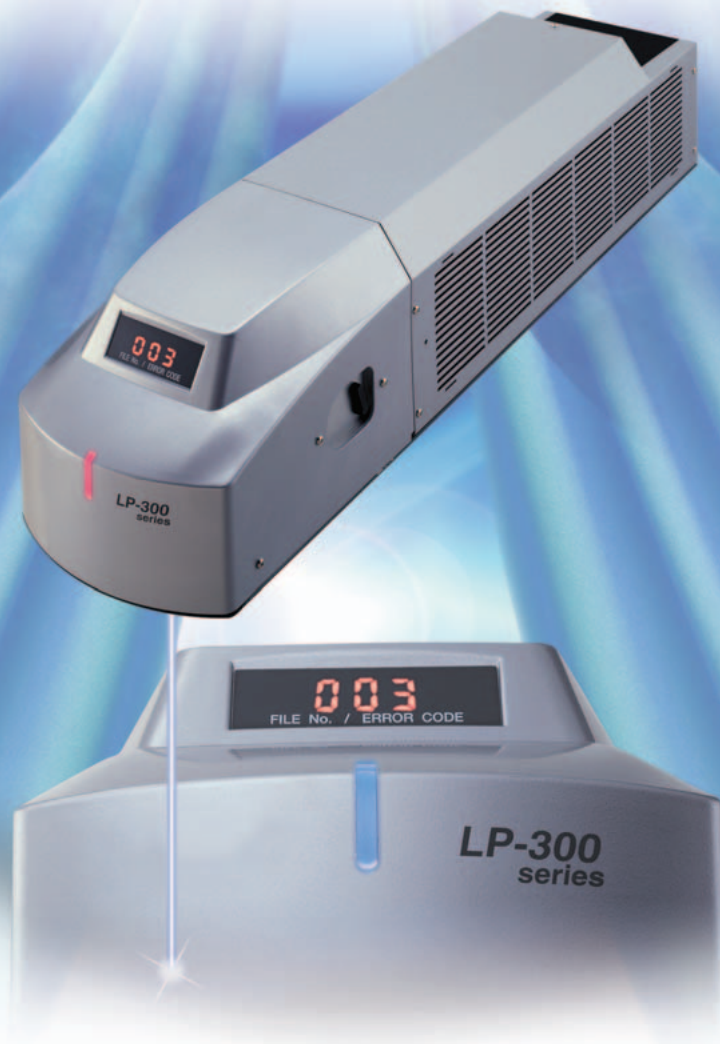


FDA Conforming to FDA regulations (Only LP-310-A)	CE Conforming to Low Voltage and EMS Directive (Only LP-310-C)	GB Conforming to GB standards (Only LP-310-B)
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Entry-Level Model for Laser Marking

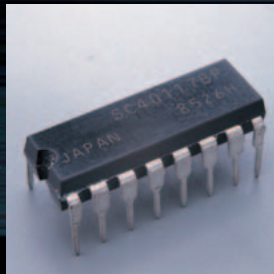
Welcome to the world of laser marking.

Panasonic Industrial Devices SUNX is proud to introduce the LP-300 entry-level CO₂ 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.

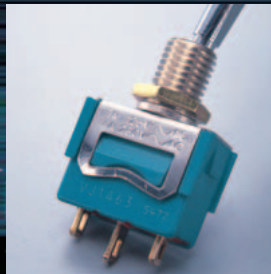
A B C D E F G H I J K L M N O
a b c d e f g h i j k l m n o
0 1 2 3 4 5 6 7 8 9



Cable



IC



Switch (Resin part)



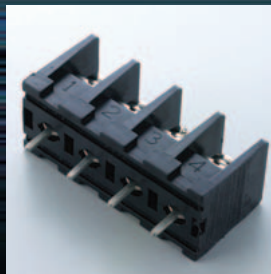
Laser labels (Marking + half cutting)



Connector



CD



Terminal block (Resin part)



Connector

ABCDEFGHIJK
ABCDEF
GHIJKL
MNOPQR
abcdefghijkl
klmnopqrst
0123456789 ABCDEFGHIJKLMNOPQRST
0123456789 abcdefghijklmnopqrst
0123456789

PQRST
pqrst
ABCDEFGHIJKL
ABCDEFGHIJKL
0123456789

FGHIJKLMNOPQRST
fg hijklmnopqrst
67890 - . : ? ! ° C Y \$ %

LMNOPQRST
lmnopqrst
Taser Marking & Processing
ABCDEFGHIJKL
GHIJKL
MNOPQR

DEFGH



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

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.

