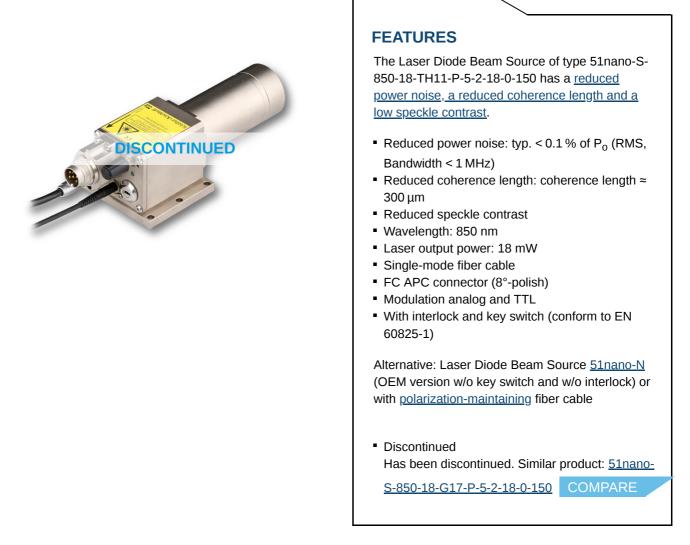
51nano-S-850-18-TH11-P-5-2-18-0-150

Fiber-coupled low coherence laser source with single-mode fiber cable



This product has been discontinued. Requests will be managed according to the residual stock. Contact us to discuss any specific need. Similar product: <u>51nano-S-850-18-G17-P-5-2-18-0-150</u>

DESCRIPTION

The fiber-coupled Laser Diode Beam Source of type 51nano-S-850-18-TH11-P-5-2-18-0-150 has a <u>reduced power noise (typ. < 0.1 % of P₀ (RMS, Bandwidth < 1 MHz)),</u> <u>reduced coherence length (\approx 300 µm) and a lowered speckle contrast</u>.



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 (\emptyset 3 mm). Standard cable length is 150 cm.

Options:

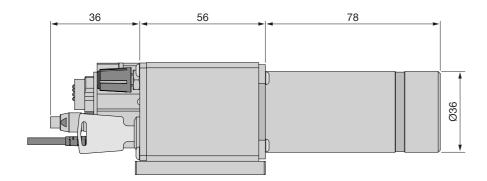
- Polarization-maintaining fiber cable
- Core-centered single-mode fiber cable
- Multiple fiber output cables (51nanoC, single-mode only)
- Other connector types including FC PC, DIN or AVIO, or E2000
- Other fiber cable lengths
- Incorporated vacuum feed-through

Laser safety

The laser safety is conform to IEC 825 / EN 60825-1.

- Interlock chain for the remote deactivation of the laser
- Laser power-up is only possible using the key switch
- LED status indicator for "Laser ON"
- For a quick start the laser is shipped with a interlock connector type <u>BC0106F-iLCK</u>

An OEM version is available as type <u>51nano-N</u> without key switch or interlock which is not conform to EN 60825-1.



TECHNICAL DATA

51nano-S-850-18-TH11-P-5-2-18-0-150

Order Code	51nano-S-850-18-TH11-P-5-2-18-0-150
Will replace	51nanoFCM-S-850-18-TH11-P-5-2-18-0-150
Series	51nano-S (single-mode)



