SUNX

LASER MARKER

CO_2 LASER MARKER

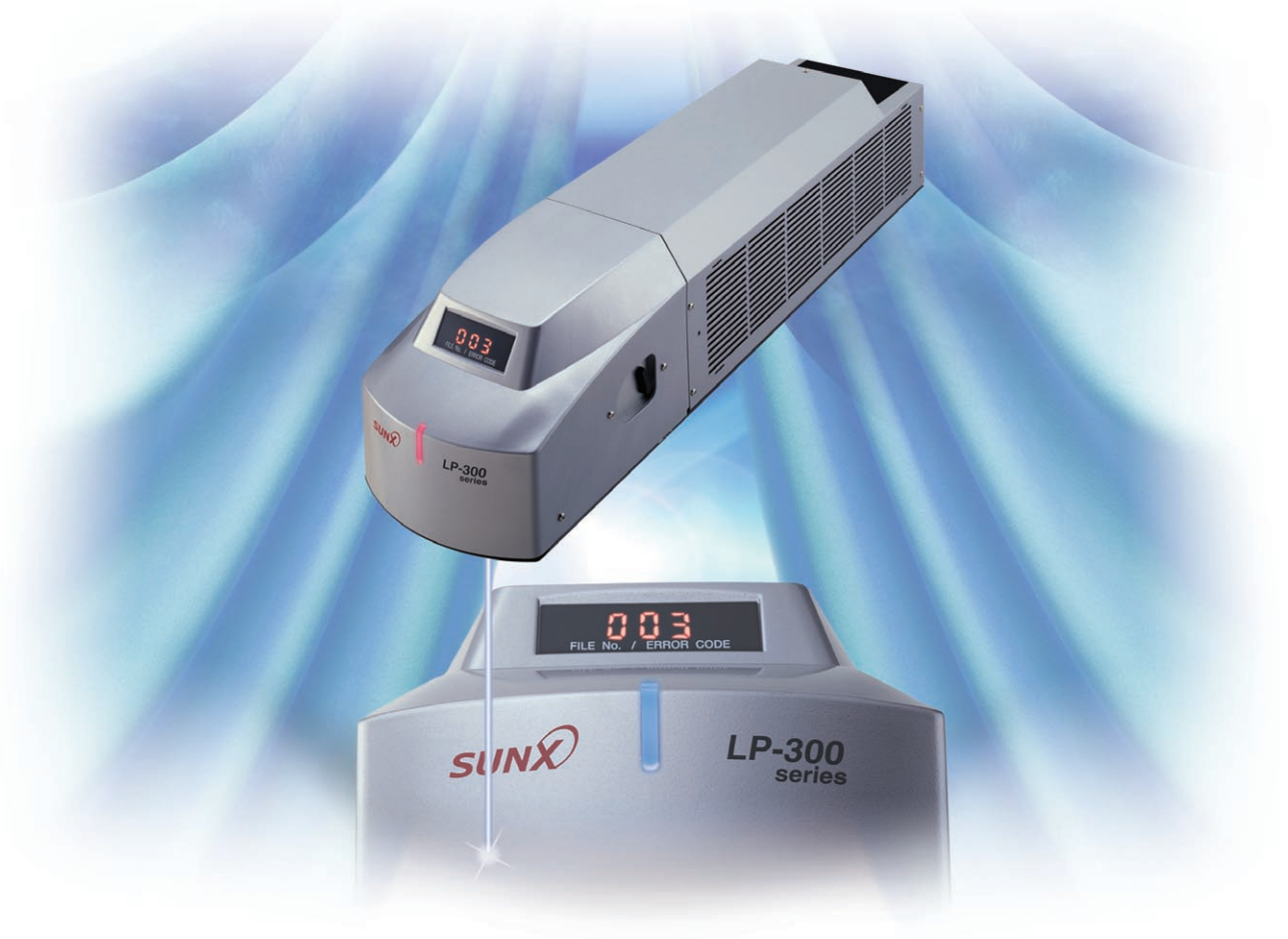
New

LP-300 SERIES

Conforming to FDA regulations (Only **LP-310-A**)

