

51nano-N-635-1-H10-P-5-2-18-0-150

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



FEATURES

The Laser Diode Beam Source of type 51nano-N-635-1-H10-P-5-2-18-0-150 has a [reduced power noise](#), [a reduced coherence length](#) and a [low speckle contrast](#).

- Reduced power noise: typ. $< 0.4\%$ of P_0 (RMS, Bandwidth < 1 MHz)
- Reduced coherence length: coherence length $\approx 300\ \mu\text{m}$
- Reduced speckle contrast
- Wavelength: 635 nm
- Laser output power: 0.9 mW
- Single-mode 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

-
- OEM Version



DESCRIPTION

The fiber-coupled Laser Diode Beam Source of type 51nano-N-635-1-H10-P-5-2-18-0-150 has a [reduced power noise](#) (typ. $< 0.4\%$ 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 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 type connector (8°-polish). The fiber cable has a strain-relief and a protective sleeving (Ø 3 mm). Standard cable length is 150 cm.

Options:

- Polarization-maintaining 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

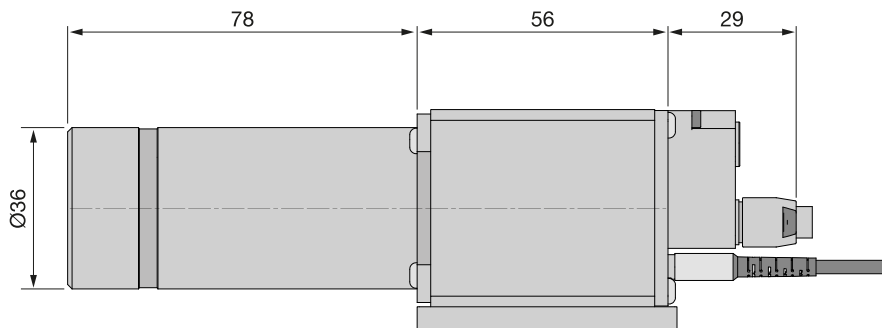
Laser safety

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-635-1-H10-P-5-2-18-0-150

| | |
|-------------------|--|
| Order Code | 51nano-N-635-1-H10-P-5-2-18-0-150 |
| Will replace | 51nanoFCM-N-635-1-H10-P-5-2-18-0-150 |
| Series | 51nano-N (single-mode) |
| Laser class | 2 |
| Center wavelength | 635 ± 10 nm |

| | | |
|---|--|-------------------|
| Band width | 0.7 - 4 nm | |
| Output power | typ. 0.9 mW | |
| Power adjustment | < 1 - 100 % | |
| Power noise | typ. < 0.4 % of P _O (RMS, BW < 1 MHz) | |
| Coherence length | ≈ 300 μm | |
| Fiber cable | single-mode | |
| Fiber type | SMC-630 | |
| Nominal fiber NA | 0.12 | |
| Effective fiber NA _e ² | 0.072 ± 10 % (1/e ²) | |
| Mode field diameter MFD | 5.6 μm ± 10 % (1/e ²) | |
| 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 | H | |
| Electr. cable length | 1.5 ± 0.1 m (standard) | |
| Connector type | 5 pin (male, Lumberg SV50) | |
| Supply voltage | 5.0 ± 0.2 V | |
| Max. current consumption* | 260 mA | |
| Modulation inputs | Analog | TTL |
| Max. input voltage | 5 V | 5 V |
| Voltage for P _{min} / P _O | 0 V / 2.5 V | < 0.8 V / > 2.4 V |
| Input impedance | 22 kOhm | 22 kOhm |
| Max. modulation frequency | 100 kHz | 100 kHz |
| Time delay ON/OFF* | 2/0.2 μs | 1.5/0.1 μs |
| Rise / fall time* | 0.6/0.6 μs | 0.5/0.5 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 H](#)
[Electronic features for electronics type H](#)

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
(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
(SM/OEM)**

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

This is a printout of the page <https://sukhamburg.com/products/details/51nano-N-635-1-H10-P-5-2-18-0-150> from
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