

AONano™ | YAG Series

Industrial Nanosecond Lasers

Features & Benefits

Lowest Cost of Ownership in the Industry
Available in IR, Green, UV and Deep UV
High Performance, Reliable Design
Excellent Beam Quality of $M^2 < 1.2$
Simple, Intuitive Control Features
Pulse Energies up to 10mJ

Applications

Rapid Prototyping
Marking, Engraving & Coding
Diamond Cutting and Marking
Scientific and Biomedical Injector
Rigid PCB and Flex Circuit Processing
Semiconductor/PV Processing/Wafer Scribing



AONano | YAG Series

Nanosecond Industrial Lasers

| | | AONano YAG 1064 | | | | | |
|---|--|--------------------------|--|--------|--|---------|--|
| SPECIFICATIONS* | | 3-10-Y | | 6-10-Y | | 15-10-Y | |
| Wavelength (nm) | | 1064 | | | | | |
| Average Power (Watts) | | 3 | | 6 | | 15 | |
| Energy (μJ) | | 300 | | 600 | | 1500 | |
| Specified Repetition Rate (kHz) | | 10 | | | | | |
| Repetition Rate (kHz) | | Single Shot to 50 | | | | | |
| Pulse Width (ns) | | <30 | | <40 | | <70 | |
| Beam Quality (M ²) | | <1.3 | | | | | |
| Beam Roundness (%) | | >90 | | | | | |
| Beam Diameter (mm) | | ~0.8 | | ~0.8 | | ~1.0 | |
| Beam Divergence (mRad) | | <2.5 | | <2.5 | | <2.0 | |
| Point Stability (μrad/°C) | | <20 | | | | | |
| Polarization Ratio | | 100:1 Linear, Horizontal | | | | | |
| Pulse-to-Pulse Stability (% RMS) | | <2 | | | | | |
| Average Power Stability (% over 12 hours) | | <3 | | | | | |
| Cold Start Warm-Up (mins.) | | <40 | | | | | |
| Standby Warm-Up (mins.) | | <10 | | | | | |
| Operational Temperature Range (°C) | | 15 to 35 | | | | | |
| Operation Humidity Range (%) | | 20 to 80 non-condensing | | | | | |
| Storage Temperature Range (°C) | | -20 to 50 | | | | | |
| Storage Humidity Range (%) | | 20 to 80 non-condensing | | | | | |
| Input Voltage (VAC) | | 90 to 260 | | | | | |
| Line Frequency (Hz) | | 47 - 63 | | | | | |
| Communication | | RS-232 | | | | | |
| Cooling | | Air | | Air | | Water | |

| | | AONano YAG 532 | | | | | | | | | | | |
|---|--|-------------------------|--|--------|--|-----------|--|---------|--|---------|--|---------|--|
| SPECIFICATIONS* | | 2-10-Y | | 6-10-Y | | 15-10-Y | | 20-15-Y | | 25-15-Y | | 30-15-Y | |
| Wavelength (nm) | | 532 | | | | | | | | | | | |
| Average Power (Watts) | | 2 | | 6 | | 15 | | 20 | | 25 | | 30 | |
| Energy (μJ) | | 200 | | 600 | | 1500 | | 1330 | | 1660 | | 2000 | |
| Specified Repetition Rate (kHz) | | 10 | | | | | | 15 | | | | | |
| Repetition Rate (kHz) | | Single Shot to 50 | | | | | | | | | | | |
| Pulse Width (ns) | | <30 | | <40 | | <70 | | <150 | | <150 | | <50 | |
| Beam Quality (M ²) | | <1.2 | | | | | | | | | | | |
| Beam Roundness (%) | | >90 | | | | | | | | | | | |
| Beam Diameter (mm) | | ~0.6 | | ~0.6 | | ~0.7 | | | | | | | |
| Beam Divergence (mRad) | | <2.0 | | <1.8 | | <1.5 | | <1.8 | | <1.7 | | <1.7 | |
| Point Stability (μrad/°C) | | <20 | | | | | | | | | | | |
| Polarization Ratio | | 100:1 Linear, Vertical | | | | | | | | | | | |
| Pulse-to-Pulse Stability (% RMS) | | <2 | | | | | | | | | | | |
| Average Power Stability (% over 12 hours) | | <3 | | | | | | | | | | | |
| Cold Start Warm-Up (mins.) | | <40 | | | | | | | | | | | |
| Standby Warm-Up (mins.) | | <10 | | | | | | | | | | | |
| Operational Temperature Range (°C) | | 15 to 30 | | | | | | | | | | | |
| Operation Humidity Range (%) | | 20 to 80 non-condensing | | | | | | | | | | | |
| Storage Temperature Range (°C) | | -20 to 50 | | | | | | | | | | | |
| Storage Humidity Range (%) | | 20 to 80 non-condensing | | | | | | | | | | | |
| Input Voltage (VAC) | | 90 to 260 | | | | | | | | | | | |
| Line Frequency (Hz) | | 47 - 63 | | | | | | | | | | | |
| Communication | | RS-232 | | | | | | | | | | | |
| Cooling | | Air | | Air | | Air/Water | | Water | | Water | | Water | |

