ID TECHNOLOGY®

SPA

THE FIRST MODULAR LASER
THAT GROWS WITH YOUR NEEDS

Choosing Your Laser System

L&C
LABELING
& CODING

Choosing Your Laser System

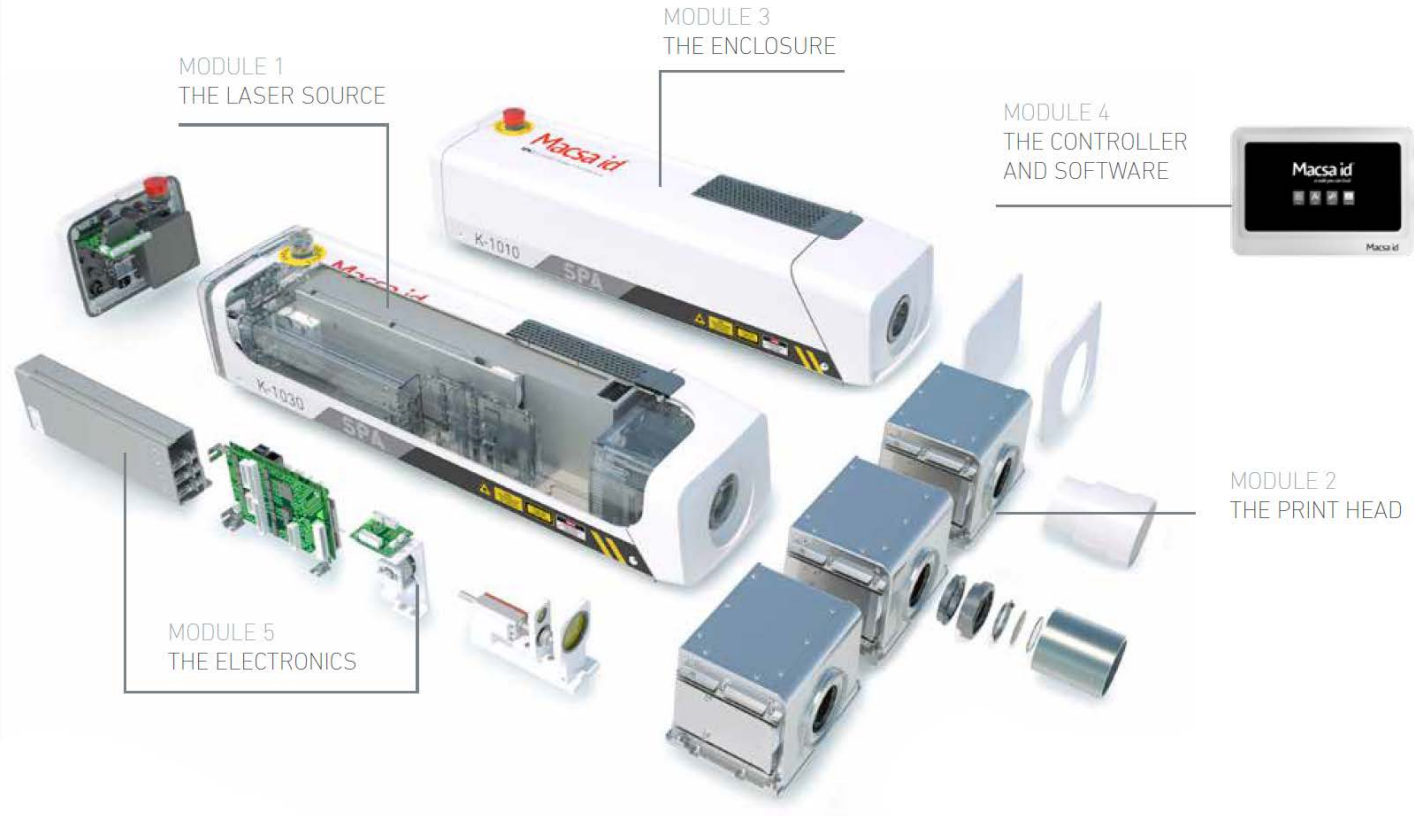
SPA (Scalable Product Architecture) by Macsa is the first modular and scalable laser coding system.

Available exclusively from ID Technology, SPA is a laser platform that allows you to specify exactly what you need for your laser coding or marking job - whatever the demands of your production line.

As your needs change, SPA can evolve with you - making it easy to keep your coding operations up to date.

The SPA laser consists of 5 main modules:
1- The laser source
2 - The print head
3 - The enclosure
4 - The controller and software
5 - The electronics

Choosing the modules (along with optics and extras) allows the SPA to be configured exactly for the application.



