

## LNC-5LTM-100-11+56CM-405-25-X15-A7.5-HP-4

Semi-telecentric Macro Line Generator



### FEATURES

Semi-telecentric laser line with constant line length of 4.8 mm and extended depth of focus.

- Line length: 4.8 mm
- Line width: 59  $\mu\text{m}$
- Wavelength: 405 nm
- Working distance: 91 mm
- Depth of focus: 18 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-5LTM-100-11+56CM-405-25-X15-A7.5-HP-4 produces a semi-telecentric laser line with 4.8 mm line length and extended depth of focus. The intensity profile is Gaussian in line direction clipped by an aperture with an edge intensity of 10 %. 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-5LTM-100-11+56CM-405-25-X15-A7.5-HP-4

|                                  |                                           |            |
|----------------------------------|-------------------------------------------|------------|
| <b>Series</b>                    | 5LTM                                      |            |
| <b>Order Code</b>                | LNC-5LTM-100-11+56CM-405-25-X15-A7.5-HP-4 |            |
| <b>Line profile</b>              | Gaussian Intensity Distribution           |            |
| <b>Line type</b>                 | Laser Macro Line                          |            |
| <b>Wavelength</b>                | 405 +5/-5 nm                              |            |
| <b>Laser output power</b>        | 25 mW                                     |            |
| <b>Laser safety class</b>        | 3B                                        |            |
| <b>Focussing range</b>           | 91-91 mm                                  |            |
| <b>Working distance</b>          | 91 mm                                     |            |
| <b>Line length</b>               | 4.8 mm                                    |            |
| <b>Line width</b>                | 0.059 mm                                  |            |
| <b>Depth of focus</b>            | 18 mm                                     |            |
| <b>Edge intensity</b>            | 10 %                                      |            |
| <b>Diameter laser module</b>     | 25/28 mm                                  |            |
| <b>Module length</b>             | 88 mm                                     |            |
| <b>Installation length</b>       | 209 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 |
| <b>Rise / Fall time</b>          | 200000/200000 µs                          | 0.8/0.3 µs |
| <b>Noise (&lt; 1 MHz RMS)</b>    | 0.1 %                                     |            |

## ACCESSORIES

|                 |                                                        |
|-----------------|--------------------------------------------------------|
| 9D-12           | Screwdriver WS 1.2                                     |
| 13MK-25-36-10-F | Mounting Console with flat base plate                  |
| 13MK-25-36-10-M | Mounting Console with base plate with dovetail profile |
| PS120516E       | Power Supply 12 V                                      |

## RELATED PRODUCTS

|                                      |                                                                                                                                                                                                                                |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LASER MODULES<br>SERIES LNC-5LT-2    | <ul style="list-style-type: none"><li>▪ Semi-telecentric Micro Line</li><li>▪ Gaussian intensity distribution</li><li>▪ Constant line length ca. <b>2 mm</b></li><li>▪ Low noise</li></ul>                                     |
| LASER MODULES<br>SERIES 5LTM-2       | <ul style="list-style-type: none"><li>▪ Semi-telecentric Macro Line</li><li>▪ Gaussian intensity distribution</li><li>▪ Constant line length ca. <b>2 mm</b></li><li>▪ Extended depth of focus</li></ul>                       |
| LASER MODULES<br>SERIES<br>LNC-13LTM | <ul style="list-style-type: none"><li>▪ Semi-telecentric Macro Line</li><li>▪ Uniform intensity distribution</li><li>▪ Constant line length <b>15 mm</b></li><li>▪ Extended depth of focus</li><li>▪ Low noise</li></ul>       |
| LASER MODULES<br>SERIES LNC-5LTM-1   | <ul style="list-style-type: none"><li>▪ Semi-telecentric Macro Line</li><li>▪ Gaussian intensity distribution</li><li>▪ Constant line length ca. <b>4.8 mm</b></li><li>▪ Extended depth of focus</li><li>▪ Low noise</li></ul> |

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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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