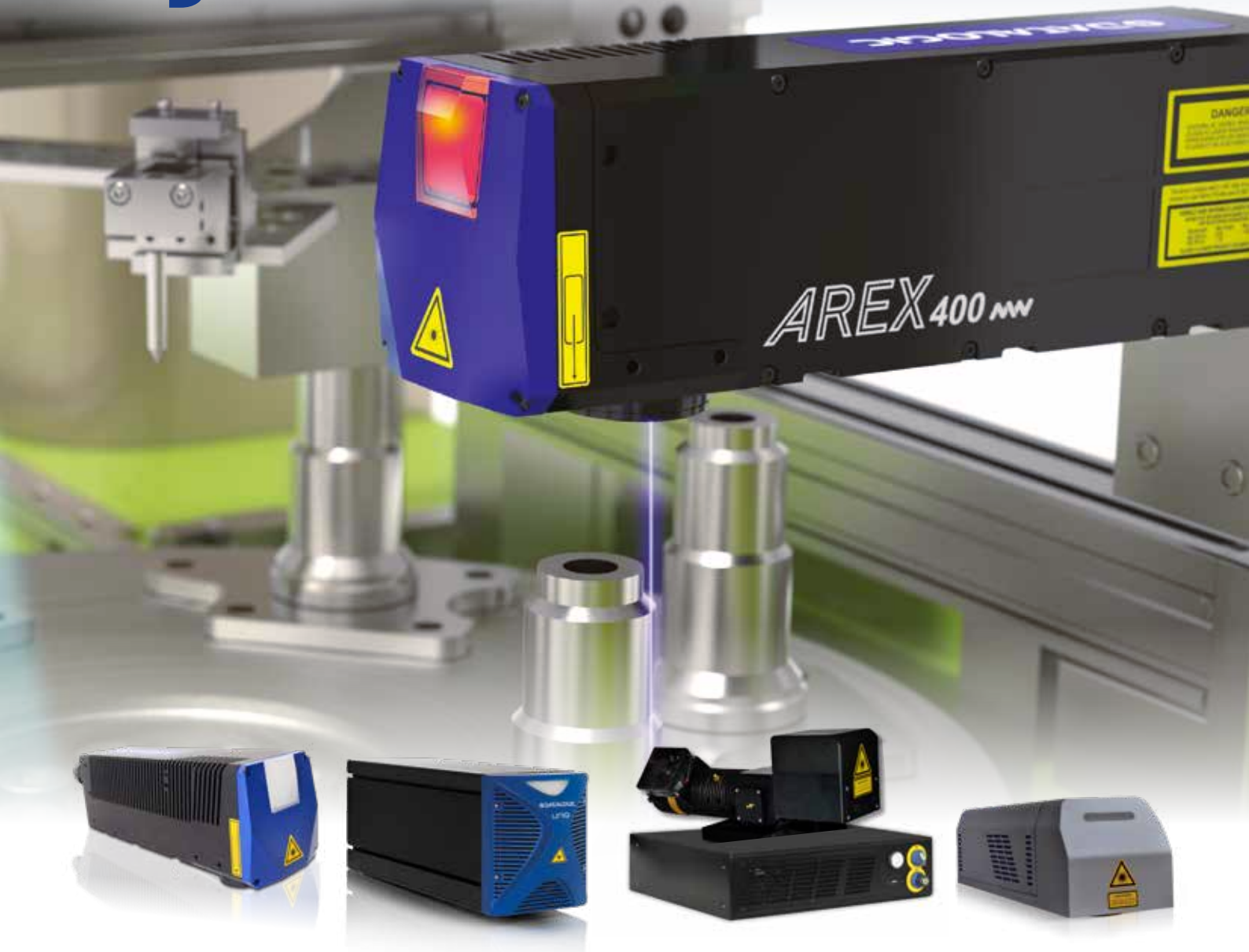


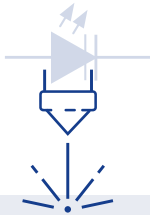
# Laser Marking Systems



**A Comprehensive Product Range  
combined with Excellent  
Laser Marking Manufacturing Expertise**

# Laser Marking Systems Product Range

Over 20 years of experience in the production of industrial laser sources has enabled Datalogic Laser Marking to create the most comprehensive product portfolio in the marketplace by offering solutions throughout a wide range of applications. Laser Marking products provide value-added marking solutions for the Automotive, Aerospace, Industrial Electronics, Metal Tooling, Precision Mechanics and Medical & Surgical devices. Laser Marking products are offered in the three main laser technologies: Fiber Laser, Solid State Laser and CO<sub>2</sub> Laser and cover a wide range of applications on almost any material, fulfilling every customer need for permanent marking. Powerful, best-in-class control software operates with any model configurations and laser technologies: a unique HMI control platform, easy to use and install, with enhanced customization capabilities and industrial-grade interfaces.



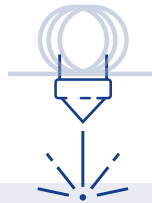
## SOLID STATE LASER MARKER VLASe SERIES

The long history of market-leading Solid State technologies has enabled Datalogic to create the most comprehensive product portfolio in the marketplace by offering solutions with a wide variety of applications in multiple wavelengths.

DL product portfolio offers industrial grade solutions for Infrared and UV in a wide power range.

### Solid State key features:

- Best-in-class laser peak power
- Two different wavelengths for best results even on highly reflective or high-stability materials
- Excellent beam quality and marking accuracy
- Low thermal footprint to ensure high contrast on thermoplastic materials and low impact on thermal sensitive components



## FIBER LASER MARKER UNIQ & AREX400 SERIES

Innovative design and performances combined with state-of-art technology, for the most demanding applications and industries. Datalogic's AREX 400 and UniQ product lines are robust reliable and cost effective. Fiber laser technology is the solution of choice for high-end applications where speed, quality and efficiency are critical.

Fixed pulse width models (100 ns) ensure great thermal effect on metal marking materials, for high efficiency metal annealing and engraving.

Adjustable pulse width model (4 - 250 ns) based on MOPA technology offers the highest level of flexibility on heat-sensitive materials, and ensure the highest contrast on thermoplastic materials.

### Fiber Laser key features:

- Ultra-compact, rugged IP64 scanhead fully protected against dust, water and oil droplets
- Low noise level
- Fast turn-on time, zero warmup
- High stability, reliable process
- Excellent on metal and plastic surfaces



## CO<sub>2</sub> LASER MARKER EOx SERIES

CO<sub>2</sub> laser technology is still the best solution to provide permanent laser marking for industrial traceability and coding on paper, carton, organic materials, coated/painted materials and plastic.

Long wavelength (10.6 μm) ensure good results even on glass, rubber, food, wood and many other materials.

### CO<sub>2</sub> Laser key features:

- Excellent on paper, cardboard, wood and plastics
- Marking on the fly compatible with variable speed
- Suitable for coding from medium to high throughput production lines

## ONE-RACK MARKING CONTROLLER

Laser marker setup and operation are made easy with the Embedded Marker Controller platform (EMC) and LIGHTER Suite.

One single rack, 19 inch, 2.5 U, offers standardized design and I/O connections to enable integrators to freely choose between Datalogic's three main laser technology (DPSSL, FIBER, CO<sub>2</sub>) without any connections or wiring hassle.

"One-rack" design drastically simplifies laser integration.

All you need for your marking application is now included: 100-240 VAC power supply, Embedded Laser controller with 4 independent axis controls (X,Y,Z, Rotating axis) to implement multi-layers and rotating marking, dedicated encoder input is applied for Marking On Fly (MOF) even in variable speed conditions. All the units are equipped with Teamviewer host to ensure real time remote support by Datalogic.



# Laser Marking Software

## LIGHTER, THE LASER MARKING SOFTWARE FOR ALL LASER MARKING PRODUCTS



LIGHTER is a versatile laser marking Software Suite dedicated to OEMs and Machine builders to develop a complete and cost-effective Laser Marking Station, based on embedded hardware and software resources.

With its innovative software functions, LIGHTER Suite

represents an important step ahead in marking software arena by setting new standards for quick integration and ease of use.

LIGHTER Suite combines advanced graphical and editing features, laser controls configuration and diagnostic with a production-oriented interface for easy and safe daily marking operations.

Lighter Suite is composed by a **Laser Editor**, a powerful and intuitive software to create, import or edit vectorial graphics, logos or serialization codes, and **Laser Engine** a robust and reliable marking process manager to execute stored layouts and programs.



Available with the LIGHTER software suite the new **MARVIS (Mark Read Validate Integrated Solution)** is Datalogic's solution for laser marking parts traceability.

**LIGHTER MARVIS™** represents an important step ahead in the MARK & VALIDATE application setting a new standard in term of ease integration and ease of use.

Thanks to innovative approach, LIGHTER MARVIS merges the capability to control both the full family of DATALOGIC Laser Markers and the entire family of MATRIX code readers, in a user-friendly, simplified, fully graphical interface.

