

51nano-N-520-7-O08-P-12-4-28-0-150

Fiber-coupled low coherence laser source with polarization-maintaining fiber cable (OEM version)



FEATURES

The Laser Diode Beam Source of type 51nano-N-520-7-O08-P-12-4-28-0-150 has a reduced power noise, a reduced coherence length and a low speckle contrast.

- Reduced power noise: typ. $< 0.1\%$ of P_0 (RMS, Bandwidth < 1 MHz)
- Reduced coherence length: coherence length $\approx 300\ \mu\text{m}$
- Reduced speckle contrast
- Wavelength: 520 nm
- Laser output power: 7 mW
- Polarization-maintaining fiber cable
- FC APC connector (8°-polish)
- Modulation analog and TTL
- OEM version w/o interlock and w/o key switch

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

- Discontinued
Has been discontinued. Similar product: [51nano-N-520-7-O11-P-12-4-28-0-150](#)

[COMPARE](#)

This product has been discontinued. Requests will be managed according to the residual stock. Contact us to discuss any specific need. Similar product: [51nano-N-520-7-O11-P-12-4-28-0-150](#)

DESCRIPTION

The fiber-coupled Laser Diode Beam Source of type 51nano-N-520-7-O08-P-12-4-28-0-150 has a reduced power noise (typ. $< 0.1\%$ 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 or using the two modulation inputs for analog and TTL.

Fiber cable

The source is fiber-coupled to a polarization-maintaining fiber cable (standard, polarization extinction ratio ≥ 21 dB). As a result the beam profile is rotationally symmetric with Gaussian intensity distribution. The fiber cable is equipped with an FC APC type connector (8°-polish) and an [end cap](#) to prevent fiber damage. The fiber cable has a strain-relief and a protective sleeving ($\varnothing 3$ mm). Standard cable length is 150 cm.

Options:

- Single-mode fiber
- Core-centered (single-mode only)
- Multiple fiber output cables (51nanoC, single-mode only)
- Other connector types including FC PC, DIN or AVIO, or E2000
- Other fiber cable lengths
- Incorporated vacuum feed-through

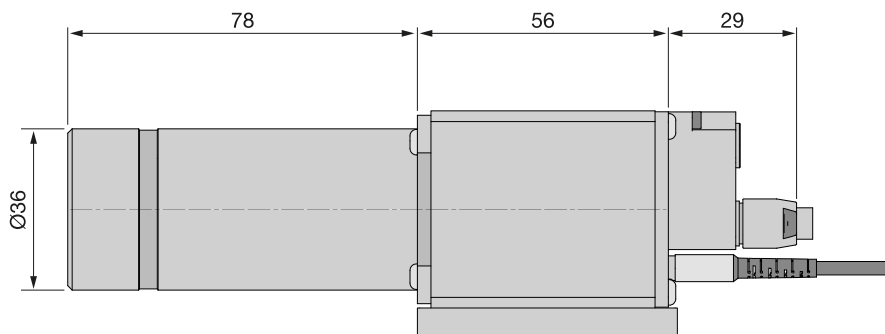
Laser safety

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

51nano-N-520-7-O08-P-12-4-28-0-150

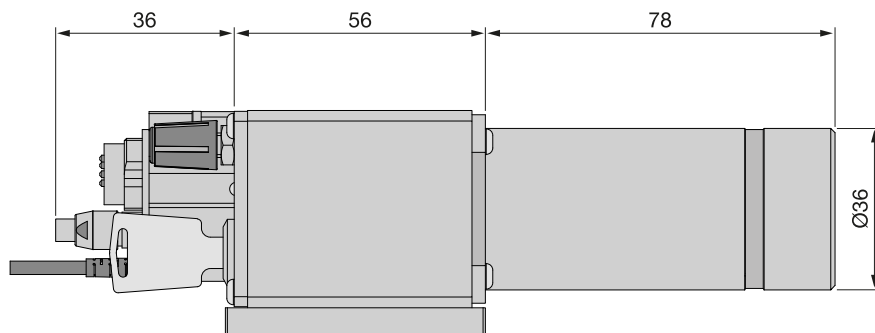
Order Code	51nano-N-520-7-O08-P-12-4-28-0-150
Will replace	51nanoFCM-N-520-7-O08-P-12-4-28-0-150
Series	51nano-N (PM)
Laser class	3B
Center wavelength	520 \pm 10 nm

Band width	0.7 - 4 nm	
Output power	typ. 7 mW	
Power adjustment	< 1 - 100 %	
Power noise	typ. < 0.1 % of P ₀ (RMS, BW < 1 MHz)	
Coherence length	≈ 300 μm	
Fiber cable	polarization-maintaining	
Fiber type	PMC-E-460Si	
Nominal fiber NA	0.09	
Effective fiber NA _e ²	0.061 ± 10 % (1/e ²)	
Mode field diameter MFD	5.4 μm ± 10 % (1/e ²)	
PER	≥ 21 dB	
Fiber cable length	1.5 ± 0.05 m (standard)	
Fiber cable type	Ø 3 mm with Kevlar strain-relief	
Fiber connector type	FC APC (standard)	
Power stability	max. 12 % power variation between 15°C and 35°C	
Electronics type	HP	
Electr. cable length	1.5 ± 0.1 m (standard)	
Connector type	4 pin (male, Lumberg SV40)	
Supply voltage	12.0 ± 0.5 V	
Max. current consumption*	260 mA	
Modulation inputs	Analog	TTL
Max. input voltage	6.5 V	6.5 V
Voltage for P _{min} / P _O	0 V / 2.5 V	< 0.8 V / > 3.0 V
Input impedance	9 kOhm	9 kOhm
Max. modulation frequency	1 Hz	300 kHz
Time delay ON/OFF*	< 2.0/0.5 ms	< 0.5/0.2 μs
Rise / fall time*	0.5/0.5 s	0.8/0.3 μs
* Typical value. Depends on laser diode.		
Operating temperature	15 - 35°C ± 0.5°C	
Warm-up time	approx. 10 min	
Air humidity	max. 90 % non-condensing	
Weight	530 g	
Dimensions	50 x 58 x 166 mm	

Protection Class

IP30

Dimensions (for a complete dimensional drawing please refer to the downloads section)



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](#)

DOWNLOADS



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



[Conformity_51nano_2023_E_web.PDF \(CE certificate\)](#)

ACCESSORIES

PS051003E

Power Supply 5 V

SBN050501

For laser diode beam sources of electronics type S/C/P/H and 5 V power supply

**FIBER COLLIMATORS
SINGLE-MODE/PM**

Fiber Collimators for collimating light exiting a single-mode or polarization-maintaining fiber cable

RELATED PRODUCTS

51NANO-N (SINGLE-MODE, OEM)

Fiber-coupled low coherence laser source with single-mode fiber cable (OEM version)

51NANO-S (POLARIZATION-MAINTAINING)

Fiber-coupled low coherence laser source with polarization-maintaining fiber cable

51NANOFI-N WITH FARADAY ISOLATOR (PM/OEM)

Fiber-coupled low coherence laser source with polarization-maintaining fiber cable (OEM version)

This is a printout of the page <https://sukhamburg.com/products/details/51nano-N-520-7-O08-P-12-4-28-0-150> from 4/30/2024

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