

LASER DIODE MODULES

DPSS Laser systems free space and fiber-coupled

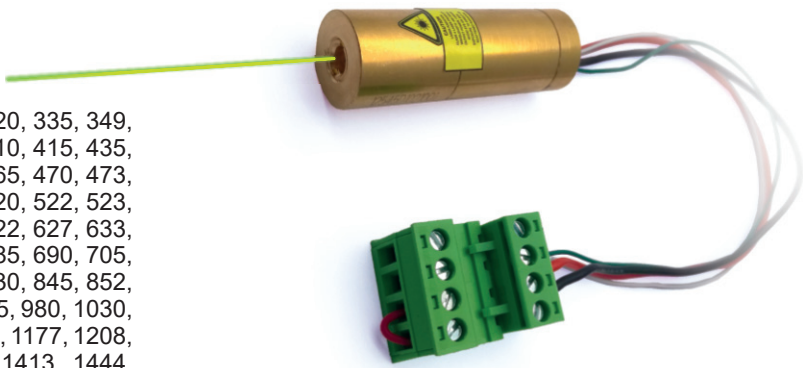
CW and Q-switched
Low Noise and Single Longitudinal Mode

Wavelength (nm):
213, 223, 228, 244, 257, 261, 266, 303, 305, 320, 335, 349,
351, 355, 360, 375, 380, 395, 397, 400, 405, 410, 415, 435,
440, 442, 445, 447, 450, 454, 457, 460, 462, 465, 470, 473,
480, 484, 488, 491, 501, 505, 510, 514, 515, 520, 522, 523,
526, 532, 543, 556, 561, 589, 593, 604, 607, 622, 627, 633,
635, 637, 639, 640, 655, 656, 660, 671, 680, 685, 690, 705,
721, 730, 750, 785, 786, 793, 800, 808, 825, 830, 845, 852,
879, 880, 885, 905, 914, 915, 940, 946, 965, 975, 980, 1030,
1040, 1047, 1053, 1060, 1064, 1085, 1112, 1122, 1177, 1208,
1275, 1310, 1313, 1319, 1320, 1342, 1380, 1413, 1444,
1450, 1470, 1532, 1550, 1573, 1600, 1645, 1710, 1870,
1900, 1910, 1940, 1990, 2096, 2200, 2790, 3800, 4000,
4200, 4400, 4500, 4600, 4800

Power output: 1mW – 500W

Applications:

Target designation and illumination
Spectroscopy
Measurement equipment
Laser display
Printing
Medical lasers



FLC delivers high power compact size (19" rack) laser diode systems. FLC300 series offers power from 10W to 300W in 450nm – 1550nm wavelength range at fiber 100um / 200um / 400um core diameter. The system has touch-screen and RS232 interfaces that allows to adjust output power, laser diode temperature, frequency modulation and pulse width, interlock and safe on/off lock.

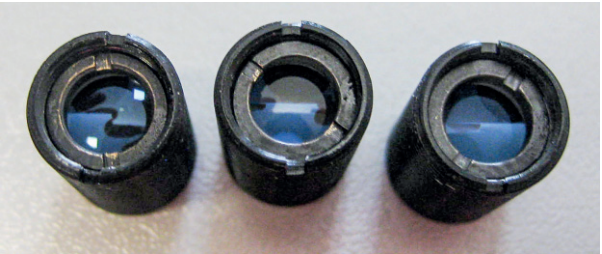


Laser Diode Optic

Our product range includes variety of laser diode collimating, focusing and beam-shaping diffractive optic available off-shelf. We provide custom-designed optical solutions for laser diode products on demand.

ANTERYON Aspheric Lenses

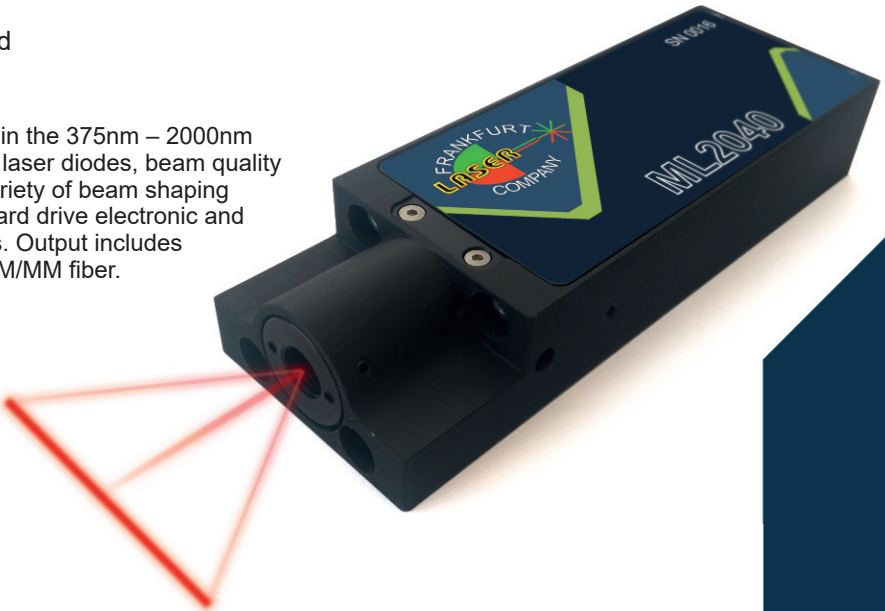
In addition FLC offers the line of Anteryon aspheric collimators. Produced using glass replication technology they are the cost-effective solution for a wide range of laser diode applications and are available in a wide range of specifications, AR-coating, etc.



