

MINI-C Series

PL.MIC*.ZZZ**

- Features**
- * Different wavelengths
 - * Up to 1000 mW
 - * Integrated driver
 - * Rugged industrial housing

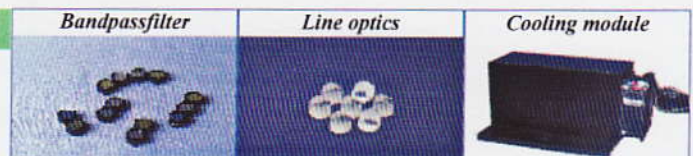
- Applications**
- * Triangulation system
 - * Fluorescence measurement
 - * 3D inspection
 - * Optical pumping



Related Products

The PEGASUS MINI-C is a compact laser with high output power up to 500 mW, available with different wavelengths in the "red", "green" or "blue" spectral range. IR wavelengths are available on request.

Optical specifications are based on our MINI series, but the MINI-C includes the electronic driver in the laser housing. To make the laser an universal stand alone tool mainly for industrial measurement application. With line generator the laser is very easy to use for high speed bright image processing.



Via trigger signal 0 - 5 VDC, the output power can be directly modulated DC - 50 kHz. With temperature stabilization, the laser can be operated with high power stability in different environments.

Specifications

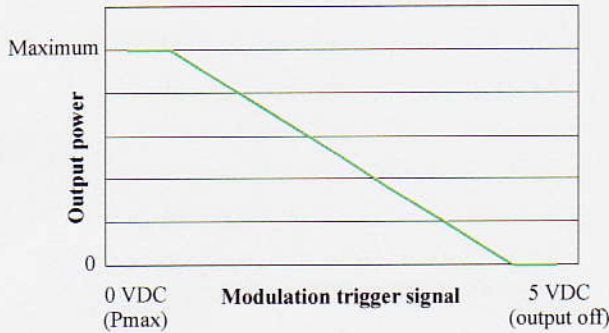
Optical	Wavelengths	nm	405	445	532	638	660	810
	Output power	mW	150	500	200	500	500	1.000
	Power Stability	%	< +/-2	< +/-2	< +/-5	< +/-2	< +/-2	< +/-2
	Line thickness		< 0.5 mm @ 1m up to 4 mm @ 10 m (focus set at factory)					
	Fan angles	°	15, 30, 45, 60, 90 (others on request)					
	Line intensity uniformity	%	+/- 20 (within 80 % of the line)					
	Laser Class (EN 60825-1)		3B	3B	3B	3B	3B	4
Electrical	Power supply voltage	VDC	9.0 +/- 0.5					
	Operation current	A	< 3.0					
	Modulation input	VDC	analog 0-5 (active low)					
	Modulation frequency		DC - 50 kHz					
Mechanical	Dimension laserhead	mm ³	130 x 60 x 48					
	Dimension power supply	mm ³	---					
Environmental	Cooling		must be attached to external heatsink					
	Operating temperature	°C	10 - 35					
	Warm-up time	min	< 5	< 5	< 15	< 5	< 5	< 5

Specifications are given for T = 22°C at constant environment



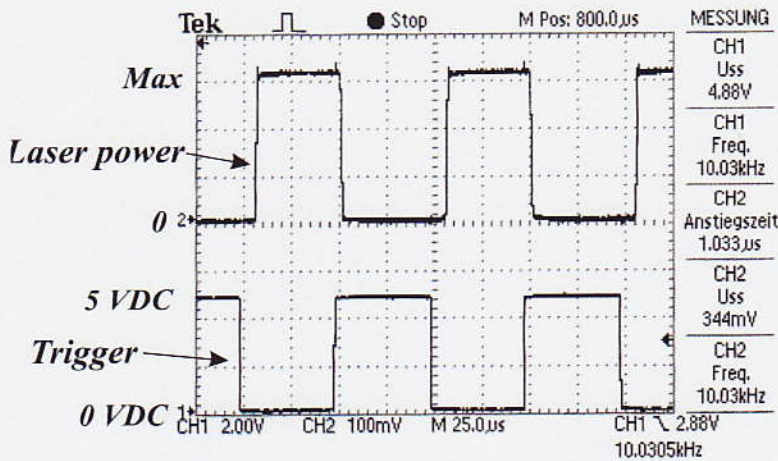
Power control

Principle measurement



External variable 0 - 5 VDC source allows the user to adjust output power. Signal between 0 and 0.5 VDC leads to maximum power. For 4.5 - 5 VDC the laser is off. 4.5 - 0.5 VDC produces power nearly analog increasing with input signal.

