

LP-200 SERIES

CO₂ Laser Marker



The standard model and the tower head model enable flexible installation.

This product is introduced to only limited countries. Please contact our office for details.

Conforming to FDA regulations

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The **LP-200** series conforms to American FDA regulations for laser products.

(It is also being audited as a UL listed product, which is required for use in U.S.A. and Canada.)

Non-erasable characters

It marks non-erasable characters without blurs or blots.

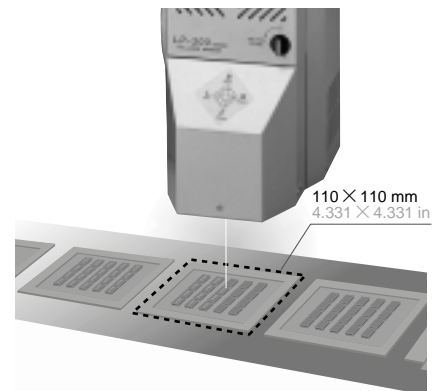
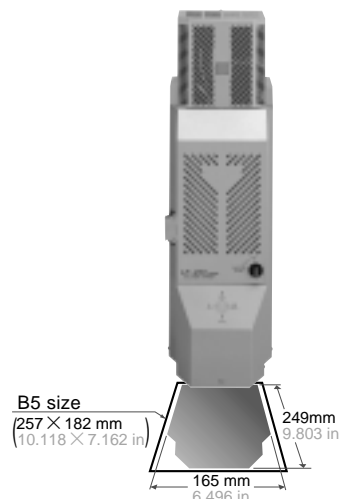
The tower head model boasts the industry's smallest installation space **LP-210/211**

The head, 249 × 165 mm 9.803 × 6.496 in, is smaller than the B5 size for a great reduction in installation space.

It can be installed right in your existing line's space without any modifications.

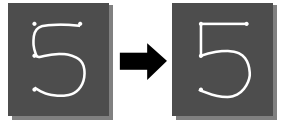
The industry's largest marking area **LP-210**

We've realized the industry's largest marking area at 110 × 110 mm 4.331 × 4.331 in. It can greatly contribute to enhanced productivity in multi-component handling IC manufacturing equipment.



Accurate and elegant marking, which adapts to speed

Due to our originally developed improved galvano-scanning control method, accurate and clear marking is possible even if the marking speed changes from a low to a high value. The **LP-200** series enables high quality marking even at a high speed.



Marking path of conventional laser Marking path of the LP-200 series

Fine setting of marking position in 10 μm 0.394 mil steps

In case of marking minute characters, it is extremely difficult to set the marking position by moving the head. But, with the **LP-200** series, the marking position can be set in steps of 10 μm 0.394 mil by the software.

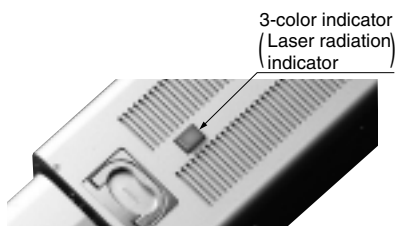
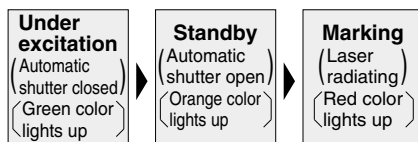
Minute character marking possible

LP-201/211

We provide small-character types (**LP-201-A** and **LP-211-A**) optimal for minute character marking. Perfect for marking electronic components.

Reliable design with priority on safety

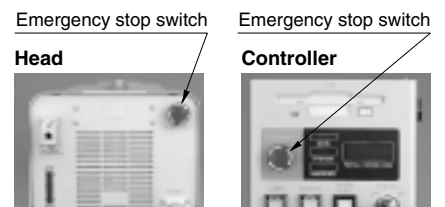
■ **3-color indicator (Laser radiation indicator)**
The status of the head can be confirmed at one glance.



■ **Automatic shutter**
In case of an emergency, the automatic shutter blocks the laser mechanically.



