

### LNC-5LP40-S000+56CR-685-18-H13-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: 720 mm
Line width: 388 μm
Wavelength: 685 nm

Working distance: 1000 mm

Low noise laser module (0.1 % RMS, @<1 MHz)</li>

- 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<sub>0</sub> (RMS, Bandwidth < 1 MHz))</li>





## **DESCRIPTION**

The laser diode beam source type LNC-5LP40-S000+56CR-685-18-H13-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 14 %. The line width is constant along the laser line. Across the laser line the intensity distribution is Gaussian.

The laser has integrated electronics  $\underline{type\ H}$  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  $\underline{modulation\ input\ ports\ (TTL\ and\ analog)}$  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-S000+56CR-685-18-H13-A8-H-6

Line profile       Gaussian Intensity Distribution         Line type       Laser Micro Line         Wavelength       685 ±10/-10 nm         Laser output power       18 mV         Laser safety class       31         Fan angle α       40 de         Focussing range       430-inf mm         Working distance       1000 mm         Line length       720 mm         Line width       0.388 mm         Rayleigh range       346 mm         Edge intensity       14 %         Diameter laser module       25/28 mm         Module length       102.6 mm         Installation length       1102.6 mm         Cable length       1.5 mm         Connector type       Lumberg SV50 IEC 61076-2-10         Supply voltage       5 ± 0.25 Mm         Max. current consumption       0.25 Am	Series		5LP	
Line type         Laser Micro Line           Wavelength         685 ±10/-10 nm           Laser output power         18 mV           Laser safety class         31           Fan angle α         40 de           Focussing range         430-inf mm           Working distance         1000 mm           Line length         720 mm           Line width         0.388 mm           Rayleigh range         346 mm           Edge intensity         14 %           Diameter laser module         25/28 mm           Module length         102.6 mm           Installation length         1.5 mm           Cable length         1.5 mm           Connector type         Lumberg SV50 IEC 61076-2-100           Supply voltage         5 ± 0.25 %           Max. current consumption         0.25 %	Order Code	LNC-5LP40-S000+56CR-685-18-H13-A8-H-6		
Wavelength         685 +10/-10 nm           Laser output power         18 mW           Laser safety class         38           Fan angle α         40 dec           Focussing range         430-inf mm           Working distance         1000 mm           Line length         720 mm           Line width         0.388 mm           Rayleigh range         346 mm           Edge intensity         14 9           Diameter laser module         25/28 mm           Module length         102.6 mm           Installation length         1.5 mm           Cable length         1.5 mm           Connector type         Lumberg SV50 IEC 61076-2-100           Supply voltage         5 ± 0.25 Mm           Max. current consumption         0.25 Mm	Line profile	Gaussian Intensity Distribution		
Laser output power         18 mV           Laser safety class         31           Fan angle α         40 de           Focussing range         430-inf mr           Working distance         1000 mr           Line length         720 mr           Line width         0.388 mr           Rayleigh range         346 mr           Edge intensity         14 %           Diameter laser module         25/28 mr           Module length         102.6 mr           Installation length         1102.6 mr           Cable length         1.5 m           Connector type         Lumberg SV50 IEC 61076-2-10           Supply voltage         5 ± 0.25 %           Max. current consumption         0.25 /r	Line type	Laser Micro Line		
Laser safety class       31         Fan angle α       40 degree         Focussing range       430-inf mm         Working distance       1000 mm         Line length       720 mm         Line width       0.388 mm         Rayleigh range       346 mm         Edge intensity       14 9         Diameter laser module       25/28 mm         Module length       102.6 mm         Installation length       1.5 m         Connector type       Lumberg SV50 IEC 61076-2-10         Supply voltage       5 ± 0.25 %         Max. current consumption       0.25 %	Wavelength	685 +10/-10 nm		
Fan angle α       40 deg         Focussing range       430-inf mr         Working distance       1000 mr         Line length       720 mr         Line width       0.388 mr         Rayleigh range       346 mr         Edge intensity       14 9         Diameter laser module       25/28 mr         Module length       102.6 mr         Installation length       1102.6 mr         Cable length       1.5 m         Connector type       Lumberg SV50 IEC 61076-2-100         Supply voltage       5 ± 0.25 %         Max. current consumption       0.25 %	Laser output power	18 mW		
Focussing range         430-inf mr           Working distance         1000 mr           Line length         720 mr           Line width         0.388 mr           Rayleigh range         346 mr           Edge intensity         14 9           Diameter laser module         25/28 mr           Module length         102.6 mr           Installation length         1102.6 mr           Cable length         1.5 m           Connector type         Lumberg SV50 IEC 61076-2-100           Supply voltage         5 ± 0.25 Mr           Max. current consumption         0.25 Mr	Laser safety class	3B		
Working distance         1000 mm           Line length         720 mm           Line width         0.388 mm           Rayleigh range         346 mm           Edge intensity         14 9           Diameter laser module         25/28 mm           Module length         102.6 mm           Installation length         1102.6 mm           Cable length         1.5 mm           Connector type         Lumberg SV50 IEC 61076-2-10           Supply voltage         5 ± 0.25 Mm           Max. current consumption         0.25 Mm	Fan angle α	40 deg		
Line length720 mmLine width0.388 mmRayleigh range346 mmEdge intensity14 %Diameter laser module25/28 mmModule length102.6 mmInstallation length1102.6 mmCable length1.5 mmConnector typeLumberg SV50 IEC 61076-2-100Supply voltage5 ± 0.25 %Max. current consumption0.25 %	Focussing range	430-inf mm		
Line width0.388 mmRayleigh range346 mmEdge intensity14 %Diameter laser module25/28 mmModule length102.6 mmInstallation length1102.6 mmCable length1.5 mmConnector typeLumberg SV50 IEC 61076-2-10 mmSupply voltage5 ± 0.25 mmMax. current consumption0.25 mm	Working distance	1000 mm		
Rayleigh range346 mmEdge intensity14 %Diameter laser module25/28 mmModule length102.6 mmInstallation length1102.6 mmCable length1.5 mmConnector typeLumberg SV50 IEC 61076-2-10Supply voltage5 ± 0.25 %Max. current consumption0.25 %	Line length	720 mm		
Edge intensity $14.9$ Diameter laser module $25/28  \mathrm{mm}$ Module length $102.6  \mathrm{mm}$ Installation length $1102.6  \mathrm{mm}$ Cable length $1.5  \mathrm{mm}$ Connector typeLumberg SV50 IEC 61076-2-10Supply voltage $5 \pm 0.25  \mathrm{mm}$ Max. current consumption $0.25  \mathrm{mm}$	Line width	0.388 mm		
Diameter laser module $25/28  \mathrm{mm}$ Module length $102.6  \mathrm{mm}$ Installation length $1102.6  \mathrm{mm}$ Cable length $1.5  \mathrm{mm}$ Connector typeLumberg SV50 IEC 61076-2-10Supply voltage $5 \pm 0.25  \mathrm{mm}$ Max. current consumption $0.25  \mathrm{mm}$	Rayleigh range	346 mm		
Module length $102.6  \mathrm{mm}$ Installation length $1102.6  \mathrm{mm}$ Cable length $1.5  \mathrm{m}$ Connector typeLumberg SV50 IEC 61076-2-10Supply voltage $5 \pm 0.25  \mathrm{M}$ Max. current consumption $0.25  \mathrm{M}$	Edge intensity	14 %		
Installation length  Cable length  Connector type  Lumberg SV50 IEC 61076-2-100  Supply voltage  5 ± 0.25 V  Max. current consumption	Diameter laser module	25/28 mm		
Cable length  Connector type  Lumberg SV50 IEC 61076-2-100  Supply voltage  5 ± 0.25 V  Max. current consumption	Module length	102.6 mm		
Connector type  Lumberg SV50 IEC 61076-2-100  Supply voltage  5 ± 0.25 V  Max. current consumption  0.25 A	Installation length	1102.6 mm		
Supply voltage $5 \pm 0.25$ Max. current consumption0.25 A	Cable length	1.5 m		
Max. current consumption 0.25 A	Connector type	Lumberg SV50 IEC 61076-2-106		
<u>'</u>	Supply voltage	5 ± 0.25 V		
Working temperature 0 - 40 °C	Max. current consumption	0.25 A		
	Working temperature		0 - 40 °C	
Modulation inputs Analog TT	Modulation inputs	Analog	TTL	
Input resistance 22 kOhm 22 kOhm	Input resistance	22 kOhm	22 kOhm	
Max. modulation frequency100 kHz100 kHz	Max. modulation frequency	100 kHz	100 kHz	
Modulation delay ON/OFF 2/0.3 $\mu$ s 1.5/0.1 $\mu$	Modulation delay ON/OFF	2/0.3 μs	1.5/0.1 μs	
Rise / Fall time $1/1 \mu s$ $1/1 \mu$	Rise / Fall time	1/1 μs	1/1 μs	



Noise (< 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 Macro Line, large fan angle

**SERIES LNC-5LPM** Gaussian intensity distribution

Extended depth of focus

Low noise

**LASER MODULES** Micro Line, large fan angle

**SERIES 5LP** Gaussian intensity distribution

LASER MODULES Micro Line, small fan angle **SERIES LNC-13LN** 

 Uniform intensity distribution Thin lines

Low noise

LASER MODULES Micro Line, small fan angle

**SERIES LNC-5LM** Gaussian intensity distribution

Low noise



This is a printout of the page <a href="https://sukhamburg.com/products/details/LNC-5LP40-S000\_56CR-685-18-H13-A8-H-6">https://sukhamburg.com/products/details/LNC-5LP40-S000\_56CR-685-18-H13-A8-H-6</a> from 4/26/2024

#### 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 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]