



## Katana HP

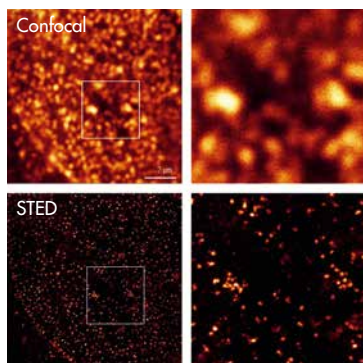
Multi-wavelength, high power, pulsed laser module



Swiss  
Made



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 10 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 Microsystems

### Laser outstanding features:

- Infrared: 775 nm, 1064 nm, 1200 nm, 1550 nm
- Orange: 556 – 620 nm
- Red: 620 – 660 nm
- Green: 532 nm
- Pulse duration: 30 ps – 10 ns
- 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 - 12 HP	Katana - 15 HP
Center wavelength <sup>1</sup>	<b>515 – 532 nm</b>	<b>556 – 660 nm</b>	<b>775 nm</b>	<b>1030 – 1064 nm</b>	<b>1112 – 1320 nm</b>	<b>1550 nm</b>
Pulse Duration <sup>1</sup>	<30ps – 10ns	<200ps – 10ns	<30ps – 10ns	<30ps – 10ns	<200ps – 10ns	<30ps – 10ns
Avg. output power (up to) <sup>1</sup>	5 W	1 W	8 W	20 W	2 W	14 W
Pulse energy (up to) <sup>1</sup>	5 µJ	50 nJ	1 µJ	10 µJ	100 nJ	3 µJ
Peak power (up to) <sup>1</sup>	200 kW	2 kW	50 kW	400 kW	8 kW	100 kW
Pulse repetition rate <sup>1</sup>	pulse-on-demand – 100 MHz					
Spectral bandwidth	> 0.1 nm					
Beam quality	$M^2 < 1.3$ , TEM <sub>00</sub>					
PER	> 23 dB					
Amplitude noise	< 4.0% rms (10h)					
Laser output	Collimated free-space					
<b>Environmental</b>						
Warm-up time	< 15 minutes					
Operation temperature	15°C – 35°C					
Storage temperature	-20°C – 65°C					
On/Off cycles	> 10000					
<b>Mechanical</b>						
Size laser head	39 x 100 x 162 mm <sup>3</sup>					
Weight laser head	1 kg					
Size control unit	133 x 483 x 400 mm <sup>3</sup> (19"/3U rack mount)					
Weight control unit	7 kg					
<b>Electrical</b>						
Power supply	24VDC/9A or 90 – 264 VAC, 47 – 63 Hz					
Power consumption	< 300 W					
<b>Cooling</b>						
Laser system	air cooled					

RoHS compliant

CE

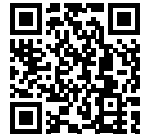
**CLASS 4 LASER**

**IEC Compliant Product**

- IEC 60068-2-27:2008
- IEC 60068-2-6:2007 Shock & Vibration Test
- IEC 61010-1:2010
- IEC 61326-1:2012 Electromagnetic Compatibility
- IEC 60825-1:2014 Laser Radiation Safety

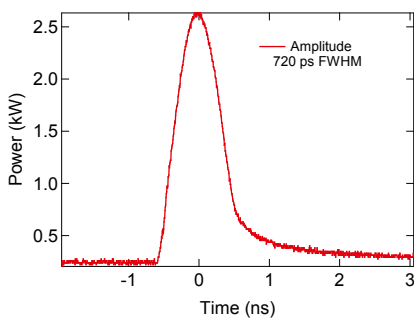
**ISO Certified Company**

- ISO 9001:2008
- ISO 13485:2012

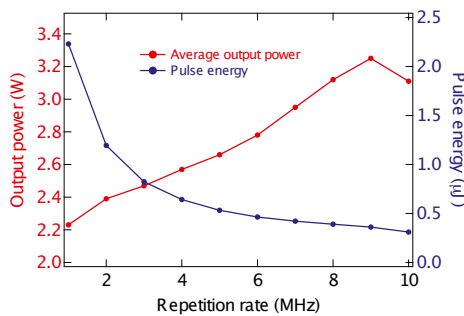


<sup>1</sup> Please inquire for possible combinations of wavelength, pulse duration, pulse energy and repetition rate

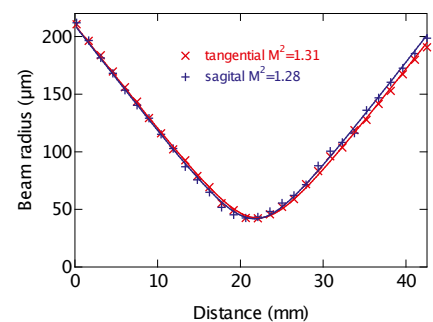
Pulse profile



Output power vs Repetition Rate



Beam quality



Specifications subject to change without notice, December 2016