DATA SHEET

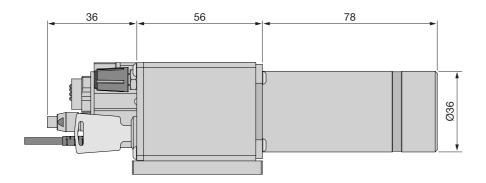
Center wavelength 850 ± 10 nm Bandwidth 0.7 · 4 nm Output power typ. 18 mW Power adjustment < 1 · 100 % Power noise typ. < 0.1% of Po (RMS, BW < 1 MHz) Coherence length = 300 µm Fiber cable single-mode Fiber cable single-mode Fiber table SMC-780 Nominal fiber NA 0.12 Effective fiber NAe ² 0.088 ± 10 % (1/e ²) Mode field diameter MFD 6.2 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 3 pin (male, Lumberg SV30) 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} / Po 0 V/2.5 V <0.8 V/> 2.4 V </th <th>Laser class</th> <th></th> <th>3B</th>	Laser class		3B
Output powertyp. 18 mWPower adjustment< 1 - 100 %Power noisetyp. < 0.1 % of Po (RMS, BW < 1 MHz)Coherence length= 300 μ mFiber cablesingle-modeFiber typeSMC-780Nominal fiber NA0.12Effective fiber NAe²0.088 ± 10 % (1/e²)Mode field diameter MFD6.2 μ m ± 10 % (1/e²)Fiber cable length1.5 ± 0.05 m (standard)Fiber cable typeØ 3 mm with Kevlar strain-reliefFiber cable length1.5 ± 0.05 m (standard)Fiber cable length1.5 ± 0.1 m (standard)Power stabilitymax. 12 % power variation between 15°C and 35°CElectronics typeHElectronics typeS.0 ± 0.2 VModulation input connector6 pin (male, Lumberg SV30)Supply voltage5.0 ± 0.2 VModulation inputsAnalogModulation inputsAnalogMax. input voltage5 ∨5 ∨5 ∨Voltage for P _{min} / Po0 ∨ / 2.5 ∨2 (0.0 kHz100 kHzTime delay ON/OFF*2/0.3 µsRise / fall time*1.0/1.0 µs* Typical value. Depends on laser diode.0 max. 90 % non-condensingOperating temperature15 - 35°C ± 0.5°CWarm-up timeapprox.10 minAir humiditymax. 90 % non-condensing	Center wavelength		850 ± 10 nm
Power adjustment <1 - 100 % Power noise typ. <0.1 % of Po (RMS, BW < 1 MHz) Coherence length = 300 µm Fiber cable single-mode Fiber cable SMC-780 Nominal fiber NA 0.12 Effective fiber NAe ² 0.088 ± 10 % (1/e ²) Mode field diameter MFD 6.2 µm ± 10 % (1/e ²) Fiber cable length 1.5 ± 0.05 m (standard) Fiber cable length 1.5 ± 0.05 m (standard) Fiber cable length 1.5 ± 0.1 m (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 3 pin (male, Lumberg SV30) Supply voltage 5.0 ± 0.2 V Max. current consumption* 260 mA Modulation inputs Analog TTL Max. input voltage 5 ∨ 5 ∨ Voltage for P _{min} / Po 0 ∨ / 2.5 ∨ <0.8 ∨/ > 2.4 ∨ Input impedance 22 kOhm 22 kOhm Max. modulation frequency 100 kHz 100 kHz Time delay ON/OFF* 2/0.3 µs 1.5/0	Bandwidth		0.7 - 4 nm
Power noise typ. < 0.1 % of P _o (RMS, BW < 1 MHz)	Output power		typ. 18 mW
Coherence length ≈ 300 µm Fiber cable single-mode Fiber type SMC-780 Nominal fiber NA 0.12 Effective fiber NAe² 0.088 ± 10 % (1/e²) Mode field diameter MFD 6.2 µm ± 10 % (1/e²) Fiber cable length 1.5 ± 0.05 m (standard) 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 3 pin (male, Lumberg SV30) Supply voltage 5.0 ± 0.2 V Max. current consumption* 260 mA Modulation input connector 6 pin (male, Lumberg SV60) Modulation inputs Analog TTL Max. input voltage 5 ∨ 5 ∨ Voltage for P _{min} / P _O 0 ∨ / 2.5 ∨ < 0.8 ∨ / > 2.4 ∨ Input impedance 22 kOhm 22 kOhm Max. modulation frequency 100 kHz 100 kHz Time delay ON/OFF* 2/0.3	Power adjustment		< 1 - 100 %