Jan. 31st ^(following month) → Feb. 28th (other than leap year)
 Jan. 31st ^(after 30 days) → Mar. 1st (leap year)
 Mar. 2nd (other than leap year)

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.

Accurate, distinct marking

Laser Maker
 LP-300

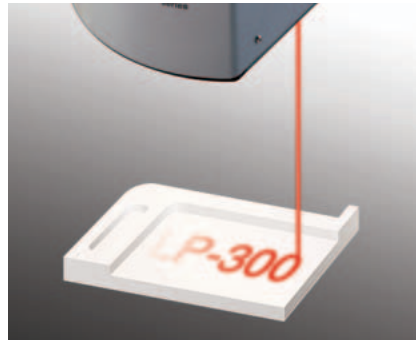
Clear characters that do not disappear over time can be marked accurately with no missing characters or rough or blurred characters.

Bold character marking

- Standard characters
 Note: The LP-300 series are CO₂ laser markers.
- Bold characters
 Note: The LP-300 series are CO₂ laser markers.

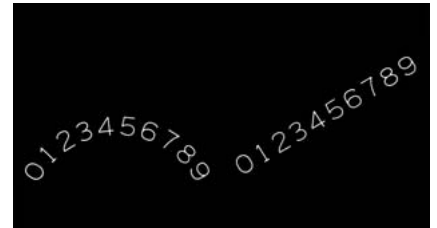
Gothic-style bold characters can be marked for easier readability.

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.

Multiple-line marking

Laser Marking & Processing
 CO₂ 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

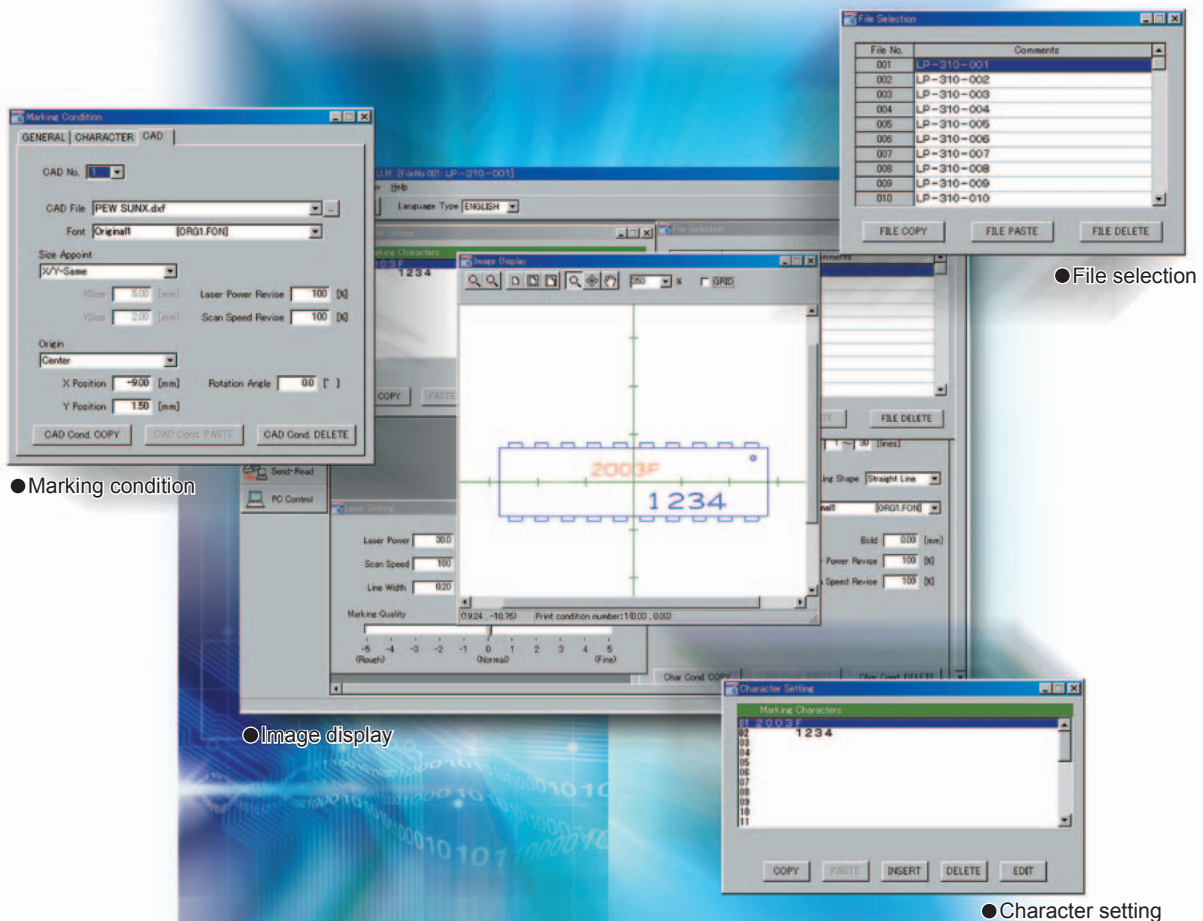
- Standard font
 A B C D E F G H
- Optional font example
A B C D E F G H

