

## LNC-13LTM-165-41+91CR-520-4-O11-M60-HP-4

Semi-telecentric Macro Line Generator Semi-telecentric Low Noise Macro Line Generator



### FEATURES

Semi-telecentric laser line with constant line length 15mm, approx. uniform intensity distribution and extended depth of focus.

- Line length: 15 mm
- Line width: 31  $\mu\text{m}$
- Wavelength: 520 nm
- Working distance: 156 mm
- Depth of focus: 3.94 mm
- Low noise laser module (0.1 % RMS, @<1 MHz)

- Macro Line Generator for extended depth of focus
- Low noise, low coherence laser module (typ. < 0.15 % of  $P_0$  (RMS, Bandwidth < 1 MHz))



## DESCRIPTION

The laser diode beam source type LNC-13LTM-165-41+91CR-520-4-O11-M60-HP-4 produces a semi-telecentric laser line with 15 mm line length and extended depth of focus. The intensity profile is approx. uniform in line direction. More precisely, it is Gaussian clipped by an aperture with an edge intensity of 77 %. The line width is constant along the laser line. Across the laser line the intensity distribution is approx. Gaussian.

The laser has integrated electronics [type HP](#) with micro-controller 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-13LTM-165-41+91CR-520-4-O11-M60-HP-4

<b>Series</b>	13LTM	
<b>Order Code</b>	LNC-13LTM-165-41+91CR-520-4-O11-M60-HP-4	
<b>Line profile</b>	Constant Intensity Distribution	
<b>Line type</b>	Laser Macro Line	
<b>Wavelength</b>	520 +10/-5 nm	
<b>Laser output power</b>	4 mW	
<b>Laser safety class</b>	3R	
<b>Focussing range</b>	156-156 mm	
<b>Working distance</b>	156 mm	
<b>Line length</b>	15 mm	
<b>Line width</b>	0.031 mm	
<b>Depth of focus</b>	3.94 mm	
<b>Edge intensity</b>	77 %	
<b>Diameter laser module</b>	25/28 mm	
<b>Module length</b>	139.8 mm	
<b>Installation length</b>	295.8 mm	
<b>Cable length</b>	1.5 m	
<b>Connector type</b>	Lumberg SV40 IEC 61076-2-106	
<b>Supply voltage</b>	12 ± 0.5 V	
<b>Max. current consumption</b>	0.3 A	
<b>Working temperature</b>	15 - 40 °C	
<b>Modulation inputs</b>	Analog	TTL
<b>Input resistance</b>	9 kOhm	9 kOhm
<b>Max. modulation frequency</b>	0.001 kHz	300 kHz
<b>Modulation delay ON/OFF</b>	2000/500 µs	0.5/0.2 µs

Rise / Fall time	200000/200000 $\mu$ s	0.8/0.3 $\mu$ s
Noise (< 1 MHz RMS)		0.1 %

## ACCESSORIES

9D-12	Screwdriver WS 1.2
PS120516E	Power Supply 12 V

## RELATED PRODUCTS

### LASER MODULES SERIES LNC-13LT

- Semi-telecentric Micro Line
- Uniform intensity distribution
- Constant line length **15 mm**
- Low noise

### LASER MODULES SERIES 13LTM

- Semi-telecentric Macro Line
- Uniform intensity distribution
- Constant line length **15 mm**
- Extended depth of focus

### LASER MODULES SERIES LNC-5LTM-1

- Semi-telecentric Macro Line
- Gaussian intensity distribution
- Constant line length ca. **4.8 mm**
- Extended depth of focus
- Low noise

### LASER MODULES SERIES LNC-5LTM-2

- Semi-telecentric Macro Line
- Gaussian intensity distribution
- Constant line length ca. **2 mm**
- Extended depth of focus
- Low noise

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## CONTACT

For more information please contact:

**Schäfter + Kirchhoff GmbH**

**Kieler Str. 212**

**22525 Hamburg**

**Germany**

**Tel: +49 40 85 39 97-0**

**Fax: +49 40 85 39 97-79**

**[info@sukhamburg.de](mailto:info@sukhamburg.de)**

**[www.sukhamburg.com](http://www.sukhamburg.com)**

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