FAYb laser markers: LP-V series

Panasonic's LP-V series laser markers utilizes an enhancement of YAG technology called FAYb (Fiber Amplified Ytterbium). These fiber lasers provide several advantages over traditional Nd:YAG systems, such as a better beam quality, smaller housing dimensions, a significantly longer lifetime and lower fixed costs because FAYb systems consume much less power and get by with simple air cooling. Panasonic's LP-V series laser markers can mark nearly all metals using the laser processes of engraving or black marking (annealing). Using the laser processes of internal foaming, carbonization (color change) or bleaching, resins can be marked with outstanding quality.

FDA
Conforming to FDA regulations (some models only)

CE
Conforming to Low Voltage and EMC Directive (some models only)

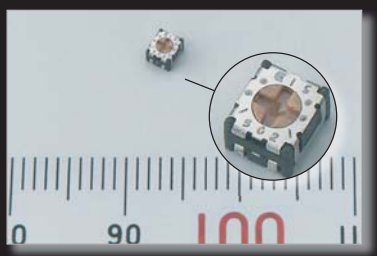
FLINKENBERG electronics

Product manager Christian Lignell
christian.lignell@flinkenberg.fi
tel. +358 9 8599 1369
www.flinkenberg.fi

12W short pulse LP-V series FAYb laser marker designed for high quality marking on metal and resin.

Gear wheel

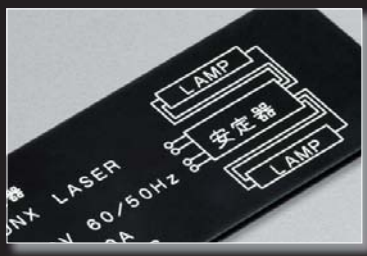
Keypad



Potentiometer

Day/Night design

Laser diode



Product nameplates

Electronic components

Molded resin parts

ICs (DIP)

Improved productivity

High-speed marking

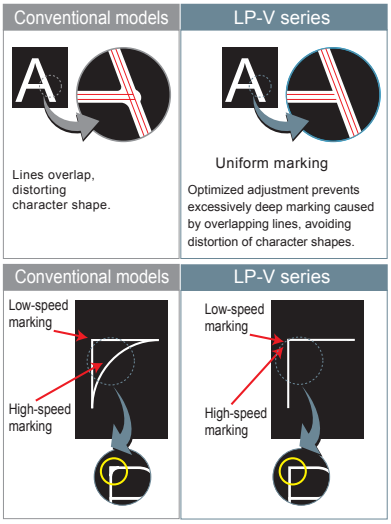
The LP-V series features a high-performance galvano scanner whose acceleration, deceleration, and response speeds exceed those of conventional models by delivering dramatically shorter marking times. Capable of marking up to 700 characters per second and at line speeds of up to 240m/min, the LP-V series improves productivity. The LP-V series automatically determines the most efficient marking order, further reducing marking time. Panasonic's proprietary galvano scanner control technology keeps marking accurate and aligned, even at high speed.

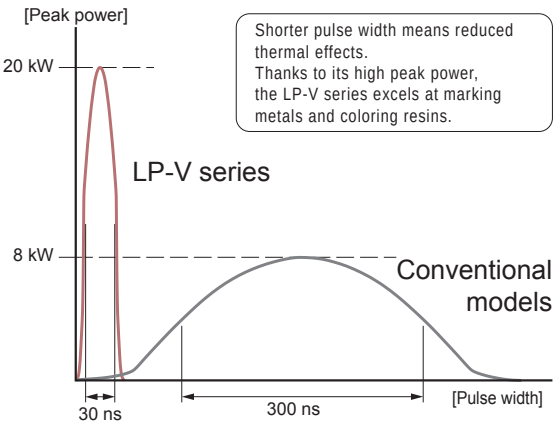
High-quality marking

Technologies behind high-quality marking

The LP-V series takes advantage of a number of new technologies compared to conventional models to deliver high-definition marking. Advanced control functionality automatically adjusts marking strength at locations susceptible to deep marking such as the beginning and ends of lines and areas where straight and curved lines intersect.

Coloring of the target material is controlled by adjusting the laser power, scanning speed, and marking pulse cycle for each set character line, logo or code, giving products a broad range of expression. The result is a beautiful and high-quality mark with uniform line depth even at high speeds.





