ONEFIVE KATANA HP

Versatile high-power pulsed laser

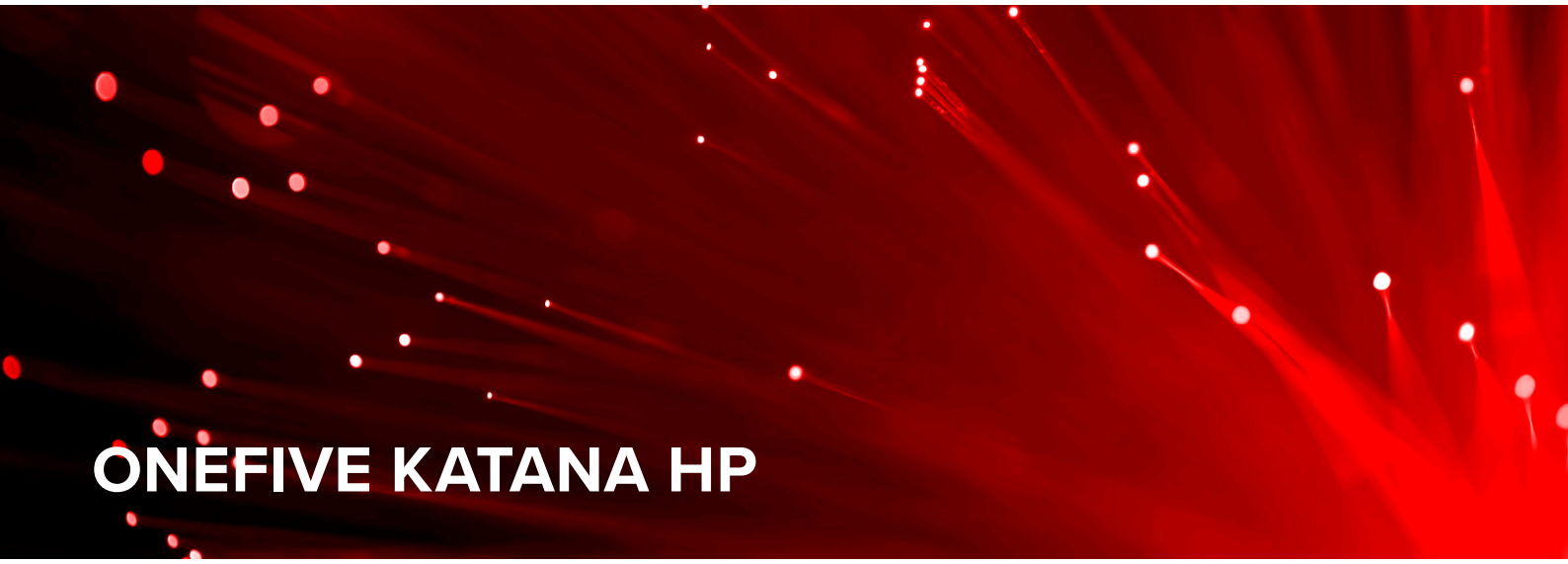
VERSATILE HIGH-POWER SUB-NANOSECOND LASER SYSTEM

Ideal for super-resolution STED fluorescence microscopy

If you need a versatile, sub-nanosecond pulsed laser system designed for all industrial applications, the KATANA HP laser is an excellent choice.

Applications

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



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Pulse on demand and flexible repetiton rate

In the standard configuration, the KATANA HP provides pulses of 700 ps duration.

The standard pulse repetition rate is 20-80 MHz. Continuous tuning of the repetition rate is standard.

Master and slave operation

The laser pulse can be triggered from an external source (in either master or slave mode).

Robust and maintenance-free

No alignment is required making the KATANA HP maintenance-free and ensures you a low cost of ownership.

Ideal for STED fluorescence microscopy

The KATANA HP has already proven to be an ideal, robust source as a depletion laser for super-resolution STED fluorescence microscopy.

When combined with our SuperK Extreme multi-wavelength system (offering a spectrum between 400 nm and 2400 nm), it provides a complete solution for super-resolution STED fluorescence microscopy.

OPTIONS

Flexible output

Choose the output that suits the application: Isolator or collimator, single-mode or polarization maintaining fiber (specification dependant).

Features

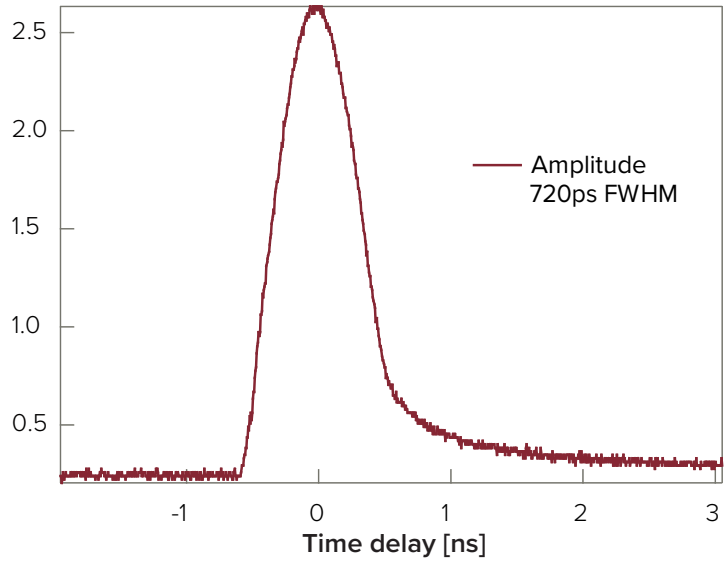
- External triggering
- Continuously tunable repetition rate
- Master/slave operation
- Pulse-on-demand
- Diffraction-limited beam
- Maintenance-free 24/7 operation

Options

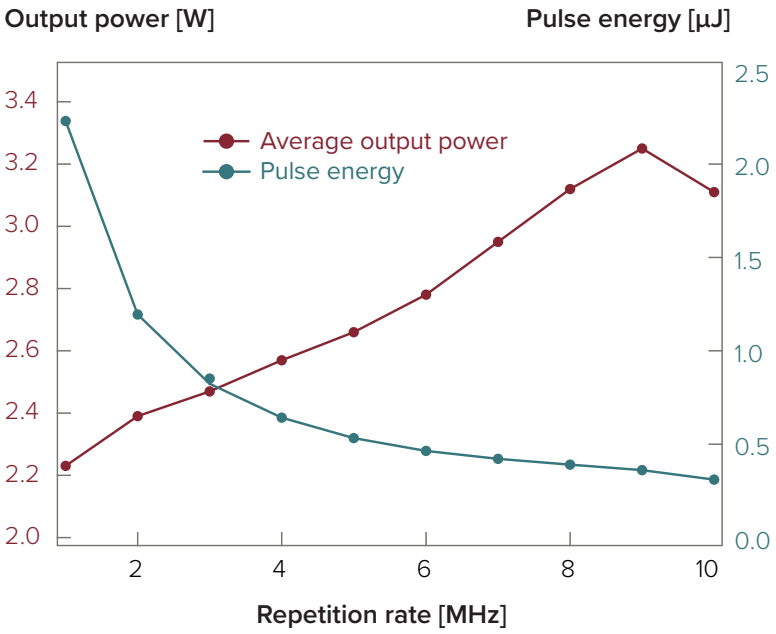
- Isolator/collimator output
- PM or SM fiber output

PERFORMANCE

Pulse profile - Autocorrolation



Typical output power vs repetition rate



Support and warranty

All KATANA products come with an industry-leading reliability.

The product is covered by a comprehensive warranty. Service options are available. For details, please enquire.

SPECIFICATIONS

Optical [1)]

Model	06HP	08HP
Center wavelength [nm]	592 ± 2	775 ± 2
Pulse duration [ps]	700 ± 200	700 ± 200
Average power [W]	> 1.2 @ 80 MHz	> 3 @ 80 MHz
Pulse energy [nJ]	> 15 @ 80 MHz	> 37 @ 80 MHz
Repetition rate [MHz]	20 – 80	20 – 80
Spectral bandwidth FWHM [nm]	< 1	< 1
Beam quality (TEM_{00})	$M^2 \leq 1.3$	$M^2 \leq 1.3$
Polarization / PER (vertical) [dB]	> 20	> 17
Amplitude noise (RMS, 12h) [%]	< 5	< 5
Timing jitter [ps]	< 30	< 20
Laser output	Collimated free-space	Collimated free-space

1) Please inquire for possible combinations of wavelength, pulse duration, average power, pulse energy, and repetition rate.