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

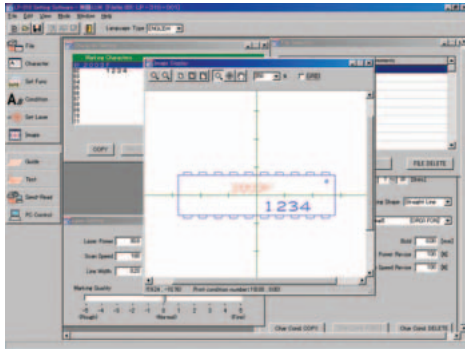
The LP-300 laser markers are the result of accumulated manufacturing experience and know-how from Panasonic Industrial Devices SUNX, and are designed to be easy to use in the same way as a printer.



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.).

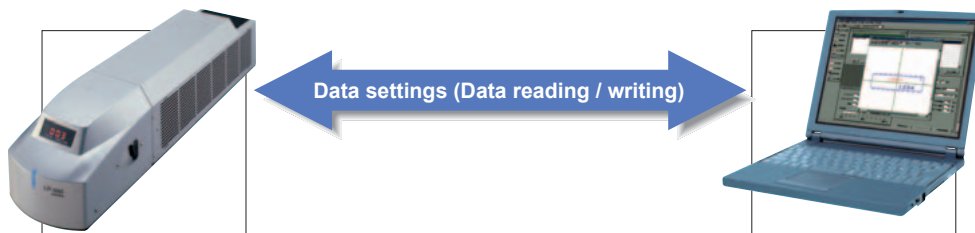


Setting, reading and sending of marking information

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.

