SHOCKLITE

LIGHTPANTHER

FIBER-DELIVERED HIGH-ENERGY LASER SOURCE

HIGHEST ENERGY
AT THE FIBER TIP

INDUSTRIAL
GRADE DESIGN

LASER
COMPATIBILITY



SMART FIBER
MONITORING

STANDARD
SILICA FIBERS

BUILT FOR
FIELD OPERATION

NANOSECOND LASER INDUSTRIAL APPLICATIONS

(AEROSPACE, AUTOMOTIVE, NAVAL, ENERGY, METALLURGY...)

- Laser Shock Peening
- Laser Shock Cleaning
- Laser Ultrasonics
- LIBS and more...

CONTACT US

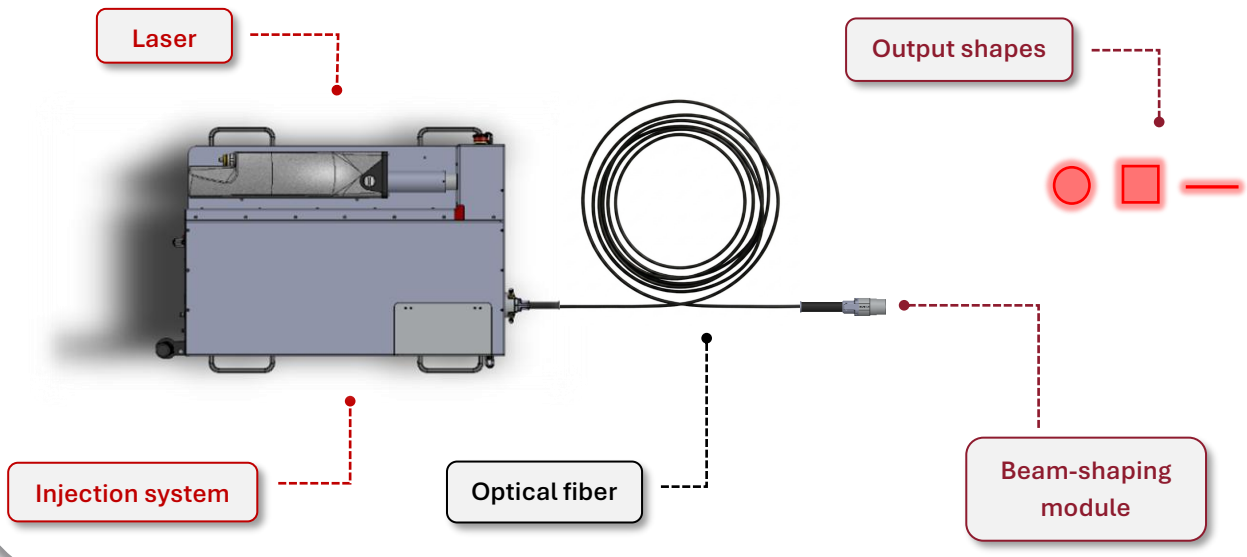
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DATASHEET

A NEW APPROACH TO
HIGH-ENERGY LASER PROCESSING

LightPanther's dedicated optical architecture enables high-energy nanosecond laser pulses to be delivered through silica optical fibers, bringing flexible laser processing to demanding industrial environments.

BEAM DELIVERY *OVERVIEW*



01 — HIGH ENERGY DELIVERY

Reduced spatial coherence enables high-energy nanosecond pulses to be transmitted through silica optical fibers while preserving pulse energy and duration.

02 — FLEXIBLE & SAFE ACCESS

The fiber provides direct access to confined or hard-to-reach areas while keeping the laser source away from the processing zone, for safer, more versatile operation in harsh environments.

03 — CLEANER SURFACE PROCESSING

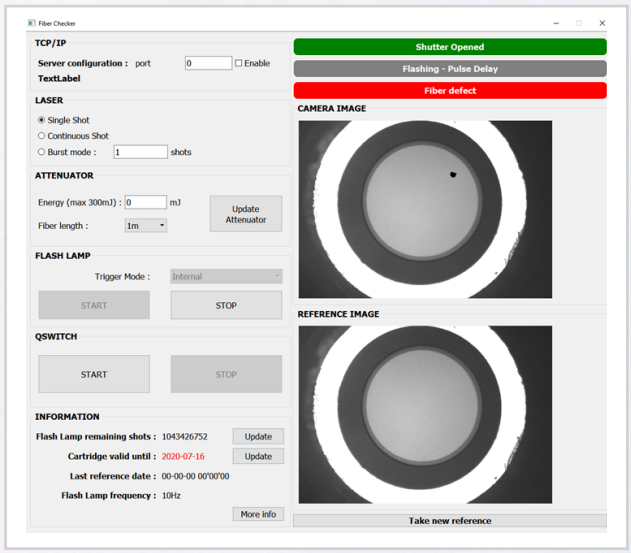
For suitable surface-treatment applications, laser processing can eliminate chemical or abrasive consumables, reducing process waste and simplifying material handling.

FIBERCHECKER

FiberChecker provides real-time fiber monitoring and system control for safe, reliable and autonomous operation.

01
LIVE FIBER MONITORING
Continuous monitoring of the fiber input facet

02
LASER CONTROL
Energy control + Single-shot / Continuous / Burst modes



03
FIBER DAMAGE PROTECTION
Stops lasing in case of detected fiber damage

04
ALIGNMENT ASSISTANT
Ensures precise beam centering within the fiber core

SPECIFICATIONS

	532 nm		1064 nm	
System transmission (%) (1)	67			
Repetition rate (Hz)	10	100	10	100
Pulse duration (ns)	6			
Fiber max. input energy (mJ) (2)	330	240	390	210
Fiber max. 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			

SYSTEM CONFIGURATIONS OPTIONS

+ **Enclosed laser-head integration**
+ **Bypass mirror** (switch between fiber delivery and free-space propagation)
+ **Fiber output energy control**
+ **Beam pointing analyzer**

(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