AONano Precision Series

Industrial UV nanosecond laser

·All-in-one design

·Comprehensive power coverage

·Excellent beam quality (M^2＜1.2)

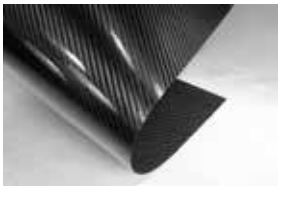
·Filxible control mode

▶ Features & Benefits:

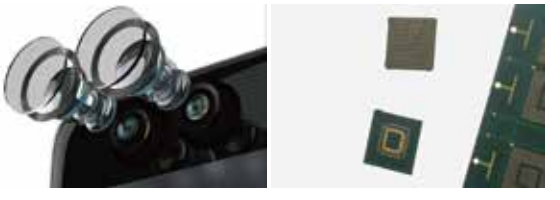
This is the high-power version of our AONano Compact-355 laser series. The all-in-one design makes the laser more compact and reduces the total weight. It saves space for installation on the customer side, lowers the integration cost and simplifies the installation process. The water-cooled design allows the laser to work reliably in various harsh and extreme environments and makes the laser to be the ideal candidate for the 7x24 non-stop production needs.

The output power of 15W, 20W, 25W and up to 40W are available for selection. With the world-leading harmonic generation techniques, it has the highest conversion efficiency. With excellent beam quality, wide repetition rate and flexible control method, it is the perfect candidate for various application areas, including precise micro-machining, on-fly marking, FPC/PCB cutting and so on.

FPC/PCB cutting&drilling

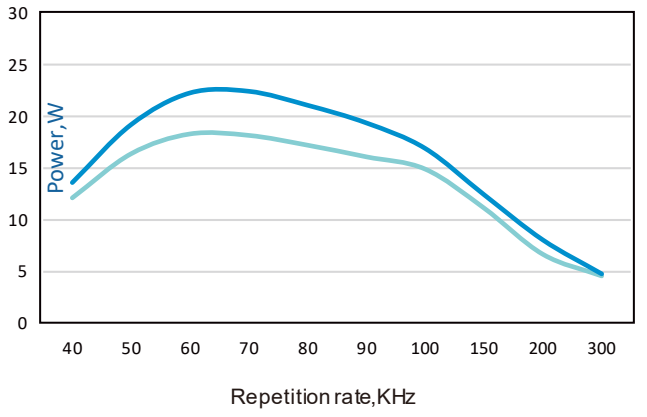


Carbon fiber cutting

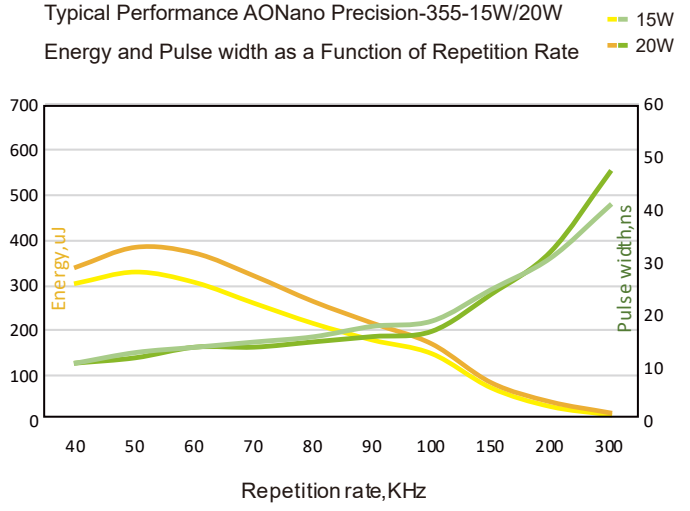


Mobilephone module/Fingerprint module cutting

Typical Performance AONano Precision-355-15W/20W
Power as a Function of Repetition Rate



