



# LW300A-LW600A

## High Average Power Pulsed Nd:YAG Laser Welders

The LW300A-LW600A Series lasers are specifically designed for high speed spot and seam welding applications. The lasers feature high peak and average power and pulse stability to meet virtually any production welding application.

Each laser can be configured with up to four time or energy share outputs so you may utilize one laser to support up to four workstations processing different parts with different weld schedules.

### KEY FEATURES

- Excellent pulse-to-pulse power stability for consistent results along the seam weld
- 500 Hz repetition rate for increased speed of seam welding
- Power ramping and pulse shaping to tailor the pulse to the application and achieve desired penetration
- 300-600 W average power
- Standard two-year warranty
- Field serviceable for minimal downtime and lower spare part pricing

### TYPICAL APPLICATIONS



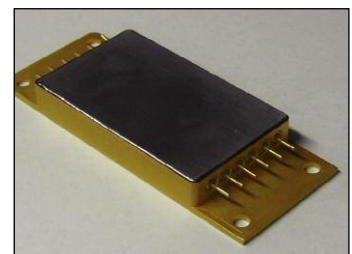
*Air bag detonator*



*Automotive sub-assembly*

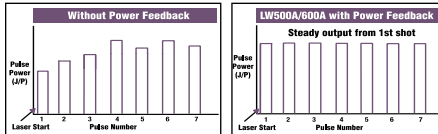


*End effector cap*

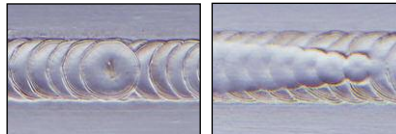


*Electronics packaging*

**Real-time Power Feedback for precise peak power control of pulse shaping and superior pulse-to-pulse stability**



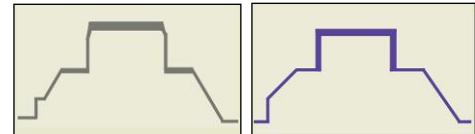
**Seam Weld power ramping tapers power for optimal overlap and crack-free hermetic welds**



**Without ramp-up/down power control function.**

**With ramp-up/down power control function.**

**Flexible Waveform Control for welding a wide range of materials**



**Programmable reference pulse shape.**

**Actual laser shape.**

## TECHNICAL SPECIFICATIONS

	LW300A/LW300AE	LW400A/LW400AE	LW500A/LW500AE	LW600A/LW600AE
<b>Wavelength</b>	1064 nm			
<b>Average power</b>	300 W	400 W	500 W	600 W
<b>Pulse energy @ 10 mS</b>	50 J	80 J	80 J	100 J
<b>Peak power</b>	5.0 kW	8.0 kW	8.0 kW	10.0 kW
<b>Pulse width range</b>	0.25 to 99.9 ms (≥5.0 ms: 0.1 ms/step <5.0 ms: 0.05 ms/step)			
<b>Repetition rate</b>	500 Hz			
<b>Pulse shaping feature</b>	Yes			
<b>Aiming laser</b>	Diode			
<b>Number of outputs</b>	Up to 4			
<b>Energy share outputs</b>	One group of up to 4, or two groups of 2			
<b>Time share outputs</b>	Up to 4			
<b>Fiber core diameter (SI or GI fibers)</b>	0.3, 0.4, 0.6, 0.8, 1.0 mm	0.4, 0.6, 0.8, 1.0 mm	0.4, 0.6, 0.8, 1.0 mm	0.4, 0.6, 0.8, 1.0 mm
<b>Datacom</b>	8/7 data, 2/1 stop bits, even/odd parity, RS485/422			
<b>Power requirements</b>	220 VAC +10%/-15%, 50/60 Hz ±3%, 3-phase for "A" lasers 400 VAC +10%/-15%, 50/60 Hz ±3%, 3-phase for "AE" lasers			
<b>Line current</b>	43 A		84 A	
<b>Cooling method</b>	Water			
<b>External cooling water requirements</b>	4.2 gal./min. (16 liters/min) @86° F (30° C) 6.6 gal./min. (25 liters/min) @95° F (35° C) 1 bar (14.7 psi) minimum differential pressure 3 bar (44.1 psi) maximum inlet pressure		6.6 gal./min. (25 liters/min) @77° F (25° C) 14.5 gal./min. (55 liters/min) @90° F (32° C) 1 bar (14.7 psi) minimum differential pressure 3 bar (44.1 psi) maximum inlet pressure	
<b>Cooling water inlet diameter</b>	0.591 in (15 mm)		0.748 in (19 mm)	
<b>Ambient operating temperature</b>	40 - 95° F (5 - 35° C)			
<b>Humidity</b>	85% non-condensing @ 77° F (25° C)			
<b>BTU/Hr @ 100% duty cycle (minimum req.) (tons of cooling)</b>	40,300 (3.5)		59,400 (5)	

## WEIGHT & DIMENSIONS

	LW300A	LW400A	LW500A	LW600A
<b>Dimensions (L x W x H)</b>	53.1 in x 20.9 in x 46.1 in (1350 mm x 530 mm x 1170 mm)		70.1 in x 21.6 in x 47.2 in (1780 mm x 550 mm x 1200 mm)	
<b>Weight</b>	882 lb (400 kg)		1191 lb (540 kg)	



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