SCALABLE PRODUCT ARCHITECTURE

Technology

Macsa produces the widest range of laser technologies in the industry - this table should help determine which is best for your application.

● Excellent Reaction ● Good Reaction ● Poor Reaction

* 9.3 micron ** 10.2 micron

MATERIAL		TECHNOLOGY				
Family	Substrate	CO2	Fiber	YAG	Green	UV
	wavelength	10.6, 10.2 or 9.3 micron	1064nm	1064nm	537nm	355nm
Wood, Paper and Board	Wood	●	●	●	●	●
	Thermal label	●	●	●	●	●
	Paper	●	●	●	●	●
	Board	** ●	●	●	●	●
	Metallised Board	** ●	●	●	●	●
Food	Fruits and vegetables	●	●	●	●	●
Glass	Glass	●	●	●	●	●
	Glass Fiber	●	●	●	●	●
Ceramics	Ceramic	●	●	●	●	●
Plastics	Polypropylene (PP)	●	●	●	●	●
	Low density polyethylene (LDPE)	** ●	●	●	●	●
	High density polyethylene (HDPE)	** ●	●	●	●	●
	Polystyrene (PS; GPPS and HIPS)	●	●	●	●	●
	ABS	●	●	●	●	●
	Polyacetal (POM; polyoxymethylene)	●	●	●	●	●
	Polyamide (PA)	●	●	●	●	●
	Polycarbonate (PC)	●	●	●	●	●
	Polyethylene terephthalate (PET)	* ●	●	●	●	●

SPA is available in CO_2, YAG and Fiber YAG versions and various wavelengths to suit your application.

