## VL-SERIES:
## LASER MARKING MADE EASY

VL-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 VL-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.

## Quick Installation and Setup

VL-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.

VL-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 VL-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

## VL-SERIES

| | VL-IR 10 | VL-IR 15 | VL-IR 20 | VL-GR 4 | VL-GR 10 | VL-UV 3 |
|---|---|---|---|---|---|---|
| Wavelenght | 1064nm | 1064nm | 1064nm | 532 nm | 532nm | 355 nm |
| Nominal Power | 10W | 15W | 20W | 4W | 10W | 3W |
| Repetition Rate Range | 10 – 200 kHz | 10 – 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)<br>Up to 10 digital inputs and 10 digital output fully programmable dedicated connectors Encoder and Photocell | | | | | |
| Interface | Ethernet, RS 232, USB | | | | | |
| Aiming Beam | 1 mW Laser Diode 635nm | | | | | |
| Power Supply | 100- 240 VAC 50/60Hz – 600 W max | | | | | |
| Cooling System | Air cooled | | | | | |
| Temperature Range | Operative 10° C to 35° C – Storing =° to 50° | | | | | |

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

## VL-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 | 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. | 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. |



*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.*



*High contrast marking on high reflectivity materials, Copper*



*High resolutions marking on high reflectivity materials, brass*



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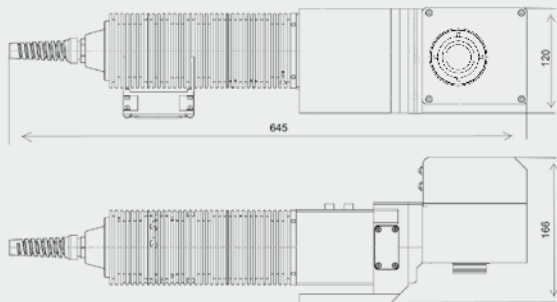*High contrast marking on high stability materials, HDPE for medical application and devices.*
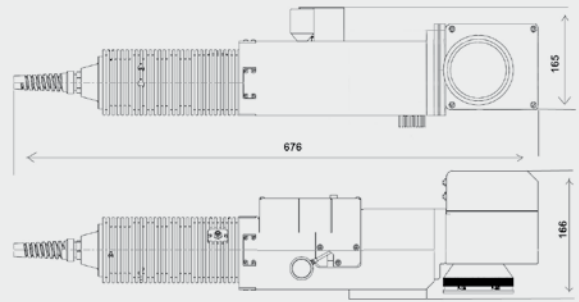


*Glass Marking*
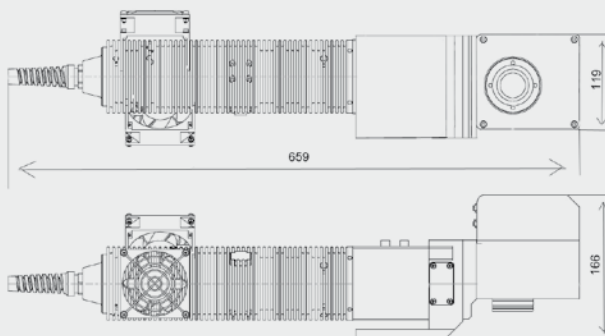*Cracks free glass marking and engraving*

## DIMENSIONS

VL-IR



VL-UV



VL-GREEN



CONTROL UNIT
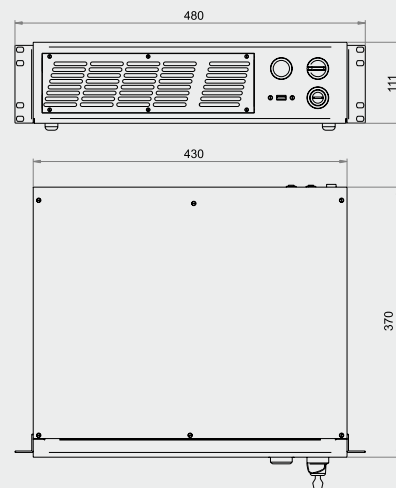


## MODEL SELECTION AND ORDER INFORMATION

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

**FDA** Conforming to FDA regulations