CE Conforming to Low Voltage and EMC Directive

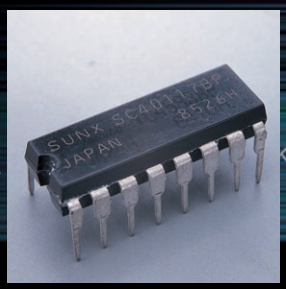
New Entry-Level Model for Laser Marking



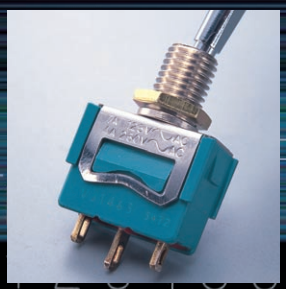
Welcome to the world of laser marking.

SUNX is proud to introduce the **LP-300** entry-level CO_2 laser marker.
This model has an marking function that marks with the greatest accuracy, and simple operation so that anyone can use them with ease.
It brings advanced technology to an every-day level to cater to any kind of marking needs.


Cable



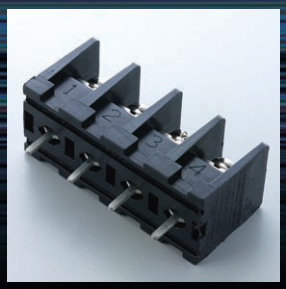
IC


Switch (Resin part)

Laser labels (Marking + half cutting)

Connector


CD


Terminal block (Resin part)


Connector

SUNX Limited
Laser Marking & Processing

LP-300 SERIES

Accurate and distinct marking

Accurate marking of information such as manufacturing histories and model and part names is one of the important quality features of a product.
The **LP-300** is provided with useful marking functions that eliminate troublesome settings and computation errors.
It allows distinct characters to be positioned accurately with no missing characters or rough or blurred characters.

Lot marking

Manufactured on Oct 5th → 2004A
Manufactured on Oct 13th → 2004B
Manufactured on Oct 25th → 2004C

Dates and times can be marked using different characters selected automatically. Product codes can be marked without the need for conversion tables. Ideal also for reducing character space.

For example, the built-in calendar and lot marking function can be used in combination to create text such as the following.

1st—10th → A, 11th—20th → B, 21st—30th → C

Accurate, attractive marking

Laser Maker
LP-300

Clear characters that do not disappear over time can be marked accurately with no missing characters or rough or blurred characters.

Bold character marking

● Standard characters
Note: The LP-300 series are CO_2 laser markers.

● Bold characters
Note: The LP-300 series are CO_2 laser markers.

Gothic-style bold characters can be marked for easier readability.

Current date / time • expiration date / time marking

Manufacturing date 15. 01. 31
↓
Use-by Date 15. 03. 01

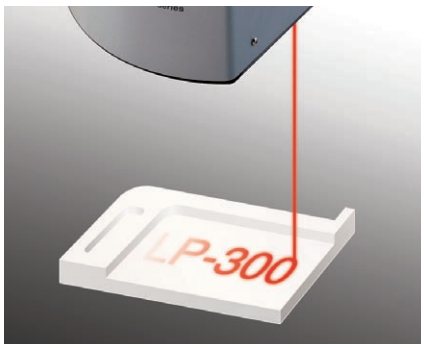
Manufacturing date 15. 08. 08
↓
Use-by Date 15. 09. 05

Dates and times can be marked automatically in line with the built-in calendar. It is no longer necessary to adjust the date for each marking.

For example, if the current date is January 31st and you would like to mark a limit date of 1 month in advance, you can set either one of the examples below.

