

# LASER MARKING SYSTEMS

Integrated heads



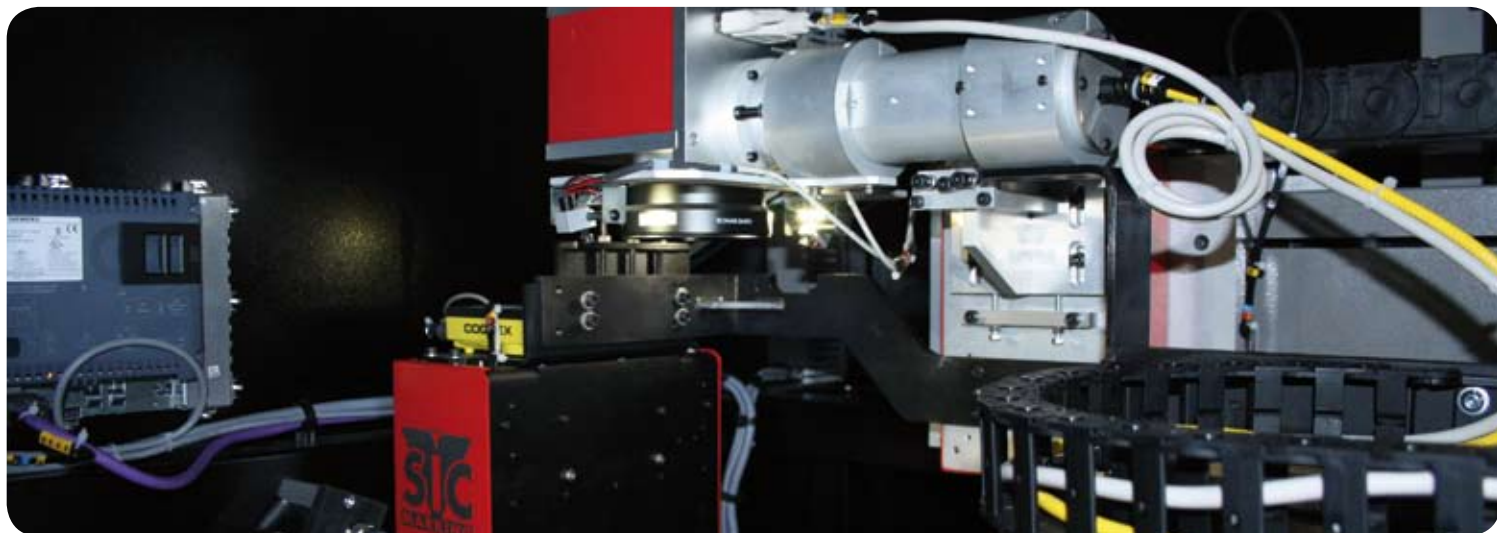
LASER



## Laser RANGE

i103 L-G ■ 10W  
■ 20W  
■ 50W





## LASER TECHNOLOGY: FAST AND HIGH QUALITY MARKING ON ALMOST ANY MATERIAL!

Component traceability is an essential aspect of compliance with ISO quality standards. Choosing laser marking technology provides manufacturers with a reliable method for automating marking operations, and ensures a high level of control over part traceability.

Laser technology consists of a high frequency beam generated from a laser source. This beam is then amplified and directed towards a part to be marked via a series of rotating mirrors. The energy delivered is so highly concentrated that it point alters the surface of the material under the focal point. It may generate enough heat to vaporize, and thus remove, the surface material. This is how an engraving is created using laser technology.

SIC Marking has chosen the innovative Ytterbium-doped fiber laser for its powerful reliability and low operating costs. This technology is used for Direct Part Marking (DPM) or label marking on almost any material regardless of hardness or surface textures. Laser is recommended for high-volume production, where speed and accuracy are essential.



## INTEGRATED SYSTEMS: NO PC REQUIRED

Our integrated laser systems have been engineered for intensive use in any industrial working environment. They can be integrated into production lines or used as a stand-alone marking station. They are suited for both low and high rates of production, and can be fully customized with additional features and tools. Changing the body dimensions, manufacturing dedicated tooling systems, and addition more axes (e.g. Z and rotary) are just a few examples of customizable features.

