

## 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  $3.4^\circ$  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

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