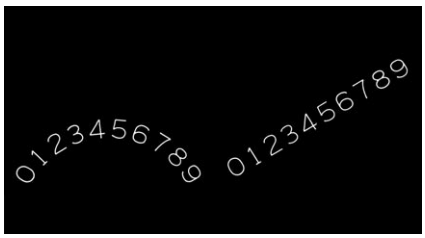
January 31st —(following month)→ February 28th (other than leap year)
January 31st —(after 30 days)→ March 1st (leap year)
March 2nd (other than leap year)

Accurate marking position checking: Guide laser function



The character detail and marking positions that have been set are traced using a red guide laser. This lets you check the settings before actually marking.

Obliquely straight-line • fan-like form marking



The characters can be aligned along curves, reversed or tilted in accordance with the workpiece shape.

Counter marking

000001	000001	000100	000100
↓	↓	↓	↓
000002	000011	000099	000090
↓	↓	↓	↓
000003	000021	000098	000080
↓	↓	↓	↓
.....	.....	.....	.....

The counter counts characters at preset steps each time a character is marked. This is ideal for sequence number marking to boost quality control.

Multiple-line marking

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CO_2 Laser Marker

Sensor & System Products
Fiber Sensors

The number of lines, spacing between lines and character spacing can all be set as required by the marking contents. The settings can be changed for each line, so that marking of name plates is also possible.

