

LightPanther

A fibered laser that offers the highest available energy levels at the tip of a fiber

Nanosecond laser applications
Industrial use
Flexibility



SHOCKLite

LightPanther +

The LightPanther relies on a unique optical architecture that considerably reduces the spatial coherence of nanosecond laser beams without undermining their energy and pulse duration.

This design ensures high laser-induced damage thresholds for standard-silica optical fibers.



APPLICATIONS

The LightPanther can play a major role in all the applications where nanosecond-laser-induced mechanical shocks have to be generated in a flexible way in confined or harsh environments. These include :

- + Laser Shock Peening (LSP)
- + Laser Cleaning (LC)
- + Laser Ultrasonics (LUS)
- + Laser Induced Breakdown Spectroscopy (LIBS)
- ... and many more

FEATURES

- + Highest available energy levels at the tip of an optical fiber thanks to a unique beam-shaping module at the output of the laser source
- + Rugged design for industrial use
- + Possibility to adapt the beam-shaping module to several nanosecond and picosecond laser sources
- + Dedicated software to control the laser and live-monitor the optical fiber thanks to an integrated fiber-imaging module
- + Standard single-core silica fibers
- + Durable fiber design for handheld or roboriarm operation
- + Easy fiber replacement by the end-user

FIELDS

- + Aeronautics (LSP, LC, LUS)
- + Energy (LSP, LC, LUS)
- + Naval industry (LSP, LUS)
- + Metallurgy (LUS)
- + Geology
- + Medical (LSP, Tattoo removal)

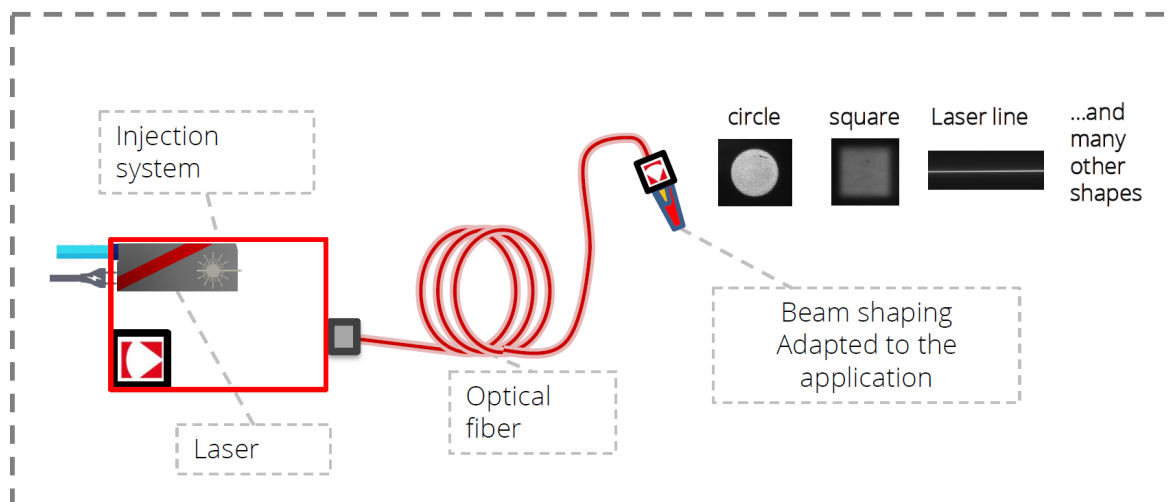
SPECIFICATIONS

	532 nm		1064 nm	
Systems transmission (%) (1)	67			
Repetition rate (Hz)	10	100	10	100
Pulse duration (ns)	6			
Fiber maximum input energy (mJ) (2)	330	240	390	210
Fiber maximum output energy (mJ) (3)	300	220	350	190
Fiber core diameter (mm) (4)	1.5			
Fiber bending radius (m) (5)	0.4			
NA	0.12			
Fiber length (m)	Up to 60			
Fiber output polarization	Random			
Fiber output intensity profile	Top-hat			
Fiber output beam shape	Circular, square, linear, etc			

- (1) Optical transmission between laser output and fiber input
- (2) Higher energies can be reached. Contact us for more information
- (3) Energy stated for a 5m fiber
- (4)... Lower core diameters are available for lower output energies
- (5) Lower bending radii are available for lower output energies

SHOCKLITE'S OFFER

Shocklite is dedicated to support their customers in their applications : we offer the possibility to shape the laser beam at the optical fiber output (circle, square, line, etc) this helping the end-users master the laser beam from the laser source to the target, talking into account the application requirements.

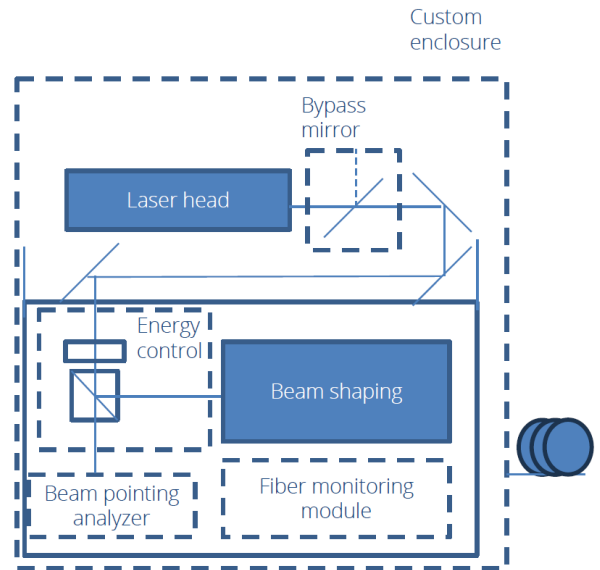


FIBERING EXISTING LASER SOURCES

Schocklite also offers plug & play optical beam shaping module to fiber beams from sources provided by other laser manufacturers.

Multiple options can be provided :

- + Laser head integration in an enclosed system for a simplified use in industrial environments
- + Bypass mirror to switch from fiber to free-space propagation
- + Fiber output energy control to optimize process parameters
- + Beam pointing analyzer for a user-friendly fiber alignment
- + Fiber live monitoring for a safe and easy fiber use

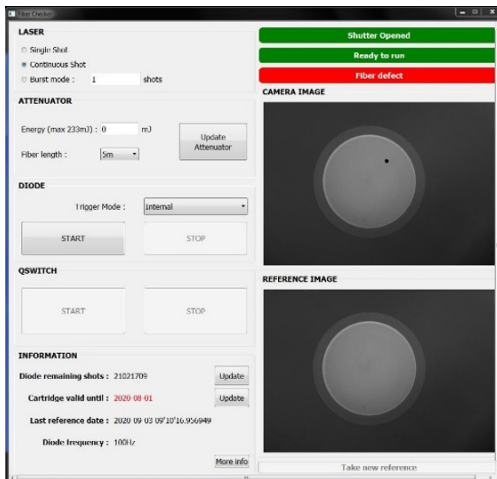


SOFTWARE

FiberChecker

The FiberChecker software is a tool that allows the customer to use the system in the safest way as it features a live monitoring of the fiber input and output facets to prevent any lasing in case of fiber damage. Other functionalities are proposed such as the laser energy control or the lasing mode (single-shot, continuous, burst).

The user is also completely autonomous in replacing the optical fiber as the software integrates an alignment helper



CONTACT US

Imagine Optic Headquarters
18, rue Charles de Gaulle
91400 ORSAY · France
Phone +33 (0)1 64 86 15 60
contact@imagine-optic.com
www.shock-lite.com

SHOCKLite

LightPanther DATASHEET 2208