



Katana HP

High power versatile pulsed laser module

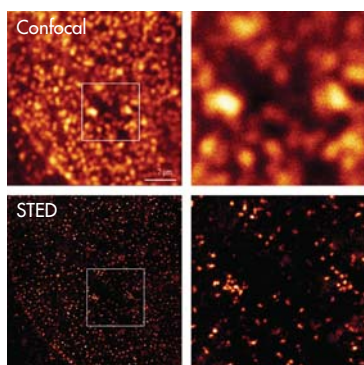
Swiss
Made

NEW COLOR



The first orange
high power
picosecond laser

Katana HP is a versatile, pulsed laser system designed for all industrial applications that require continuous tuning of the repetition rate, maintenance-free operation and low cost of ownership. The Katana laser can be triggered from pulse-on-demand up to 100 MHz from either an internal or an external source (master or slave mode), and can provide pulses from 30 ps up to 1 ns in pulse duration. **Katana HP** has already proven to be an ideal, robust source as depletion laser for super-resolution STED fluorescence microscopy, for which application it can also provide a complete solution when combined with the Katana single-box multi-wavelength excitation system.



Resolution enhancement achieved with Leica TCS SP8 STED 3X and the 775 nm Katana-08 HP pulsed laser, compared to the resolution achieved with confocal microscopy. Courtesy of Leica Microsystem

Laser outstanding features:

- Infrared: 775 nm, 1064 nm, 1550 nm
- Orange: 556 – 660 nm
- Green: 532 nm
- Pulse duration: 30 ps – 10 ns
- External triggering
- Continuously tunable pulse repetition rate
- Master/slave operation
- External triggering
- Pulse-on-demand
- Maintenance free – no alignment required
- 24/7 operation

Options:

- UVA 355 nm
- UVC 266 nm
- Burst mode
- Isolator/collimator output
- More options on request

Main applications:

- Depletion laser for STED microscopy
- Fluorescence microscopy
- Solar cell scribing and contacting
- Spectroscopy
- Laser ranging

Katana HP



Laser specifications	Katana - 05 HP	Katana - 06 HP	Katana - 08 HP	Katana - 10 HP	Katana - 15 HP
Center wavelength ¹	532 nm	556 – 660 nm	775 nm	1064 nm	1550 nm
Pulse Duration ¹	<30ps – 10ns	<500ps – 10ns	<30ps – 10ns	<30ps – 10ns	<30ps – 10ns
Avg. output power (up to) ¹	5 W	1 W	8 W	20 W	14 W
Pulse energy (up to) ¹	10 µJ	50 nJ	1 µJ	20 µJ	3 µJ
Peak power (up to) ¹	500 kW	100 kW	10 kW	1 MW	100 kW
Pulse repetition rate ¹	pulse-on-demand – 100 MHz				
Spectral bandwidth	> 0.1 nm				
Beam quality	$M^2 < 1.3$, TEM ₀₀				
PER	> 23 dB				
Amplitude noise	< 4.0% rms (10h)				
Laser output	Collimated free-space				
Environmental					
Warm-up time	< 15 minutes				
Operation temperature	15°C – 35°C				
Storage temperature	-20°C – 65°C				
On/Off cycles	> 10000				
Mechanical					
Size laser head	39 x 100 x 162 mm ³				
Weight laser head	1 kg				
Size control unit	133 x 483 x 400 mm ³ (19"/3U rack mount)				
Weight control unit	7 kg				
Electrical					
Power supply	24VDC/9A or 90 – 264 VAC, 47 – 63 Hz				
Power consumption	< 300 W				
Cooling					
Laser system	air cooled				



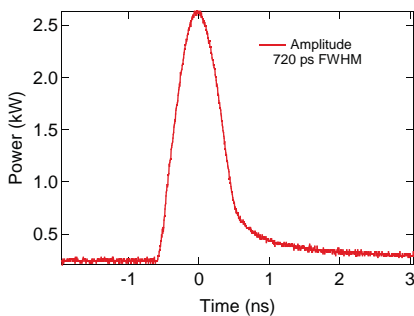
ISO 9001: 2008
ISO 13485: 2003
certified
QMS



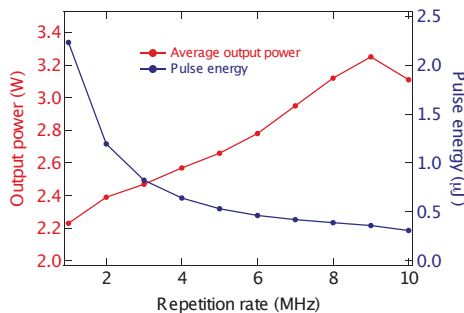
¹ Please inquire for possible combinations of wavelength, pulse duration, pulse energy and repetition rate

UV options	Katana - 02 HP	Katana - 03 HP
Center wavelength	266 nm	355 nm
Avg. output power (up to)	0.5 W	2 W
Pulse energy (up to)	0.5 µJ	2 µJ

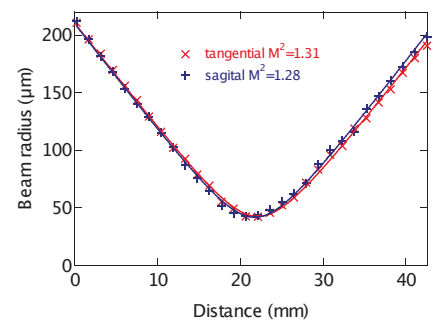
Pulse profile



Output power vs Repetition Rate



Beam quality



Specifications subject to change without notice, June 2015