

■ Hybrid Laser Welding Controller



MLE-300A

**Deeper penetration
even into copper and gold!**

Hybrid laser which is mixture of SHG green laser and fundamental laser enables welding of even thick copper plates. This is most suited for welding of bus bars.

Features

MLE-300A hybrid laser welding controller is a controller to trigger START signal of both YAG SHG green laser welder (ML-8150A) and YAG fundamental laser welder (ML-2000 series).

Hybrid laser welding uses 5W YAG SHG green laser (ML-8150A) and 50 to 600W YAG fundamental laser (ML-2000 series) which are combined in a output unit and achieves deeper penetration into the materials with high laser reflectance such as copper and gold. Its weld capability is much better than using only YAG SHG green laser. Further, this method can be replaced with resistance welding; it improves productivity and enables welding at minute area where electrodes cannot contact.

Features

- Welding that is successfully combined outstanding features of two different lasers:
High absorptance of SHG green laser and high power of YAG fundamental laser.
- Thirty two kinds of weld schedules including waveform controls to set up.
- High repetition rate shortens takt time.
- The timing to output laser beams from two laser welders can be controlled.

- Precision welding with minute spots ($\phi 0.3\text{mm}$) is possible due to employment of a thin optical fiber.
- Both laser welders can be used also individually.

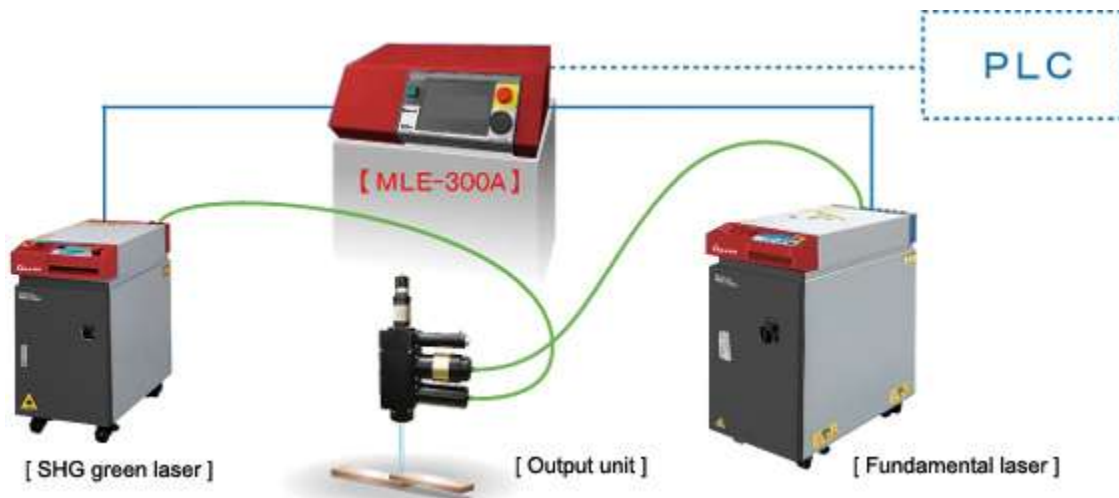
Expand the Environmentally-friendly Method of Welding

Manufacturing by lead-free soldering and solder-less joining methods is recently required considering protection of the environment. Especially for electronic device manufacturing, their reliabilities have been a significant issue lately.

The Solution is... Laser Welding!

- Heat-affected area can be reduced so that parts with weak heat resistance can be welded.
- No flux is necessary.
- No solder creeping.
- Size and weight of parts can be minimized as solder is reduced.

Composition of Hybrid Laser Welding System



MLE-300A hybrid laser welding controller, ML-8150 YAS SHG green laser welder, ML-2000 series YAG laser welder and FOD-40A output unit need to be all connected. PLC external control unit is also able to be connected. Integration to production line is easy.

Applications

Welding of electronic devices, electric devices, copper and gold materials, and precision spot welding and more.

Specifications

Model	MLE-300A
Power supply	YAG SHG: ML-8150A (5W, 4J/P)
	YAG fundamental: ML-2351A/2350A/2451A/2450A/2552A/2551A/2550A/2561A/2650B (50-600W, 50-100J/P)
Output control	Pulse repetition speed: 30pps
Number of schedule	32
External datacom	D-sub (37pins/25pins), RS-485
Ambient temperature	5 - 35 degrees C (No condensation)
Ambient humidity	85% or below
Power requirements	100 - 240VAC, +/-10%, 50/60Hz, single phase
Power consumption	50W max.
Mass	8kg
Safety standards	CE marking

*Specifications subject to change without notice.

External View

Dimensions in mm