Fiber cable single-mode Fiber type SMC-780 Nominal fiber NA 0.12 Effective fiber NAe² 0.088 ± 10 % (1/e²) Mode field diameter MFD 6.2 µm ± 10 % (1/e²) Fiber cable length 1.5 ± 0.05 m (standard) Fiber cable length 1.5 ± 0.05 m (standard) Fiber cable length 1.5 ± 0.05 m (standard) Fiber cable length 1.5 ± 0.1 m (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 3 pin (male, Lumberg SV30) 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* 2/0.3 µs 1.5/0.1 µs Rise / fall time* 1.0/1.0 µs 1.0/1.0 µs * Typical value.	Power noise	typ. < 0.1 % of P _o (RM	S, BW < 1 MHz)
Fiber type SMC-780 Nominal fiber NA 0.12 Effective fiber NAe² 0.088 ± 10 % (1/e²) Mode field diameter MFD 6.2 µm ± 10 % (1/e²) Fiber cable length 1.5 ± 0.05 m (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 3 pin (male, Lumberg SV30) Supply voltage 5.0 ± 0.2 V Max. current consumption* 260 mA Modulation inputs Analog Modulation inputs Analog Max. input voltage 5 ∨ 5 ∨ 5 ∨ Voltage for P _{min} / P _O 0 ∨/2.5 ∨ Voltage for P _{min} / P _O 0 ∨/2.5 ∨ Voltage for P _{min} / I 00 kHz 100 kHz Time delay ON/OFF* 2/0.3 µs 1.5/0.1 µs Rise / fall time* 1.0/1.0 µs 1.0/1.0 µs * Typical value. Depends on laser diode. Oper	Coherence length		≈ 300 µm
Nominal fiber NA 0.12 Effective fiber NAe ² 0.088 ± 10 % (1/e ²) Mode field diameter MFD 6.2 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 cable type Ø 3 mm with Kevlar strain-relief Fiber cable type Ø 3 mm with Kevlar strain-relief Fiber cable 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 3 pin (male, Lumberg SV30) 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* 2/0.3 μs 1.5/0.1 μs Rise / fall time* 1.0/1.0 μs 1.0/1.0 μs * Typical value. Depends on laser diode.	Fiber cable		single-mode
Effective fiber NA_e^2 $0.088 \pm 10 \% (1/e^2)$ Mode field diameter MFD $6.2 \ \mu m \pm 10 \% (1/e^2)$ Fiber cable length $1.5 \pm 0.05 \ m$ (standard)Fiber cable typeØ 3 mm with Kevlar strain-reliefFiber connector typeFC APC (standard)Power stabilitymax. 12 % power variation between 15°C and 35°CElectronics typeHElectr. cable length $1.5 \pm 0.1 \ m$ (standard)Connector type3 pin (male, Lumberg SV30)Supply voltage $5.0 \pm 0.2 \ V$ Modulation input connector6 pin (male, Lumberg SV60)Modulation input sonnector6 pin (male, Lumberg SV60)Modulation input sonnector $5 \ V$ Voltage for P_{min} / P_0 $0 \ V / 2.5 \ V$ Voltage for P_{min} / P_0 $0 \ V / 2.5 \ V$ Voltage for P_{min} / P_0 $1.0 \ Linput inpedance$ $22 \ KOhm$ $22 \ KOhm$ Max. modulation frequency $100 \ KHz$ Time delay ON/OFF* $2/0.3 \ µs$ Time delay ON/OFF* $1.0/1.0 \ µs$ * Typical value. Depends on laser diode.Operating temperature $15 - 35^\circ C \pm 0.5^\circ C$ Warm-up timeapprox.10 minAir humiditymax. 90 $\%$ non-condensing	Fiber type		SMC-780
Mode field diameter MFD 6.2 µm ± 10 % (1/e²) 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 3 pin (male, Lumberg SV30) Supply voltage 5.0 ± 0.2 V Max. current consumption* 260 mA Modulation inputs Analog Max. input voltage 5 V Sv 5 V Voltage for P _{min} / P _O 0 V / 2.5 V Voltage for P _{min} / P _O 0 V / 2.5 V Input impedance 22 kOhm Max. modulation frequency 100 kHz Time delay ON/OFF* 2/0.3 µs 1.5/0.1 µs Rise / fall time* 1.0/1.0 µs 1.0/1.0 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	Nominal fiber NA		0.12
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 3 pin (male, Lumberg SV30) Supply voltage 5.0 ± 0.2 V Max. current consumption* 260 mA Modulation inputs Analog Max. input voltage 5 V 5 V 5 V Voltage for P _{min} / P _O 0 V / 2.5 V 22 kOhm Max. modulation frequency 100 kHz 100 kHz 100 kHz Time delay ON/OFF* 2/0.3 µs 1.5/0.1 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	Effective fiber NA _{e²}	0.0	38 ± 10 % (1/e ²)