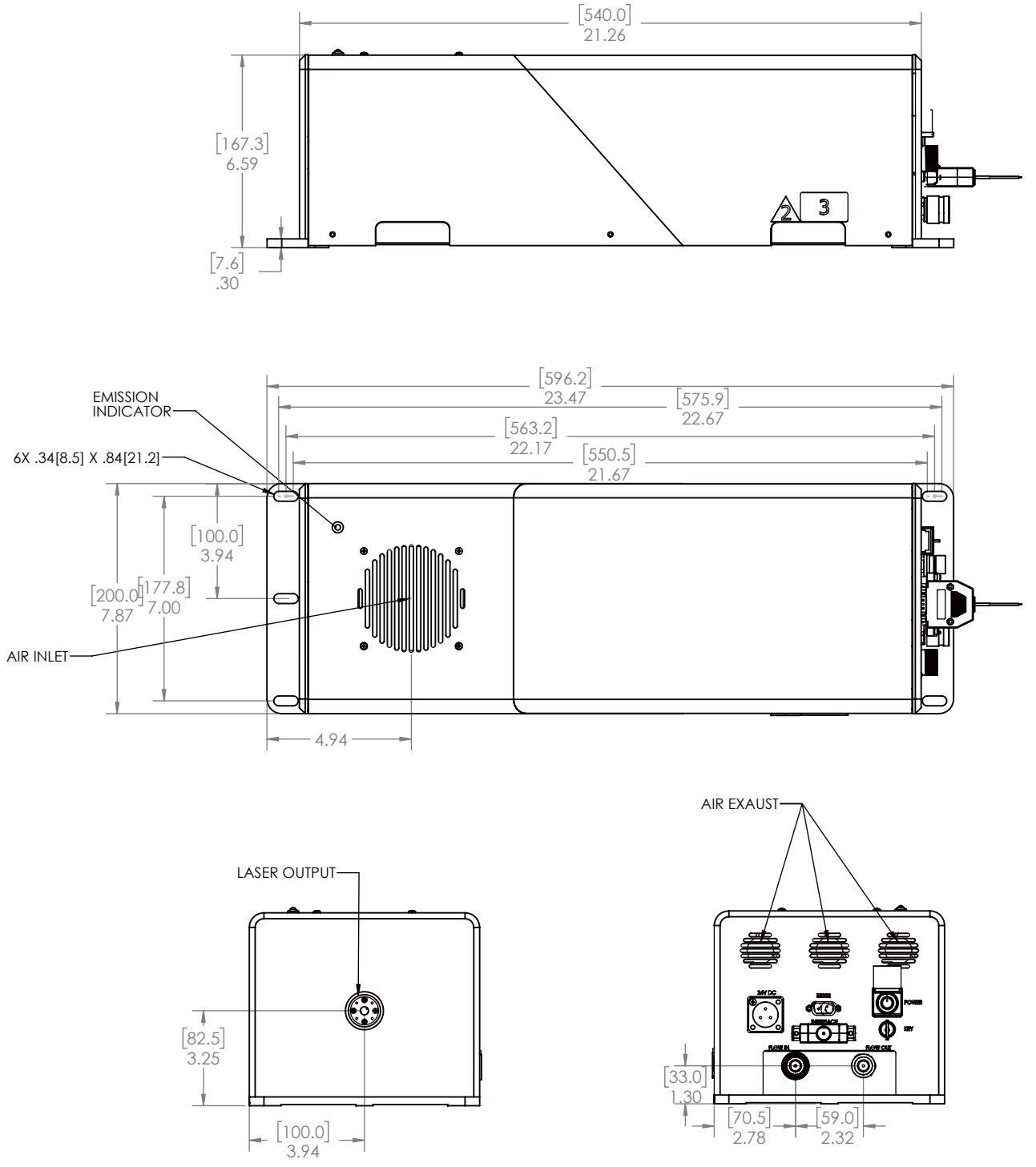
Typical Performance AONano Precision-355-15W/20W
Energy and Pulse width as a Function of Repetition Rate



