

## AWAVE SERIES IR Industrial Lasers

### features & benefits.

- Innovative End-Pumping Technology*
- Air-Cooling (Average Power Up to 40W)*
- Excellent Beam Quality, Pulse Stability & Point Stability*
- Patent Pending Harmonic Conversion Technologies*
- Ultra-Compact & Light-Weight*
- Brand-New Focusing Optics*
- Field-Replaceable Diode*
- 24/7 Proven Reliability*
- Low Operational Cost*

AWAVE IR Series models are Q-switched TEM00 mode lasers and are engineered for the highly demanding 24/7 production environment. Each system consists of a laser head and a laser controller connected with a 2.5 meter umbilical cable. The fiber-coupled pumping diodes are located in the laser controller for easy field-replacement. The laser head is sealed in a clean room to assure long-term reliability.

AWAVE IR Series lasers are featured with pulse frequencies ranging from 1-300 kHz (300 kHz to 500 kHz is optional), average power covered from 2W to 40W and pulse energy in excess of 10mJ. For an IR laser over 40W, please refer to the AW-HP Series. Our AWAVE IR lasers are designed and engineered with flexible laser architectures. Contact Advanced Optowave for any laser requirements exceeding standard specifications.



### Nd:YLF IR Laser Systems

SPECIFICATIONS*	AWAVE 1053-2W-10K	AWAVE 1053-10W-10K	AWAVE 1053-20W-10K
Wavelength <sup>1</sup>	1053nm		
Average Power <sup>2</sup>	2W	10W	20W
Pulse Repetition Rate <sup>3</sup>	Single Shot to 20 kHz or CW		
Beam Quality (M <sup>2</sup> )	<1.3		
Spatial Mode	TEM00		
Beam Roundness	>90%		
Pulse Width	<50ns @1kHz <100ns @10kHz	<40ns @1kHz <100ns @10kHz	<60ns @1kHz <100ns @10kHz
Pulse Energy (mJ @ 1kHz)	>0.8mJ	>0.5mJ	>8mJ
Pulse-to-Pulse Stability <sup>4</sup>	<2% RMS		
Average Power Stability <sup>4</sup>	<3% over 12 hours		
Polarization Ratio	>100:1 LINEAR, HORIZONTAL		
Communication Protocol <sup>5</sup>	RS-232		
Operating Voltage (VAC)	90-260		
Line Frequency (Hz)	47-63		
Cooling	AIR	AIR	WATER
Operation Temperature	15° - 30° C		
Operation Humidity	20% - 80%		
Storage Temperature	-20° - 50° C		

### Nd:YAG IR Laser Systems

SPECIFICATIONS*	AWAVE 1064-3W-20K	AWAVE 1064-6W-20K	AWAVE 1064-15W-20K
Wavelength <sup>1</sup>	1064nm		
Average Power <sup>2</sup>	3W	6W	15W
Pulse Repetition Rate <sup>3</sup>	Single Shot to 50 kHz or CW		
Beam Quality (M <sup>2</sup> )	<1.3		
Spatial Mode	TEM00		
Beam Roundness	>90%		
Pulse Width	<15ns @1kHz <30ns @10kHz	<20ns @1kHz <40ns @10kHz	<30ns @1kHz <70ns @10kHz
Pulse Energy (mJ @ 1kHz)	>0.3mJ	>1mJ	>4mJ
Pulse-to-Pulse Stability <sup>4</sup>	<2% RMS		
Average Power Stability <sup>4</sup>	<3% over 12 hours		
Polarization Ratio	>100:1 LINEAR, HORIZONTAL		
Communication Protocol <sup>5</sup>	RS-232		
Operating Voltage (VAC)	90-260		
Line Frequency (Hz)	47-63		
Cooling	AIR	AIR	WATER
Operation Temperature	15° - 30° C		
Operation Humidity	20% - 80%		
Storage Temperature	-20° - 50° C		

- Note:**
1. Contact AOC for additional wavelengths.
  2. Contact AOC for higher power lasers.
  3. Contact AOC for high frequency.
  4. Defined as standard deviation/average.
  5. Contact AOC for USB II & Ethernet.