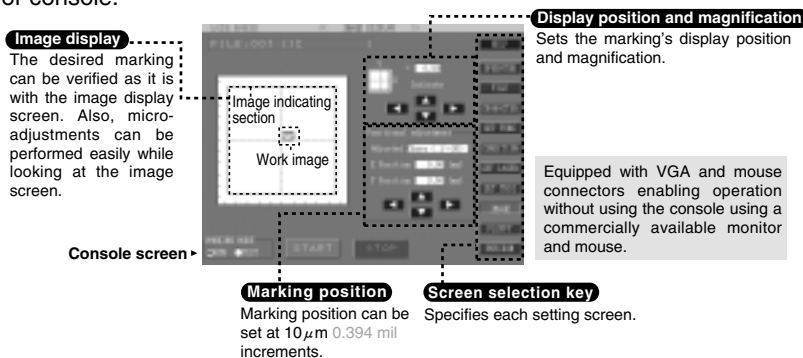
■ **Emergency stop switch**
Emergency stop switch has been incorporated on the head and the controller.



■ **Interlock input**
Even if pressing the marking start button by mistake, the laser will not radiate as long as the interlock input is OFF.

Extraordinarily easy to use color LCD equipped console LP-ADP20 (optional)

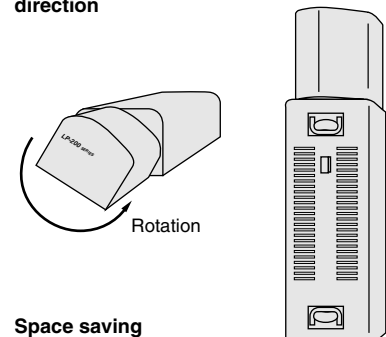
Difficult operation absolutely unnecessary with our easy to use touch panel type color console.



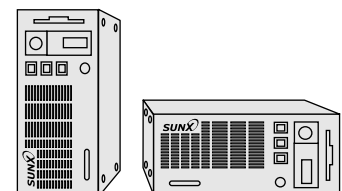
Flexible installation LP-200/201

As the head can be rotated, top-facing or side-facing marking is also possible. Further, since the head and the controller can be placed vertically, installation is also possible in a small space.

Changeable marking direction **Vertical position direction**

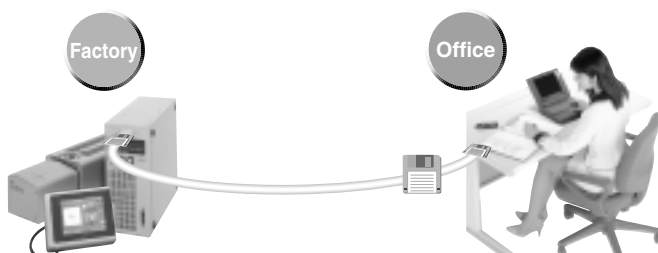


Space saving



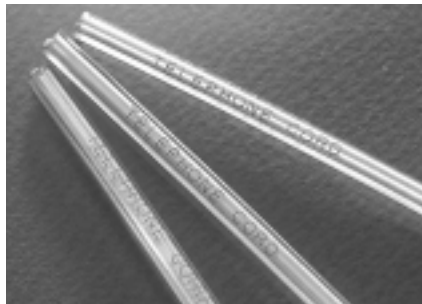
Higher level operation now possible with our special PC software (optional)

We've made available PC software that enables the creation of original fonts and simple CAD editing as well as making offline marking data.

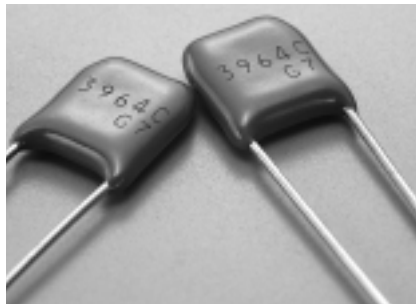


MARKING SAMPLES

Cords



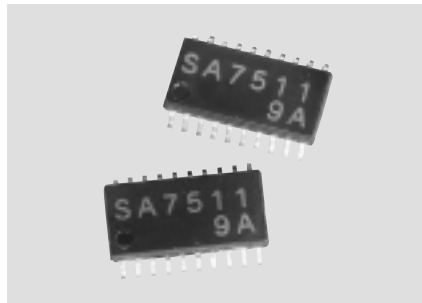
Electronic components



Packing box



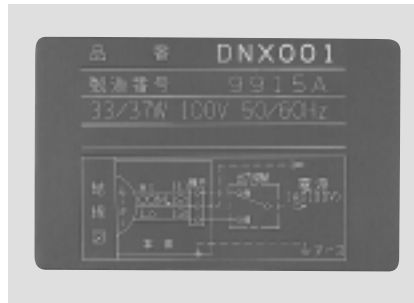
ICs



PCBs



Nameplate



Cables



Tube



Retort pack



FUNCTIONS

Intersecting point compensation function

- It prevents deep inscribing at intersection points to enable elegant marking.