Fiber cable typeØ 3 mm with Kevlar strain-reliefFiber connector typeFC APC (standard)Power stabilitymax. 12 % power variation between 15°C and 35°CElectronics typeHElectr. cable length1.5 ± 0.1 m (standard)Connector type3 pin (male, Lumberg SV30)Supply voltage5.0 ± 0.2 VMax. current consumption*260 mAModulation input connector6 pin (male, Lumberg SV60)Modulation inputsAnalogMax. input voltage5 V5 V5 VVoltage for P _{min} / Po0 V / 2.5 V< 0.8 V / > 2.4 VInput impedance22 kOhmMax. modulation frequency100 kHzTime delay ON/OFF*2/0.3 µs1.0/1.0 µs1.0/1.0 µs* Typical value. Depends on laser diode.0Operating temperature15 - 35°C ± 0.5°CWarm-up timeapprox.10 minAir humiditymax. 90 % non-condensing	Mode field diameter MFD	6.2 µ	m ± 10 % (1/e ²)
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 3 pin (male, Lumberg SV30) Supply voltage 5.0 ± 0.2 V Max. current consumption* 260 mA Modulation input connector 6 pin (male, Lumberg SV60) Modulation inputs Analog Max. input voltage 5 V SV 5 V Voltage for P _{min} / P _O 0 V / 2.5 V < 2.4 V Input impedance 100 kHz 100 kHz Time delay ON/OFF* 2/0.3 µs 1.5/0.1 µs 1.0/1.0 µs * Typical value. Depends on laser diode. 0 Operating temperature 15 - 35°C ± 0.5°C Warm-up time approx.10 min Air humidity max. 90 % non-condensing	Fiber cable length	1.5 ± 0.	05 m (standard)
Power stabilitymax. 12 % power variation between 15°C and 35°CElectronics typeHElectr. cable length $1.5 \pm 0.1 \text{ m}$ (standard)Connector type3 pin (male, Lumberg SV30)Supply voltage $5.0 \pm 0.2 \text{ V}$ Max. current consumption*260 mAModulation input connector6 pin (male, Lumberg SV60)Modulation inputsAnalogMax. input voltage 5 V 5 V 5 V Voltage for P_{min} / P_0 $0 \text{ V} / 2.5 \text{ V}$ $< 0.8 \text{ V} / > 2.4 \text{ V}$ Input impedance 22 kOhm Max. modulation frequency 100 kHz 100 kHz 1.00 kHz Time delay ON/OFF* $2/0.3 \mu \text{s}$ $1.0/1.0 \mu \text{s}$ $1.0/1.0 \mu \text{s}$ * Typical value. Depends on laser diode. 0 Varm-up time Approx.10 minAir humidityAir humiditymax. 90 % non-condensing	Fiber cable type	Ø 3 mm with Ke	evlar strain-relief
Electronics typeHElectr. cable length $1.5 \pm 0.1 \text{ m}$ (standard)Connector type3 pin (male, Lumberg SV30)Supply voltage $5.0 \pm 0.2 \text{ V}$ Max. current consumption*260 mAModulation input connector6 pin (male, Lumberg SV60)Modulation inputsAnalogMax. input voltage 5 V 5 V 5 V Voltage for P_{min} / P_0 $0 \text{ V} / 2.5 \text{ V}$ < 0.8 V / > 2.4 VInput impedance 22 kOhm Max. modulation frequency 100 kHz Time delay ON/OFF* $2/0.3 \mu \text{s}$ 1.0/1.0 μs $1.0/1.0 \mu \text{s}$ * Typical value. Depends on laser diode. $15 - 35^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$ Warm-up timeapprox.10 minAir humiditymax. 90 % non-condensing	Fiber connector type	FC	APC (standard)
Electr. cable length $1.5 \pm 0.1 \text{ m} \text{ (standard)}$ Connector type3 pin (male, Lumberg SV30)Supply voltage $5.0 \pm 0.2 \text{ V}$ Max. current consumption*260 mAModulation input connector6 pin (male, Lumberg SV60)Modulation inputsAnalogTTLMax. input voltage 5 V 5 V Voltage for Pmin / Po $0 \text{ V}/2.5 \text{ V}$ $<0.8 \text{ V}/>2.4 \text{ V}$ Input impedance 22 kOhm 22 kOhm Max. modulation frequency 100 kHz 100 kHz Time delay ON/OFF* $2/0.3 \mu \text{s}$ $1.5/0.1 \mu \text{s}$ * Typical value. Depends on laser diode. $20.3 \mu \text{s}$ $1.0/1.0 \mu \text{s}$ * Typical value. Depends on laser diode. $5 \text{ C} \pm 0.5^{\circ}\text{ C} \pm 0.5^{\circ}\text{ C}$ Warm-up timeapprox.10 min $approx.10 \text{ min}$ Air humiditymax. 90 % non-condensing	Power stability	max. 12 % power variation between	15°C and 35°C
