Diode-pumped Picosecond Actively Q-Switched Lasers

Actively Q-switched DPSS picosecond laser series by QS Lasers is reliable and precision-driven solution for demanding applications across industrial, scientific, and research fields. Its innovative laser cavity design ensures exceptionally stable output parameters, all within the compact size of the device. The air-cooled design further contributes to its energy-efficient operation and smooth integration to OEM systems.

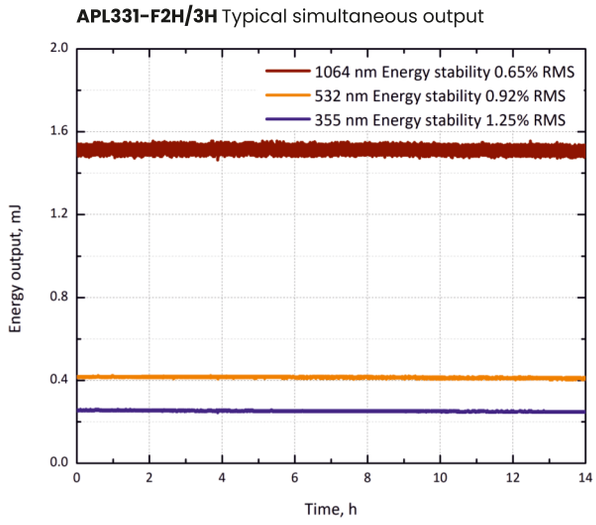
Features

- Up to 2 mJ pulse energy at 1064 nm
- 500-700 ps pulse duration
- Single-shot to 1 kHz repetition rate
- Compact, hermetically sealed design
- Ultra-low jitter <0.2 ns
- Guaranteed >3 Gshot lifetime
- Simultaneous or discrete 532 nm, 355 nm output options

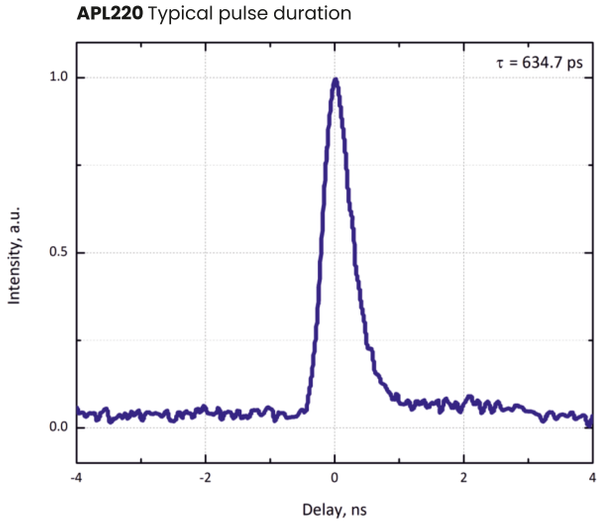
Applications

- Seeder for amplifier
- Laser-induced breakdown spectroscopy (LIBS) and imaging
- Laser flash photolysis
- Time resolved fluorescence measurements
- Time of flight measurements
- Pollution monitoring
- Light detection and ranging (LiDAR)
- Supercontinuum generation
- Raman spectroscopy

APL331-F2H/3H Typical simultaneous output



APL220 Typical pulse duration



TOPAG Lasertechnik

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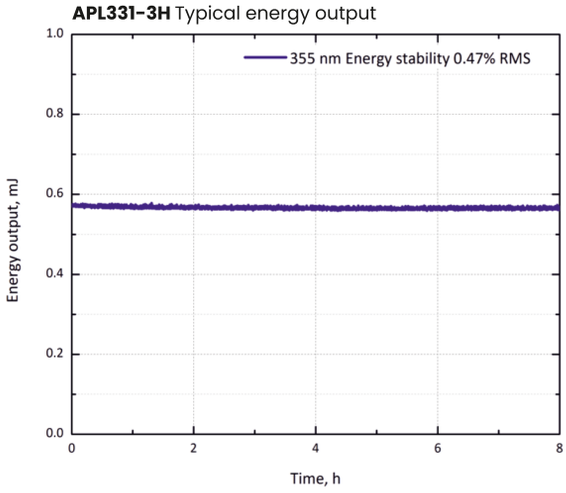
Specifications [1]

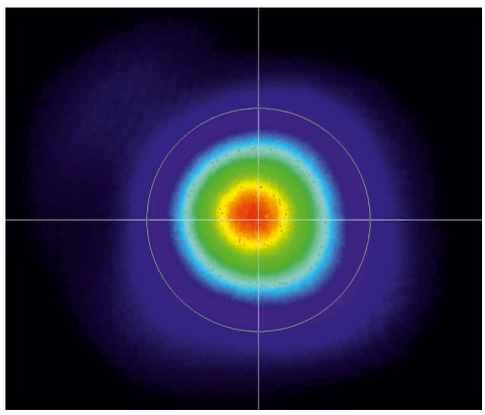
		APL120	APL220	APL320	APL131	APL231	APL331
Output characteristics							
Pulse energy at 1064 nm (mJ)		0.5	1	2	0.5	1	1.5
Pulse duration [2] (ps)		500-700			700		
Pulse repetition [3] (Hz)		1-100			1000		
Pulse-to-pulse energy stability [4] (% RMS)	1064 nm	<1					
	532 nm	<1.5					
	355 nm	<2					
Power drift [5] (% RMS)		±3					
Optical pulse jitter [6] (ns RMS)		0.2					
Beam divergence [7] (mrad)		<5					
Beam diameter [8] (mm)		1.2					
Pointing stability, full angle (µrad)		<50					
Polarization		linear, horizontal at 1064 & 532 nm, vertical at 355 nm					
Triggering modes		internal / external					
Beam spatial profile		close-to-Gaussian in near and far fields					
Dimensions W x L x H (mm)							
Laser head		135 x 270 x 70			135 x 270 x 117		
Laser controller		260 x 333 x 150					
Operating requirements							
Electrical requirements		100-240 V AC, single phase 50-60 Hz					
Power consumption		<50 W			<200 W		
Cooling system		TEC					
Ambient temperature		20-30 °C					
Relative humidity		10-80% (non-condensing)					

* Customized models available on request

APL331-3H Typical energy output



APL331 Typical beam profile



[1] Due to continuous improvements all specific-ations are subject to change. Unless stated otherwise all specifications are measured at 1064 nm and 100 Hz.

[2] FWHM level at 1064 nm.

[3] Factory-set pulse repetition rate is set at 100 Hz.

[4] Averaged from 30 second time interval in 5 series.

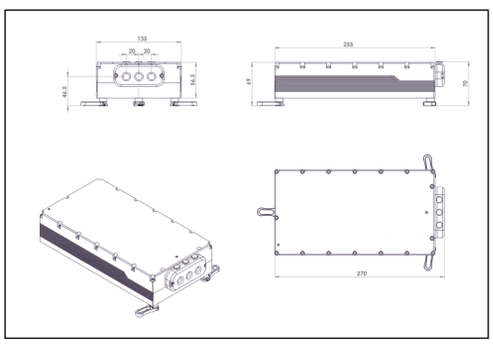
[5] Over 8 hours when temperature variation is ±2 °C.

[6] In respect to q-switch sync. signal in internal trigger mode, rising edge of TTL-sync. out signal. Internal trigger mode delivers TTL-sync. out signal.

[7] Full angle measured at $1/e^2$ level; can be adjusted to customer requirements, please inquiry for more details.

[8] Beam diameter is measured 20cm from laser output at $1/e^2$ level.

100 Hz version



1 kHz version with a heatsink