Laser Diode Modules and DPSS Laser Modules

FLC offers laser diode modules in the 375nm – 2000nm wavelength range incorporating laser diodes, beam quality correcting optics as well as a variety of beam shaping optics combined with MIL standard drive electronic and DPSS frequency-doubled lasers. Output includes collimated/focused beam and SM/MM fiber.

round spot
non-Gaussian line
thickness down to 20um
dot line
ring
dot matrix
line
crosshair
square spot
line array



Stradus Laser Diode Modules

The Stradus® line of lasers is fully CDRH-compliant series of high-performance, circularized beam laser diode modules. The highly integrated Stradus® modules contain all the necessary optical power and temperature regulation, graphical communication interface, and protection circuitry. The modules deliver exceptional power and wavelength stability combined with high frequency modulation up to 300MHz. The design encompasses UV to IR wavelength range using semiconductor and DPSS laser technology. All

Stradus® lasers are single mode TEM₀₀ lasers. The Stradus® lasers feature both USB and RS-232 connectivity for easy to use control and monitoring of the system. PC user interface software is provided to allow for easy setup of the system.

Wavelength (nm): 375, 395, 405, 420, 445, 473, 488, 505, 514, 532, 561, 633, 637, 640, 642, 660, 685, 705, 730, 785

Output power up to 250mW

Applications:

DNA sequencing
Flow cytometry
Spectroscopy
Fluorescence
High-resolution printing
Interferometry
Medical procedures
Metrology
Confocal microscopy
Research & Development



OUR MAJOR SUPPLIERS

Advanced Photonics Science (USA)

Akela Lasers (USA)

Anteryon (Netherlands)

Eblana Photonics (Ireland)

Elite Optoelectronics (China)

Lasence (China)

LD-PD (Singapore)

LED Microsensor (Russia)

MirSense (France)

RPMC Lasers (USA)

Seminex (USA)

Vortran (USA)

AP Sci

Anteryon

ELITE

LED Microsensor NT

mir sense

SemiNex CORPORATION

AKELA LASER CORPORATION

eblanaphotonics

LASENCE

LD-PD INC

r×p×m×c

VORTRAN LASER TECHNOLOGY, INC.

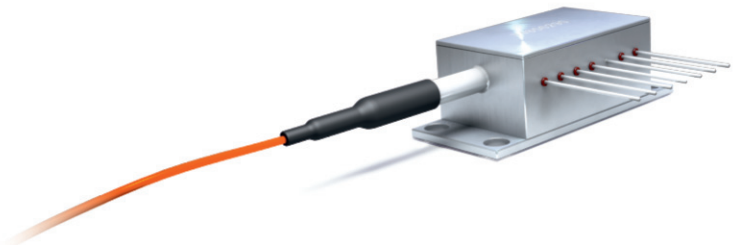
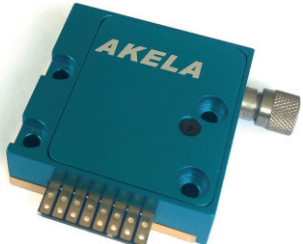
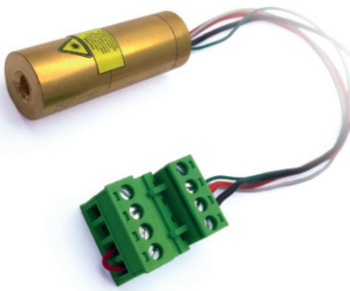
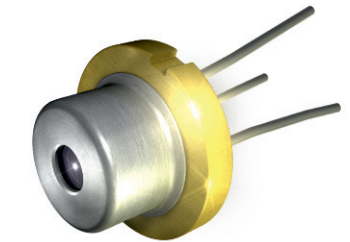
FRANKFURT
LASER
COMPANY

SHORT FORM CATALOGUE

Founded in 1994, Frankfurt Laser Company

(FLC) is a privately owned company engaged in development, production and distribution of a wide range of Fabry-Perot, DFB and DBR laser diodes and incorporating them into-laser diode modules, DPSS frequency-doubled lasers and OEM modules. The product range also includes superluminescent diodes, MID-IR LEDs and photodetectors, visible and IR VCSEL's and Interband and Quantum Cascade Lasers. As complementary products FLC supplies laser diode collimators, line generator and diffractive / refractive optic elements.