Connector type3 pin (male, Lumberg SV30)Supply voltage $5.0 \pm 0.2 \vee$ Max. current consumption*260 mAModulation input connector6 pin (male, Lumberg SV60)Modulation inputsAnalogMax. input voltage $5 \vee$ $5 \vee$ $5 \vee$ Voltage for P _{min} / P ₀ $0 \vee / 2.5 \vee$ Voltage for P _{min} / P ₀ $0 \vee / 2.5 \vee$ Input impedance 22 kOhm Max. modulation frequency 100 kHz Time delay ON/OFF* $2/0.3 \mu \text{s}$ 1.0/1.0 µs $1.0/1.0 \mu \text{s}$ * Typical value. Depends on laser diode. $15 - 35^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$ Warm-up timeapprox.10 minAir humiditymax. 90 % non-condensing	Electronics type		Н
Supply voltage $5.0 \pm 0.2 \vee$ Max. current consumption*260 mAModulation input connector6 pin (male, Lumberg SV60)Modulation inputsAnalogMax. input voltage $5 \vee$ $5 \vee$ $5 \vee$ Voltage for P _{min} / P _O $0 \vee / 2.5 \vee$ $< 0.8 \vee / > 2.4 \vee$ Input impedance 22 kOhm Max. modulation frequency 100 kHz 100 kHz 100 kHz Time delay ON/OFF* $2/0.3 \mu\text{s}$ 1.5/0.1 μs Rise / fall time* $1.0/1.0 \mu\text{s}$ * Typical value. Depends on laser diode.Operating temperature $15 - 35^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$ Warm-up timeapprox.10 minAir humiditymax. 90 % non-condensing	Electr. cable length	1.5 ± 0.1 m (standard)	
Max. current consumption*260 mAModulation input connector6 pin (male, Lumberg SV60)Modulation inputsAnalogTTLMax. input voltage $5 \vee$ $5 \vee$ Voltage for Pmin / Po $0 \vee / 2.5 \vee$ $< 0.8 \vee / > 2.4 \vee$ Input impedance 22 kOhm 22 kOhm Max. modulation frequency 100 kHz 100 kHz Time delay ON/OFF* $2/0.3 \mu \text{s}$ $1.5/0.1 \mu \text{s}$ Rise / fall time* $1.0/1.0 \mu \text{s}$ $1.0/1.0 \mu \text{s}$ * Typical value. Depends on laser diode. $15 - 35^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$ Operating temperature $15 - 35^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$ Warm-up timeapprox.10 minAir humiditymax. 90 % non-condensing	Connector type	3 pin (male, Lumberg SV30)	
Modulation input connector6 pin (male, Lumberg SV60)Modulation inputsAnalogTTLMax. input voltage $5 \vee$ $5 \vee$ Voltage for P_{min} / P_O $0 \vee / 2.5 \vee$ $< 0.8 \vee / > 2.4 \vee$ Input impedance 22 kOhm 22 kOhm Max. modulation frequency 100 kHz 100 kHz Time delay ON/OFF* $2/0.3 \mu s$ $1.5/0.1 \mu s$ Rise / fall time* $1.0/1.0 \mu s$ $1.0/1.0 \mu s$ * Typical value. Depends on laser diode. $15 - 35^{\circ}C \pm 0.5^{\circ}C$ Warm-up timeapprox.10 minAir humiditymax. 90 % non-condensing	Supply voltage		5.0 ± 0.2 V
Modulation inputsAnalogTTLMax. input voltage $5 \vee$ $5 \vee$ Max. input voltage for Pmin / Po $0 \vee / 2.5 \vee$ $< 0.8 \vee / > 2.4 \vee$ Input impedance 22 kOhm 22 kOhm Max. modulation frequency 100 kHz 100 kHz Time delay ON/OFF* $2/0.3 \mu \text{s}$ $1.5/0.1 \mu \text{s}$ Rise / fall time* $1.0/1.0 \mu \text{s}$ $1.0/1.0 \mu \text{s}$ * Typical value. Depends on laser diode. $15 - 35^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$ Warm-up time $approx.10 \min$ Air humiditymax. 90 % non-condensing	Max. current consumption*		260 mA
