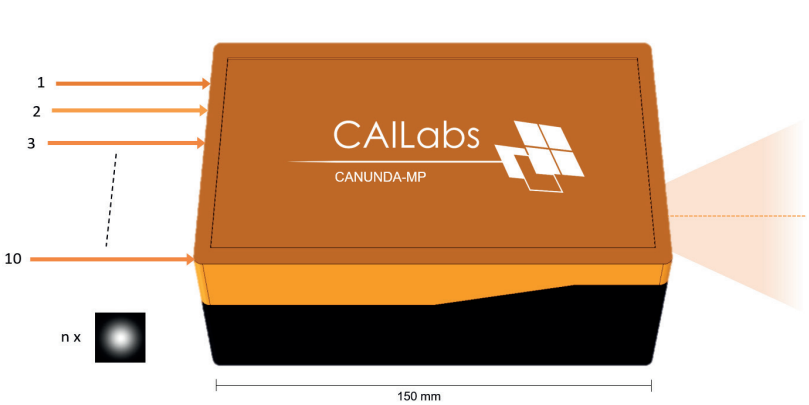
- **Micro-material processing**
- **Semiconductor and glass dicing**
- **Fiber coupled laser combining**

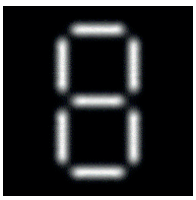
Description

Canunda-MP is a versatile mid-power beam-shaper based on CAILabs flexible beam shaping technology of Multi Plane Light Conversion (MPLC). It can reshape a singlemode laser beam operating either in **ultra-short pulsed** to **continuous regime** with up to **100 W** of total average power.

Canunda-MP is particularly suited to complex and low losses laser beam reshaping and combining, applied to industrial laser processing quality and throughput improvement.

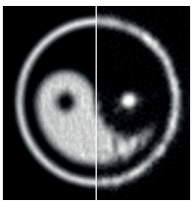
Use cases



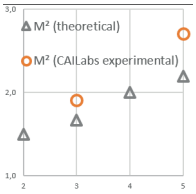


7 segment marking
(simulation)

Single Bessel beam
(meas.)



3 beam patterning
(l: target, r: meas.)



Power combining
M² vs. # lasers

Version 19/05/2016

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General specifications

All parameters given at 25 °C operating temperature and 1030 nm operating wavelength unless otherwise stated.

Parameter	Min.	Typ.	Max.	Observations
Input beam				
Type	Collimated free space input			Optionally fiber pigtails
Diameter*	0.5 mm		2 mm	
Number of beams			10	
Wavelength	1020 nm	1030 nm	1080 nm	Other VIS and NIR ranges available
Operating regime		Pulsed, CW		CW alignment guide
Total average power*			100 W	
Total pulse energy			100 µJ	
Pulse duration	300 fs		CW	
Spatial mode		TEM_{00}		
Beam quality (M^2)		1.1	1.3	Stable input transverse beam profile
Output beam				
Type	Collimated free space output			
Diameter	1 mm		5 mm	
Total losses*		5 %	10 %	Ratio between total input and output power
Conversion efficiency	80 %	90 %		Output energy within the targeted shape
Alignment guide (optional)				
Input*	FC-APC pigtail on HI1060 fiber			Counter-propagative alignment guide beam
Wavelength	1040 nm		1080 nm	Other ranges available
Mechanical and environment				
Package dimensions	150 x 100 x 52 mm^3			
Operating temperature*	+0 °C	+25 °C	+50 °C	
Relative humidity	5 %		65 %	Non condensing

* *preliminary*

For additional product information, please contact us:

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