VENUSLAB
OPTOELECTRONICS

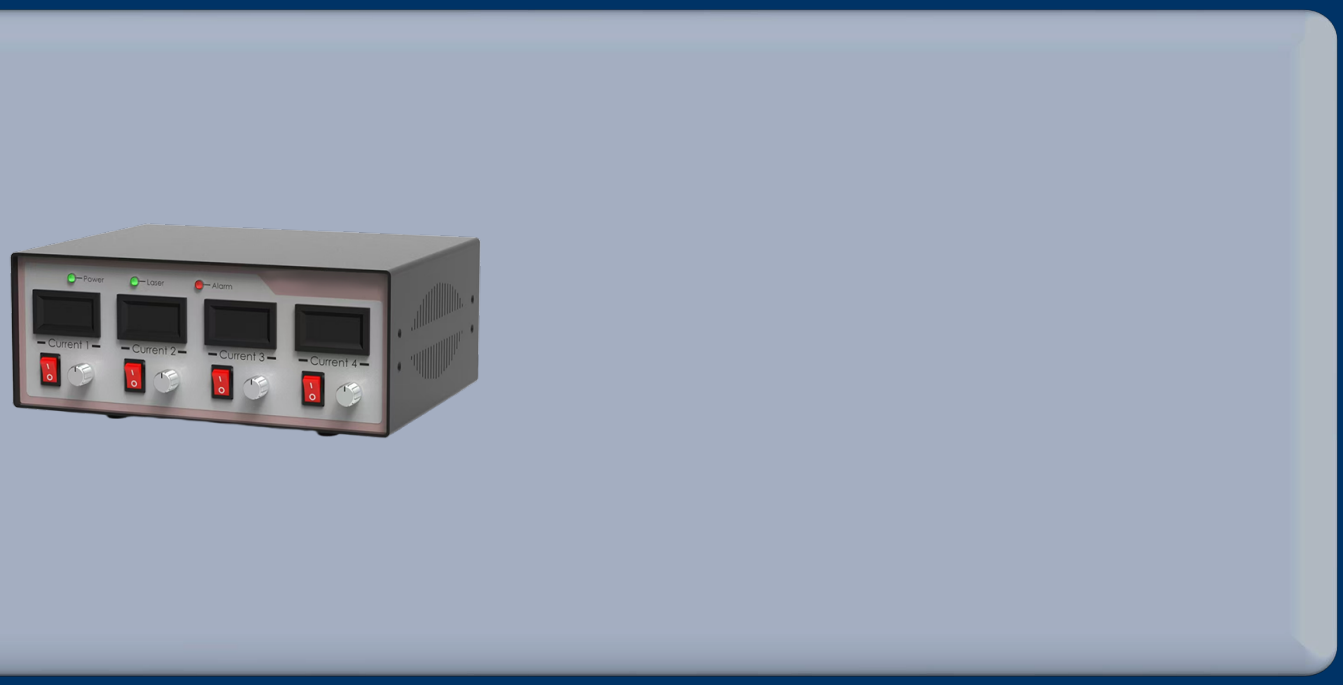
Precision Meets Simplicity

Laser Systems

Four-In-One Fiber-Coupled Laser System

A professional-grade laser system featuring "four-band integration, single-mode high beam quality, and compact design"

- Four-band integrated design simplifies the deployment of multi-wavelength scenarios
- Single-mode fiber offers high beam quality, suitable for precision scenarios
- High stability + intelligent control, ensuring reliable data and convenient operation
- Compact integration + wide environmental adaptability, flexible deployment



