

## LNC-13LN165-S500+91CR-685-9-H13-M60-H-6

Low Noise Micro Line Generator with a fan angle



### FEATURES

Laser line with a fan angle, approx. uniform intensity distribution and very thin lines.

- Line length: 40 mm
- Line width: 31  $\mu\text{m}$
- Wavelength: 685 nm
- Working distance: 424 mm
- Low noise laser module (0.1 % RMS, @<1 MHz)

- Micro Line Generator for small laser line widths and high power density in the focal plane
- Low noise, low coherence laser module (typ. < 0.15 % of  $P_0$  (RMS, Bandwidth < 1 MHz))



## DESCRIPTION

The laser diode beam source type LNC-13LN165-S500+91CR-685-9-H13-M60-H-6 has a fan angle of 3.4° and approx. uniform intensity distribution along the laser line.

More precisely, it is Gaussian clipped by an aperture with an edge intensity of 75 %. Across the laser line the intensity distribution is Gaussian. The line width is constant along 60 % of the central area, outside this area the line width differs up to 30 %.

The laser has integrated electronics [type H](#) for control of the laser output power. It is a low noise laser source (0.1 % RMS, @<1 MHz) with reduced coherence length and operates mode-hopping free. Due to the reduced coherence length the speckle contrast might be lowered. Please note that this effect is smaller for smaller lines and spots. The output power can be controlled using the [modulation input ports \(TTL and analog\)](#), or manually using the potentiometer.

For this laser type the working distance is fixed. A fine-adjustment of the distance between laser and target is recommended for fine-focusing in order to achieve minimal line width.

## TECHNICAL DATA

LNC-13LN165-S500+91CR-685-9-H13-M60-H-6

Series	13LN165	
Order Code	LNC-13LN165-S500+91CR-685-9-H13-M60-H-6	
Line profile	Constant Intensity Distribution	
Line type	Laser Micro Line	
Wavelength	685 +10/-10 nm	
Laser output power	9 mW	
Laser safety class	3B	
Fan angle $\alpha$	3.4 deg	
Focussing range	424-424 mm	
Working distance	424 mm	
Line length	40 mm	
Line width	0.031 mm	
Rayleigh range	2.22 mm	
Edge intensity	75 %	
Diameter laser module	25/28 mm	
Module length	134.4 mm	
Installation length	558.4 mm	
Cable length	1.5 m	
Connector type	Lumberg SV50 IEC 61076-2-106	
Supply voltage	5 $\pm$ 0.25 V	
Max. current consumption	0.25 A	
Working temperature	0 - 40 °C	
Modulation inputs	Analog	TTL
Input resistance	22 kOhm	22 kOhm
Max. modulation frequency	100 kHz	100 kHz
Modulation delay ON/OFF	2/0.3 $\mu$ s	1.5/0.1 $\mu$ s
Rise / Fall time	1/1 $\mu$ s	1/1 $\mu$ s
Noise (< 1 MHz RMS)	0.1 %	

## ACCESSORIES

9D-12 Screwdriver WS 1.2

PS051003E Power Supply 5 V

## RELATED PRODUCTS

### LASER MODULES SERIES LNC-13LNM

- Macro Line Generator, **small** fan angle
- Uniform intensity distribution
- Extended depth of focus
- Low noise

### LASER MODULES SERIES 13LN

- Micro Line, **small** fan angle
- Uniform intensity distribution
- Thin lines

### LASER MODULES SERIES LNC-5LM

- Micro Line, **small** fan angle
- Gaussian intensity distribution
- Low noise

### LASER MODULES SERIES LNC-5LP

- Micro Line, **large** fan angle
- Gaussian intensity distribution
- Low noise

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