Laser Diode Collimator series LNC-91CM/LNC-91CR

Low Noise Collimator with large elliptical Gaussian beam profile

FEATURES

Collimator with large elliptical Gaussian beam profile

- Collimated beam diameters (truncated below the 13.5%-level) max. 17 mm
- Wavelengths 405 - 830 nm
- Laser powers up to 66 mW
- Cable exit: straight (91CM) or angled (91CR)
- Low noise Laser Module (typ. < 0.15 % of P_0 (RMS, Bandwidth < 1 MHz))

- Low noise, low coherence laser module (typ. < 0.15 % of P_0 (RMS, Bandwidth < 1 MHz))

LNC

DESCRIPTION

Laser diode collimators transform the divergent light of a laser diode into a collimated beam, while maintaining the Gaussian intensity distribution and the elliptical intensity profile.

The lasers are low noise (typ. < 0.15 % of P_0* (RMS, Bandwidth < 1 MHz)) and operate mode-hopping free. Due to the reduced coherence length the speckle contrast is lowered. However this effect is smaller for smaller lines and spots. (* P_0 is the maximum specified output power.)

The laser has integrated electronics 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.

The collimation can be adjusted by using an eccentric key. Please note that this affects beam parameters like collimated beam diameter and beam divergence.

These high quality lasers can e.g. be used for machine vision applications.

TECHNOTES

- LNC Laser Modules
  Low noise Laser Modules vs. regular Laser Modules
- Electronic features (9)
  Detailed electronic features for all electronics types
  - Overview Electronics Types
    Overview over all Electronics Types
  - Electronics Type C
    Electronic features for electronics type C
  - Electronics Type P
    Electronic features for electronics type P
  - Electronics Type H
    Electronic features for electronics type H
  - Electronics Type HP
    Electronic features for electronics type HP
  - Electronics Type CS with RS232 interface
    Electronic features for electronics type CS
  - Electronics Type PS with RS232 interface
    Electronic features for electronics type PS
  - Electronics Type S
    Electronic features for electronics type S
  - Electronics Type B
    Electronic features for electronics type B
- Laser Line Basics (7)
  Line geometry, intensity distribution, definition of line length and working distance, definition of line width and machine vision applications.
  - Laser Line geometries
    Fan angle vs. semi-telecentric.
  - Intensity distribution
    Gaussian intensity distribution and uniform intensity distribution along the laser line
  - Laser Line length and working distance
    Line length and working distance definition
  - Laser Line Width and Depth of Focus / Rayleigh Range
    Line width definition

- Laser Speckle
  When do they appear and how to prevent them
- Wavelengths of diode based lasers
  What wavelengths are available for diode based laser modules?
- Cable orientation
  Straight and angled cable exit

- Machine vision applications of Laser Lines (1)
  Laser triangulation, laser light sectioning, particle measurement etc.
- Laser Diffraction Measurements

- Article - Laser Sources for Metrology and Machine Vision
  Laser diode based laser sources for high precision measurement and inspection systems

ACCESSORIES

SWITCHBOXES FOR LASER MODULES

POWER SUPPLIES FOR LASER MODULES

9D-16	Screwdriver WS 1.6

RELATED PRODUCTS

LASER DIODE COLLIMATOR SERIES 90CM/90CR	▪ Collimator ▪ **Large elliptical** Gaussian beam profile
LASER DIODE COLLIMATOR SERIES LNC-96CM/LNC-96CR	▪ Collimator ▪ **Large circular** Gaussian beam profile ▪ Low noise
LASER DIODE COLLIMATOR SERIES LNC-56CM/LNC-56CR	▪ Collimator ▪ Elliptical Gaussian beam profile ▪ Low noise

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