Font selection

● Standard font
ABCDEFGH

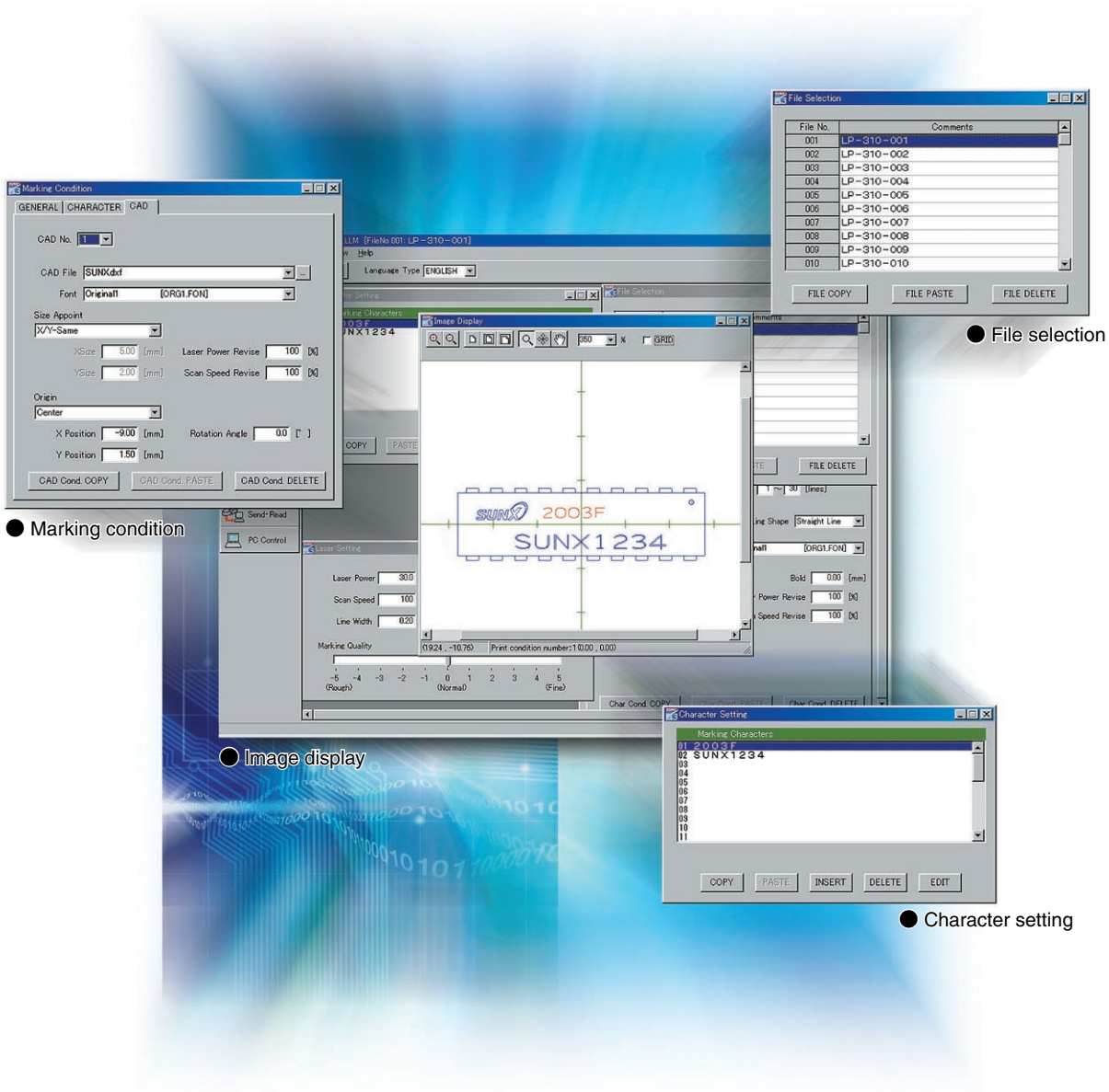
● Optional font example
ABCDEFGH

The main **LP-300** unit is equipped with standard fonts (typefaces).
In addition to the standard fonts, extra characters can be recorded as optional fonts, so that the range of variations can be expanded.

※The marking examples on this page are images.

Simple enough for anyone to operate

The **LP-300** laser marker is the result of accumulated manufacturing experience and know-how from the No. 1 manufacturer SUNX, and are designed to be easy to use in the same way as a printer.



● Marking condition

● File selection

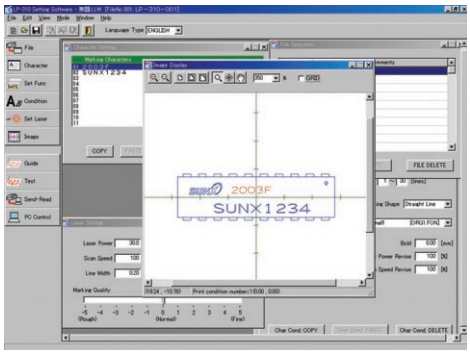
● Image display

● Character setting

Logos and model indicators can also be marked easily

Company logos and model indicators can be marked directly from DXF (R12 format) data.

Note: DXF data is a data format advocated by Autodesk Inc. for exchanging data between CAD applications.



File No. display

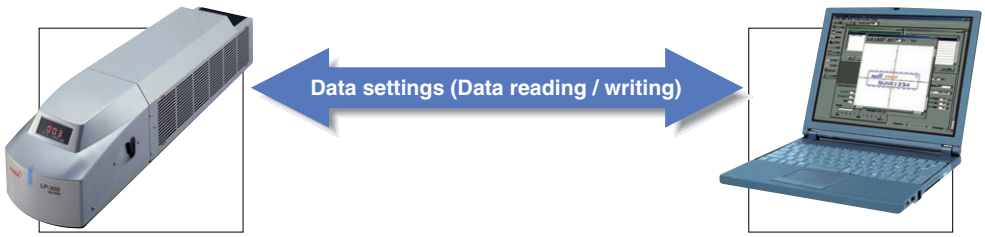
The tip of the laser marker has an LED panel that displays marking details (file No.).

Setting, reading and sending of marking information

Data such as the characters to be marked and their sizes can be set using a computer and then sent to the laser marker via a USB cable.
The laser marker can store up to 120 types of marking settings (files). These settings can be read and marked when required. There is no need to keep the unit connected to the computer if the unit is running.

