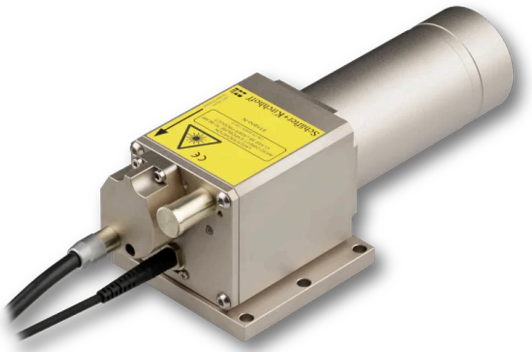


Fiber-coupled Lasers series 51nano-N

Low coherence laser source with single-mode fiber cable (OEM version)



FEATURES

Laser Diode Beam Sources of type 51nano-N have reduced power noise, reduced coherence length and a lowered speckle contrast.

- OEM version without key switch nor interlock and not conforming to EN 60825-1
- Reduced power noise: typ. $< 0.15\%$ of P_0 (RMS, Bandwidth < 1 MHz)
- Reduced coherence length: Coherence length $\approx 300\ \mu\text{m}$
- Reduced speckle contrast
- Various wavelengths from 375 nm to 1550 nm
- Laser output power up to 30 mW
- Single-mode fiber cable
- FC APC connector (8°-polish), optional DIN AVIO or E-2000, end caps for wavelengths < 635 nm
- Modulation analog and TTL
- Beam profile is rotationally symmetric with Gaussian intensity distribution

Alternative: Laser Diode Beam Source [51nano-S](#) (with key switch and interlock) or with [polarization maintaining](#) fiber cable

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



DESCRIPTION

The fiber-coupled Laser Diode Beam Sources of type 51nano-N (OEM version) have reduced power noise (typ. < 0.15 % of P_0 (RMS, Bandwidth < 1 MHz)), reduced coherence length ($\approx 300 \mu\text{m}$) and a lowered speckle contrast.

Electrical features

The output power is adjustable using a potentiometer (with protective cap) or using the two modulation inputs for analog and TTL. The electrical cable is 1.5 m long. There are two possible supply voltages 5 V or 12 V. Other electrical cables and connectors on request.

More details on electronics type: [HP](#), [H](#).

Fiber cable

The source is fiber-coupled to a single-mode fiber cable. As a result the beam profile is rotationally symmetric with Gaussian intensity distribution. The fiber cable is equipped with an FC APC connector (8°-polish). Fiber connectors with end caps are used for wavelengths < 635 nm. The fiber cables have strain-relief and protective sleeving ($\varnothing 3 \text{ mm}$). Standard cable length is 150 cm.

Fiber Options:

- Single-mode fibers with core-centered connector of type FC
- Other connector types including DIN, AVIO, ST or E2000
- Other fiber lengths
- Incorporated vacuum feed-through

Laser safety

This OEM version has no key switch or interlock and is not conform to EN 60825-1.

It can be operated conform to EN 60825-1 by using a [switchbox](#).

As an alternative, a version with key switch and with interlock (conform to EN 60825-1) is available

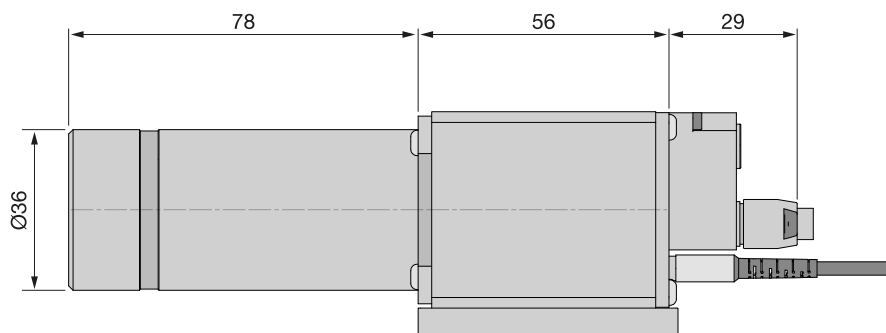
as type [51nano-S](#).

TECHNICAL DATA

Fiber-coupled Lasers series 51nano-N

Series	51nano-N (single-mode)
Wavelength	405 nm - 1550 nm
Power noise	typ. < 0.15 % of P_0 (RMS, BW < 1 MHz)
Coherence length	$\approx 300 \mu\text{m}$
Fiber cable	single-mode
Fiber cable length	1.5 m (standard)
Fiber connector type	FC APC (standard)
Supply voltage	5 V or 12 V
Electr. cable length	1.5 m (standard)

Connector type (5V)	Lumberg SV30 IEC 61076-2-106
Connector type (12V)	Lumberg SV40 IEC 61076-2-106
Cable type	shielded 4 x 0.14 mm ²
Modulation	analog and TTL
Operating temperature	15 - 35°C ± 0.5°C
Dimensions	50 x 58 x 166 mm
Weight	530 g
Dimensions (for a complete dimensional drawing please refer to the downloads section)	