Max. input voltage $5 \vee$ $5 \vee$ Voltage for P_{min} / P_O $0 \vee / 2.5 \vee$ $< 0.8 \vee / > 2.4 \vee$ Input impedance 22 kOhm 22 kOhm Max. modulation frequency 100 kHz 100 kHz Time delay ON/OFF* $2/0.3 \mu \text{s}$ $1.5/0.1 \mu \text{s}$ Rise / fall time* $1.0/1.0 \mu \text{s}$ $1.0/1.0 \mu \text{s}$ * Typical value. Depends on laser diode. $15 - 35^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$ Warm-up timeapprox.10 minAir humiditymax. 90 % non-condensing	Modulation input connector	6 pin (male,	Lumberg SV60)
Voltage for P_{min} / P_O $0 \vee / 2.5 \vee$ $< 0.8 \vee / > 2.4 \vee$ Input impedance 22 kOhm 22 kOhm Max. modulation frequency 100 kHz 100 kHz Time delay ON/OFF* $2/0.3 \mu \text{s}$ $1.5/0.1 \mu \text{s}$ Rise / fall time* $1.0/1.0 \mu \text{s}$ $1.0/1.0 \mu \text{s}$ * Typical value. Depends on laser diode. $15 - 35^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$ Warm-up time $approx.10 \text{ min}$ Air humiditymax. 90 % non-condensing	Modulation inputs	Analog	TTL
2.4 VInput impedance22 kOhmMax. modulation frequency100 kHz100 kHz100 kHzTime delay ON/OFF*2/0.3 μs1.5/0.1 μsRise / fall time*1.0/1.0 μs* Typical value. Depends on laser diode.Operating temperature15 - 35°C ± 0.5°CWarm-up timeapprox.10 minAir humiditymax. 90 % non-condensing	Max. input voltage	5 V	5 V
Max. modulation frequency100 kHz100 kHzTime delay ON/OFF*2/0.3 μs1.5/0.1 μsRise / fall time*1.0/1.0 μs1.0/1.0 μs* Typical value. Depends on laser diode.15 - 35°C ± 0.5°COperating temperature15 - 35°C ± 0.5°CWarm-up timeapprox.10 minAir humiditymax. 90 % non-condensing	Voltage for P _{min} / P _O	0 V / 2.5 V	
Time delay ON/OFF*2/0.3 μs1.5/0.1 μsRise / fall time*1.0/1.0 μs1.0/1.0 μs* Typical value. Depends on laser diode.15 - 35°C ± 0.5°COperating temperature15 - 35°C ± 0.5°CWarm-up timeapprox.10 minAir humiditymax. 90 % non-condensing	Input impedance	22 kOhm	22 kOhm
Rise / fall time*1.0/1.0 μs* Typical value. Depends on laser diode.Operating temperature15 - 35°C ± 0.5°CWarm-up timeAir humiditymax. 90 % non-condensing	Max. modulation frequency	100 kHz	100 kHz
* 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	Time delay ON/OFF*	2/0.3 μs	1.5/0.1 μs
Operating temperature15 - 35°C ± 0.5°CWarm-up timeapprox.10 minAir humiditymax. 90 % non-condensing	Rise / fall time*	1.0/1.0 μs	1.0/1.0 μs
Warm-up time approx.10 min Air humidity max. 90 % non-condensing	* Typical value. Depends on laser diode.		
Air humidity max. 90 % non-condensing	Operating temperature	erating temperature 15 - 35°C ± 0.5°C	
	Warm-up time	approx.10 min	
Weight 530 g	Air humidity	max. 90 % non-condensing	
	Weight		530 g



DATA SHEET

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
- <u>51nano: Electronics Type H</u>
 <u>Electronic features for electronics type H</u>

DOWNLOADS



000829001100.pdf (Dimensional drawing)



Conformity_51nano_2023_E_web.PDF (CE certificate)

ACCESSORIES

PS051003E	Power Supply 5 V
BC0106F-ILCK	Interlock connector
FIBER COLLIMATORS SINGLE-MODE/PM	Fiber Collimators for collimating light exiting a single- mode or polarization-maintaining fiber cable



RELATED PRODUCTS

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

This is a printout of the page <u>https://sukhamburg.com/products/details/51nano-S-850-18-TH11-P-5-2-18-0-150</u> from 5/1/2024

CONTACT

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