



Pulsed Nd:YAG Air Cooled Laser Welders

ML-2051A / ML-2050A / ML-2150A

The AE-Series pulsed Nd:YAG lasers are designed to meet the stringent demands of **precision welding** applications such as medical devices, photonic devices, and small or delicate components. They are the result of a multi-year development effort, which leveraged AMADA WELD TECH's hands-on experience supporting the industry's foremost manufacturers of these components. These state-of-the-art lasers are air cooled, provide exceptional pulse energy and branch balance stability, and feature real-time power feedback, 20-segment pulse shaping, and up to three time-shared or three energy-shared fiber outputs.

KEY FEATURES

- Real time power feedback ensures the pulse-to-pulse energy stability which is essential for successful spot welding and process control
- Exceptional branch balance stability yields tight control over post weld shift in critical welding applications by providing precisely balanced laser pulse energy and weld nugget formation on every shot
- 20 segment pulse shaping permits quick and easy optimization of weld schedules for a variety of materials, produces deep penetration welds with low weld splatter and helps to eliminate cracking in difficult-to-weld materials
- CDRH
- Up to three time-share or energy-share outputs

TYPICAL APPLICATIONS



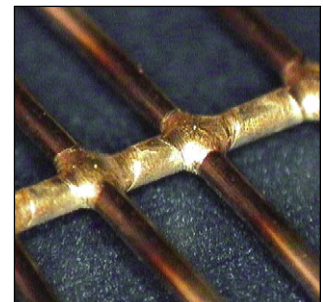
Auto valve laser application



High speed weld



Disk drive gimbal



Small gauge wire welding

TECHNICAL SPECIFICATIONS

| Parameter | ML-2051A | ML-2050A | ML-2150A |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------|---------------|---------------|
| Maximum average power | 5 Watts | 15 Watts | 25 Watts |
| Maximum pulse energy | 5 J @ 5.0 ms | 15 J @ 5.0 ms | 25 J @ 5.0 ms |
| Maximum peak power | 2.5 kW | 4.0 kW | 6.0 kW |
| Time share outputs | Up to 3 | | |
| Energy outputs | Up to 3 | | |
| Pulse width (resolution) | 0.2 → 10 mS (0.02 mS < 5 mS and 0.1 mS ≥ 5 mS) | | |
| Repetition rate | 1 - 30 pps | | |
| Input voltage | 200/220/240 VAC +10% / -15%, 50/60 Hz, 1∅ | | |
| Breaker rated current / recommended service | 15 A | | |
| Schedule set | 32 schedules | | |
| Start delay time Schedule change time | 1 mS, 4 mS, 8 mS, 16 mS selectable | | |
| Ambient operational temperature | 41 - 86°F (5 - 30°C) | | |
| Alarm for lamp life | Preset number of shots or input power value to lamp | | |
| RS-485: type baud rate parity stop bits | Full duplex or half duplex 9,600 bps, 19,200 bps or 38,400 bps Even, odd, or no parity bit 1 or 2 | | |
| Cooling | Air cooled. No external water required. | | |
| Time share shutter speed | ≤50 mS | | |
| Dust proof optics | Yes | | |

WEIGHT & DIMENSIONS

| | |
|-----------------------------------|--------------------------------------------------------|
| Controller dimensions (W x D X H) | 12.2 in x 26.2 in x 27.2 in (310 mm x 665 mm x 700 mm) |
| Weight | 154 lbs (70 kg) |



USA Headquarters and Western Technical Center
AMADA WELD TECH
 1820 S. Myrtle Ave. • Monrovia, CA 91016 US • T: (626) 303-5676
info@amadaweldtech.com • www.amadaweldtech.com
 ISO 9001 Certified Company • 24/7 Repair Service: 1-866-751-7378

AMERICAS

AMADA WELD TECH
(Eastern Technical Center)
 High Point, North Carolina
 T: (941) 544-5762
southsales@amadaweldtech.com

AMADA WELD TECH
(Midwest Technical Center)
 Detroit, Michigan
 T: (248) 313-3078
midwestsales@amadaweldtech.com

AMADA WELD TECH
(Mexico Office)
 El Paso, Texas
 T: (915) 881-8765
mxsales@amadaweldtech.com

EUROPE
AMADA WELD TECH
GmbH
 Munich, Germany
 T: +49-89-839403-0
infode@amadaweldtech.eu

ASIA

AMADA CO., LTD.
 Isehara, Japan
 T: +81-463-96-3268
sales@miyachi.co.jp

AMADA WELD TECH
SHANGHAI CO., LTD.
 Shanghai, China
 T: +86-21-6448-6000
jwu@amadaweldtech.com.cn

AMADA WELD TECH KOREA CO., LTD.
 Seoul, Korea
 T: +82-31-8015-6810
amadadasales@amadaweldtech.co.kr
sales2@amadaweldtech.co.kr

AMADA WELD TECH TAIWAN CO., LTD.
 Taipei, Taiwan
 T: +886-3-328-3511

AMADA (THAILAND) CO., LTD.
 Bangkok, Thailand
 T: +66-2170-5900
info@amada.co.th

AMADA VIETNAM CO., LTD.
 Ha Noi, Vietnam
 T: +84-4-6261-4583
thuyet@amada.co.jp

AMADA WELD TECH
INDIA PVT., LTD.
 Bangalore, India
 T: +91-80-4092-1749
info@amadaweldtech.in

Specifications subject to change without notice. Copyright© 2024 AMADA WELD TECH INC. The material contained herein cannot be reproduced or used in any other way without the express written permission of AMADA WELD TECH INC. All rights reserved.

follow us on:

