



LASER MARKING

## VLASE SERIES: LASER MARKING MADE EASY

VLASE Series is a Solid State, Laser Marking product Family dedicated to General Manufacturing, Electronics, Automotive and Aerospace industry for Direct Part Marking on high reflectivity materials, heat sensitive parts and high stability thermoplastic components.

Based on our consolidated Solid State resonator architecture VLASE Series is available in a variety of different power levels and in three wavelengths to cover a wide range of application types and materials, even on hard-to-marks materials.

## APPLICATIONS

### Automotive

- Coating removal and Paint stripping for NIGH & DAY application
- High Contrast DPM for traceability, Quality Control, Testing & Sorting on high reflectivity materials.

### Electronics

- DPM for traceability to thermal sensitive, like silicon wafers,
- WLCSP, memory cards, ICs or high reflectivity materials like copper, gold and silver
- Branding and high resolution product identification



## Quick Installation and Setup

VLASE Series of solid state laser markers combines a state-of-the-art Solid State laser source with a high flexibility and easy setup embedded controller, providing to machine builders, system integrators and end users a compact, full features controller, with embedded 100-240 VAC power supply, diode module, TEC cooler, and drivers.,

- Embedded controller with Windows Embedded Standard 7 Operative System, full language support and dedicated Solid State Hard Disk for data storage.
- Embedded 90-240 VAC power supply.
- embedded 4 independent step motors controller dramatically simplifies management of rotary indexers, x-y tables, z axis etc

- I/O connections, fiber delivery and IEC power inlet are located on back panel for easy integration, as well as dedicated M12 connectors for Photocell and Encoder.
- Front panel now offer main laser commands key and enable, USB port an new improved air cooling system with removable dust filter, that enhance operative temperature range up to 40°C @ full power.
- Simplified access to Laser Diode Module for fiber installation and maintenance
- Fail-Safe, redundant interlock system, fully compliant with EN 60825.1
- Completely sealed, bending free, long lifetime laser diode module.
- Full on screen diagnostic.

## Flexible programming control

LIGHTER Suite, with its Intuitive and easy-to-learn interface, simplifies the development of a complete and cost effective Laser Marking Station for OEM and Machine builders.

VLASE Series is thought to be used in both a STAND ALONE MODE with built-in control and software resources, and in a MASTER-SLAVE mode with a with supervising computer for advanced network-oriented Laser Marking Applications.

Main VLASE Series features are:

- Advanced Graphical Layout
- Local and Remote laser diagnostic
- Local and Remote I/O & axis control
- Local and Remote laser test & setup
- Local and Remote ActiveX
- Ethernet protocol for easy integration in PLC and industrial environments
- Marking On Fly capabilities

## VLASE SERIES

	VL-IR 10	VL-IR 15	VL-IR 20	VL-GR 4	VL-GR 10	VL-UV 3
Wavelength	1064nm	1064nm	1064nm	532 nm	532nm	355 nm
Nominal Power	10W	15W	20W	4W	10W	3W
Repetition Rate Range	10 – 200 kHz	15 – 200 kHz	20 – 200 kHz	20 – 80 kHz	15 – 200 kHz	20 – 100 kHz
Pulse Width	15ns@10kHz	10ns@10kHz	8ns@20kHz	8ns@30kHz	20ns@50kHz	18ns@50kHz
Max Pulse Energy	550µJ@10kHz	700µJ@10kHz	650µJ@20kHz	100µJ@20kHz	200µJ@20kHz	340µJ@20kHz
Marking capabilities	Standing, Rotary axis, On the fly (marking in motion)					
integration	Up to 4 mechanical axis driving capabilities (stepper motor) Up to 10 digital inputs and 10 digital output fully programmable dedicated connectors Encoder and Photocell					
Interface	Ethernet, RS 232, USB					
Aiming Beam	laser diode 635 nm					
Power Supply	100- 240 VAC 50/60Hz – 600 W max					
Cooling System	Air cooled					
Temperature Range	Operative 5°C to 50°C (41°F to 104°F)					

All laser sources described in this product guide are Class 4 laser sources.  
Laser interaction with organic or inorganic material can cause TOXIC FUMES/PARTICLES. The OEM laser components described in this product guide is for sale solely to qualified manufacturers, who shall provide interlocks, indicators and other appropriate safety features in full compliance with applicable national and local regulations

## VLASE SERIES (WAVELENGTH)

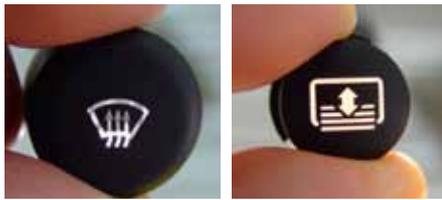
New VLASE Family is available in three wavelength to satisfy all a wide range of application types and materials, where high peak power, short pulse width and high beam quality is required.

VL-IR (Infrared)	VL – GREEN	VL – UV (Ultra Violet)
DPSS Laser markers @ 1064 nm	DPSS Laser markers @ 532nm	DPSS Laser marker @ 355 nm
High peak power, short pulse Infrared laser markers available in 10, 15 and 20W power level.	High peak power, high efficiency, intracavity SHG (second harmonic Generation) laser markers available in tow power size: 4W and 10W	High peak power, low lifetime, THG (Third Harmonic Generation) laser marking product with emission @ 355 nm

### APPLICATIONS

Excellent beam quality, VL-IR is the general purpose laser marker for wide range of materials.

