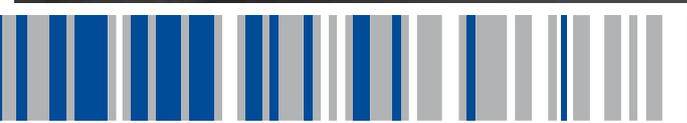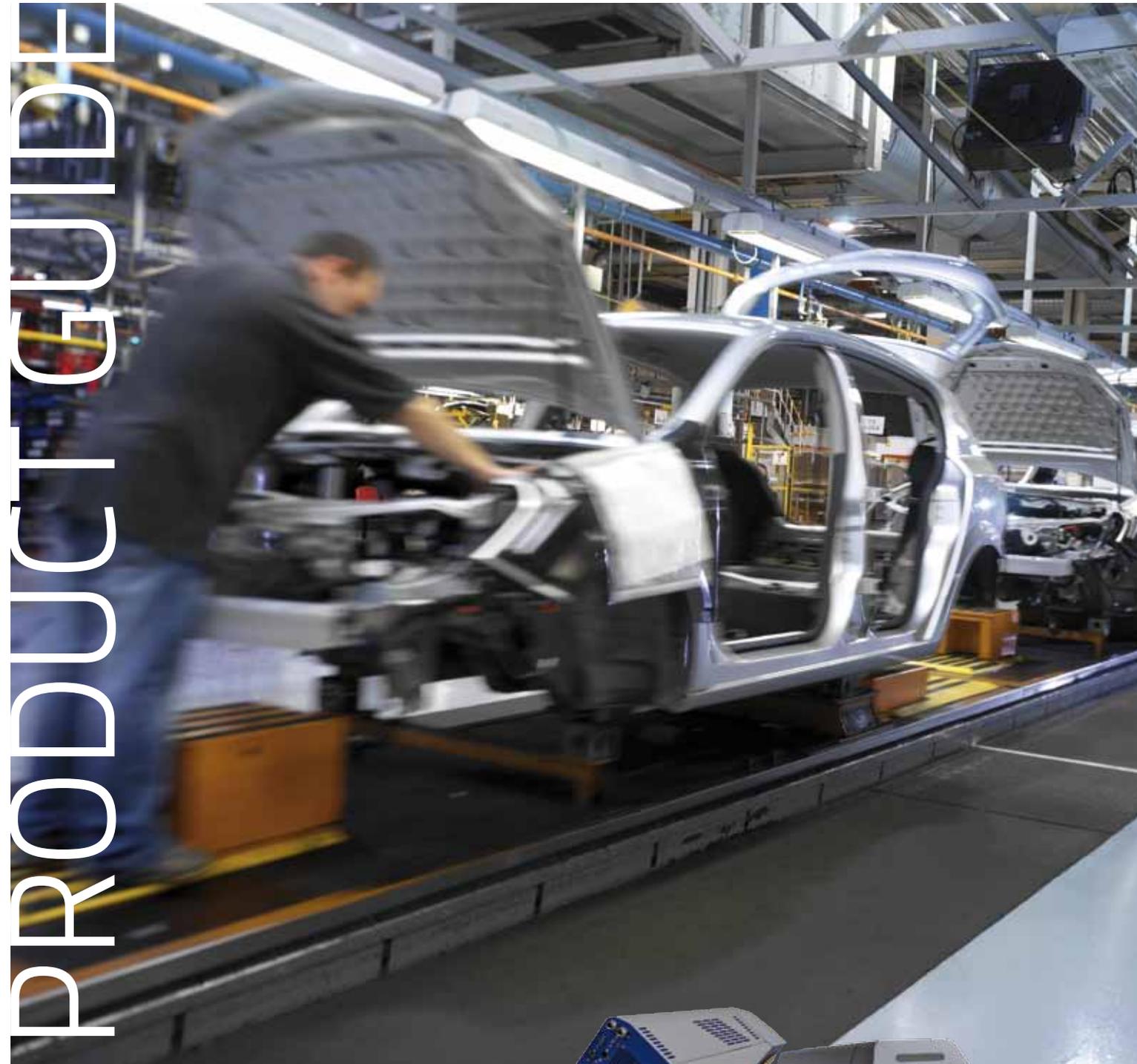PRODUCT GUIDE

