

## LNC-5LP40-S50+56CR-639-9-H18-A8-H-6

Low Noise Micro Line Generator with a large fan angle



### FEATURES

Laser line with a large fan angle and Gaussian intensity distribution.

- Line length: 28 mm
- Line width: 21  $\mu\text{m}$
- Wavelength: 639 nm
- Working distance: 46 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-5LP40-S50+56CR-639-9-H18-A8-H-6 has a fan angle of 40°.

The intensity profile is Gaussian in line direction clipped by an aperture with an edge intensity of 38 %. The line width is constant along the laser line. Across the laser line the intensity distribution is Gaussian.

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.

The working distance can be adjusted by adjusting the focus setting. Please note that beam parameters like line length and line width increase proportionally to the working distance. A fine-adjustment of the distance between laser and target is recommended for fine-focusing.

## TECHNICAL DATA

LNC-5LP40-S50+56CR-639-9-H18-A8-H-6

|                                      |                                     |                 |
|--------------------------------------|-------------------------------------|-----------------|
| <b>Series</b>                        | 5LP                                 |                 |
| <b>Order Code</b>                    | LNC-5LP40-S50+56CR-639-9-H18-A8-H-6 |                 |
| <b>Line profile</b>                  | Gaussian Intensity Distribution     |                 |
| <b>Line type</b>                     | Laser Micro Line                    |                 |
| <b>Wavelength</b>                    | 639 +10/-10 nm                      |                 |
| <b>Laser output power</b>            | 9 mW                                |                 |
| <b>Laser safety class</b>            | 3B                                  |                 |
| <b>Fan angle <math>\alpha</math></b> | 40 deg                              |                 |
| <b>Focussing range</b>               | 35-70 mm                            |                 |
| <b>Working distance</b>              | 46 mm                               |                 |
| <b>Line length</b>                   | 28 mm                               |                 |
| <b>Line width</b>                    | 0.021 mm                            |                 |
| <b>Rayleigh range</b>                | 1.14 mm                             |                 |
| <b>Edge intensity</b>                | 38 %                                |                 |
| <b>Diameter laser module</b>         | 25/28 mm                            |                 |
| <b>Module length</b>                 | 102.6 mm                            |                 |
| <b>Installation length</b>           | 148.6 mm                            |                 |
| <b>Cable length</b>                  | 1.5 m                               |                 |
| <b>Connector type</b>                | Lumberg SV50 IEC 61076-2-106        |                 |
| <b>Supply voltage</b>                | 5 $\pm$ 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>       | 2/0.3 $\mu$ s                       | 1.5/0.1 $\mu$ s |
| <b>Rise / Fall time</b>              | 1/1 $\mu$ s                         | 1/1 $\mu$ s     |

Noise (&lt; 1 MHz RMS)

0.1 %

## ACCESSORIES

|                 |  |
|-----------------|--|
| 50HD-15         | Hex key WS 1.5   |
| 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 |
| PS051003E       | Power Supply 5 V                                       |

## RELATED PRODUCTS

### LASER MODULES SERIES LNC-5LPM

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

### LASER MODULES SERIES 5LP

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

### LASER MODULES SERIES LNC-13LN

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

### LASER MODULES SERIES LNC-5LM

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

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