Amplitude modulation



The laser design allows direct modulation with high frequency and high duty cycle. Via an external modulation input signal between 0 and 5 VDC the laser power can either be controlled, in order to trigger the laser with measurement camera or detection system.

With strobed illumination, fast processes could be freed for image capture.

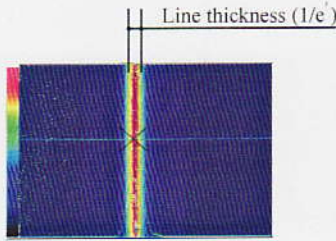
Rectangular trigger can be used to achieve amplitude modulation frequencies of the system up to 50 kHz.

Ordering information

Model	Wavelength (nm) *	Power (mW)	Fan angle zz (°)	Laserclass
PL.MIC405.150-Lzz	405	150	15, 30, 45, 60	3B
PL.MIC445.500-Lzz	445	500	15, 30, 45, 60	3B
PL.MIC532.200-Lzz	532	200	15, 30, 45, 60	3B
PL.MIC638.500-Lzz	638	500	15, 30, 45, 60	3B
PL.MIC660.500-Lzz	660	500	15, 30, 45, 60	3B
PL.MIC810.1000-Lzz	810	1.000	15, 30, 45, 60	4
PL.MIC1064.400-Lzz	1.064	400	15, 30, 45,60	3B
	* others on request			



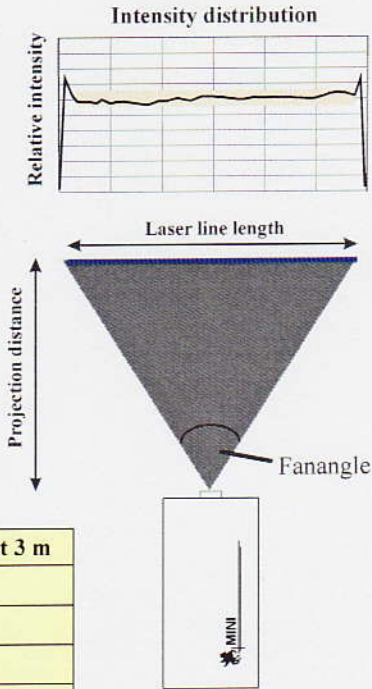
Laser line generator PL.MIC***-Lzz



Each line laser model of the MINI series is set-up with special Powell lens in order to receive homogeneous intensity distribution along the line, within a tolerance of $< \pm 20\%$ for 80 % of the line.

The line generating optics of the laser is specified by its fan angle. With specific projection distance, the needed fan angle could be determined to achieve required line length.