### Advanced Editing and Formatting Functions

- Wide coding library with 100+ different 1D and 2D code symbologies and sub-types
- Import bitmap and vector formats DXF, DWG, PLT, PDF, AI, SVG, BMP, JPG, GIF, TIFF, PNG and many more
- Windows® True Type import tools
- Contextual Property Browser for quick and easy settings of graphics and laser parameters
- Advanced editing tools and Node Editor
- Filling and hatching of objects and pattern structures with various styles
- Date, time, shifts, workpiece serialization
- Array Marking
- Extended layer in combination with Axis controller
- Grey Tone marking

### Automation Capability

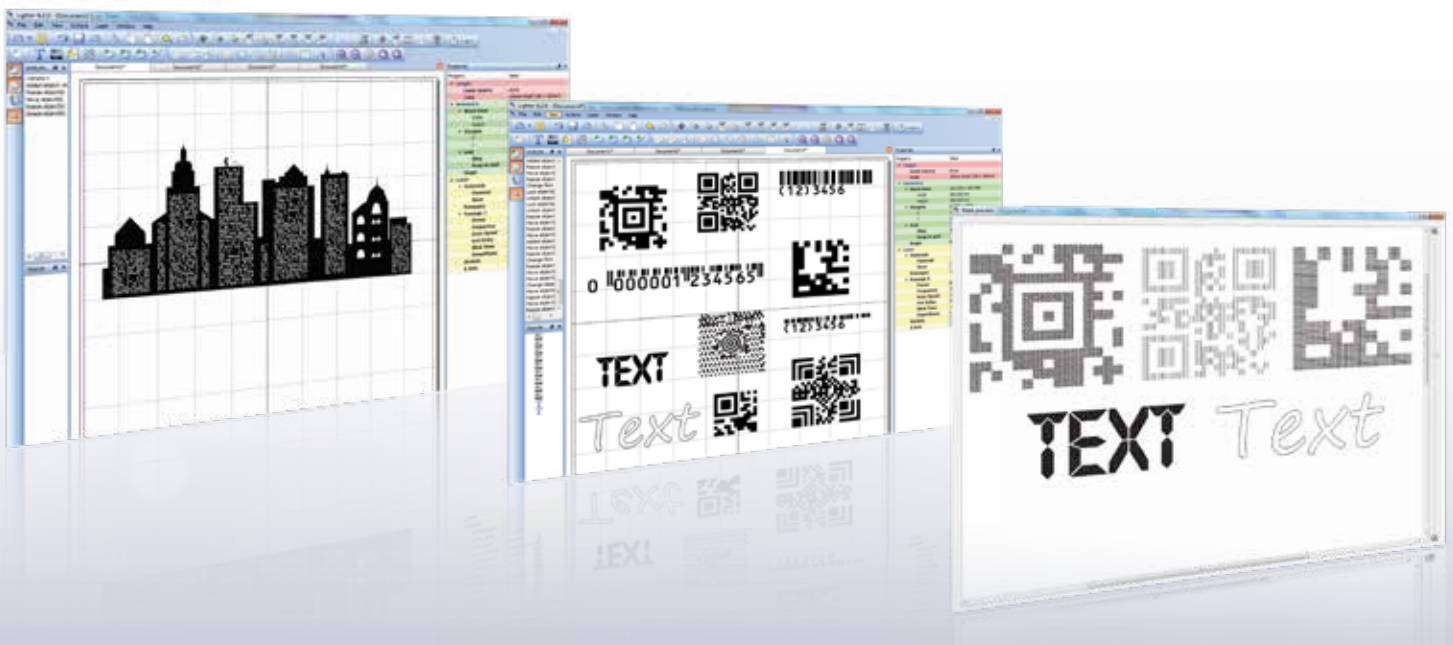
- 4 independent Mechanical axis control (X,Y,Z,R)
- User controlled general purpose I/O
- Built-in-marking on the fly
- Sequential programming
- ID code reader integration with LIGHTER MARVIS option

### Programmable Interface and Protocols

- Built-in IDE (Integrated Development Environment) based on JavaScript provides users a full set of tools to be used for extremely flexible customization.
- ActiveX support to create customized applications and user interfaces via Ethernet.
- RS232, TCP/IP, EthernetIP and Profinet embedded support.

### Software Upgrades

Datalogic is committed to preserve the value of your laser investment keeping your system updated.  
Regular updated and new features are available on our web site.





# AREX 400 Series

The **AREX 400 Series** is the latest release of Datalogic best-selling fiber laser markers dedicated to direct part marking (DPM) in the Automotive, Electronics, and Precision Mechanics industries.

Thanks to its exceptionally small and robust scanner head machined from solid aluminum, the AREX 400 laser markers are unbeatable in tight space installations where a small footprint is mandatory and reliability is a must.