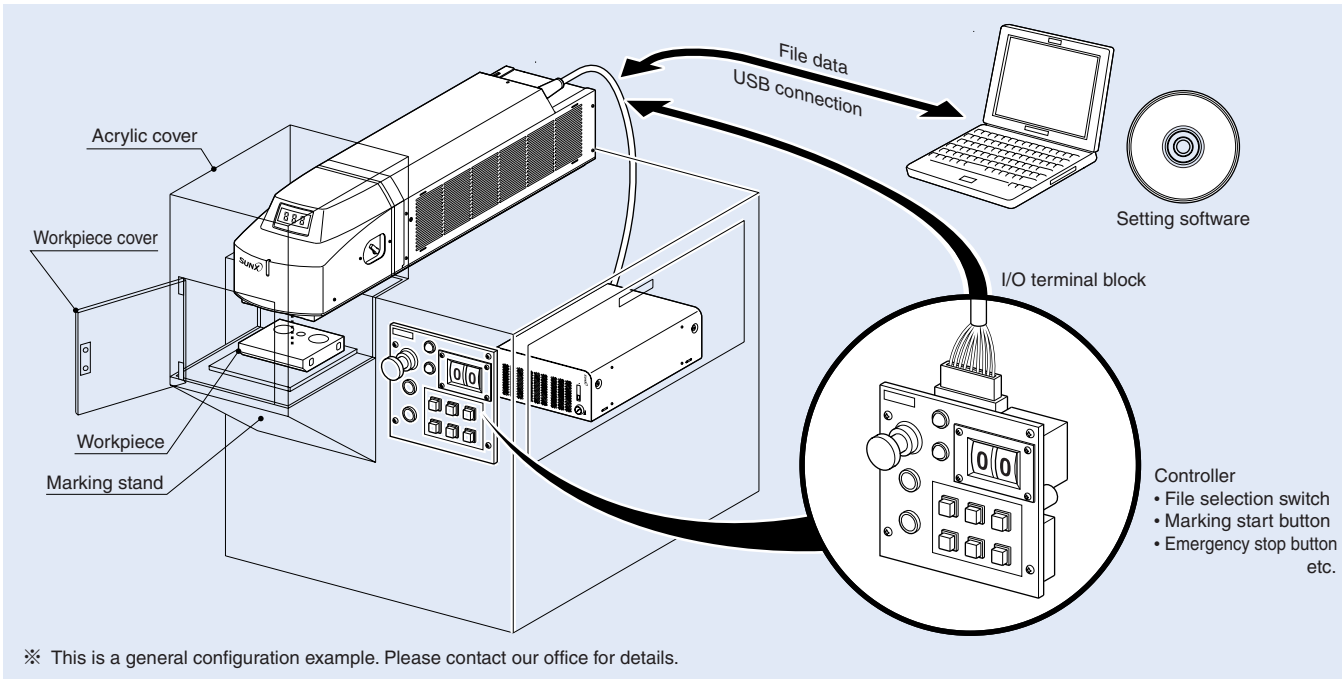
USB interface

The convenience of quick connections using the USB interface makes operations much easier.



Marking system configuration example

Marking systems that use the **LP-300** laser marker can consist of a laser marker unit, a computer for setting and administering marking details, and other peripheral devices such as those shown in the example configuration below.



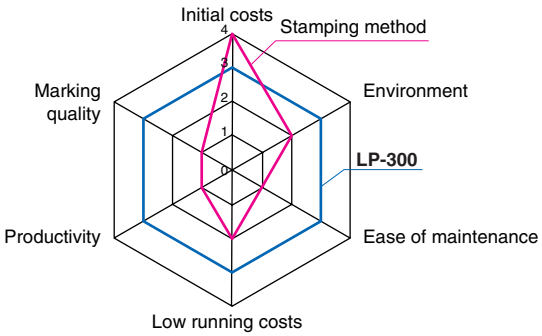
※ This is a general configuration example. Please contact our office for details.

Advantages of using laser marking

Each marking method has its own advantages and disadvantages. Following is a comparison of laser marking against other methods.

Note: The examples given are general examples. Prices and other information will vary depending on models.

● Cables
Accurate marking even on curved surfaces.