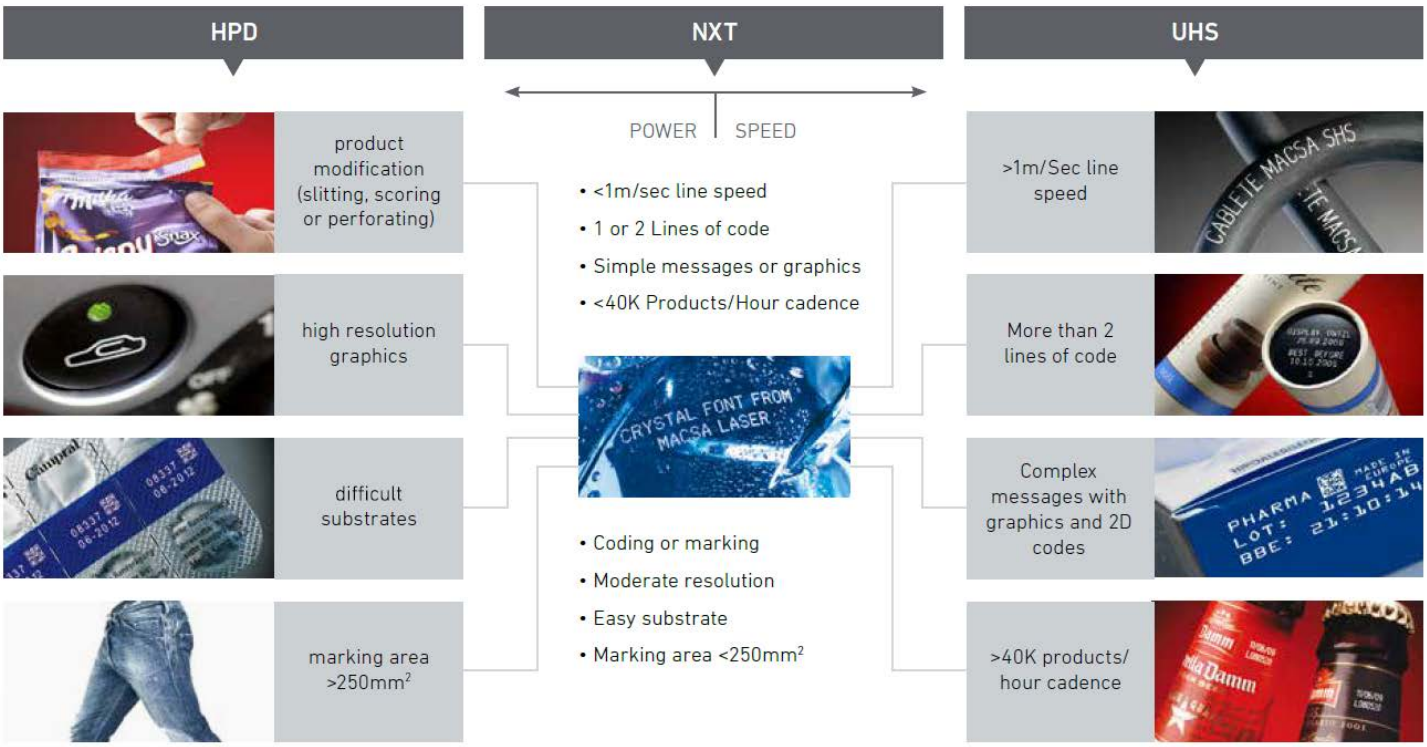
Power

WAVE LENGTH	TECHNOLOGY	PRINTHEAD	10	20	30	40	50	60	80	100
10.6 micron 10.2 micron 9.3 micron	CO_2	NXT	YES		YES			YES	YES	YES
		UHS			YES			YES	YES	
		HPD			YES			YES	YES	YES
1064 nm	PULSED FIBER	NXT	YES	YES	YES		YES			YES
		UHS	YES	YES	YES		YES			YES
		HPD	YES	YES	YES		YES			YES
1064 nm	CONTINUOUS FIBER	UHS	YES	YES			YES			YES
1064 nm	YAG	NXT	YES	YES		YES				
		HDP	YES	YES		YES				

SCALABLE PRODUCT ARCHITECTURE

A wide range of power outputs lets you choose the best laser for your particular application.

Printhead



SPA offers three printhead configurations:
NXT the standard printhead for most coding applications
UHS high speed production lines and more complex formats
HPD for scoring applications and hard to mark substrates

Enclosure

technology	CO_2			FIBER				YAG			
				continuous	pulsed	pulsed	pulsed			Green	UV
name	NXT	UHS	HPD	UHS	NXT	UHS	HPD	NXT	HPD	HPD	HPD
	utility	speed	power	speed	utility	speed	power	utility	power	power	power
standard IP rating	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54
special IP rating	IP65	IP65	IP65	no	no	no	no	no	no	no	no
IP54 split kit	option	option	standard	no	no	no	no	no	no	no	no
IP65 split kit	option	option	option	no	no	no	no	no	no	no	no
warming kit	option	option	option	option	option	option	option	option	option	option	option
cooling kit	option	option	option	option	option	option	option	option	option	option	option
air blowing kit	standard	standard	no	no	standard	standard	no	standard	standard	standard	standard
air pressure kit	option	option	option	option	option	option	option	option	option	option	option

Protecting the laser from the environment is the key to long life with minimal problems. SPA is protected to IP54 as standard, and IP65 is available as an option.
Macsa'a reverse airflow (RAF) cooling system ensures that any dust in the air, never comes in contact with system components.

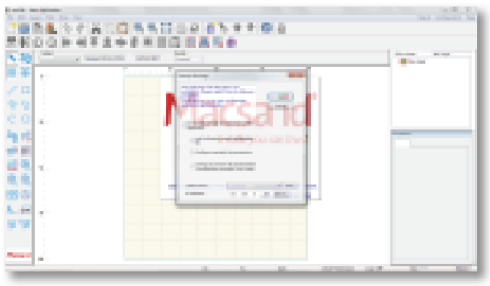
SCALABLE PRODUCT ARCHITECTURE

Controller & Software

A new touchscreen interface offers complete control of the laser along with print format design, a setup wizard and help videos.

In addition, SPA lasers can be controlled via your network.

Macsa's Marca programming software has been resigned to be even more sophisticated than ever, but still easy to use.



TOUCH SCREEN

There's a brand new user interface which means that SPA lasers are easy to install, program, operate and service

- There's a Wizard to makes SPA lasers easy to install.
- There's a totally new and unique interface for operators and a best of class-hand held touch screen controller.
- On line help videos are available in the factory where you need them
- LCD 10.1 inch Touch Screen
- Fully tactile to improve the experience
- 24 bit colours