Laser start point / end point adjustment function

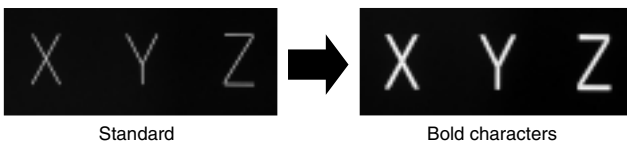
- By using this function, it is possible to adjust the depth of the start point and the end point, and adjust the marking shape.

Spline compensation function

- Even curved lines can be smoothly and beautifully marked.

Bold character marking function

- It can mark sharp and clear bold characters.



Standard

Bold characters

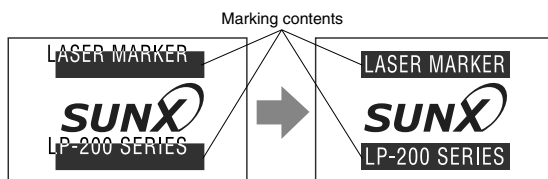
Work image display function

- The outline of the object to be marked and the marking contents can be checked simultaneously on the screen.



Origin offset function

- The marking position of the whole screen can be finely adjusted for each file. (in $10\mu\text{m}$ 0.394 mil steps)

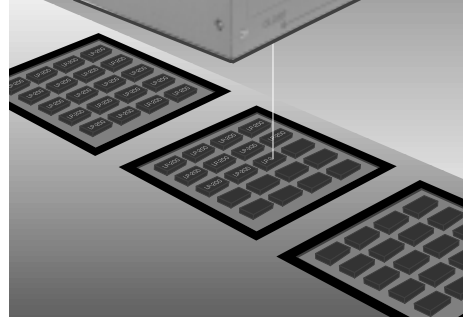


Power / speed setting for each row function

- Marking power and marking speed can be separately set for each row. It is effective for multiple row marking, nameplates, etc.

Step and repeat function

- The same marking contents can be copied at an arbitrarily set pitch in vertical and horizontal directions.



Operator adjustment functions

- The items which can be adjusted by the operator at site can be selected, and the remaining items can be protected by a password.

CAD marking function

- Use this function for marking DXF (R12 format) and other PC created data such as logos and graphics.

Note: DXF data format is provided by Autodesk and is suitable for transposition of CAD application data.

Period / date marking function

- The marked date and time or the 'expiry date' are automatically updated by the controller's internal clock.

Lot marking function

- Date and time can be replaced by capital Roman letters or numerals and marked.

Rank marking function (Optional)

- Marking contents can be changed rapidly each time.

Offset marking function (Optional)

- The complete marked character sequence can be shifted rapidly.

SPECIFICATIONS

Type	Standard model		Tower head model		
	General purpose	Small character	Wide area	Small character	
Item	Set Model No.	LP-200-A	LP-201-A	LP-210-A	LP-211-A
Work distance (Note 1)		145 mm 5.709 in	89 mm 3.504 in	176 mm 6.929 in	95 mm 3.740 in
Scanning method	Galvano-scanning method				
Marking laser	CO ₂ laser Class 4 (Laser oscillator output: Average 12 W · Max. 30 W, Peak emission wavelength: 10.6 μm 0.417 mil)				
Range to be marked	90 × 90 mm 3.543 × 3.543 in	50 × 50 mm 1.969 × 1.969 in	110 × 110 mm 4.331 × 4.331 in	50 × 50 mm 1.969 × 1.969 in	
Basic dimensions of characters (Note 2)	Height and width: 0.2 to 90 mm 0.008 to 3.543 in	Height and width: 0.2 to 50 mm 0.008 to 1.969 in	Height and width: 0.2 to 110 mm 0.008 to 4.331 in	Height and width: 0.2 to 50 mm 0.008 to 1.969 in	
	Interval / position of marked characters: settable at 0.01 mm 0.0004 in interval				
Scanning speed	3,000 mm/sec. max.				
Array of characters	Straight line, fan-shaped, oblique straight line, mirror-reflection				
Marking condition	Stationary				
Types of characters	English capital and small characters, figures, hiragana, katakana, symbols, kanji (JIS first level), user-defined characters (up to 50 types)				
Cooling method	Forced-air cooling				
Supply voltage	90 to 132 V AC or 180 to 264 V AC (auto-changing) 50 / 60 Hz (Note 3)				
Power consumption	700 VA or less				
Input	Trigger, alarm reset, emergency stop, shutter control, laser excitation, interlock, file No., file confirmation, counter reset				
Output	Power supply (12 V), alarm, marking, ready for marking, end of marking, remote, warning, file confirmation, counter end				
Installation direction	Horizontal / vertical (both head and controller)				
Functions	<ul style="list-style-type: none"> • Marking image display • Work image display • Image screen enlargement • Origin offset • Memory capacity display • Step and repeat • Counter marking • Current date marking • Period / date marking • Lot marking 	<ul style="list-style-type: none"> • Rank marking (Note 3) • Offset marking (Note 3) • Font selection • Uniform marking • Intersection point compensation • Spline compensation • Bold character marking • Automatic shutter • Marking point display (LED pointer) • Operating condition marking 	<ul style="list-style-type: none"> • CAD marking • Power / speed setting for each row • On-line fine adjustment • Operator adjustment • Real-time display • Console auto-off • Password protection • Double trigger sensing • Laser error sensing • Marking time measurement 		
Emergency stop switch	Incorporated (on both, head and controller)		Incorporated (on controller)		
Ambient temperature	0 to + 40 °C + 32 to + 104 °F (No dew condensation allowed), Storage: - 10 to + 50 °C + 14 to + 122 °F				
Ambient humidity	35 to 85 % RH, Storage: 35 to 85 % RH				
Weight	Head: 14 kg approx., Controller: 11 kg approx.		Head: 11 kg approx., Controller: 11 kg approx.		