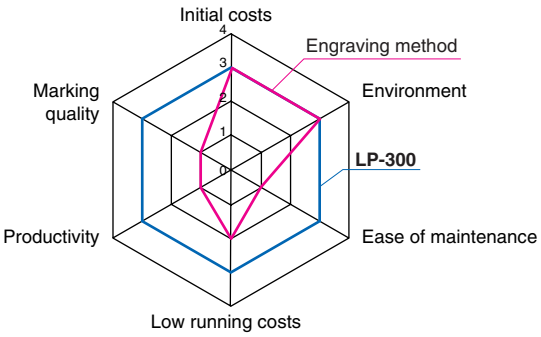


Example 1

Comparison with stamping methods

Initial costs	Requires higher initial costs than stamping methods.
Environment	Because no ink is used, marking is environmentally friendly and is excellent for recycling.
Maintenance	No plates or molds are used, so no maintenance time is required.
Running costs	Running costs only consist of electricity costs. No plate costs or ink costs.
Productivity	Marking details can be created easily on a computer and sent to the laser marker. Dates and serial numbers can also be generated automatically.
Marking quality	Because a non-contact method of marking is used, the characters do not become blurred. Even curved surfaces and narrow spaces can be marked.

● Connector
Even sloped surfaces can be marked attractively.



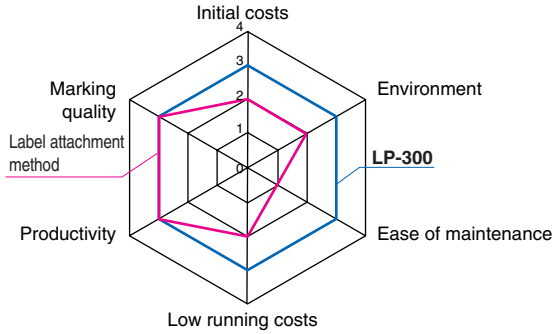
Example 2

Comparison with engraving method

Initial costs	Initial costs are about the same.
Environment	Points such as no waste products are about the same.
Maintenance	No plates or molds are used, so no maintenance time is required.
Running costs	Running costs only consist of electricity costs. No need to re-engrave plates.
Productivity	Marking details can be created easily on a computer and sent to the laser marker. Dates and serial numbers can also be generated automatically.
Marking quality	Because a non-contact method of marking is used, the characters do not become blurred. Even curved surfaces and sloped surfaces can be marked.

LP-300 SERIES

● Connector
Accurate marking even on surfaces with different heights



Example 3

Comparison with label attachment method

Initial costs Cost is about the same as or lower than labellers equipped with label attaching devices.

Environment No labels are attached, so greater recyclability. Also no waste products.

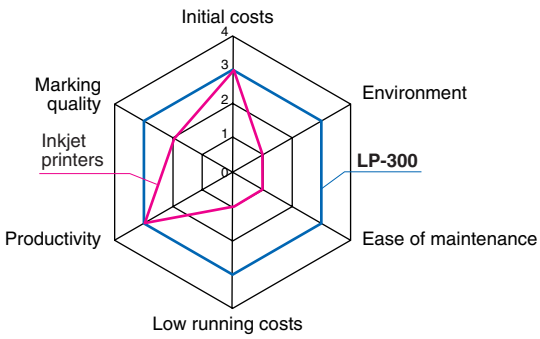
Maintenance No replacement of labels or ink ribbons is needed, so no stoppages for replacement purposes needed.

Running costs Running costs only consist of electricity costs. Elimination of labels also reduces inventory control costs.

Productivity Marking details can be created easily on a computer and sent to the laser marker. Fine adjustments to marking position are also possible using the computer.

Marking quality Because a non-contact method of marking is used, even curved surfaces and narrow spaces can be marked. There is also no problem with peeling or slipping.

● CD
Fan-shaped characters can also be marked easily.



Example 4

Comparison with inkjet printers

Initial costs Initial costs are about the same.