>Laser Marking Systems

ODATALOGIC

LA MARKING SYSTEM

COMPREHENSIVE PRODUCT RANGE COMBINED WITH EXCELLENT LASER MARKING MANUFACTURING EXPERTISE

Datalogic Industrial Automation provides a complete range of Laser Marking Sources and Systems with state of the art technology, excellent performance and high quality at a very competitive price to performance ratio. Comprehensive product portfolio of different laser source technologies and wavelengths, Datalogic Laser Marking Systems can be applied in a wide range of applications on almost any material, satisfying every customer need for permanent marking. The Laser Marking Systems simple HMI is supported by an embedded digital platform and advanced software functions resulting in an interface that is easy to use and install. With 4 independent axis control and dedicated I/O signals, Datalogic Marking Systems can be applied in a wide variety of stand-alone and integrated installations. Marking Systems are offered in three different laser technologies: **DPSSL**, **Fiber**, and **CO2**.

DPSSL LASER

The long history of market leading DPSSL 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: Infrared, Green, UV.

With an innovative all-in-one concept,

Datalogic provides the most compact DPSS Laser available on the market.

DPSSL key features:
- First in class laser peak power
- Infrared, Green, UV wavelengths for optimum marking results on hard to mark materials
- Excellent beam quality and marking accuracy

FIBER LASER

The most compact fiber marking laser, leveraging over 15 years of experience and state of the art technology which is easy to use, simple to install, high performance and reliable.

Fiber Laser key features:
- Up to 50°C (120°F) operating temperature
- IP54 Environmental Rating
- Compact marking head for simple installation
- Zero bleed-through power
- Excellent on metal and plastic surfaces

CO2 LASER

CO2 technology provides permanent laser
marking for industrial traceability and coding
applications offering superior marking quality, increased productivity in clean workingenvironments.

CO2 Laser key features:
- Excellent on paper, cardboard, wood and plastics
- Marking on the fly compatible with variable speed and start-stop systems
- Suitable for coding from medium to high throughput production lines

LIGHTER SUITE, THE LASER MARKING SOFTWARE FOR ALL DATALOGIC LASER MARKING PRODUCTS

LIGHTER Laser Marking Software Suite allows OEMs and Machine builders to develop a complete and cost effective Laser Marking Station, based on embedded hardware and software resources (**STAND ALONE mode**), or advanced Laser Marking Solutions able to control a complete machine over a simple Ethernet connection with a supervisor computer (**MASTER-SLAVE mode**).

With innovative software functions and concepts, the LIGHTER Suite represents important ground breaking capabilities in the marking software function arena setting new standards for simple integration and ease of use.

LIGHTER Suite combines advanced editing features with laser setup, laser controls and diagnostics resulting in a complete, flexible and easy to use laser marking control system.

- **Advanced Editing and Formatting Function**
Creates and edits text strings, shapes, logos, barcodes (e.g. 128, EAN/UPC, 2/5, 3/9, GS1-128, RSS) and matrix codes(Datamatrix, QR codes, micro QR codes). It can also import and export bitmap and vector formats (bmp, plt, dxf, ai, svg, ...).

- **Automation Capability**
Mechanical axis control, user controlled general purpose I/O, built-in-marking on the fly, sequential programming, full control both in local and remote mode via Laser Editor GUI.