The head can be installed onto robot arms or other moving fixtures thanks to the robotic-grade umbilical cord (length 3 m).

AREX 400 now incorporates Datalogic's unique 'Green Spot' technology, the award-winning programmable visual indicator for immediate good read feedback directly on the scanning area.

The totally new embedded controller is now offering improved computing performances, built-in SLO (Safety Laser Off), cost-effective native communication protocols (TCP/IP, Ethernet IP, Profinet, RS-232), and quiet operations down to 65 dB.

AREX 400 Series includes 6 different fiber laser sources, from 10W to 100W and 20W M.O.P.A. on one single unified platform.

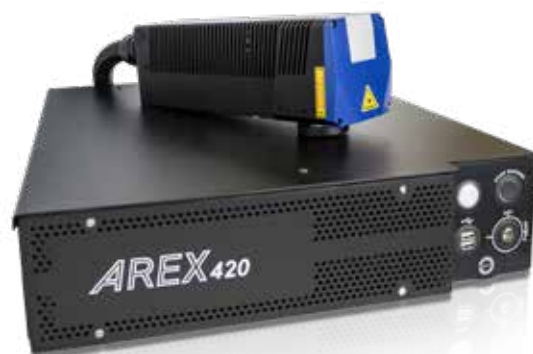
AREX 400 design and configuration dramatically simplifies and speeds up machine design and system integration. Built-in SLO (Safe Laser Off) circuitry allows quick and easy integration in EN13849-1 compliant installations.

## MOPA fiber laser technology

M.O.P.A. (Master Oscillator Power Amplifier) fiber laser technology offers a higher level of parametric flexibility thanks to the capability to adapt laser pulse duration on a wider range of repetition frequency. The capability to adjust pulse width allows to minimize the material's heat affected zone (HAZ) and to avoid unwanted thermal effect induced in sensitive materials, especially plastics. High pulse-to-pulse stability ensure high contrast stability even on difficult materials.

## APPLICATIONS

- High contrast DPM (Direct Part Marking) on metals in automotive, electronics and healthcare industries
- Deep Engraving on metal
- Annealing & color marking on metals components in aerospace precision mechanic industry
- Color change on industrial plastics (PC, ABS, PA, PBT) with M.O.P.A. adjustable pulsewidth
- Label and dot-peen Replacement
- High quality Branding and texturing on electronics devices



## TECHNICAL DATA

		AREX 410	AREX 420	AREX 420MW	AREX 430	AREX 450	AREX 401
Nominal average power	W	10	20	20	30	50	100
Pulsewidth	ns	~ 100	~ 100	Adj 4 ÷ 250	~ 100	~ 100	~ 100
Standard marking area	mm²	50x50, 100x100, 140x140	50x50, 100x100, 140x140, 180x180, 220x220, 285x285		100x100, 180x180, 210x210	100x100, 180x180, 210x210, 285x285	100x100, 160x160, 180x180, 210x210, 285x285
Communication		Ethernet TCP/IP, Profinet IO, EtherNet/IP , RS-232					
Head dimensions (HxWxD) & weight		96 x 90 x 326 – 3.5 kg					
Controller dimensions (HxWxD) & weight		113 x 432 x 434 – 17.5 kg					158 x 432 x 434 – 23.5 kg

# UNIQ™ Series

## UniQ™ - Compact, Powerful, integrated: unique!

UniQ laser marker is a revolutionary and innovative approach to fiber laser marking: For the first time on the market, **no external controller or power supply** is needed, **no fiber delivery constrains**, no fiber length or bending radius limitations.

A mechanical design and high-quality components provide an **IP54 degree of protection** for harsh environment and industrial application.

UniQ laser marker works seamlessly with Datalogic's Lighter Suite, providing a user-friendly, powerful interface and complete software tools, and is fully compatible with other Datalogic's laser control interface.

UniQ laser marker provides an extremely compact and flexible solution for manufacturing industries where the ease of use, dimensions and price/power ratio are the most important buying criteria.

Built in SLO (Safe Laser Off) system to quick and easy integration in EN13849-1 compliant installation, ease of maintenance and improved safety features keep overall operating and installation costs lower than any other laser marking system.



## APPLICATIONS

- DPM ( Direct part marking ) on plastic and metal materials in automotive, electronics and healthcare industries
- Laser Annealing on high precision metal components

## TECHNICAL DATA

		UNIQ
Technology		Fiber
Wavelength	[nm]	1060-1070nm
Nominal power	[W]	15
Standard marking area	mm <sup>2</sup>	50x50, 100x100, 140x140, 180x180
Communication		Ethernet TCP/IP, Profinet IO, EtherNet/IP, RS-232



# VLASE Series

**VLASE** combines the long production experience of high-performance and quality Diode Pumped Solid State (DPSS) laser sources with the flexibility and performances of EMC controller.