Environment Because no ink is used, marking is environmentally friendly and is excellent for recycling. Plus here is absolutely no industrial waste material generated from solvent, filters, etc.

Maintenance Filling and replacing ink and replacing filters is not required at all. No stoppages for maintenance are needed. No specialist training is required either.

Running costs Running costs only consist of electricity costs. No costs are incurred for ink, solvents, filters or pumps.

Productivity Marking details can be changed simply by reading saved details. Details can be checked easily using marking image display.

Marking quality Because marking of characters along a line is possible, visibility is excellent. A wide range of variations such as fan-shaped and sloped-line characters are also possible. Logos and model indicators can also be marked.

SPECIFICATIONS

Item \ Designation / Type / Set Model No.		CO_2 laser marker entry-level model	
		FDA regulations conforming type	CE marking conforming type
		LP-310-A	**LP-310-C**
Work distance (Note 1)		145 mm 5.709 in	
Scanning method		Galvano-scanning method	
Marking Laser		CO_2 Laser Class 4 (Laser oscillator output: Average 12 W · Max. 40 W, Peak emission wavelength: 10.6 μm 0.417 mil)	
Range to be marked		50 × 50 mm 1.969 × 1.969 in	
Basic dimensions of characters (Note 2)		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		2,000 mm/sec. max.	
Array of characters		Straight-line, fan-like, tilt straight-line, mirror-reflection	
Marking condition		Stationary	
Type of characters		English capital and small characters, Figures, Katakana, Hiragana, Kanji (JIS first level) Symbols, User-defined characters (Up to 50 types)	English capital and small characters, Figures, Symbols, User-defined characters (Up to 50 types)
Marking setting	Numbers of registered file	120 files max.	
	Setting condition	30 types	
I/O terminal	Input	Laser radiation stop, file No., trigger, counter reset, external interlock (Power supply box)	
	Output	Alarm, marking ready, counter end	
External communication port	RS-232C	For external devices only	
	USB Ver.1.1	For setup software only	
Setting software		Applicable OS: Windows® XP / 2000, Screen resolution: 800 × 600 or more	
Cable length		5 m 16.404 ft (between head and power supply box)	
Installation direction		Omnidirectional	
Cooling method		Forced-air cooling (Head and power supply box)	
Supply voltage		90 to 132 V AC or 180 to 264 V AC (auto-changing) 50 / 60 Hz	
Power consumption		700 VA or less	
Functions		• Lot marking • Correction of intersection • Test marking • Current date / time marking • Guide laser • File transfer / File reading • Expiration date / time marking • Bold character marking • Error history display • Counter marking • Marking image display • CAD marking • Saved file list	
Ambient temperature		0 to + 40 °C + 32 to + 104 °F (No dew condensation or icing allowed), Storage: − 10 to + 50 °C + 14 to + 122 °F	
Ambient humidity		35 to 85 % RH, Storage: 35 to 85 % RH	
Weight		Head: 13 kg approx, Power supply box: 5 kg approx.	

Notes: 1) The work distance has an individual error of ± 2 mm ± 0.079 in from product to product.
2) The actual character size varies depending on the work.

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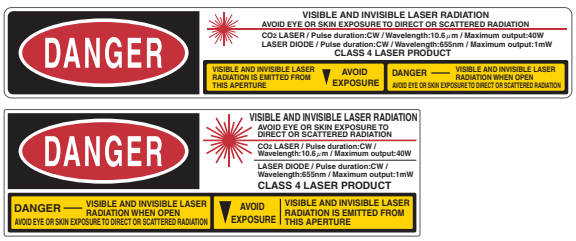
PRECAUTIONS FOR PROPER USE

Laser radiation

- The laser used in these products corresponds to Class 4 laser of IEC standards / FDA regulations. Do not see or touch the laser radiation either directly or after reflection, be sure to observe the safety precautions that appear on the attached labels.
- The following labels are pasted on the head. (They are not pasted on the product whose photograph is shown in this catalog.)