- **Programmable Interface and Protocols**
Scripting programmability is supported through the common programming language, JavaScript. ActiveX allows OEM integrators and
end-users to create customized applications and user interfaces via Ethernet.
RS232 and new Ethernet protocol: synchronized and reliable communication is fully supported using Ethernet protocol.
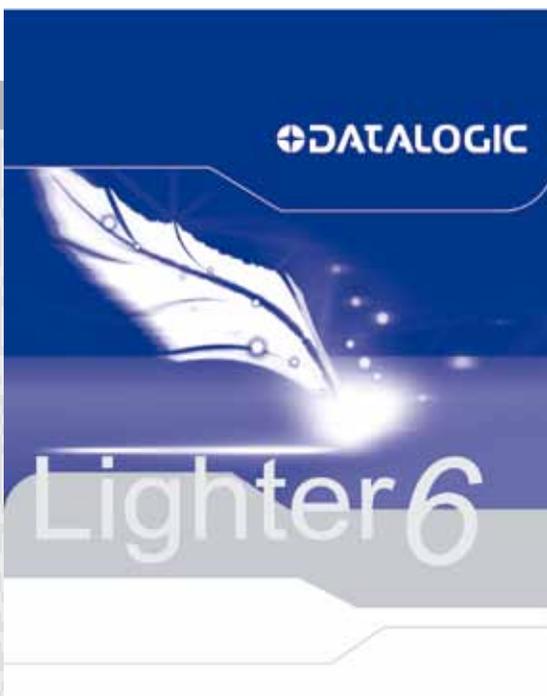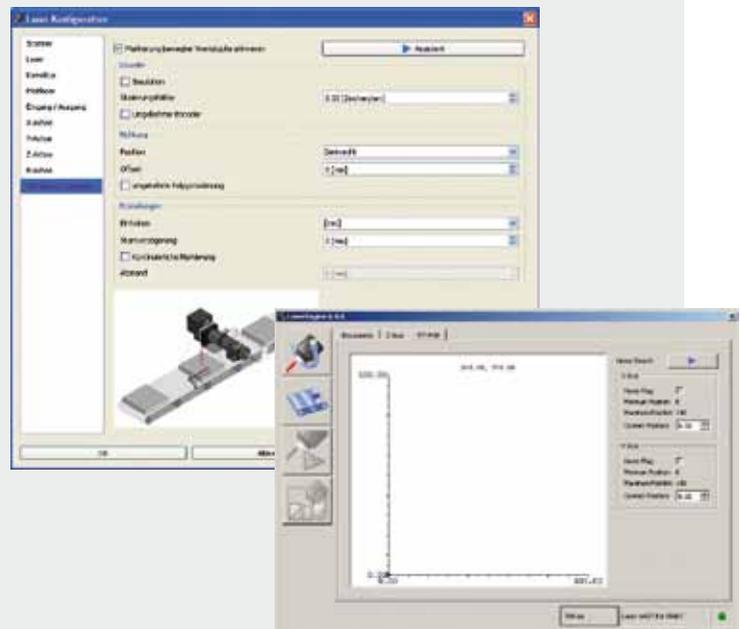
Arex Family

Eox Family

Ulyxe Family

V-Lase Family

V-LASE FAMILY

The **V-Lase platform** derives from the long production experience of high performance and quality DPSS laser sources. The V-Lase markers @1064nm use **the state-of-the-art End Pumped Coupling Technology**, which represents the cutting edge solution for laser sources.

The platform is characterized by a compact cast (standard), continuous and precise power control, and low power consumption. Moreover, special attention has been dedicated to the safety aspects. The proprietary end pumped architecture using a TE cooled diode laser pump with unmatched MTBF, assures the reliability and availability of the system.

The V-Lase platform offers **lasers with excellent beam quality, high peak power and short pulse width**. The operator is able to precisely tune the power and pulse repetition rate. Very high brilliance in the laser spot at longer focal lengths makes the V-Lase platform ideal for marking a broad range of materials, even with large marking fields.

Designed for very demanding 24/7 processes, the V-Lase platform offers unparalleled performance and represents the ideal solution for both direct part marking and label marking in every market segment including automotive, solar & electronics, packaging, as well as in medical surgical tools marking and other applications.

V-LASE

The V-Lase is a DPSS air-cooled laser marking source @1064nm, available in 10, 15 and 20W.

APPLICATIONS

- Excellent beam quality, necessary for marking a broad range of materials, is one of the leading characteristics of the V-Lase laser sources. Best results are obtained on steel, titanium, aluminum (bare, anodized or coated) as well as on plastics such as ABS, PP, PES, PET, PVC and many others.

UV-LASE

The UV laser source exploits the extensive experience and success of the DPSS family and is based on the optomechanical architecture of Third Harmonic Generation (THG). The extracavity technology allows high efficiency conversion of the LBO nonlinear crystal and compactness of the laser source.

APPLICATIONS

- The UV-Lase wavelength produces less mechanical distortion and less heat affected zones (HAZ) in comparison with longer laser wavelengths. The extreme performance of this laser source make it ideal for the demanding marking and material process applications, such as glass and non-doped plastics in automotive, healthcare, aeronautic, solar & electronics among many other applications.

GREEN-LASE

The Green-Lase 4W and 10W laser sources and markers operate on the V-Lase platform and use Second Harmonic Generation (SHG) in an intracavity architecture, which maximizes LBO nonlinear crystal conversion efficiency.