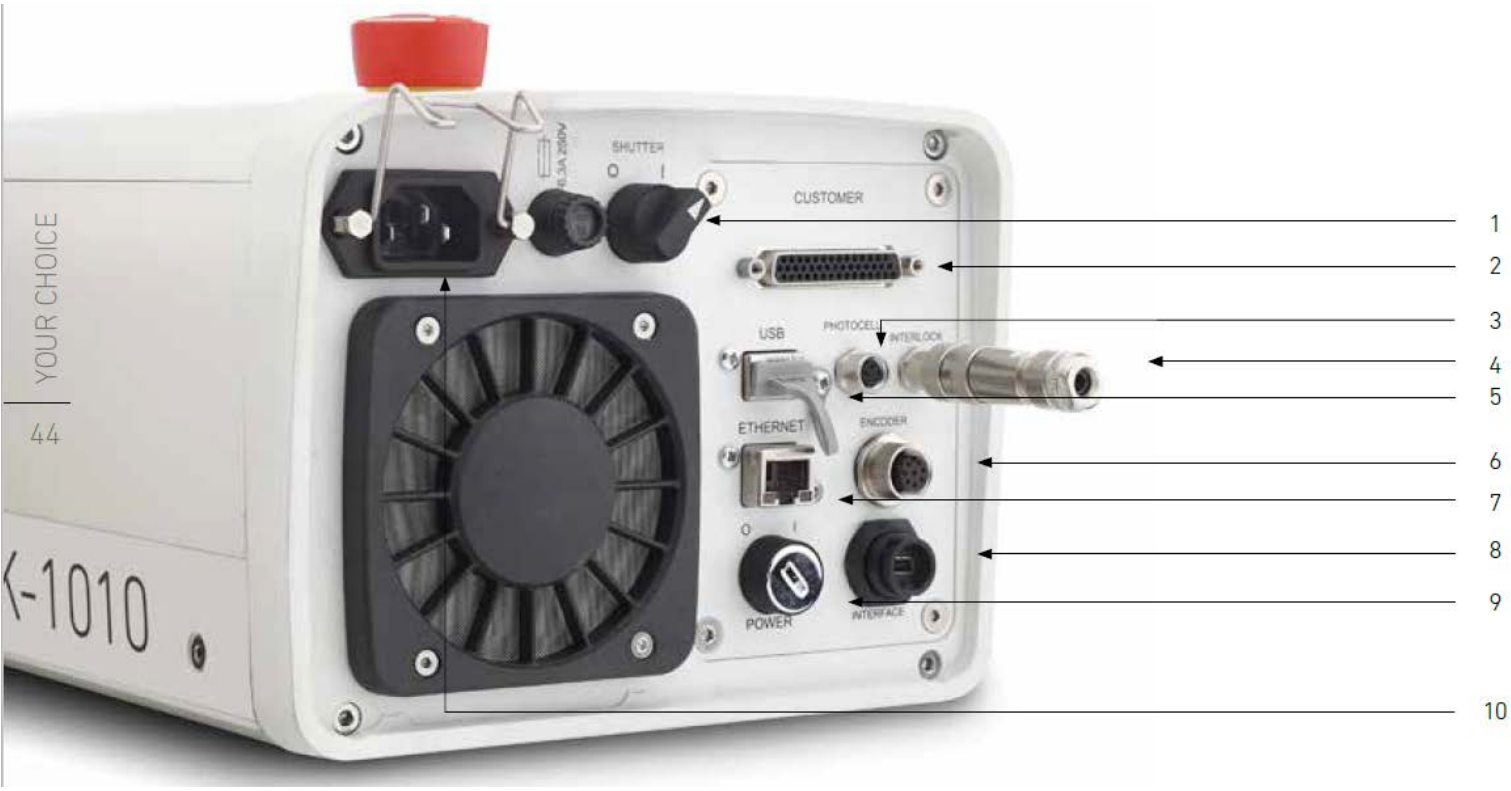
MARCA SOFTWARE

The Marca programming software has been redesigned and is even more powerful and easy to use.

- Dynamic static print feature
- Script generator for special applications
- Crossfree fonts
- Algorithms optimized for improved speed of scanners
- Software made and optimized by Macsa
- Enhanced fill algorithm (connect hatchlines for improved speed)
- Second monitor feature for displaying message on a projector
- Userinterface adaptable to PC panels with touch devices
- 2D codes with visible human-readable text
- Support multilanguages (chinese, arabic with ligatures, etc.)
- Promotion software available
- Z-axis Contolsystem
- Accept DXF, JPG, BMP, TIF....

SCALABLE PRODUCT ARCHITECTURE

Electronics



1. SHUTTER	2. CUSTOMER	3.PHOTOCELL	4. INTERLOCK	5. USB
Enable the output beam to be mechanically stopped at the outlet of the laser tube. This guarantees safety during maintenance and other work on the laser.	Used to monitor the status of the laser, to integrate with other systems. There are 12 input/ output channels and direct connection to a PLC or similar may be made.	Used to trigger printing and to control the number of products printed in a certain time.	The interlock is a safety connection that disables the laser beam when 'open'. It may be connected to a cabinet door.	Used to enable extra interconnectivity. • Connect to an RS232 port to control the laser via communication protocol. • Receive and send data to a PLC or computer. Protocols are available for advanced integration