LP-310-A



LP-310-C

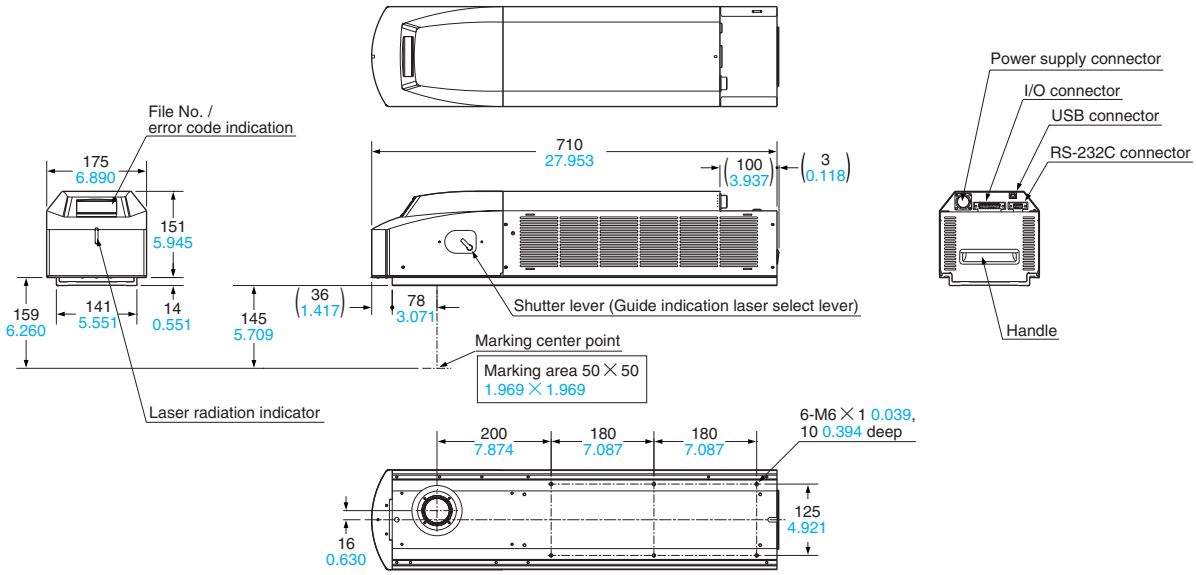
- Since the laser light is in the infrared range, it is invisible to the eye. Take special care at the time of laser oscillation.

Use of dust collector recommended

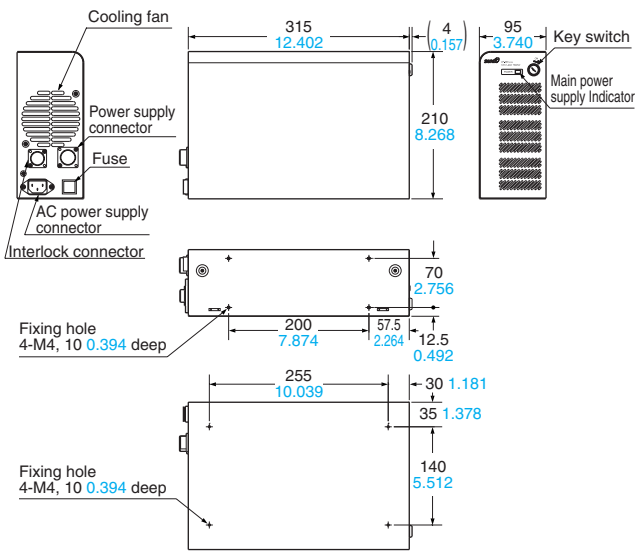
- During marking, depending on the object being marked, harmful gas or smoke may be emitted which may harm the human body or the laser marker. Hence, please use a dust collector when marking. Please contact our office for details.

DIMENSIONS (Unit: mm in)

LP-310-A LP-310-C Head



LP-310-A Power supply box



LP-310-C Power supply box