	AONano Precison 355	
Specification	**15W - 50K**	**20W - 60K**
Wavelength (nm)	355	
Average Power (Watts)	>15W@50KHz	>20W@60KHz
Energy (μJ)	>300	>400
Specified Repetition Rate(kHz)	50	60
Repetition Rate (kHz)	40~300	
Pulse Width (ns)	<15	
Beam Quality (M^2)	<1.2	
Beam Roundness (%)	>90	
Beam Diameter (mm)	~0.55	~0.47
Beam Divergence (mRad)	< 2	
Point Stability (μrad/°C)	< 20	
Polarization Ratio	100:1 Linear,Horizontal	
Pulse-to-Pulse Stability (% RMS)	< 3	
Average Power Stability(% over12 hours)	< 3	
Cold Start Warm-Up (mins.)	< 40	
Standby Warm-Up (mins.)	< 10	
Operational Temperature Range (°C)	5-40°C	
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 (VDC)/Rated Power(W)	24/450	24/600
Communication	RS232	
Cooling	Water	
Weight (kg)	20	

AONano Precision SERIES

AONano Precison -355 Laser Size



AONano Precision (i) Series

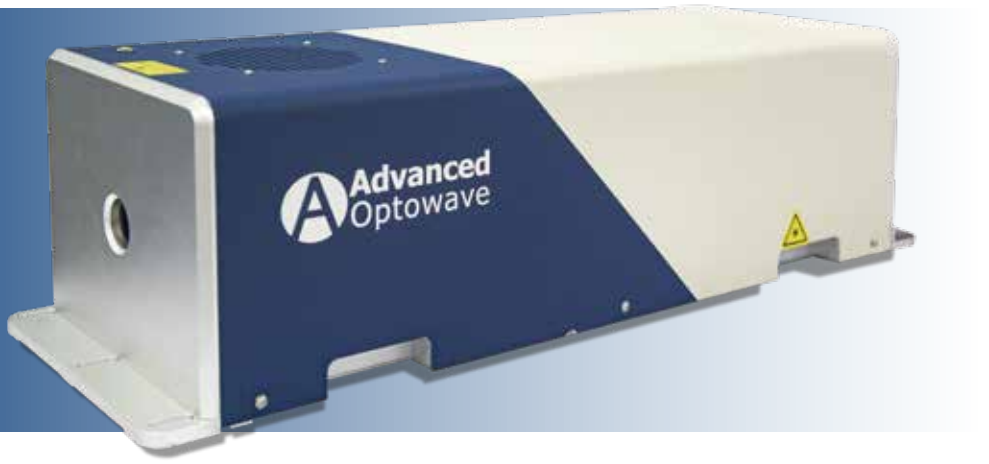
Industrial UV nanosecond laser

·Power auto-optimization

·Crystal indexing

·Real-time power feedback

·Long-term power consistency



▶ Features & Benefits:

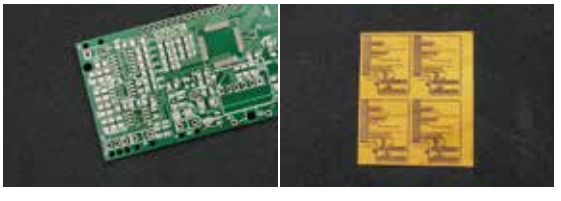
This is the intelligent version of our AONano Precision-355 laser serials. With the intelligent features listed below, the long-term stability of the laser is significantly improved, and the service time/cost is greatly reduced.

All-in-one format: the optical cavity and electrical controller are integrated into a single box.

Power monitoring: the laser output power is monitored and consequently the real-time power reading is available in the laser GUI and RS232-command.

Auto-optimization: the laser output power can be auto-optimized with the feature of power monitoring. This means that the laser output power can be recovered by auto-optimization if it drops to a level below the pre-defined threshold. If the power cannot be recovered, the laser will report an alarm. This can significantly reduce the service time and cost.