To help our customers in development projects, FLC supplies stand-alone table-top and OEM laser diode drivers, temperature controllers, mounts and appropriate cables.



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FRANKFURT
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COMPANY

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LASER DIODES

are supplied in wide variety of wavelengths and power output. FLC offers the full line of industry standard packages complete with integrated options including TE coolers, detectors, fiber-optic output and FAC micro-optic.

CW Single Mode Visible Laser Diodes

Wavelength (nm): 375, 395, 405, 415, 420, 445, 455, 473, 488, 505, 515, 520, 635 – 690

Power output (mW): 5 – 300

Applications:

- Pointing
- Alignment
- Bar code scanning
- Light barriers
- Optical data storage
- Laser printing
- Sensor systems
- Target designation and illumination



CW Multi-mode IR Laser Diodes and Arrays

Wavelength (nm): 730 – 2200

Power output (W): 0.5 – 100

Applications:

- Printing and imaging systems
- Solid state laser pumping
- Open-air communication
- Optical data storage
- Medical laser systems:
 - dental treatment,
 - skin treatment,
 - surgery,
 - urology
- Beacons and illumination
- Fiber (Er, Yt - doped) amplifier pumping



CW Multi-mode Visible Laser Diodes and Arrays

Wavelength (nm): 375, 405, 445, 455, 462, 465, 473, 488, 520, 622 – 690

Power output (W): 0.1 – 25

Applications:

- Laser printing and imaging systems
- Alignment
- Solid state laser pumping
- Optical data storage
- Medical laser systems:
 - photodynamic therapy
 - ophthalmology
- Displays
- Target designation and illumination

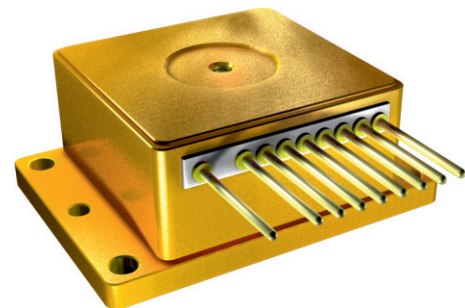
CW Single Mode IR Laser Diodes

Wavelength (nm): 705 – 3000

Power output (mW): 5 – 900

Applications:

- Spectroscopy
- Gas detection
- Target designation and illumination
- Solid state laser pumping
- Fiber (Er, Yt, Praseodymium - doped) amplifier pumping
- Optical data storage
- Medical laser systems:
 - Low-Level-Laser-Therapy
- Open-air communication
- Sensor systems



CW High Power Laser Diode Modules with Optical Fiber Output

Wavelength (nm): 405 – 2200

Power output (W): 0.3 – 1000

Applications:

1. Industrial and R&D
 - Selective soldering / desoldering
 - Heat treatment
 - Welding
 - Quick curing of epoxy
 - Transformation hardening
 - Fiber laser pumping
 - Active crystal pumping (DPSS lasers)
2. Medical
 - Contact cutting, ablation
 - Coagulation
 - Tissue welding / fusion
 - Laser hyperthermie

Pulse Laser Diodes

Wavelength (nm): 808, 850, 905, 1060, 1550

Power output (W): 2 – 650

Applications:

- IR Illumination
- Medical systems
- Reprographics
- Industrial and military sensor systems
- Laser radar
- LIDAR
- Weapon simulation



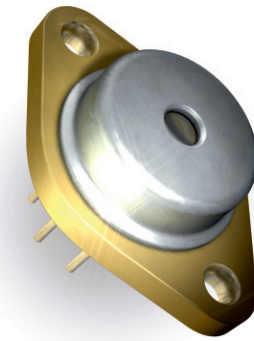
Quantum Cascade Lasers

QCL (μm): 4.0, 4.6, 5.3, 7.2, 8.4, 9.7, 10.7, 12.5, 13.2, 13.7, 17.0

Power output: up to 4W

Applications:

- Medical (non-invasive glucose detection, breath diagnostics)
- Gas detection in marine and industrial environments
- Air quality control
- Military (thermal laser pointers, explosive detection)
- Aircraft protective counter-measures
- Long-distance standoff detection



CW DFB and DBR Laser Diodes

Wavelength (nm): 633, 760 – 17000

Power output (mW): 1 – 280

Applications:

- Spectroscopy
- Gas detection
- Sensor systems
- Direct Diode Frequency Doubling (DDFD)
- Fiber testing

Bragg and Volume Grating Wavelength-stabilized Laser Diodes

Wavelength (nm): 405, 633, 640, 658, 760, 785, 808, 830, 850, 976, 1064, 1550

line width from 100kHz to 1nm

Applications:

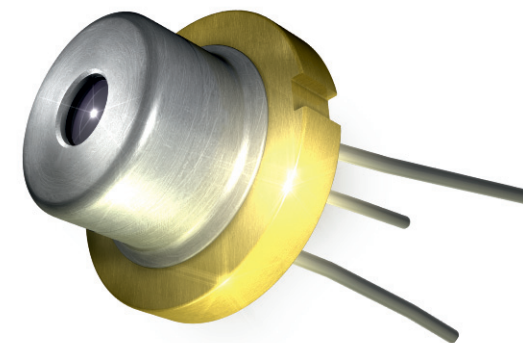
- Spectroscopy
- Gas detection
- Laser seeding
- Direct Diode Frequency Doubling (DDFD)
- Sensor systems
- Free-space communications

VCSEL SM/MM Single Emitter and Arrays

Wavelength (nm): 794, 808, 830, 850, 940, 980

Applications:

- Sensor systems
- Measurement equipment
- Crystal pumping
- Illumination
- Medical laser systems



Superluminescent Diodes

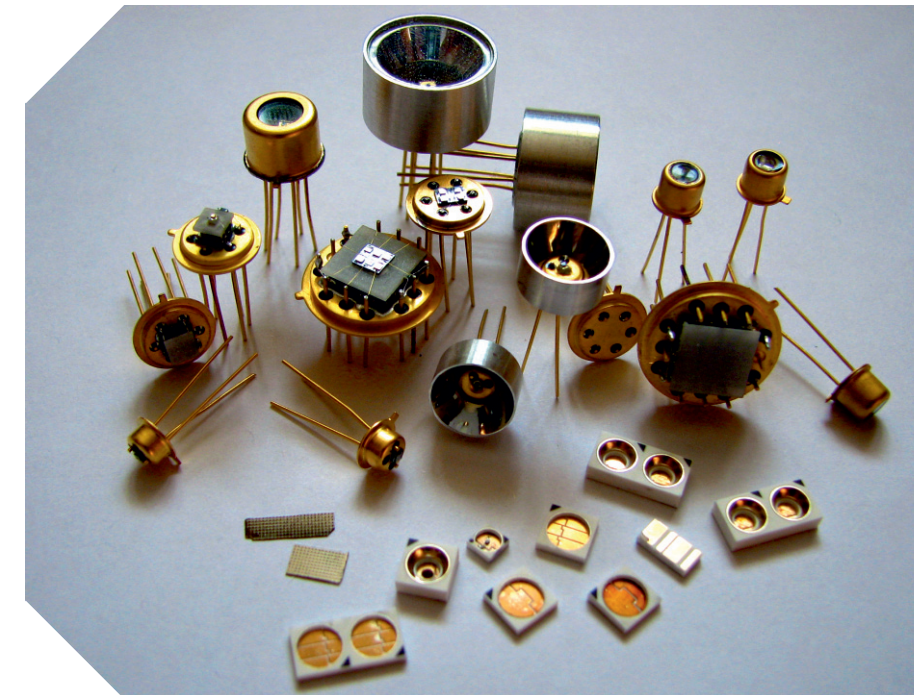
Superluminescent Diodes

Wavelength (nm): 405, 440, 520, 650, 680, 750, 785, 810 – 860, 910 – 1050, 1270 – 1610, 1850 – 3000

Applications:

- Fiber-optic gyroscopes
- Fiber-optic sensors
- Optical tomography
- Telecommunications
- Measurement equipment
- Low-speckle laser modules

Mid-IR LEDs



Mid-IR LED and Photodiodes

Wavelength (μm): 1.03 – 4.3

Applications:

- Medical Diagnostics
- Ecological Monitoring
- CO₂ Sensors
- Methane Sensors
- Water Vapor Sensors

Laser Diode Modules with Single Mode Fiber Output

The new **ML1xxFC series** offers power up to 100mW within 405nm to 1550nm wavelength range out of single mode and polarization-maintaining fiber. The operating temperature range is from -10°C to +50°C. The modules are most compact utilizing dimensions of 12.6mm and 15mm in diameter and 40 in length (electrical connector not included). As an option the modules are offered with potentiometer for power adjustment and TTL modulation up to 1MHz.

Applications:

- Remote source lighting
- Fluorescent and confocal microscopy
- Aiming laser in medical systems
- Optical instruments with a laser source



SHORT form CATALOGUE

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