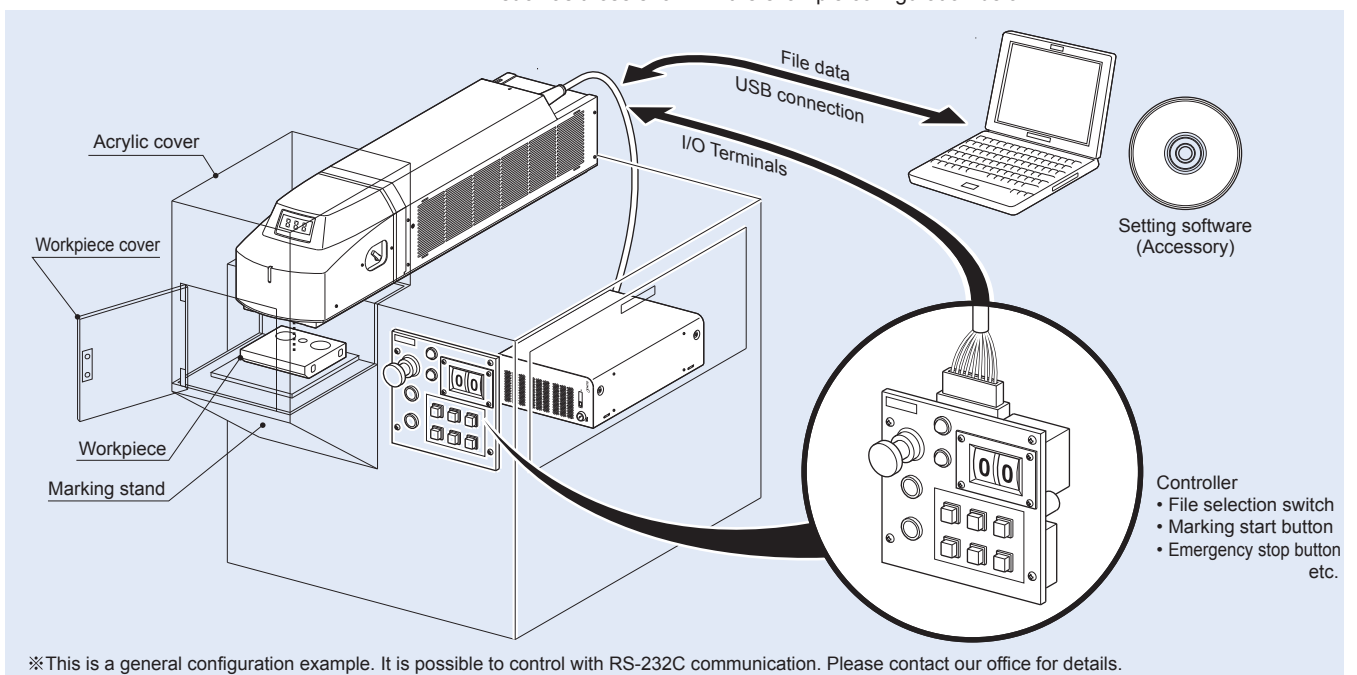
USB interface

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. It is possible to control with RS-232C communication. Please contact our office for details.

Advantages of using laser marking

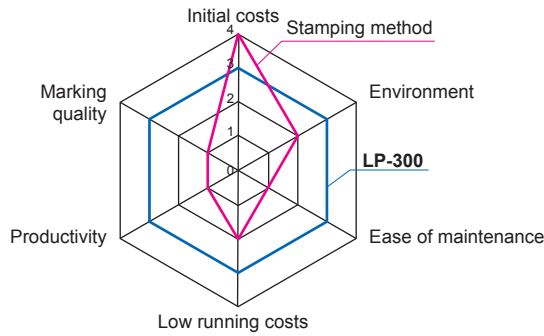
Each marking method has its own advantages and disadvantages. Following is a comparison of laser marking against other methods.

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

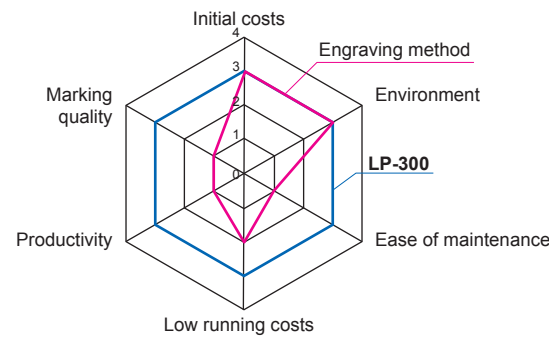


- Initial costs** Requires higher initial costs than stamping methods.
- Environment** Because no ink is used, marking is environmentally friendly and is excellent for recycling.
- Maintenance** No plates or molds are used, so no maintenance time is required.
- Running costs** Running costs only consist 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-engage 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.