Notes: 1) The work distance may differ a little depending on the product.

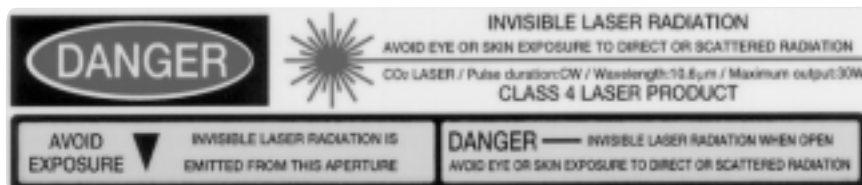
2) The actual character size when using the LP-200-A or LP-210-A varies depending on the work. For minute character marking, the LP-201-A or LP-211-A are recommended.

3) It is optional.

PRECAUTIONS FOR PROPER USE

Laser radiation

- The laser used in this product corresponds to Class 4 laser of IEC standards / FDA regulations. Do not see or touch the laser radiation either directly or after reflection, and handle the product by following the instructions given on the warning labels. The following labels are pasted at three locations on the head. (They are not pasted on the product whose photograph is shown in this catalog.)



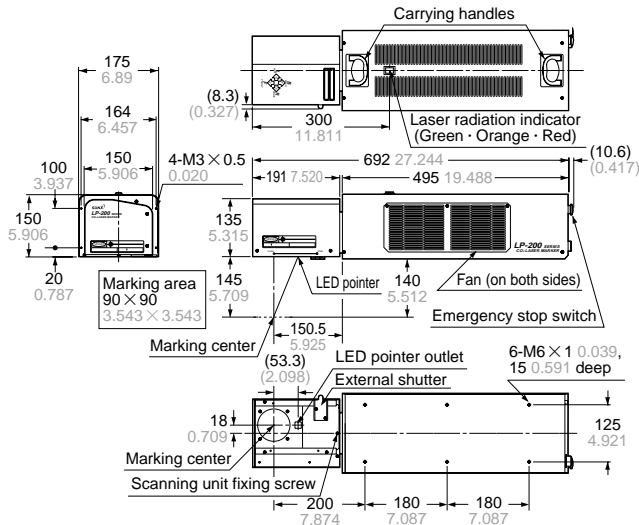
- Since the laser light is in the infrared range, it is invisible to the eye. Take special care at the time of laser oscillation.

Use of dust collector recommended

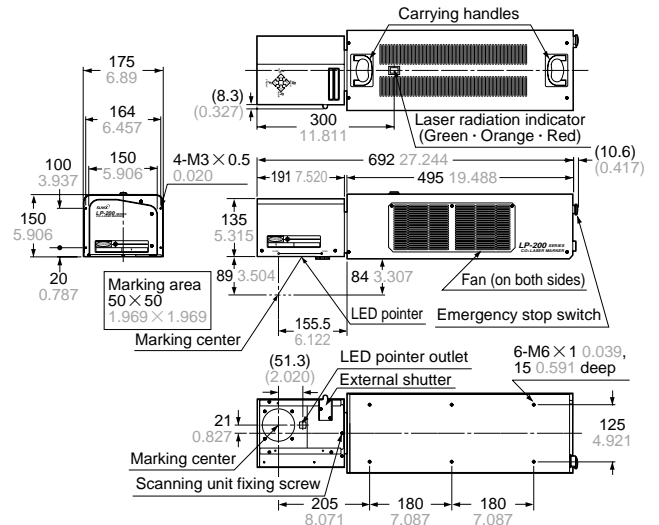
- During marking, depending on the object being marked, harmful gas or smoke may be emitted which may harm the human body or the laser marker. Hence, please use a dust collector when marking. Please contact our office for details.