VLASE laser markers use the **state-of-the-art End Pumped Coupling Technology**, the most efficient and reliable solution for diode pumped solid state laser sources to provide **excellent beam quality, high peak power and short pulse-width**.

Solid State laser technology is recognized as the best solution to ensure high marking quality results even in difficult application such as high reflectivity or heat-sensitive materials, un-doped or high-stability plastic and hard-to-mark components.

**Designed for demanding 24H7 processes**, VLASE Series offers unparalleled performance and represents the ideal solution for direct part marking in any market segment including automotive, electronics, as well as in medical surgical tools marking and other applications.



## VLASE IR

The VLASE IR is a DPSS air-cooled laser marking source at 1064nm, available in 10 and 20W power classes..

Excellent beam quality, necessary for marking a broad range of materials, is one of the leading characteristics of the VLASE IR laser sources.

## VLASE UV

The VLASE UV source exploits the extensive experience and success of the DPSS family and is based on the optomechanical architecture of Third Harmonic Generation (THG).

The VLASE UV wavelength produces reduced heat affected zones (HAZ) in comparison with longer laser wavelengths.

The superior performance of this laser source makes it ideal for the demanding marking and material process applications, such as glass and nondoped plastics in automotive, healthcare, aeronautic, solar & electronics among many other applications.

## APPLICATIONS

- Metal marking: stainless steel, iron, titanium, carbide, (bare, coated, anodized)
- High.reflectivity metals: brass, gold, silver
- Thermoplastics (ABS, PC, PA)
- Color-enhanced plastics

## APPLICATIONS

- High stability, "non-doped" plastic marking
- Medical & surgical plastic marking
- Silicon scribing
- Ceramic & glass marking
- Luxury goods

## TECHNICAL DATA

		VLASE IR 10	VLASE IR 20	VLASE UV 3
<b>Wavelength</b>	[nm]	1064	1064	355
<b>Nominal power</b>	[W]	10	20	3
<b>Repetition rate range</b>	[KHz]	10 ÷ 200	20 ÷ 200	20 ÷ 80
<b>Standard marking area</b>	mm²	50x50, 100x100, 110x110, 140x140, 180x180	50x50, 100x100, 110x110, 140x140, 180x180, 220x220, 285x285	60x60, 110x110
<b>Communication</b>		Ethernet TCP/IP, Profinet IO, EtherNet/IP, RS-232		

# E0X Series

**E0X** is the **CO2 Laser** family for **laser coding and marking** applications. The E0X family offers high-quality permanent marking on a wide range of materials including paper, cardboard, wood, plastics and painted metal. Combining excellent laser beam quality and advanced control unit, the E0X family is suitable for accurate industrial traceability as well as high productivity coding applications.

CO2 laser family is available in two power levels, **10W and 30W**, with the same marking platform but with different mechanical configurations. 10W versions are offered in an **all-in-one enclosure** with very compact dimensions. 30W versions combine of a **marking head** with a **control rack** equipped with power supply and control unit.

Both 10W and 30W versions provide **and encoder and photocell ports, which are typically required in Marking On the Fly (MOF) mode** for coding applications on moving pieces. Advanced MOF features offer complete synchronization between beam deflection and object movement even in accelerated or start-stop movement conditions. **MOF works in continuous production lines with linear speeds up to 75 m/min and up to 4 pcs/s (depending on size/number of digits), with or without an encoder.** A CO2 marking system is characterized by low cost of operation coding applications, due to low maintenance and no requirement for expensive consumables.

E0X meets flexibility requirements with marking areas of 70x70 mm<sup>2</sup> or 140x140 mm<sup>2</sup> (focal lens dependent). Reliable and safe, E0X family provides a clean technology with short return of investment and minimal maintenance.

## E0X 30



## E0X 10



## APPLICATIONS

- Coding and marking applications in food, packaging, pharmaceutical, and electronics industries
- Marking on organic materials (paper, carton, wood)
- Marking on thermoplastic, painted and coated metals, glass

## TECHNICAL DATA

		E0X 10	E0X 30
Wavelength	[μm]	10.6	
Nominal power	[W]	10	30
Communication		Ethernet TCP/IP, Profinet IO, EtherNet/IP, RS-232	
Head dimensions & weight (LxWxH)		598x180x180 mm - 17 kg	598x180x180 mm - 17 kg
Controller dimensions & weight (LxWxH)		-	335x430x88.5 mm - 9kg