One Platform Many Possibilities

Contact Us sales@venuslabtech.com

Get a Quote

Get Expert Advice
+65 8099 5547

Visit Us
www.venuslabtech.com

Four-In-One Fiber-Coupled Laser System

Overview

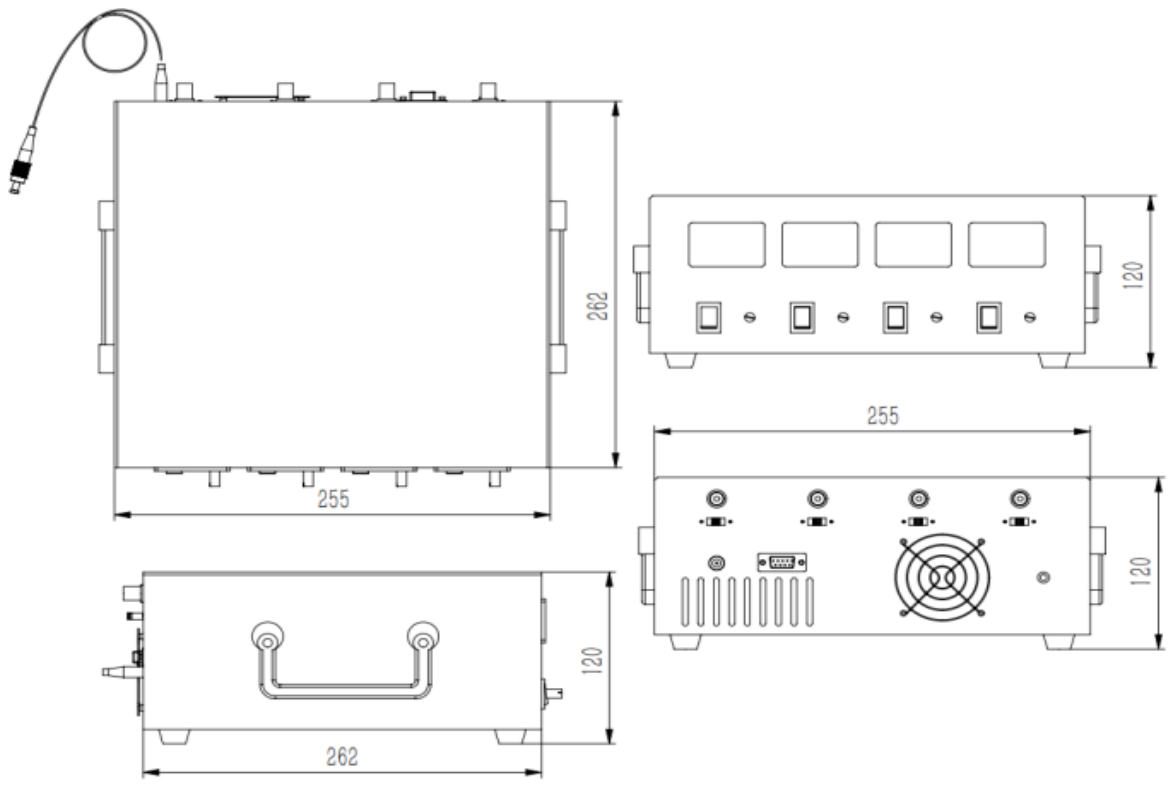
Introduction:

Four commonly used laser bands are integrated into the same system. There is no need to additionally set up 4 single-wavelength devices, and "multi-band simultaneous/switchable output" can be achieved. This significantly reduces the equipment footprint and procurement costs, and is especially suitable for scenarios requiring multi-color excitation (such as multi-color fluorescence imaging) and multi-band spectral analysis, avoiding synchronization errors between multiple devices.
9μm core diameter single-mode fiber (SF) + 0.13 numerical aperture, the output spot is close to an ideal Gaussian distribution, with a focusing accuracy up to the micrometer level, which is far superior to the beam quality of multimode fibers. It is suitable for scenarios such as Raman spectroscopy, confocal microscopy, and precision material detection that require "small spot + high energy concentration".

Features:

- Four-band integrated design
- Single-mode fiber with high beam quality
- High stability + intelligent control
- Compact integration + wide environmental adaptability

Dimension:



Specifications

Common Parameter Specification Table

Core Integration Feature	Integrated with 4-band laser modules, dedicated modulation module, high-precision driving power supply, and air cooling unit
Laser Type	FP (Fabry-Perot) Laser
Spectral Width	3nm
Central Wavelength Accuracy	±3nm
Fiber Core Diameter	9μm (Fixed)
Numerical Aperture (NA)	0.13
Fiber Length	≥1m
Operating Mode	CW (Continuous Wave) Mode (Standard)
Remote Control Method	RS232 Software Control (supports independent on/off and power adjustment for each band)
2-Hour Continuous Operation Stability	≤2%

Cooling Method	Air Cooling
Control Mode	Automatic Current Control (ACC)
Operating Temperature	+10℃～+40℃
Storage Temperature	-20℃～+60℃
Warm-Up Time	＜5 Minutes
Standard AC Power Supply	90V～240VAC, Frequency 50～60Hz
Optional DC Power Supply	+12V
Optional Accessory	Collimating Lens
Operation & Maintenance	Plug-and-play (no additional core components required), maintenance-free design, long service life

Explore Series

Model	Output power	Central Wavelength	Fiber optic types	Fiber optic interface
VLFL-405+450+520+638-SF	≥20mW per channel	（405、450、520、638）±3 nm	Single-Mode Fiber	FC/SMA905/SC/ST (Optional)
VLFL-488+520+638+785-SF	≥20mW per channel	（488、520、638、785）±3 nm	Single-Mode Fiber	FC/SMA905/SC/ST (Optional)

📩 Get in touch with our team to explore configurations,request a quote,or learn more about customized solutions tailored to your needs.

Let us help you moves cience forward—faster ands marter.