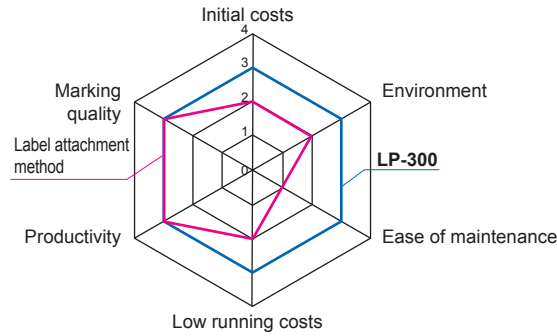
LP-300 SERIES



• Connector
Accurate marking even on surfaces with different heights

Example 3

Comparison with label attachment method



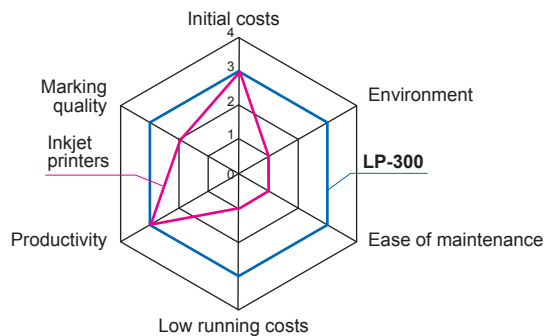
- Initial costs** Cost is about the same as or lower than labellers equipped with label attaching devices.
- Environment** No labels are attached, so greater recyclability. Also no waste products.
- Maintenance** No replacement of labels or ink ribbons is needed, so no stoppages for replacement purposes 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.

LP-300

SPECIFICATIONS

Designation	CO ₂ laser marker entry-level model				
	Type	Japanese model	FDA regulations conforming type	CE marking conforming type	GB standard conforming type
Item	Set Model No.	LP-310	LP-310-A	LP-310-C	LP-310-B
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 (Note 2), Peak emission wavelength: 10.6 μm 0.417 mil)				
Guide Laser	Semiconductor Laser (Peak emission Wavelength: 655 nm 0.026 mil)				
Marking field	50 × 50 mm 1.969 × 1.969 in				
Character height / width (Note 3)	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				
Scan speed	2,000 mm/sec. max.				
Marking shape	Straight Line, Arc, Tilt Angle				
Marking condition	Stationary				
Character types	English uppercase and lowercase letters, numerals, Katakana, Hiragana, Kanji (JIS first level) Symbols, User-registered characters (Up to 50 types)	English uppercase and lowercase letters, numerals, Symbols, User-registered characters (Up to 50 types)			English uppercase and lowercase letters, numerals, Katakana, Hiragana, Simplified chinese Level1 Level2, User-registered characters (Up to 50 types)
Marking setting	Numbers of registered file	120 files max.			
	Setting condition	30 types / file			
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 (Note 4)	Microsoft Windows® 7 Professional (32 bit / 64 bit) / Vista Business (32 bit) / XP Professional (32 bit)			
	Screen display	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)				
Power supply	90 to 132 V AC, or 180 to 264 V AC (auto-switching) 50 / 60 Hz				
Power consumption	700 VA or less				
Functions	<ul style="list-style-type: none"> <li style="width: 20%;">• Lot marking <li style="width: 20%;">• Current date / time marking <li style="width: 20%;">• Expiration date / time marking <li style="width: 20%;">• Counter marking <li style="width: 20%;">• CAD marking <li style="width: 20%;">• Correction of intersection <li style="width: 20%;">• Guide laser <li style="width: 20%;">• Bold character marking <li style="width: 20%;">• Marking image display <li style="width: 20%;">• Saved file list <li style="width: 20%;">• Test marking <li style="width: 20%;">• File transfer / File reading <li style="width: 20%;">• Error history display 				
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				
Net weight	Head: 13 kg approx, Power supply box: 5 kg approx.				

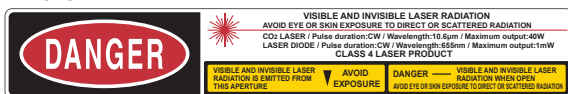
- Notes: 1) The work distance has an individual error of ± 2 mm ± **0.079 in** from product to product.
 2) Independent output of oscillator.
 3) The actual character size varies depending on the work.
 4) Please contact our sales office for details of the software. Windows® 7 Professional, Vista Business, and XP Professional are trademarks or registered trademarks of Microsoft Corporation in the United States and other countries.

PRECAUTIONS FOR PROPER USE

Laser radiation

- This product is classified as a Class 4 Laser Product in IEC / JIS / GB standards and a Class IV Laser Product in FDA regulations 21 CFR 1040.10 and 1040.11. Never look at or touch the direct laser beam and its reflection.
- The laser used by this product generates infrared light that is invisible to the human eye. Use particular caution when the laser operating.
- The following labels are attached to this product. Handle the product according to the instruction given on the warning labels. (Warning labels are not shown in the product photographs in this catalog.)

LP-310-A

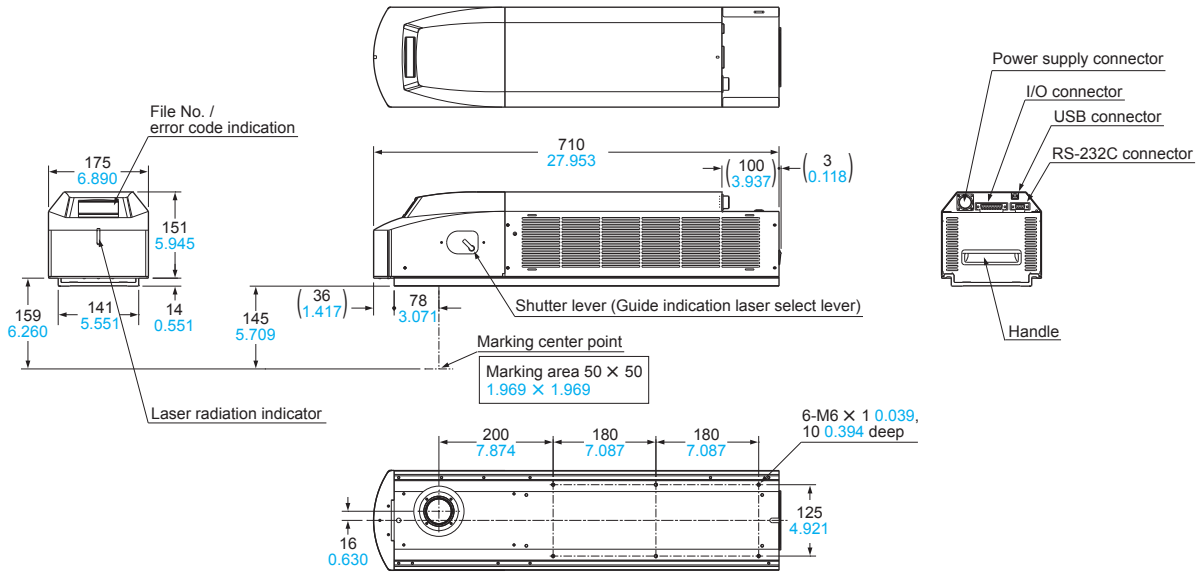


LP-310-C

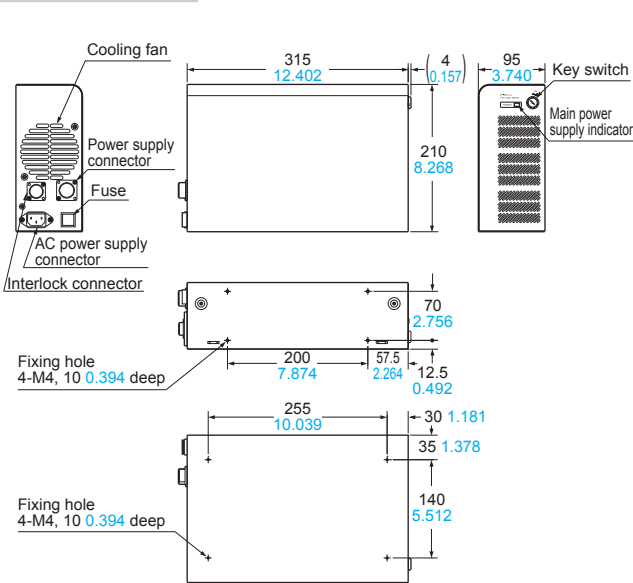


DIMENSIONS (Unit: mm in)

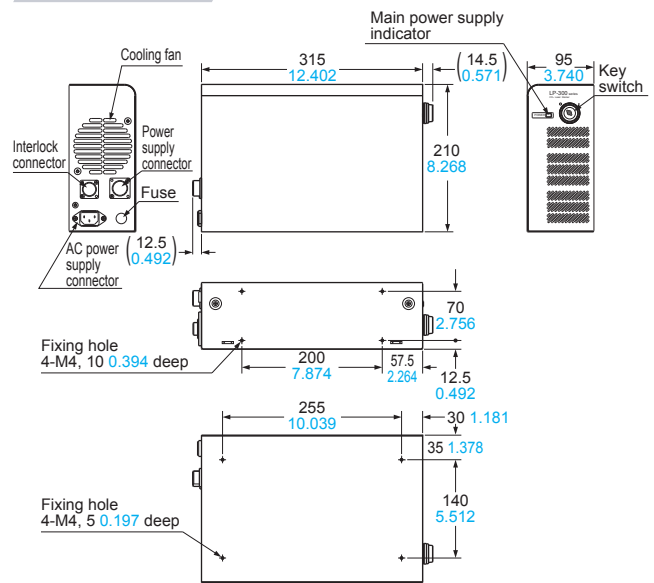
**LP-310, LP-310-A
LP-310-C, LP-310-B** Head



**LP-310, LP-310-A
LP-310-B** Power supply box



LP-310-C Power supply box



LP-310-B

	可见及不可见激光 辐射窗口 回避这里避免被照射 - 从此处窗口有可见及 不可见激光辐射	可见及不可见激光辐射 直视或皮肤直接接触激光的 直射光或反射光有危险！ 不要直视或接触激光	022 激光 最大输出: 40W 脉冲输出: 连续波 波长: 10.6um 4类 激光产品 687247.1-2012	半导体制冷 最大输出: 1mW 脉冲输出: 连续波 波长: 650nm