ORDER OPTIONS

Order Code	Wavelength	Typ. Output Power P_o	Supply Voltage	Fiber Type	Connector	End cap	Electronics Type	Laser Class
51nano-N-375-10-X23-P-12-4-18-0-150	375 nm	10 mW	12 V	Single-mode	FC APC	x	HP	3B
51nano-N-405-1-Y07-P-12-4-18-0-150	405 nm	0.9 mW	12 V	Single-mode	FC APC	x	HP	2
51nano-N-405-14-M29-P-12-4-18-0-150	405 nm	14 mW	12 V	Single-mode	FC APC	x	HP	3B
51nano-N-445-17-G02-P-12-4-18-0-150	445 nm	17 mW	12 V	Single-mode	FC APC	x	HP	3B
51nano-N-520-7-O11-P-12-4-18-0-150	520 nm	7 mW	12 V	Single-mode	FC APC		HP	3B
51nano-N-635-1-H10-P-5-2-18-0-150	635 nm	0.9 mW	5 V	Single-mode	FC APC		H	2
51nano-N-640-17-H21-P-5-2-18-0-150	640 nm	17 mW	5 V	Single-mode	FC APC		H	3B
51nano-N-660-1-M01-P-5-2-18-0-150	660 nm	0.9 mW	5 V	Single-mode	FC APC		H	2
51nano-N-660-28-H26-P-5-2-18-0-150	660 nm	28 mW	5 V	Single-mode	FC APC		H	3B
51nano-N-785-12-Q06-P-5-2-18-0-150	785 nm	12 mW	5 V	Single-mode	FC APC		H	3B
51nano-N-808-19-G15-P-5-2-18-0-150	808 nm	19 mW	5 V	Single-mode	FC APC		H	3B
51nano-N-830-11-H19-P-5-2-18-0-150	830 nm	11 mW	5 V	Single-mode	FC APC		H	3B
51nano-N-850-18-G17-P-5-2-18-0-150	850 nm	18 mW	5 V	Single-mode	FC APC		H	3B
51nano-N-905-18-Q13-P-5-2-18-0-150	905 nm	18 mW	5 V	Single-mode	FC APC		H	3B
51nano-N-940-15-C07-P-5-2-18-0-150	940 nm	15 mW	5 V	Single-mode	FC APC		H	3B
51nano-N-980-2.3-TH4-P-5-2-18-0-150	980 nm	2.3 mW	5 V	Single-mode	FC APC		H	3R
51nano-N-1064-10-Q05-P-5-2-18-0-150	1064 nm	10 mW	5 V	Single-mode	FC APC		H	3B
51nano-N-1310-2.5-M14-P-5-2-18-0-150	1310 nm	2.5 mW	5 V	Single-mode	FC APC		H	1
51nano-N-1550-4.5-Q04-P-5-2-18-0-150	1550 nm	4.5 mW	5 V	Single-mode	FC APC		H	1

Other types e.g. with different wavelengths are available.

[Click here for sources with PM fiber cable.](#)

TECHNOTES

- [Fiber-coupled low noise beam source](#)
[Comparison of a low noise laser source to a conventional laser source](#)
- [51nano: Electronics Type HP](#)
[Electronic features for electronics type HP](#)
- [51nano: Electronics Type H](#)
[Electronic features for electronics type H](#)
- [Article - Fiber coupled low coherence laser sources](#)
[Series 51nano](#)

DOWNLOADS



[000824000400.pdf \(Dimensional drawing\)](#)



[Article_51Nano.pdf \(Technote\)](#)

This downloads section only includes general downloads for the complete series.

Please access the individual product pages (using the product configurator, the product list, order options or the search button if you have a complete order code). Here you will find specific downloads including technical drawings or stepfiles.

ACCESSORIES

PS120516E	Power Supply 12 V
PS051003E	Power Supply 5 V
BC0106F-ILCK	Interlock connector

RELATED PRODUCTS

51NANO-N (POLARIZATION- MAINTAINING, OEM)	Fiber-coupled low coherence laser source with polarization-maintaining fiber cable (OEM version)
51NANO-S (SINGLE- MODE)	Fiber-coupled low coherence laser source with single-mode fiber cable
51NANOFI-N WITH FARADAY ISOLATOR (PM/OEM)	Fiber-coupled low coherence laser source with polarization-maintaining fiber cable (OEM version)

**FIBER COLLIMATOR
SERIES 60FC**

for collimating radiation exiting an optical fiber or as
an incoupler

**FIBER COLLIMATOR
SERIES 60FC-T**

for collimating large beam diameters and with
additional TILT adjustment

This is a printout of the page <https://sukhamburg.com/products/fiberoptics/51nano/OEM/51nano/sm.html> from
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