APPLICATIONS

- The Green-Lase wavelength results in a lower heat affected zone (HAZ) compared with an infrared laser. This effective laser source offers significant advantages in marking applications with materials such as plastics that do not interact with infrared wavelengths, as well as with semiconductors such as silicon (e.g. wafer marking). Superior absorption coefficient in semiconductor material used in solar cells makes this source ideal for photovoltaic applications (e.g.: thin film scribing).

TECHNICAL DATA

	V-LASE 10W	V-LASE 15W	V-LASE 20W	UV-LASE 3W	GREEN-LASE 4W	GREEN-LASE 10W
Wavelenght	1064nm	1064nm	1064nm	355nm	532nm	532nm
Nominal power	10W	15W	20W	3W	4W	10W
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	200µJ@20kHz	340µJ@20kHz
Aiming Beam	Class 2M Red Laser Diode 635nm					
Power Supply	DC 24V:28V					
Cooling System	Air cooled					
Temperature Range	Operative 10°C to 35°C - Storing 0° to 50 °C					
Resonator dimensions	165x125x502 mm	165x125x587 mm	165x125x502 mm	165x165x676 mm	165x125x659 mm	165x125x659 mm
Rack dimensions	498x437x87mm					

ULYXE FAMILY

Ulyxe lasers, with 6W@1064nm, are classified as DPSS Active Q-Switched Lasers. This family is extremely compact (only 42cm, 16.5") but offers all of the most advanced technological concepts. **The Ulyxe family provides the best price to performance ratio in the laser marking world**. As a result of its cost-effectiveness and competitive positioning, the Ulyxe family is the first choice in marking solutions even when compared with traditional marking techniques. With its extreme compactness, this laser family represents the ideal laser marking solution both in standalone configurations as well as OEM applications.

The air cooled laser sources offer an ultra-compact design and includes the scanning head, digital control and monitoring functions. The outside cover on the units are equipped with a specifically designed high-tech case, available in different materials (polyurethane and metal) depending on different application requirements. The operator can easily interact and monitor important laser status and functions with an user friendly LCD touch screen control display.

Ulyxe compact laser family is available in **2 different configurations** to meet the requirements of wide range of applications and industries:

- Embedded Solution
- Marking kit Solution

MARKING KIT SOLUTION

With a metal case design for industrial applications, it offers superior compactness and full compatibility with the marking platform kit (our SMARTIST software + DSP board). PCI slot connectivity 3 independent axis controls (X,Y,Z or rotative axis) support multi-layer (surface change) and rotating marking applications.

EMBEDDED SOLUTION

Embedded solutions perfectly combine compact dimensions with USB connection ease, and the user friendly editing software (LIGHTER Suite or Ulyxe Editor). This solution is specifically developed to offer all key marking functions: installation, easy laser marker setup and operation.
This configuration is available in polycarbonate case or metal case options.

APPLICATIONS

- Plastic and metal marking in automotive, electronics and healthcare industries
- Label Marking
- DPM (Direct Part Marking)
- Tool Marking
- Marking on surgical tools/devices

TECHNICAL DATA

	EMBEDDED SOLUTION	MARKING KIT SOLUTION
Wavelenght	1064nm	
Nominal power	6W	
Repetition Rate range	15-200 kHz	
Pulse Width	20-25 ns@20kHz	
Max Pulse Energy	300μJ@15 kHz	
Aiming Beam	Class 2M Red Diode Laser 635nm	
Focus Beam	Class 2M Red Diode Laser 635nm	
Power Supply	24VDC/13A	
Cooling System	Air cooled	
Temperature Range	Operative 15°C to 35°C Storing -5 to +55 °C	
Dimensions	426x154x170 mm	410x145x123 mm
Connectivity	USB	PCI slot

AREX FAMILY

AREX family represents the ultimate Fiber Laser marking system in unmatched compactness.

AREX is the **ultra-compact pulsed fiber laser system** ideal for Direct Part Marking in the automotive and electronics industry as well as label marking on metal parts, plastic parts and components.