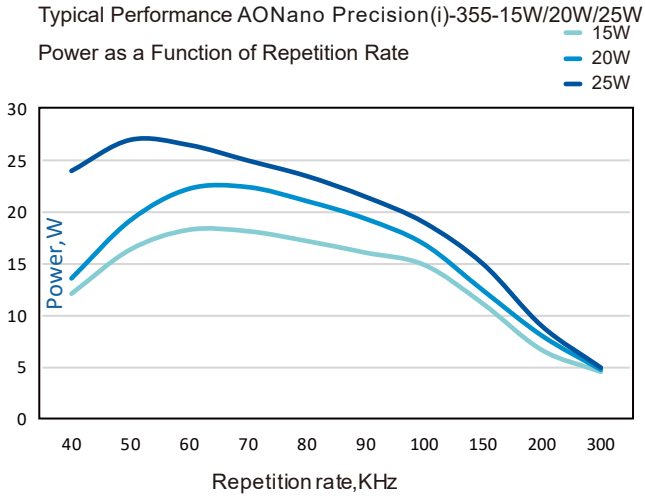
Crystal indexing: there are multiple spots available for use on the THG crystal. The spot indexing can be controlled manually or automatically by a pre-defined sequence. There are five spots available on the THG crystal, which means the laser lifetime can be extended by five times.
The AONano Precision (i)-355 series laser is a perfect candidate for various laser micromachining applications. It is a great cost-effective combination of high reliability and high performance.

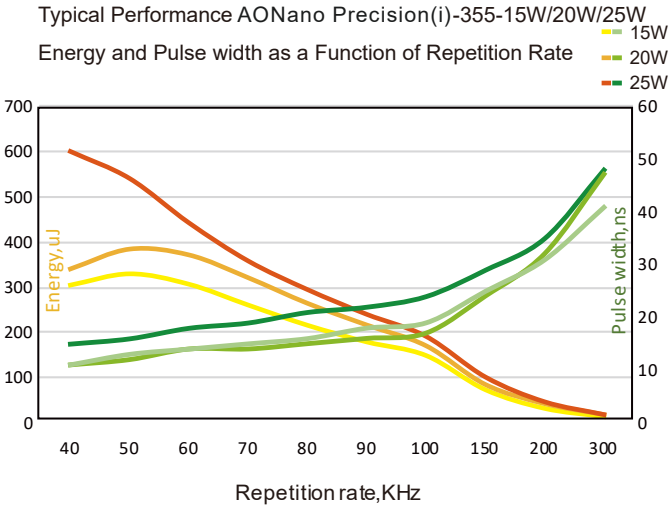


FPC/PCB cutting&drilling

Fly marking

PI cutting





Specification	AONano Precision(i) 355		
	15W - 50K	20W - 60K	25W - 50K
Wavelength (nm)		355	
Average Power (Watts)	>15W@50KHz	>20W@60KHz	>25W@50KHz
Energy (μJ)	>300	>400	>500
Specified Repetition Rate(kHz)	50	60	50
Repetition Rate (kHz)		40~300	
Pulse Width (ns)	<15	<15	<20
Beam Quality (M^2)		<1.2	
Beam Roundness (%)		>90	
Beam Diameter (mm)	~0.55	~0.47	~0.55
Beam Divergence (mRad)		< 2	
Point Stability (μrad/°C)		< 20	
Polarization Ratio		100:1 Linear,Horizontal	
Pulse-to-Pulse Stability (% RMS)		< 3	
Average Power Stability(% over12 hours)		< 3	
Cold Start Warm-Up (mins.)		< 40	
Standby Warm-Up (mins.)		< 10	
Operational Temperature Range (°C)		5-40°C	
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 (VDC)/Rated Power(W)	24/450	24/600	
Communication		RS232	
Cooling		Water	
Weight (kg)		20	

AONano Precision(i) SERIES

AONano Precision(i) Laser Size