NUBURU

AI Product Line

DATA SHEET

HIGH-POWER, VERY HIGH BRIGHTNESS BLUE LASERS
with scanning capability

NUBURU first-generation AO® products introduced defect-free, spatter-free copper welding to metal processing applications. The second-generation AI™ product line incorporates NUBURU world-leading proprietary blue laser technology in a high-power, very high brightness compact package with scanning capability. The 1500-Watt AI-1500 brings the qualitative advantages of the blue laser to a wider range of industrial applications, while also enabling processing speeds anywhere from two times to more than twenty times faster than current infrared lasers.

Features/Benefits

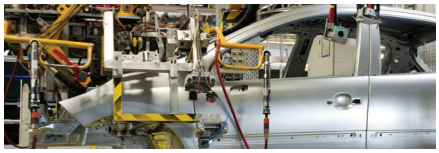
- Blue dramatically improves IR process windows — even enabling otherwise impossible processing geometries
- Blue wavelength is superior to all other wavelengths even at equal power
- Enables SPATTER FREE™ welding process
- Conduction mode weld in reflective metals
- Fully compatible with the BlueWeld™ welding lens product line
- 1500 Watts with a BPP of 11mm*mrad
- Fully compatible with scanners

Applications

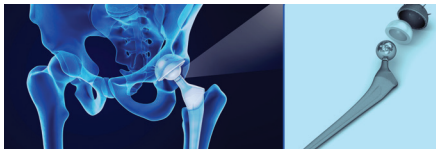
- Welding Cu–Au-Al–Ni–SS and other metals for: Lithium-ion Battery, E-mobility, Electronics Packaging, Consumer Electronics, Photovoltaics, Automotive components and Interconnects
- Cladding, Brazing, LMD
- Additive Manufacturing

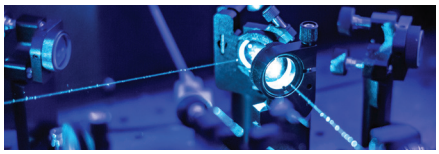

eMobility/Energy Storage


Consumer Electronics


Automotive


Aerospace


Healthcare


Research

AI Product Line

Optical	Units	AI-1500 Typical
Wavelength	nm	~450
Bandwidth	nm	~10
Output Power	W	1500
Power Adjustment	%	0 - 100; Automatic Power Control Mode
Power Stability (8 hours)	%	<3% at full power
Fiber Diameter (Core)	µm	100
Fiber Numerical Aperture	NA	0.22
Beam Product Parameter	mm-mrad	<11
Standard Fiber Length - Connector Type	m	5 - QBH
Electrical	**Units**	**AI-1500 Typical**
Operating Current	A	19A per phase at 432V
Operating Voltage[1]	V	380-480 (50/60Hz ; 3Φ - 4 wires)
External Control Inputs		
Laser Enable (High on)	V	+5/+24
CW Analog Control	V	0 - 10
Modulation	kHz	5
TTL Control (Pulse line)	V	+5/+24
Communications		Ethernet
Safety Interlocks		
Interlock Voltage (Laser Enable)	V	24
Open Circuit (Laser Shut-down)	V	0
Mechanical	**Units**	**AI-1500 Typical**
Height	19" rack U	3U (power supply) + 5U (optical engine) (133 + 222)
Width	mm (inches)	483 (19)
Depth	mm (inches)	643 (25)
Weight	Kg (Lbs.)	30 (67) power supply; 25 (55) optical engine
IP Rating		IP 52 / NEMA 12 (optical engine); IP 20 (power supply unit)
Operating Conditions	**Units**	**AI-1500 Typical**
Temperature	Degrees C°	20-30
Relative Humidity	%	0-90
Storage and Transport[2]	**Units**	**AI-1500 Typical**
Shock (3 axis, 11 ms)	g	5 (peak)
Vibration, MIL_STD-810 G		Method 514.6, category 7, general exposure
Temperature	Degrees C°	−10 to +60
Cooling[3]	**Units**	**AI-1500 Typical**
Heat Load	kW	10
Min Flow Rate	Lpm/gpm	38/10
Supply Temperature Range	Degrees C°	22 ± 1
Max Pressure Range	Bar / psi	5.5/80

1. Can be configured as 200-240V; 3Φ upon request
2. Unit must be drained and purged with clean dry air prior to storage
3. Non condensing

* *The user assumes all risks and liability whatsoever in connection with use of this product or its application*

** *Contact NUBURU for all requirements*

CE

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NUBURU®
The Blue Laser Company™