Innovative FAYb laser

12W short-pulse laser

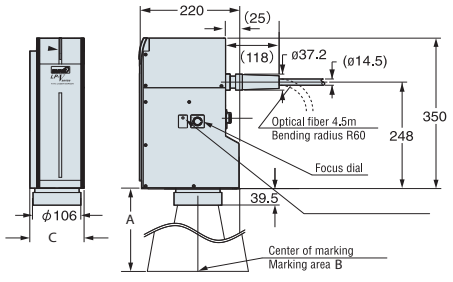
The FAYb laser used in the LP-V series features a high peak power of 20kW, enabling it to generate sharp, deep marking and crisp, black output on metals that require high levels of power. Pansonic's LP-V series has it all, delivering high peak power in a short-pulse laser with low thermal effects to enable beautiful, print-like color marking on resins.

Item \ Type	Small spot	Standard	Wide area
Model	LP-V10U-A55	LP-V10U-C	LP-V15U-C
Work distance (manually adjustable)	127mm (± 0.7mm)	190mm (± 2mm)	350mm (± 7mm)
Marking field	55mm x 55mm	90mm x 90mm	160mm x 160mm
Scanning speed max.	6000mm/s	12,000mm/s	
Line speed max.	120m/min	240m/min	
Average output	12W		
Ambient temperature	0 to +40°C (no condensation or frost), storage: -10 to 60°C		
Ambient humidity	35 to 85% RH (no condensation or frost)		
Marking method	Galvanometer scanning method		
Marking laser	FAYb λ = 1.06µm, laser class 4		
Guide laser	Semiconductor λ = 655nm, laser class 2; 1mW		
Array of character	Straight line, proportional/typewriter, arced, tilted		
Type of characters	Capital & small characters, numerals, katakana, hiragana, kanji (JIS level 1 & level 2), symbols, user-defined characters (up to 50 types)		
Bar codes/2D codes	CODE39, CODE128, ITF2/5, NW-7, JAN/UPC/EAN, RSS 14, RSS limited, RSS expanded (GS1 Databar), GS1 Data Matrix, QR, Micro QR, Data Matrix (ECC200), etc.		
Logos/Graphics	VEC, DXF, BMP, HPGL, JPEG, AI*, EPS*		
Cooling method	Forced-air cooling		
Supply voltage	90 to 132VAC or 180 to 264VAC (auto-changing), 50/60Hz		
Power consumption	420W or less (at 200VAC)		
Inputs	Remote, trigger, encoder (A), encoder (B), shutter control, laser pumping, alarm reset, emergency stop, laser stop, etc.		
Outputs	Power supply (+12V), remote, marking ready, marking, marking finished, laser pumping, warning, alarm, confirmation end, counter finish		
Communication ports	RS232, digital I/Os, Ethernet		
Marking condition	Static and marking on the fly		
Functions	• marking order optimizing • correction of intersection • counter marking • current date/time marking • expiry date marking • lot marking • logos/pictures marking • bold marking • logo data USB transfer	• I/O monitor • system offset • common character setting • font selection • proportional marking • marking image display • operator adjustment • error code log display • work image display	• guide laser • power speed setting per line/logo file • step & repeat • time delay • serial data processing & marking • multilayered marking • backup	• various processing functions • dual pointer • marking time measurement • font/logo creation/editing • power check/correction • I/O simulation • focus adjustment • marking on moving objects
Weight of head	9kg		10kg	
Weight of controller	22kg			

* Adobe Illustrator® is necessary

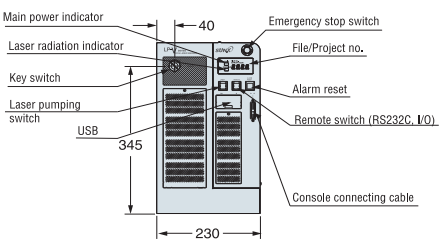
Dimensions

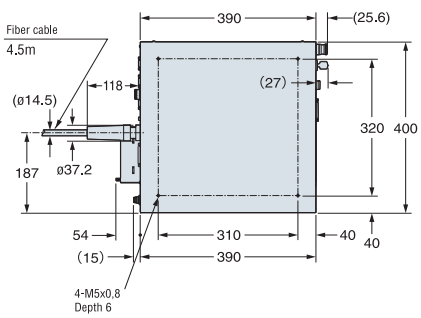
LP-V head



Type	Marking distance A (mm)	Marking area B (mm)	Lens diameter C (mm)
LP-V10-A55	127	55 x 55	87
LP-V10	190	90 x 90	87
LP-V15	350	160 x 160	106

LP-V controller





* All measurements in mm