Available in **10W**, **20W and 30W fiber** laser sources, improved scan head, compact controller rack design and advanced LIGHTER Software features, the AREX increases performance in term of power, reliability, quick installation and setup, flexible programming and control. Higher output power increases marking performance in term of speed marking and deep engraving. With **IP54 protection class scan head and 50°C (120°F) operating temperature**, the AREX guarantees higher reliability even in harsh environments.

AREX drastically simplifies system design and machine integration. Controller Rack with all connection on back panel included: double and redundancy safety interlock inputs and double channel ENABLE Input. **Laser marker setup and operation are made easy** with the Embedded Marker Controller platform (EMC) and LIGHTER Suite. Embedded Red Laser Spot for focus position allows fast focusing of the laser beam during setup.

With the user friendly HMI, the operator can define any kind of label, logo, text, datamatrix, and bar codes for laser labeling and traceability applications.

AREX is equipped 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 accelerated and variable speed conditions. Advanced software functions support a variety of conditions including operator attended working station and fully automated marking centers.

APPLICATIONS

- Plastic and metal marking in automotive, electronics and healthcare industries
- 2D codes marking on automotive parts
- Laser Annealing on precision metal components and medical equipment
- Deep engraving marking

TECHNICAL DATA

	AREX 10W	AREX 20W	AREX 30W
Wavelenght	1060 – 1080 nm	1060 – 1080 nm	1060 – 1080 nm
Nominal power	10W	20W	30W
Repetition Rate Range	20 kHz ÷ 100 kHz	20 kHz ÷ 100 kHz	30 kHz ÷ 100 kHz
Pulse Width	100 nsec	100 nsec	100 nsec
Peak power	5 kW	10 kW	10 kW
Aiming Beam	Class 2M Red Diode Laser 635nm		
Focus Beam	Class 2M Red Diode Laser 635nm		
Power Supply	100/240 VAC - 50/60 Hz		
Cooling System	Air cooled		
Temperature Range	Operative 10°C to 50°C Storing 0°C to 55°C	Operative 10°C to 50°C Storing 0°C to 55°C	Operative 10°C to 35°C Storing 0°C to 55°C
Head Dimensions	90x112x298 mm		
Rack Dimensions	106x430x370 mm		

EOX FAMILY

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

CO2 laser family is available in 2 power levels, **10W and 30W**, with the same marking platform but with different mechanical configurations. 10W versions are offered in an **ALL-IN-ONE case** with very compact dimensions. 30W versions combine of a **compact marking head** with a control rack equipped with power supply and control unit.

Both 10W and 30W versions provide **axis control and an encoder port for Marking On the Fly (MOF)**, which is typically required for coding applications. Advanced MOF features offers complete synchronization between marking head and object movement even in accelerated or start-s top movement conditions. **MOF increases production lines throughput with linear speeds up to 75mt/min and 12.000 pcs/hour**. A CO2 marking system is very attractive for low cost of operation coding applications, due to no maintenance and no requirement for expensive consumables.

The EOX meets flexibility requirements with extended marking area up to 140x140mm (focal lens dependent).

Reliable and safe, the EOX family provides a clean technology with short return of investment and minimal maintenance.

APPLICATIONS

- Coding and marking applications in the food, pharmaceutical, and electronics industries

TECHNICAL DATA		
	EOX 10W	**EOX 30W**
Wavelenght	10,6 μm	10,6 μm
Nominal power	10W	30W
Repetition Rate Range	10-25000 Hz	
Aiming Beam	Class 2M Red Diode Laser 635nm	
Focus Beam	Class 2M Red Diode Laser 635nm	
Power Supply	100/240 VAC - 50/60 Hz	
Cooling System	Air cooled	
Temperature Range	Operative 15°C to 35°C Storing -10 to +60 °C	
Head dimensions	180x185x634 mm	180x185x634 mm
Rack dimensions	-	437x94x333 mm