\*Advanced Optowave Corporation follows a policy of continuous product improvement. Specifications are subject to change without notice. Advanced Optowave Corporation offers a limited warranty for all laser systems. For full details on warranty coverage, or for further product information, please contact us.

## Nd:YVO4 IR Laser Systems

SPECIFICATIONS*	AWAVE 1064-10W-100K	AWAVE 1064-20W-100K	AWAVE 1064-30W-100K	AWAVE 1064-40W-100K
Wavelength <sup>1</sup>	1064nm			
Average Power <sup>2</sup>	10W	20W	30W	40W
Pulse Repetition Rate <sup>3</sup>	Single Shot to 300 kHz or CW			
Beam Quality (M <sup>2</sup> )	<1.3			
Spatial Mode	TEM00			
Beam Roundness	>90%			
Pulse Width	<15ns @20kHz <40ns @100kHz	<15ns @20kHz <40ns @100kHz	<15ns @20kHz <40ns @100kHz	<15ns @20kHz <40ns @100kHz
Pulse Energy (mJ @ 20kHz)	>200μJ	>600μJ	>1mJ	>1.2mJ
Pulse-to-Pulse Stability <sup>4</sup>	<2% RMS			
Average Power Stability <sup>4</sup>	<3% over 12 hours			
Polarization Ratio	>100:1 LINEAR, HORIZONTAL			
Communication Protocol <sup>5</sup>	RS-232			
Operating Voltage (VAC)	90-260			
Line Frequency (Hz)	47-63			
Cooling	AIR	AIR/WATER	WATER	WATER
Operation Temperature	15° - 30° C			
Operation Humidity	20% - 80%			
Storage Temperature	-20° - 50° C			

- Note:**
- Contact AOC for additional wavelengths.
  - Contact AOC for higher power lasers.
  - Contact AOC for high frequency.
  - Defined as standard deviation/average.
  - Contact AOC for USB II & Ethernet.

# AWAVE SERIES

## IR Industrial Lasers

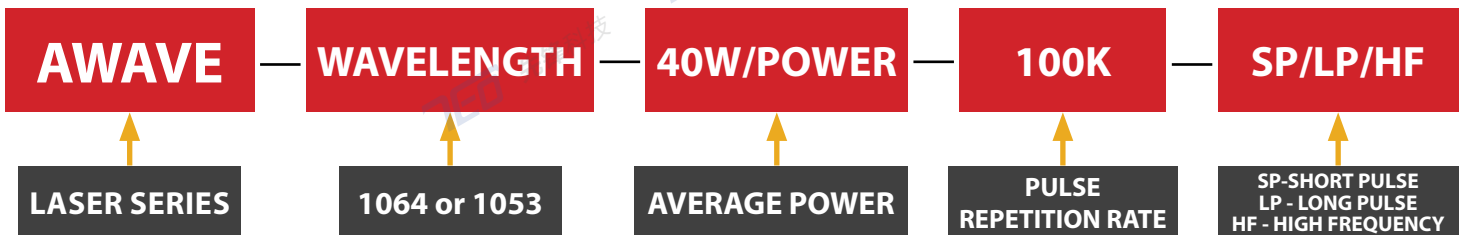
### Dimensions & Weight

DIMENSIONS	COMPACT	MEDIUM	LARGE
Laser Head (in.)	8 x 5 x 3.45	9 x 8 x 3.75	13.75 x 8 x 3.75
Laser Controller (in.)	15 x 15 x 5	19 x 17 x 7	19 x 17 x 7
Umbilical (in./m.)	100 inches / 2.5 meters (all lasers)		

WEIGHT	COMPACT	MEDIUM	LARGE
Laser Head (lbs.)	4.5	6	20
Laser Controller (lbs.)	12	15	30

### Order Information

Our lasers are designed and engineered with flexible laser architectures. Customers can specify laser requirements based on their needs. Please contact us for any laser requirements exceeding the specifications of standard products.



**COMPLIANCE:** CDRH, ROHS, CE