### HIGHLIGHTS .....

#### ■ Robust Reliability

- Extended component life expectancy > 100 000 h
- Reduced maintenance
- Warranty up to 5 years

#### ■ High Performance

- Marking on all types of materials
- Surface or hollow marking
- Standard 1D (bar codes) and 2D (DataMatrix) code capability
- Marking high definition logos and images
- Fast and precise
- Deep marking

#### ■ Security

- Class 4 laser (EN 60825-1 standard)

#### ■ User-friendly

- Easy to integrate with compact size

#### ■ Fiber laser

- Doped Ytterbium fiber laser source of 10, 20, 50 W
- Fast and high quality marking

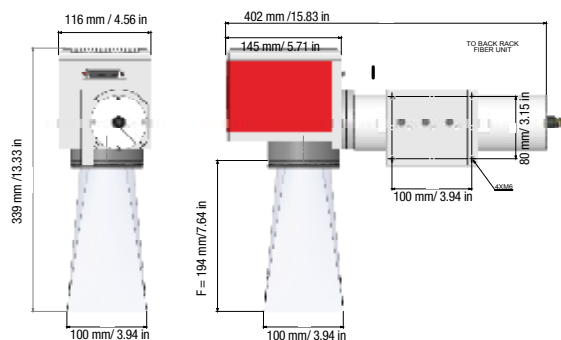
# i103 L-G 10W 20W 50W



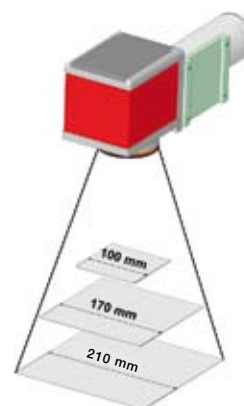
## ADVANTAGES OF THE i103 L-G .....

- HIGH SPEED & HIGH CONTRAST MARKING
- Easy integration
- Sources of 10W, 20W, or 50W
- Marking field of 100 x 100 mm / 3.9 x 3.9 inches  
option 170 x 170 mm / 6.7 x 6.7 inches  
option 210 x 210 mm / 8.3 x 8.3 inches
- No PC required

## i103 L-G Marking Head Integration drawings



## Marking Window

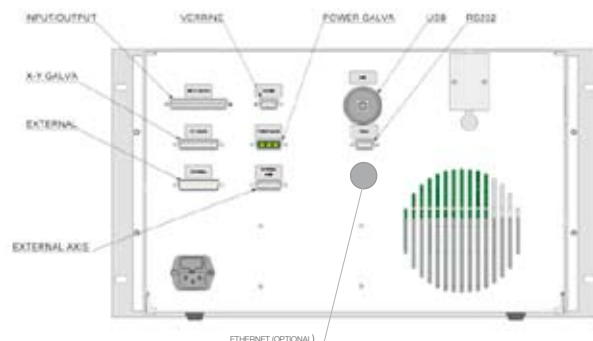
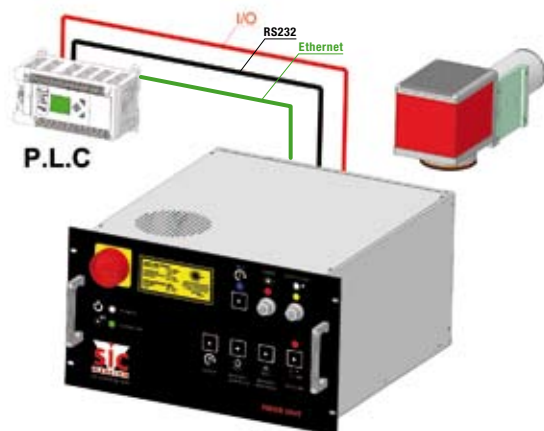


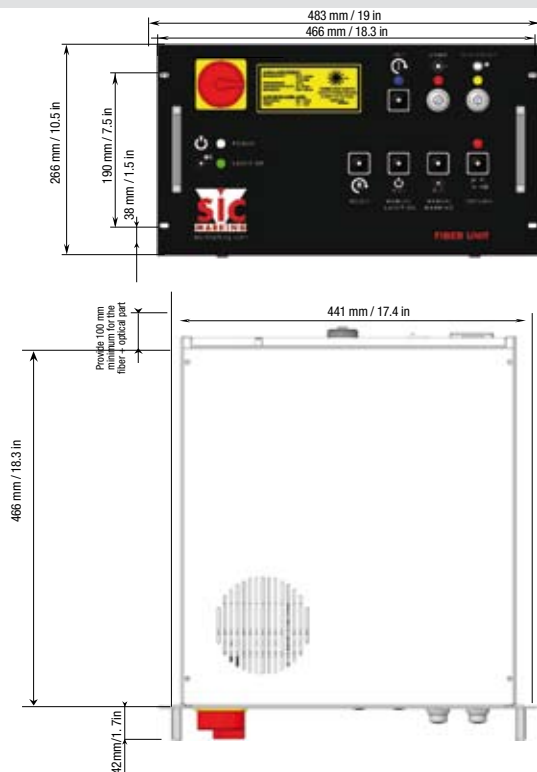
## Marking Fields Pyramid

## TECHNICAL FEATURES

### i103 L-G

|               |                                                                                                                                    |
|---------------|------------------------------------------------------------------------------------------------------------------------------------|
| Marking Field | 100 x 100 mm / 3.9 x 3.9 inches (up to 210 x 210 mm / 8.3 x 8.3 inches available)                                                  |
| Weight        | Fiber Unit : 19 kg / 42 lbs - Head : 5kg / 11 lbs                                                                                  |
| Power         | 750 Watt                                                                                                                           |
| Security      | Class 4 laser (EN60825-1 standard) to secure  |
| Control       | SIC Laser ADVANCED                                                                                                                 |





## Characteristics

- Operation mode: Pulsed (20 to 500 KHz)
- Wavelength: 1 064 nm
- Average power: 10W, 20W or 50 W
- Peak power: 10 kW
- Laser tuning: Edge viewing of marking
- Cooling: By air only
- Warranty: 24 months (except for optics). Warranty extension up to 5 years available.

## ADVANTAGES OF FIBER UNIT

### Reliability and Performance

- Doped Ytterbium fiber laser source, diode pumped
- 3 axis control

### Security

- Integrated safety loop, for class 1 integration 

### Communication

- RS 232 / Ethernet interface: INIT function, file selection, variable assignment, Start/Stop function
- Input / Output cycle management
- Test COMMUNICATION software

## FILE CREATION MODE / SOFT TECHNICAL FEATURES

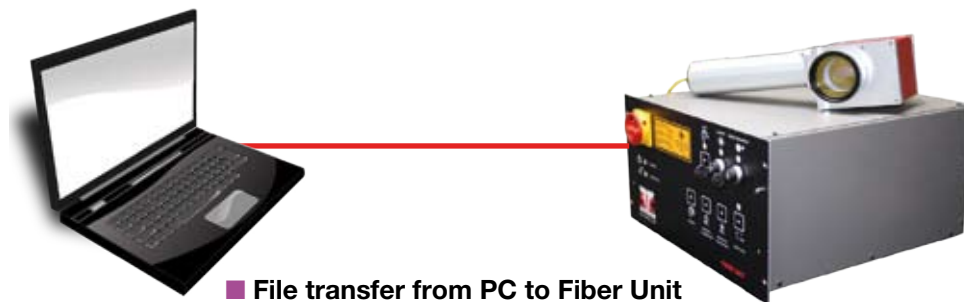
### CONTROL WITH SIC LASER ADVANCED SOFTWARE

|                   |                                                                                  |
|-------------------|----------------------------------------------------------------------------------|
| Functions         | Creation and editing of marking files (drawing, text, bar code, Datamatrix, ...) |
| Laser Tuning      | Several pen settings (speed, power, frequency, ...)                              |
| Fonts             | TrueType, 1D bar code and 2D code (Datamatrix)                                   |
| Import Function   | Pictures (.bmp, .jpg), and vector files (.plt, .dxf, .ai)                        |
| Database          | Link with external files (.txt, .xls)                                            |
| Cylindrical Parts | Rotary axis (optional)                                                           |
| In/Out            | Integrated                                                                       |