HEADQUARTER

Datalogic Automation Srl

Via Lavino, 265
40050 Monte San Pietro - Bologna - Italy
Tel: +39 051/6765611
Fax: +39 051/6759324

info.automation.it@datalogic.com

BRANCHES AND SALES OFFICES

EUROPE

BENELUX

Datalogic Automation Benelux

Newtonweg 3
4104 BK Culemborg
The Netherlands
Tel. +31 345/589489
Fax +31 345/511419

info.automation.nl@datalogic.com

FRANCE

Datalogic Automation Srl

Succursale en France
Le Parc Technologique de Lyon
333 cours du 3ème Millénaire - Le Pôle
69800 Saint Priest
Tél. +33 (0)4/72476180
Fax +33 (0)4/72470721

info.automation.fr@datalogic.com

GERMANY

Datalogic Automation Srl

Niederlassung Central Europe
Carl-Zeiss Str. 31
73230 Kirchheim/Teck
Tel. +49 07021/509700
Fax +49 07021/5097029

info.automation.de@datalogic.com

ITALY

Datalogic Automation Srl

Via Lavino, 265
40050 Monte San Pietro - Bologna
Tel. +39 051/6765611
Fax +39 051/6759324

info.automation.it@datalogic.com

Datalogic Automation Srl
LASER MARKING

Via Le Gorrey, 10 11020, Donnas - Aosta
Tel. +39-0125-8128201
Fax +39-0125-8128401
info.automation.it@datalogic.com
Via Dell'Industria 20, 21018
Sesto Calende - Varese
Tel. +39-03319180601
Fax +39-03319180601

info.automation.it@datalogic.com

SPAIN

Datalogic Automation Iberia

Sucursal en España
C/ Samontà, 21 Planta baja, Local 0
08970 Sant Joan Despí - Barcelona
Tel. +34 (0)93/4772059
Fax +34 (0)93/4777272

info.automation.es@datalogic.com

NORDIC

Datalogic Automation AB

Höjdrodergatan 21
21239 Malmö - Sweden
Tel. +46 (0)40/385000
Fax +46 (0)40/385001

info.automation.se@datalogic.com

UNITED KINGDOM

Datalogic Automation UK

Datalogic House
Dunstable Road, Redbourn - Herfordshire
AL3 7PR
Tel. +44 (0) 1582 791750
Fax +44 (0) 1582 791769

info.automation.uk@datalogic.com

NORTH AMERICA

Datalogic Automation Inc

511 School House Road
Telford, PA 18969-1196 - United States
Tel. +1-800-BAR-CODE or +1-215-723-0981
Fax +1-215-721-5551

info.automation.us@datalogic.com

Datalogic Automation Inc
MACHINE VISION

6301 Old Shakopee Road
Minneapolis, MN 55438 - United States
Tel. +1-952-996-9500
Fax +1-952-996-9501

info.automation.us@datalogic.com

APAC

Australia-New Zealand

Datalogic Automation Pty Ltd

Unit 130, 45 Gilby Road
Mt Waverley - Victoria, 3149 - Australia
Tel. +61 (0)3/95589299
Fax +61 (0)3/95589233

info.automation.au@datalogic.com

China

Datalogic Automation Asia Ltd

Floor 20, Room 2017, Building 2,
16 West Nan San Huan Road
Fengtai District, Beijing
Tel. +86 (0)21-5836 6692
Fax +86 (0)21-5836 6695

info.automation.cn@datalogic.com

Suite 1301, Hua Rong Plaza,
1289 South Pudong Road, Pudong District
Shanghai 200120
Tel. +86 (0)21-5836 6692
Fax +86 (0)21-5836 6695

info.automation.cn@datalogic.com

1108B, Blocks 5, Huayangnian Meinian Plaza,
West Nanhai Road, Nanshan District
Shenzhen
Tel. +86 (0)755-8629 6779
Fax +86 (0)755-8628 1280

info.automation.cn@datalogic.com

Datalogic Automation Laser Marking

Laservall Asia Co. Ltd

Unit 701-703, 7/F, Yuen Long Trading Centre, 33
Wang Yip Street Street, NT - Hong Kong
Tel. +852-2959 1144
Fax +852-2959 6144

info@laservallasia.com - www.laservallasia.com

Laservall China Co. Ltd

3F, West, Tower E
Tongfang Information Harbor, No. 11
Langshan Rd., North Area, Hi-Tech Park
Nanshan District, Shenzhen - China
Tel. +86 755-86281638
Fax +86 755-86281738

info@laservallasia.com - www.laservallasia.com

Japan

Idec Datalogic Co. Ltd

10-40, Mikuni-Honmachi 1-Chome,
Yodogawa-ku, Osaka 532 0005
Tel. +81(6) 6398/3200
Fax +81 (6) 6398/3202
www.idljp.com

Rev. 02, 05/2013

9C3000000

⬦ DATALOGIC

www.datalogic.com