High peak power and short pulse width ensures low thermal footprint and reduced HAZ (Heat Affected Zone) assures stable and precise marking on non additivated thermoplastic polymers (such as ABS, PP, PES, PET, PVC), on coated materials or low absorption materials



#### **Night & Day**

Automotive dashboard pushbutton, black painted.  
Accurate coating removal without any damage of the bulk structure



#### **Faucets Marking –**

**Nickel coated Solid Brass**  
Accurate color change of nickel coating, nickel protective coating is not removed.

Green emission laser offers significant advantages in marking applications with materials such as plastics that do not interact with the infrared wavelength, as well as with semiconductors such as silicon (e.g. wafer marking) or high reflectivity metals like copper, gold & silver.



High contrast marking on high reflectivity materials, Copper



High resolutions marking on high reflectivity materials, brass

Excellent marking quality, very fine spot size, for "cold marking" application, with very low thermal footprint for ablative damage free marking applications on various materials, including sapphire, glass, diamond, silicone, PE, HDPE (high Density Polyethylene), ceramic, alumina, and other sensitive materials.



#### **HDPE Marking**

High contrast marking on high stability materials, HDPE for medical application and devices.

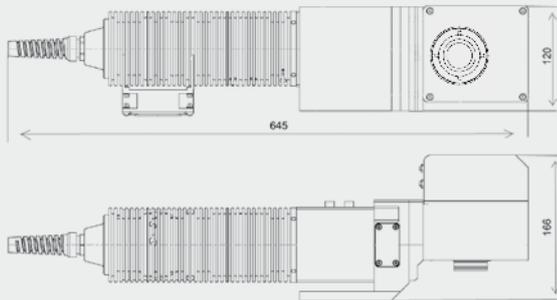


#### **Glass Marking**

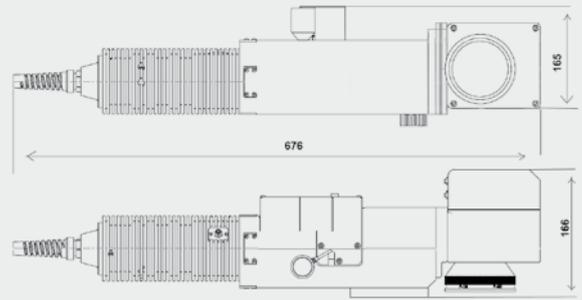
Cracks free glass marking and engraving

## DIMENSIONS

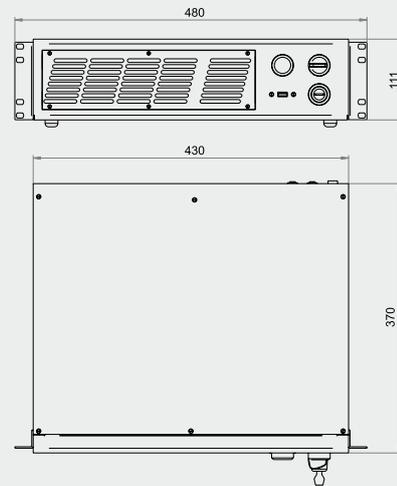
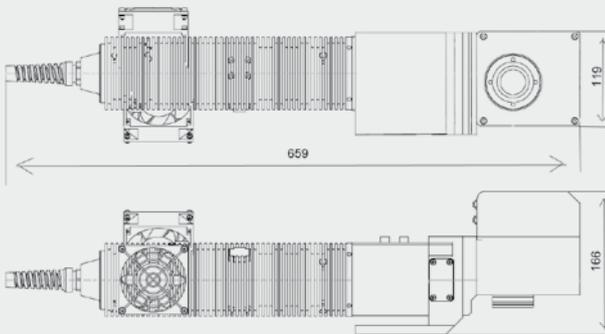
VL-IR



VL-UV



VL-GREEN



## MODEL SELECTION AND ORDER INFORMATION

ORDERING CODES	MODEL	FULL DESCRIPTION
985110038	VL 1109-1042 DPSS IR	VLASE Series MARKER IR10 @1064 BEX 9X w/out F-theta
985110039	VL 1109-1342 DPSS IR	VLASE Series MARKER IR10 @1064 BEX 9X with F 160S
985110040	VL 1109-1442 DPSS IR	VLASE Series MARKER IR10 @1064 BEX 9X with F 160L
985110041	VL 1159-1042 DPSS IR	VLASE Series MARKER IR15 @1064 BEX 9X w/out F-theta
985110042	VL 1159-1342 DPSS IR	VLASE Series MARKER IR15 @1064 BEX 9X with F 160S
985110043	VL 1159-1442 DPSS IR	VLASE Series MARKER IR15 @1064 BEX 9X with F 160L
985110036	VL 1209-1042 DPSS IR	VLASE Series MARKER IR20 @1064 BEX 9X w/out F-theta
985110044	VL 1209-1342 DPSS IR	VLASE Series MARKER IR20 @1064 BEX 9X with F 160S
985110045	VL 1209-1442 DPSS IR	VLASE Series MARKER IR20 @1064 BEX 9X with F 160L
985110046	VL 2044-1042 DPSS GREEN	VLASE Series MARKER GR4 @532 BEX 4X w/out F-theta
985110047	VL 2044-1342 DPSS GREEN	VLASE Series MARKER GR4 @355 BEX 4X with F 160S
985110048	VL 2104-1042 DPSS GREEN	VLASE Series MARKER GR10 @532 BEX 4X w/out F-theta
985110049	VL 2104-1342 DPSS GREEN	VLASE Series MARKER GR10 @355 BEX 4X with F 160S
985110050	VL 3034-1042 DPSS UV	VLASE Series MARKER UV3 @355 BEX 4X w/out F-theta
985110051	VL 3034-1842 DPSS UV	VLASE Series MARKER UV3 @355 BEX 4X with F 103 T

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