

## 13LNM165-S250-7+90CM-685-12-H13-M60-C-6

Macro Line Generator with a fan angle

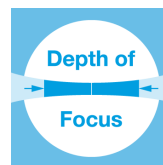


### FEATURES

Laser line with a fan angle, approx. uniform intensity distribution and extended depth of focus.

- Line length: 20 mm
- Line width: 35  $\mu\text{m}$
- Wavelength: 685 nm
- Working distance: 236.5 mm
- Depth of focus: 3.89 mm

- 
- Macro Line Generator for extended depth of focus



## DESCRIPTION

The laser diode beam source type 13LNM165-S250-7+90CM-685-12-H13-M60-C-6 has a fan angle of 1.5°, approx. uniform intensity distribution along the laser line and extended depth of focus.

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 laser has integrated electronics [type C](#) for control of the laser output power. 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

13LNM165-S250-7+90CM-685-12-H13-M60-C-6

<b>Series</b>	13LNM165	
<b>Order Code</b>	13LNM165-S250-7+90CM-685-12-H13-M60-C-6	
<b>Line profile</b>	Constant Intensity Distribution	
<b>Line type</b>	Laser Macro Line	
<b>Wavelength</b>	685 +10/-10 nm	
<b>Laser output power</b>	12 mW	
<b>Laser safety class</b>	3B	
<b>Fan angle <math>\alpha</math></b>	1.5 deg	
<b>Focussing range</b>	236.5-236.5 mm	
<b>Working distance</b>	236.5 mm	
<b>Line length</b>	20 mm	
<b>Line width</b>	0.035 mm	
<b>Depth of focus</b>	3.89 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>	400.9 mm	
<b>Cable length</b>	1.5 m	
<b>Connector type</b>	Lumberg SV50 IEC 61076-2-106	
<b>Supply voltage</b>	5 ± 0.2 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>	1/0.5 $\mu$ s	2/1 $\mu$ s
<b>Rise / Fall time</b>	3/2 $\mu$ s	3/2 $\mu$ s

## DOWNLOADS



[13LNM+90CM+205.pdf](#)

## ACCESSORIES

9D-12 Screwdriver WS 1.2

PS051003E Power Supply 5 V

## RELATED PRODUCTS

### LASER MODULES SERIES 13LN

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

### LASER MODULES SERIES LNC-13LNM

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

### LASER MODULES SERIES 13LRM

- Macro Line Generator, fan angle
- Uniform intensity distribution
- Extended depth of focus

### LASER MODULES SERIES 5LMM+25CM

- **Compact** Micro Line, **small** fan angle
- Gaussian intensity distribution
- Extended depth of focus

### LASER MODULES SERIES 5LPM+25CM

- **Compact** Macro Line, **large** fan angle
- Gaussian intensity distribution
- Extended depth of focus

### LASER MODULES SERIES 5LMM

- Macro Line, **small** fan angle
- Gaussian intensity distribution
- Extended depth of focus

### LASER MODULES SERIES 5LPM

- Macro Line, **large** fan angle
- Gaussian intensity distribution
- Extended depth of focus

This is a printout of the page [https://sukhamburg.com/products/details/13LNM165-S250-7\\_90CM-685-12-H13-M60-C-6](https://sukhamburg.com/products/details/13LNM165-S250-7_90CM-685-12-H13-M60-C-6) from 9/23/2023

## 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)

## LEGAL NOTICE

**Copyright 2020 Schäfter+Kirchhoff GmbH. All rights reserved.**

Text, image, graphic, sound, video and animation files and their arrangement on Schäfter+Kirchhoff GmbH webpages are protected by copyright and other protective laws. The content may not be copied for commercial use or reproduced, modified or used on other websites. [\[more\]](#)