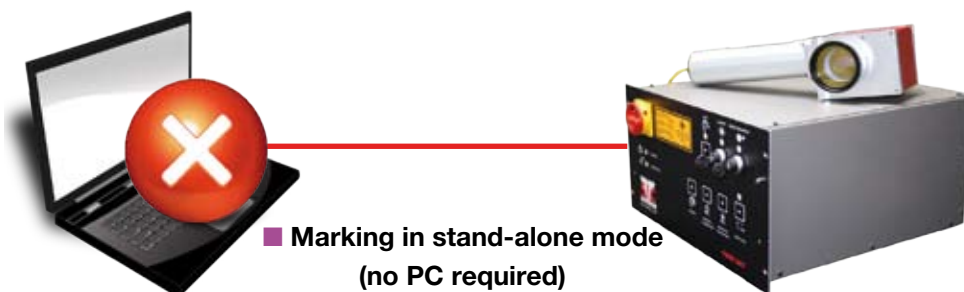


### ■ File creation on PC

Entity or marking field creation : characters, logos, shapes, 1D or 2D coding  
Font selection  
Hatch configuration  
Pen settings

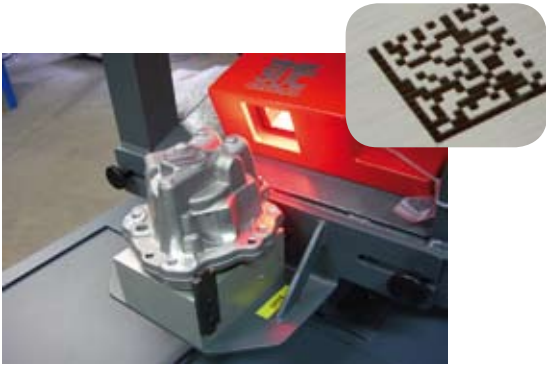


■ File transfer from PC to Fiber Unit



■ Marking in stand-alone mode (no PC required)

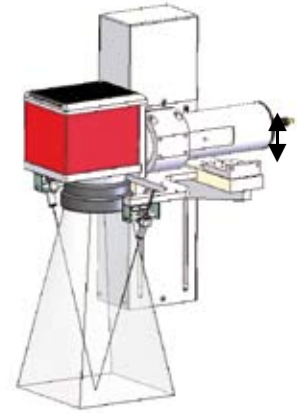
## MACHINES



**Integrated Vision System (mark verification)**



**Fume Extraction System**



**Motorized Z Axis Option**

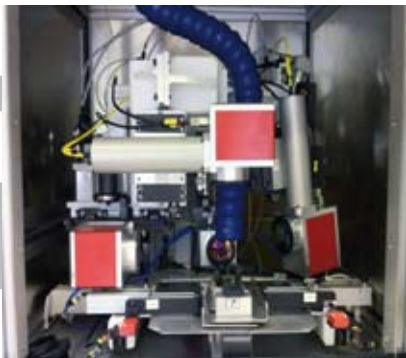


**Barcode and Data Matrix Reader**

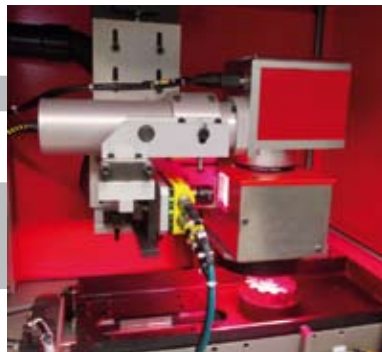


**Training / Certified Training Center**

## APPLICATIONS



**Four simultaneous marks on connecting rod by 4 galvano-heads**



**Drawer for part loading and camera reading**



**Laser Tunnel Protection**

## MARKING SAMPLES



Mark today  
Identify tomorrow



## SIC MARKING, THE MARKING SOLUTIONS LEADER

SIC Marking is an international company dedicated to the development of permanent marking solutions & automated identification for complete traceability of industrial components.

SIC Marking has developed a full range of exclusive marking machines - dot-peen, scribing & laser technologies - and services.

## SIC MARKING, A WORLDWIDE NETWORK 40 DISTRIBUTORS AND 5 SUBSIDIARIES

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### SIC Marking® ACTIVITIES

PERMANENT  
MARKING



CONVENTIONAL  
MARKING



DOT PEEN



SCRIBING



LASER

INDUSTRIAL  
VISION



INDUSTRIAL  
VISION

TURNKEY  
SOLUTIONS



TURNKEY  
SOLUTIONS



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