6. ENCODER	7. ETHERNET	8. INTERFACE	9. KEY SWITCH	10. MAIN POWER SUPPLY CONNECTION
Used to monitor the speed of the line to improve the quality of print in dynamic mode and to minimize the noise caused by the conveyor by means of Macsa's proprietary VMS	Used to connect the laser with MARCA message creation and laser control software. • Enables the creation of complex labels and special objects actions scripts. • Provides the facility to monitor the status of the laser and to control total prints, and modify its configuration.	Enables the laser to be connected to an external user interface such as a touchscreen controller.	This interlock is a fundamental safety device. The laser cannot be operated without this switch being 'on'.	System ready to support 110v/230V and 50Hz or 60Hz. There is a special holding system for a better functionality.

CPU BOARD		DUAL CORE PROCESSORS
• Form factor	Q seven Form Factor 2.0 compliant	• Redesigned Control Board compatible with all laser tubes and equipment configs. • 6 LED for indicate the status of most important signals • Test Bridges for assist in the reparation • Test points included for an easy measuring
• CPU	Intel Atom E3815 1.46GHz Single Core L2 Cache 5WTDP	
• DRAM	8 GB Dual Channel I up to 1GB onboard DDR3L with 1066MT/s	
• Chipset	Integrated in SoC	
• Power Consumption	Typ. Application 4.5W...12W	
• Temperature	Operating: -40 to +85°C Storage: -45 to +85°C	
• Humidity	Operating: 10 to 90% r.H non condensation	

Optics

SPA offers a wide range of optics to ensure the laser is perfectly matched to the application.

The table shows which lenses are available for each laser in the SPA range.

Talk to your ID Technology specialist to help determine which is the best option for your laser job.

Standard

			CO_2														
System Type			NXT without beam expander			NXT with beam expander			UHS					HPD				
Power			all	10w	30w	all	10w	30w	all	10w	30w	60w	80w	all	30w	60w	80w	100w
scan field (mm)	working distance mm	focal length mm	beam diameter micron	power density KW/cm2		beam diameter micron	power density KW/cm2		beam diameter micron	power density KW/cm2				beam diameter micron	power density KW/cm2			
40x40	55	65	301	28,1	84,4	150	112,6	337,8										
60x60	85	95	385	17.2	51.6	192	68.8	206.5	256	38.7	116.2	232.4	309.8	137	408,4	816,9	1089,2	1361,5
75x75	115	125	506	9.9	29.8	253	39.8	119.3	337	22.4	67.1	134.2	178.9	180	235,9	471,8	629,1	786,4
100x100	150	160	648	6.1	18.2	324	24.3	72.8	432	13.7	41	81.9	109.2	230	144,0	288,0	384,0	480,0
100x100	190	200	810	3.9	11.7	405	15.5	46.6	540	8.7	26.2	52.4	69.9	288	92,2	184,3	245,7	307,2
150x150	230	240	-			486	10.8	32.4	648	6.1	18.2	36.4	48.5	346	64,0	128,0	170,7	213,3
200x200	310	320	-			648	6.1	18.2	864	3.4	10.2	20.5	27.3	461	36,0	72,0	96,0	120,0
250x250	400	410	-			830	3.7	11.1	1107	2.1	6.2	12.5	16.6	590	21,9	43,9	58,5	73,1

System Type			YAG NXT					GREEN HPD		Fiber NXT				
Power			all	4w	6w	10	20w	6w		all	10w	20w	30w	50w
scan field (mm)	working distance mm	focal length mm	beam diameter micron	power density KW/cm2				beam diameter micron	power density KW/cm2	beam diameter micron	power density KW/cm2			
55x55	128	100	27	1387.5	2081,3	3468.8	6937,6	14	8325.1	27	3481.9	6963.7	10445.6	17409.3
100x100	205	162	44	528.7	793,0	1321.7	2643.5	22	3172.2	44	1326.7	2653.4	3980.2	6633.6
160x160	321	254	69	215,1	322,6	537.7	1075.3	34	1290.4	69	539.7	1079.4	1619.1	2698.4
200x200	427	346	-	-	173,9	289,8	579.5	47	695.4	94	290.8	581.7	872.5	1454.2

SCALABLE PRODUCT ARCHITECTURE

How to Choose?

SPA is just one of the laser products designed and built by Macsa. How do you know which is best for you?

Contact ID Technology and we'll get you connected with a specialist right in your area. We'll evaluate your application, perform testing on your products and set up a demo in your plant (if needed).

With sales and service across North America, ID Technology can take care of just about any coding or marking job, from the smallest comp-any, to the largest multinational.

Contact us today to get started!

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