

Machine Vision Collimator with Gaussian beam profile

Series 25CM/29CM, 55CM/55CR, 90CM/90CR and 95CM/95CR



FEATURES

Laser Diode Collimators with elliptical or circular Gaussian beam profile

- Laser Diode Collimator [55CM/55CR](#)
- Collimated beam diameters (truncated below the 13.5%-level) max. 13 mm
- Angled version: 55CR
- Laser Diode Collimator [25CM/29CM](#)
- Compact collimator Ø 12 mm for smaller beam diameters
- Collimated beam diameters (truncated below the 13.5%-level) max. 4.8 mm
- Laser Diode Collimator [90CM/95CM](#)
- Large collimator
- Collimated beam diameters (truncated below the 13.5%-level) max. 17 mm
- Angled version: 90CR/95CR
- Optional Low Noise Version:
- Series [LNC-56CM/LNC-56CR](#)
- Series [LNC-91CM/LNC-91CR](#)
- Series [LNC-96CM/LNC-96CR](#)

DESCRIPTION

Laser Diode Collimators transform the divergent light of a laser diode into a collimated beam, while maintaining the Gaussian intensity distribution and the intensity profile of the laser diode. They differ in max. diameter of the collimated beam and in their outer diameter (Ø 12 mm for series 25CM/29CM and Ø 25 mm for series 55CM/55CR and 90CM/90CR).

25CM/29CM vs. 55CM, 90CM and 95CM

The Laser Diode Collimators all have a Gaussian intensity profile. The 25CM/29CM, 55CM/55CR and 90CM/90CR produce elliptical or circular, collimated beams with Gaussian beam profile. The maximum beam diameter available is smallest for the series 25CM and largest for series 90CM/90CR.

Electronics

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. Optionally the lasers can be equipped with [RS232 serial interface](#) for laser control and data read-out. Please note that the electronic features are different for the compact series 25CM.

Adjustment of collimation settings

The collimation can be adjusted by using a hex key for series 55CM/55CR and an eccentric key for series 25CM/29CM, 90CM/90CR and 95CM/95CR. Please note that this affects beam parameters like collimated beam diameter and beam divergence.

Optional: Low Noise Version

The laser series 55CM/55CR, 90CM/90CR as well as 95CM/95CR are also available as a Low Noise version [LNC-56CM/LNC-56CR](#), [LNC-91CM/LNC-91CR](#) and [LNC-96CM/LNC-96CR](#). These lasers are low noise (typ. $< 0.15\%$ of P_0^* (RMS, Bandwidth $< 1\text{ MHz}$)) and operate mode-hopping free. Due to the reduced coherence length the speckle contrast is lowered. However this effect is smaller for smaller beam diameters. (* P_0 is the maximum specified output power.)

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

TECHNOTES

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[Gaussian intensity distribution and uniform intensity distribution along the laser line](#)

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[Line length and working distance definition](#)

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[Laser diode based laser sources for high precision measurement and inspection systems](#)

ACCESSORIES

**SWITCHBOXES FOR
LASER MODULES**

**POWER SUPPLIES FOR
LASER MODULES**

ADJUSTMENT TOOLS
LASER MODULES

RELATED PRODUCTS

LASER DIODE
COLLIMATOR SERIES
25CM

- **Compact** Collimator
- Elliptical Gaussian beam profile

LASER DIODE
COLLIMATOR SERIES
29CM

- **Compact** Collimator
- Elliptical or circular Gaussian beam profile

LASER DIODE
COLLIMATOR SERIES
55CM/55CR

- Collimator
- Elliptical Gaussian beam profile

LASER DIODE
COLLIMATOR SERIES
90CM/90CR

- Collimator
- **Large elliptical** Gaussian beam profile

LASER DIODE
COLLIMATOR SERIES
95CM/95CR

- Collimator
- **Large circular** Gaussian beam profile

LASER DIODE
COLLIMATOR SERIES
LNC-56CM/LNC-56CR

- Collimator
- Elliptical Gaussian beam profile
- Low noise

LASER DIODE
COLLIMATOR SERIES
LNC-91CM/LNC-91CR

- Collimator
- **Large elliptical** Gaussian beam profile
- Low noise

LASER DIODE
COLLIMATOR SERIES
LNC-96CM/LNC-96CR

- Collimator
- **Large circular** Gaussian beam profile
- Low noise

This is a printout of the page https://sukhamburg.com/products/laserm_modules/series/colli.html from 5/5/2024

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