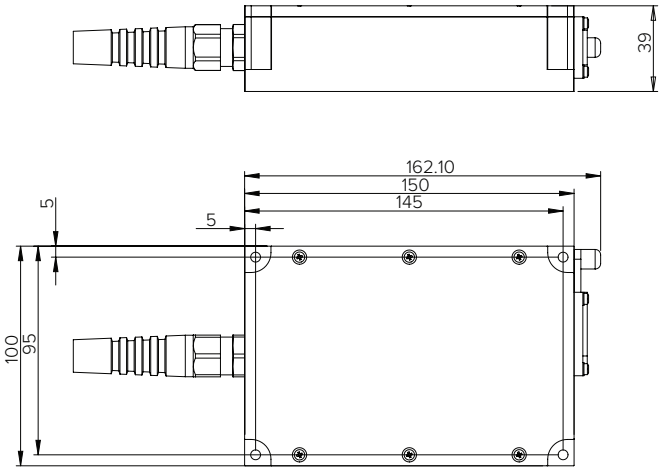
Mechanical/Electrical

Warm-up time [min.]	< 15
Operation temperature [°C]	15 – 35
Storage temperature [°C]	-20 – 55
Power supply requirements	24 VDC/9 A or 90-264 VAC, 47-63 Hz
Power consumption [W]	< 300
Laser head dimensions (WxHxL) [mm^3] [1)]	100 x 39 x 162
Laser head weight [kg]	1
Laser head cooling	Air
Control unit dimensions (WxHxL) [mm^3]	448 x 133 x 399, 19”/3U rack mount
Control unit weight [kg]	22 kg
Control unit cooling	Air

1) The laser head dimensions may vary according to the laser model.

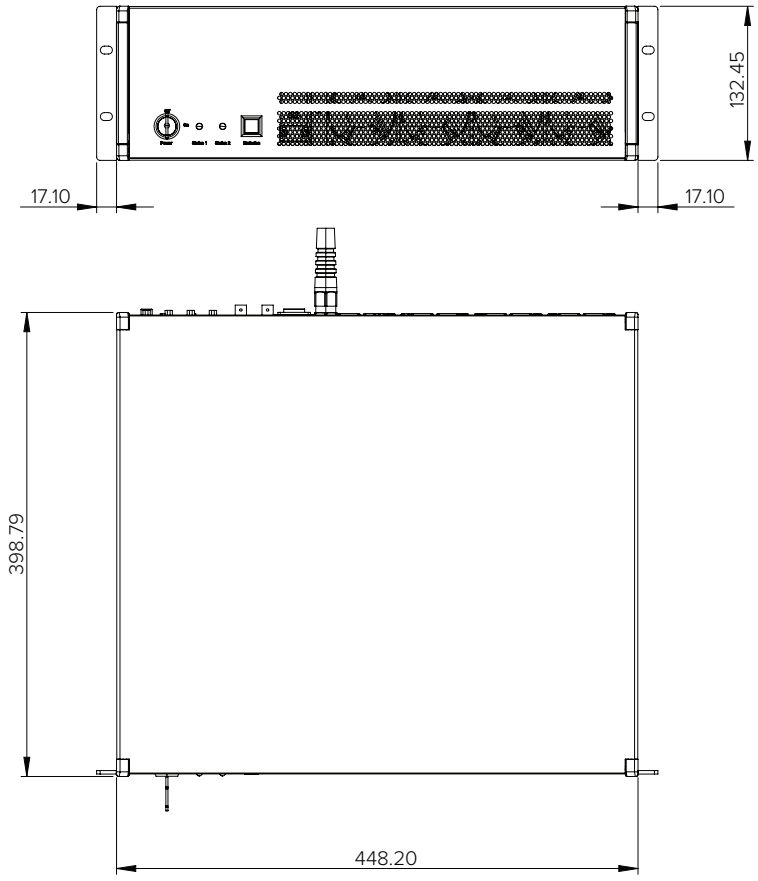
TECHNICAL DRAWINGS

Laser head dimensions



The laser head dimensions may vary according to the laser model.

Control unit dimensions



All OneFive products are produced under our quality management system certified in accordance with the ISO 9001:2015 and ISO 13485:2016 standard.