DIMENSIONS (Unit: mm in)

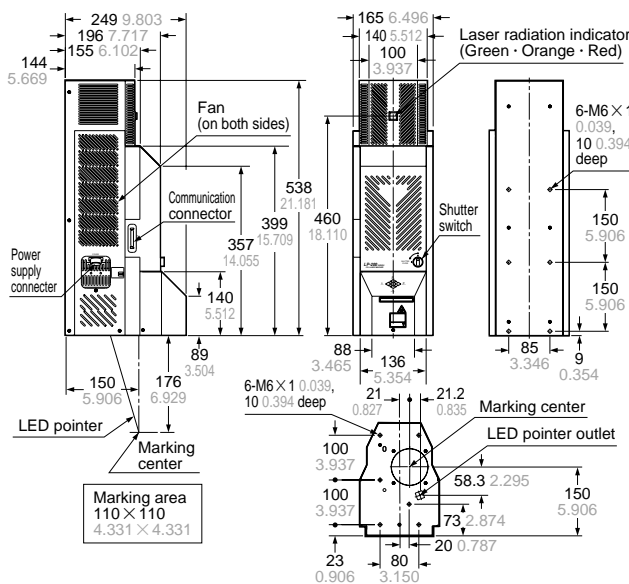
LP-200-A Head



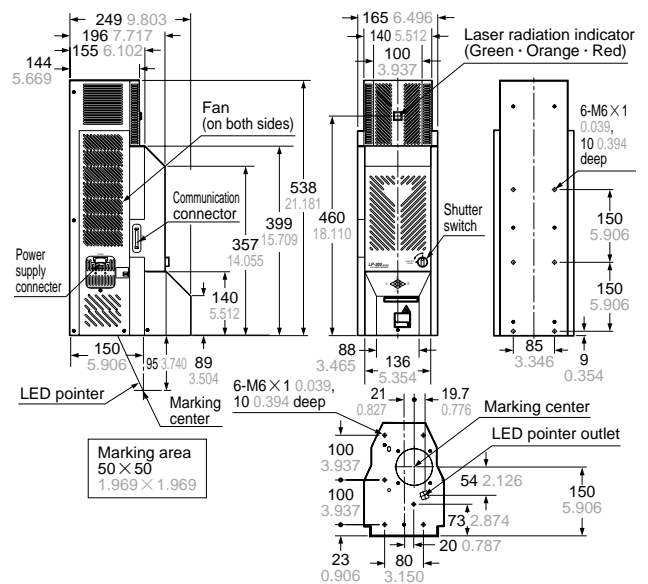
LP-201-A Head



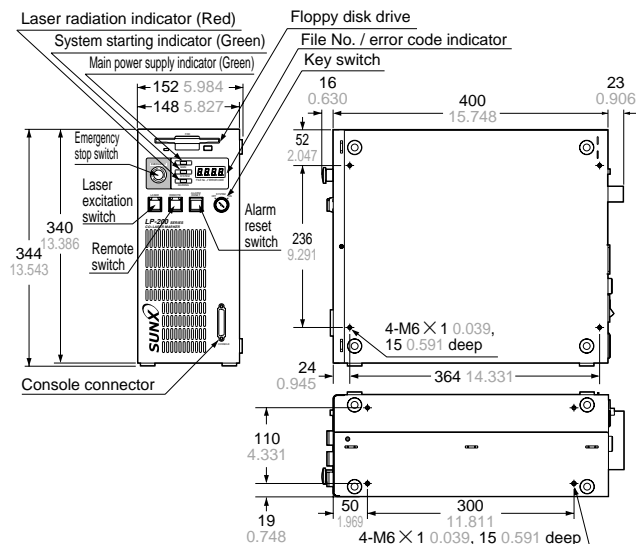
LP-210-A Head



LP-211-A Head



LP-200/201-A LP-210/211-A Controller



LP-ADP20 Console (Optional)