| AONano YAG 355 | | | | |
|---|--------------------------|---------------|---------------|---------------|
| SPECIFICATIONS* | 1-10-Y | 3-10-Y | 4-10-Y | 8-10-Y |
| Wavelength (nm) | 355 | | | |
| Average Power (Watts) | 1 | 3 | 4 | 8 |
| Energy (μJ) | 100 | 300 | 400 | 800 |
| Specified Repetition Rate (kHz) | 10 | | | |
| Repetition Rate (kHz) | Single Shot to 50 | | | |
| Pulse Width (ns) | <50 | <30 | <30 | <40 |
| Beam Quality (M ²) | <1.2 | | | |
| Beam Roundness (%) | >90 | | | |
| Beam Diameter (mm) | ~0.4 | | | ~0.6 |
| Beam Divergence (mRad) | <2.0 | | | <1.6 |
| Point Stability (μrad/°C) | <20 | | | |
| Polarization Ratio | 100:1 Linear, Horizontal | | | |
| Pulse-to-Pulse Stability (% RMS) | <2 | | | |
| Average Power Stability (% over 12 hours) | <3 | | | |
| Cold Start Warm-Up (mins.) | <40 | | | |
| Standby Warm-Up (mins.) | <10 | | | |
| Operational Temperature Range (°C) | 15 to 30 | | | |
| Operation Humidity Range (%) | 20 to 80 non-condensing | | | |
| Storage Temperature Range (°C) | -20 to 50 | | | |
| Storage Humidity Range (%) | 20 to 80 non-condensing | | | |
| Input Voltage (VAC) | 90 to 260 | | | |
| Line Frequency (Hz) | 47 - 63 | | | |
| Communication | RS-232 | | | |
| Cooling | Air | Air | Air | Water |

| AONano YAG 266 | | | | |
|---|--------------------------|---------------|---------------|---------------|
| SPECIFICATIONS* | 0.5-10-Y | 1-10-Y | 2-10-Y | 4-10-Y |
| Wavelength (nm) | 266 | | | |
| Average Power (Watts) | 0.5 | 1 | 2 | 4 |
| Energy (μJ) | 50 | 100 | 200 | 400 |
| Specified Repetition Rate (kHz) | 10 | | | |
| Repetition Rate (kHz) | Single Shot to 50 | | | |
| Pulse Width (ns) | <20 | | | |
| Beam Quality (M ²) | <1.3 | | | |
| Beam Roundness (%) | >85 | | | |
| Beam Diameter (mm) | ~3.0 | | | |
| Beam Divergence (mRad) | <1.0 | | | |
| Point Stability (μrad/°C) | <20 | | | |
| Polarization Ratio | 100:1 Linear, Horizontal | | | |
| Pulse-to-Pulse Stability (% RMS) | <2 | | | |
| Average Power Stability (% over 12 hours) | <3 | | | |
| Cold Start Warm-Up (mins.) | <40 | | | |
| Standby Warm-Up (mins.) | <10 | | | |
| Operational Temperature Range (°C) | 15 to 30 | | | |
| Operation Humidity Range (%) | 20 to 80 non-condensing | | | |
| Storage Temperature Range (°C) | -20 to 50 | | | |
| Storage Humidity Range (%) | 20 to 80 non-condensing | | | |
| Input Voltage (VAC) | 90 to 260 | | | |
| Line Frequency (Hz) | 47 - 63 | | | |
| Communication | RS-232 | | | |
| Cooling | Air | Air | Water | Water |

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Nanosecond Industrial Lasers

Dimensions & Weight

| DIMENSIONS | COMPACT | MEDIUM | LARGE |
|-------------------------------------|-------------------------------|-------------------------------|-----------------------------------|
| Laser Head, in (mm) L x D x H | 8 x 5 x 3.45 (203 x 127 x 88) | 9 x 8 x 3.75 (229 x 203 x 95) | 13.74 x 8 x 3.75 (350 x 203 x 95) |
| Laser Controller, in (mm) W x D x H | 15 x 15 x 5 (381 x 381 x 5) | 19 x 17 x 7 (482 x 432 x 178) | |
| Umbilical, in (m) | 100 (2.5) | | |

| WEIGHTS | COMPACT | MEDIUM | LARGE |
|----------------------------|-----------|----------|-----------|
| Laser Head, lbs (kg) | 4.5 (2.0) | 6 (2.7) | 20 (9.0) |
| Laser Controller, lbs (kg) | 12 (5.4) | 15 (6.8) | 30 (13.6) |

COMPLIANCE: CDRH, ROHS, CE

*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 Femtosecond IR/GR laser systems. For full details on warranty coverage, or for further product information, please contact us.

