Fiber Laser Module for LiDAR Application

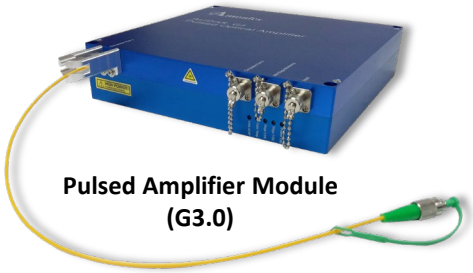
Amonics
Specialist in Optical Amplifiers

1550nm - Pulsed

Key Features

- Pulse energy up to 160μJ
- Eye-safe wavelength - 1550nm
- Linear polarization emission
- Pulse duration from 100 to 1500ns
- Pulse repetition rate from 10 to 100kHz
- Narrow linewidth, down to 1.6kHz
- Low RIN & low phase noise
- Wide operating temperature, from -10 to +60°C
- High reliability & Maintenance free

Seed Laser Module (G3.2.1 without fan)



Pulsed Amplifier Module (G3.0)

Description

Amonics' high power fiber laser (ALiDAR) series offers eye-safe, single mode, linear polarized nanosecond-pulsed all fiber laser source with master-oscillator-power-amplifier. It is well-designed for three-dimensional imaging, wind detection and ranging LiDAR systems.

The ALiDAR series is maintenance free with no post-installation service required. It is a versatile, ready-to-use and durable laser source for various LiDAR applications as well as integration to OEM system.

Application

- Wind-speed Measurement
- Pollution Monitoring
- 3D Imaging
- Ranging LIDAR System

ISO 9001 : 2015
Certificate No.: CC 5346

Our product is manufactured under a HKQAA ISO 9001 certified quality management system. The ISO 9001:2015 certification applies to the Hong Kong production site only.

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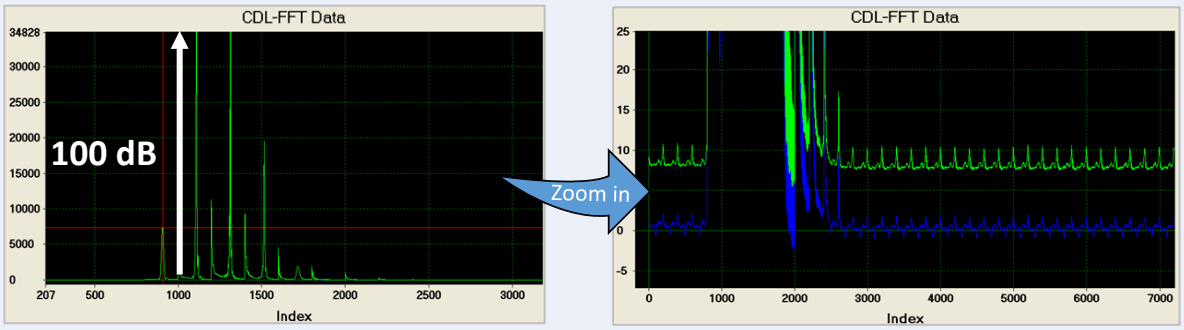
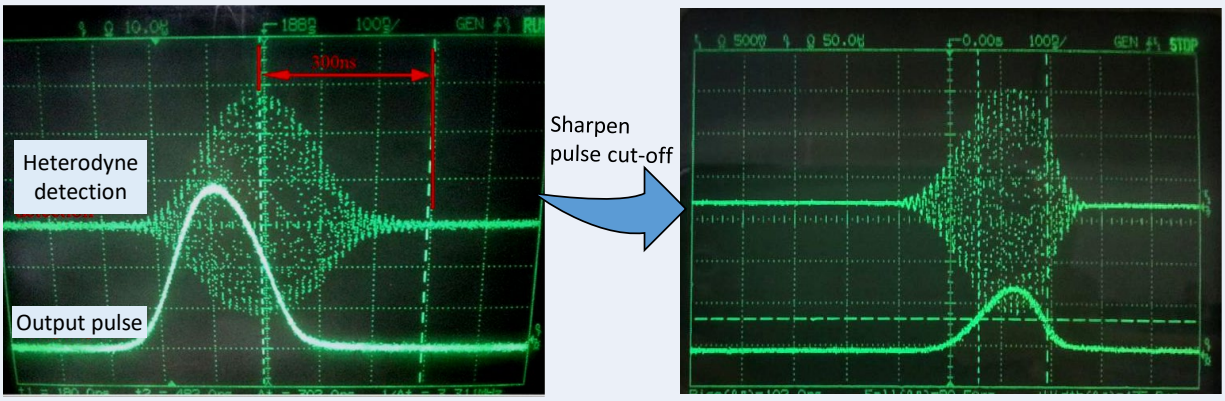
Performance

High on-off Extinction Ratio

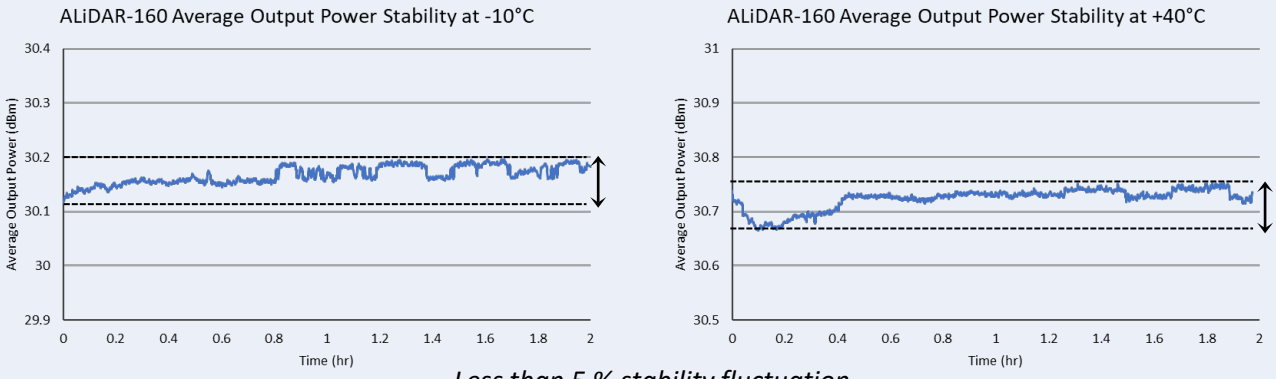


Optimized Output Pulse Shape



Pulse falling time decreases from 300ns to 150ns

Stable Performance



Less than 5 % stability fluctuation

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Specifications

Model	ALiDAR-160-Seed-M-FA	ALiDAR-160-AMP-M-FA
Mode of Operation	Nano-second pulse	
Peak Power @250ns Pulse Width	Min. 700 W	
Pulse Energy @250ns Pulse Width	Typ. 160, Min. 140 µJ	
Pulse Width	100 to 1500 ns	
Repetition Rate	10 to 100 kHz	
Wavelength	1550 ± 0.2 nm (other wavelengths are available)	
Laser Linewidth	Typ. 15, Max. 100 kHz (Standard); Max. 5 kHz (Non-Standard)	
Beam Quality M^2	Max. 1.4	
Polarization Extinction Ratio	Typ. 23, Min. 20 dB	
Pulse On/Off Ratio	Typ. 100, Min. 80 dB	

* Other output pulse energy models are available upon request

General Parameters

	Value	Remarks
Operation Temperature	0 to 40 °C (Standard); -10 to 60 °C (Non-Standard)	Case temperature
Storage Temperature	-10 to 70 °C	
Power Supply	+12 ± 0.25 VDC	
Seed Laser Module Dimensions	200 (W) x 200 (D) x 55 (H) mm	Generation 3.2 (G3.2)
Pulsed Amplifier Module Dimensions	200 (W) x 200 (D) x 45 (H) mm	Generation 3.0 (G3)
Seed Laser Module Power Consumption	Typ. 30, Max. 60 W	
Amplifier Module Power Consumption	Typ. 54, Max. 72 W	
LED Status Indicators	Power on, Seed/Amplifier enable, Case temperature overheat, Loss of seed/input power	
Optical Power Monitoring	Output power, Input power (optional)	
Remote Control Port	RS232	
Protection	Overheat auto shutdown	
Cooling	Air cooling	
Seed Laser Module Output Termination	Min 0.5m 3mm PVC pigtail with FC/APC connector	
Amplifier Module Output Termination	Min. 30cm 3mm tubing PM fiber with FC/APC connector or collimator	

Ordering Information

Product Code	ALiDAR-aa-Seed-M-FA ALiDAR-aa-AMP-M-FA	aa : Output pulse energy in µJ

Amonics undertakes continuous and intensive product development to ensure its product performance at the highest technical standards. As a result, the specifications in this document are subject to change without notice.

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