Fiber Coupled Narrow Line Laser Source

3kHz-500kHz linewidth, up to 200mW, SM, PM, Benchtop or Module

DATASHEET

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The FCNL series of Fiber Coupled Narrowline Laser Sources delivers linewidths as narrow as 3kHz and output power up to 200mW in single-mode or polarization-maintaining fiber. Each benchtop laser source features high-precision, low-noise auto-feedback drive electronics to ensure constant output power or constant driving current. An integrated temperature control unit maintains optimal operating conditions, and a built-in isolator prevents reflection-induced laser instability. Each unit includes a front fiber output connector and a universal power supply compatible with 100 to 240 VAC. We offer two package options: a benchtop version for ease of use, and a compact module for system integration. The benchtop model features an intuitive LCD display with independent controls for output power and temperature, accessible via two front rotating knobs. The module version provides front settings for power and temperature adjustment.

Features

- Turnkey Laser Source
- High Stability
- Advanced Feedback Control

Applications

- Medical Laser Treatment
- Biotechnology
- Others

Specifications

Parameter	Min	Typical	Max	Unit
Center Wavelength		1550		nm
Output Power	2	20	200	mW
Spectral Width, -3dB	100	200	5	kHz
Side Mode Suppression Ration (SMSR)		30	36	dB
Polarization Extinction Ratio	18		30	dB
Laser Operation Current	10		300	mA
Laser Threshold Current (Ith)	50	70	80	mA
Forward Voltage (Vf)		1.2	2	V
Reverse Voltage			1.5	V
Slope Efficiency		0.1		W/A
Reflection Isolation (built-in isolator)	30			dB
Speed		1.25		Gb/s
PD Capacitance		10	15	pF
PD Dark Current			0.1	μA
PD Operation Current			1	mA
PD Reverse Voltage			15	V
Pin Solder Temperature			250	°C
Thermistor Resistance (25°C)		10	10.5	kΩ
B Constant of Rth		3938		K
TEC Voltage			4	V
TEC Current			2	A
Operating Temperature	-20		75	°C
Storage Temperature	-40		85	°C
Reliability		Telcordia 468		

Note: The specifications provided are for general applications with a cost-effective approach. If you need to narrow or expand the tolerance, coverage, limit, or qualifications, please [click this link]:

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Benchtop Laser Source Operation Manual

- Plug in power cable
- Turn on Power Switch
- Setting the Output Power by rotating the knob
- Setting the laser diode Temperature by rotating the knob
- Connect a fiber path cable with matching connector (FC/APC is the default)
- Push the Emission switch to turn on the laser
- Measure the output power to verify

Module Laser Source Operation Manual

- Plug in power cable
- Turn on Power Switch
- Setting the Output Power by rotating the screw
- Setting the laser diode Temperature by rotating the screw
- Connect a fiber path cable with matching connector (FC/APC is the default)
- Push the Emission switch to turn on the laser
- Measure the output power to verify

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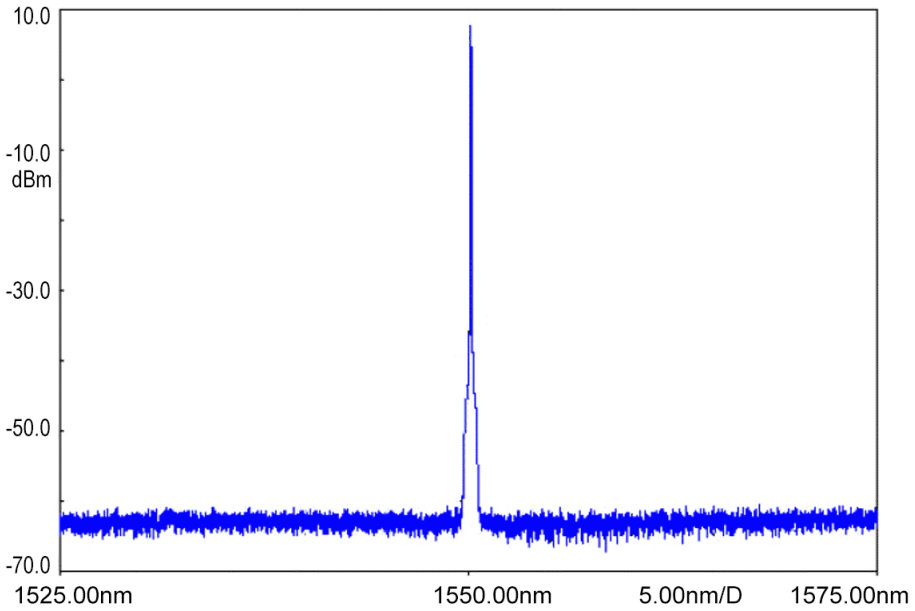
Typical Spectrum



Ordering Information

	5	☐	☐☐	☐	☐	☐	☐	☐
Prefix	**Wavelength**	**Linewidth**	**Power**	**Package**	**Isolator**	**TEC Cooling**	**Fiber Type**	**Connector**
FCNL-	1550nm = 5	3kHz = 3 5kHz = 5 50kHz = E 100kHz = G 500kHz = K	10mW = 01 40mW = 04 100mW = 10 120mW = 12 150mW = 15	Benchtop = 1 Module = 2	Yes = 1	Yes = 1	PM1550 = 5 SM28 = 1 Special = 0	FC/APC = 3 Special = 0

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