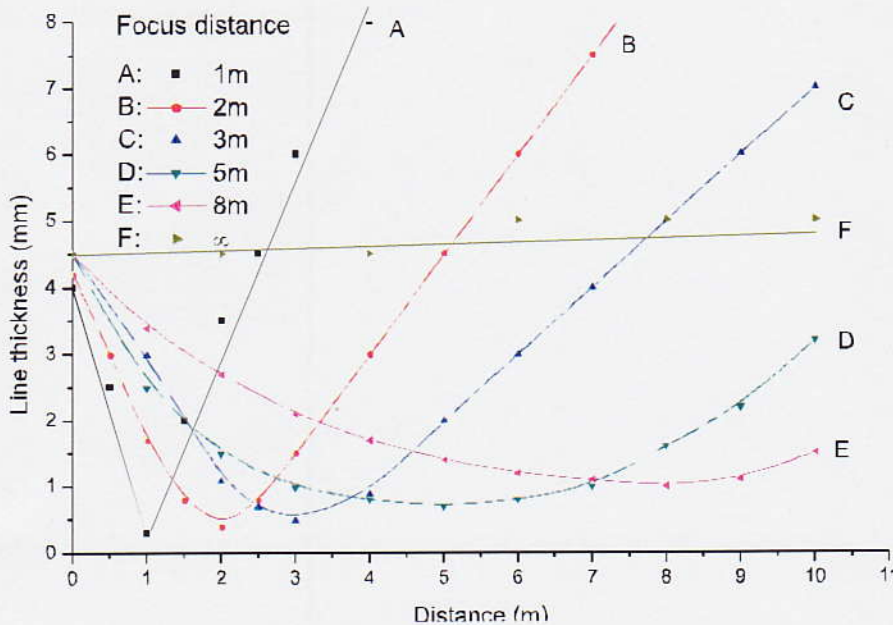
Standard fan angles are 15° , 30° , 45° , 60° and 90° . Others are available on request.



Fan angle	Line length at 3 m
15°	0.8 m
30°	1.6 m
45°	2.5 m
60°	3.4 m
90°	6.0 m

Example: Typical line lengths in 3 m distance (perpendicular projection surface) for standard line projectors.

Line thickness



Typical line thickness versus focus distance for PL.MIC445.500-L60 (500 mW at 445 nm) for different focus adjustments

The line thickness and focus depth depends on the focus distance. The standard version is collimated to infinity (curve F) but in most applications the typical projection distance is < 10 m. At factory, the focus of the laser could be set to any projection distance in order to optimize the line thickness to the specific application.

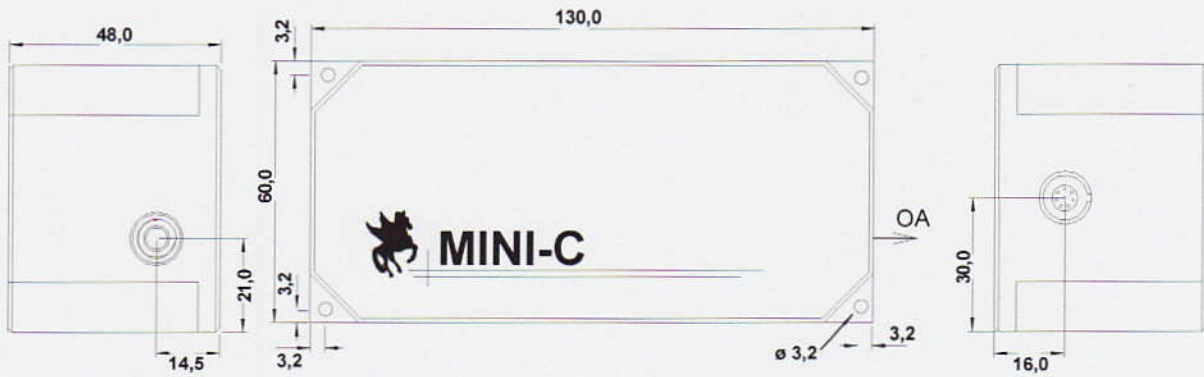
For short range focussing (curve A), line thickness < 0.3 mm ($1/e^2$) could be achieved.

Example curve A

Distance	Line thickness
0 m	4 mm
0.5 m	2.5 mm
1 m	0.3 mm
1.5 m	2 mm
2 m	3.5 mm



Laser head



All dimensions are given in mm

Accessories

Air cooling module

The laser baseplate has to be adequately heat sunk in order to prevent the system from overheating. Therefore an adapted air cooling module with low vibrational fan is available. The cooler can be operated for environment temperatures up to 35°C.



Model	PL.LMK.150.OP
Supply voltage	24 VDC
Material	Black anodized Al
Power consumption	< 5 W

Adapted benchtop driver

PL.LD230/6-1.**



Input voltage	230 VAC
Output current	up to 6 A
External modulation input	0 - 5 V



PEGASUS reserves the right to make changes in specifications without any notice