	4类 激光产品 687247.1-2012			

Recommended use of a dust collector

- Depending on the object being marked, harmful gasses or smoke that have a detrimental effect on the human body or the laser marker may be generating during marking. If your application falls under this description, use a dust collector.

Laser Marker Lineup

A full series for every application.

3D laser marker with high levels of productivity and safety

FAYb Laser Marker

LP-M SERIES

High power laser enables deeper and faster marking and processing. Equipped with 3D control capability which allows the best marking on every product shape.



Connecting rod (marking)



Gasket (coating removal)

Short pulse laser marker for clear high contrast marking on resin surfaces

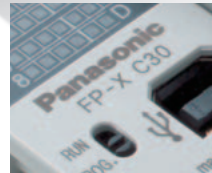
FAYb Laser Marker

LP-V SERIES

Enables beautiful high contrast marking on resin surfaces by fully utilizing the characteristics of short pulse laser beams with minimal thermal influence.



IC



Resin molded products

Fast, high-stability, high grade laser markers with advanced functions

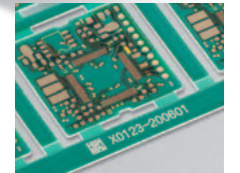
CO2 Laser Marker

LP-400 SERIES

Mark on resin, glass, paper, and a wide range of other materials. The high-power, high-performance galvanoscanner delivers exceptional marking quickly and accurately.



Laser label (marking and half-cut)



Printed circuit board

Please contact :

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