

# Onefive KATANA XP

High energy picosecond laser module

- External triggering
- Continuously tunable repetition rate
- Master/slave operation
- Pulse-on-demand
- Diffraction-limited beam
- Adjustable pulse energy
- No ASE background
- Maintenance-free 24/7 operation



The KATANA XP is designed to offer synchronization compatibility with any industrial process.

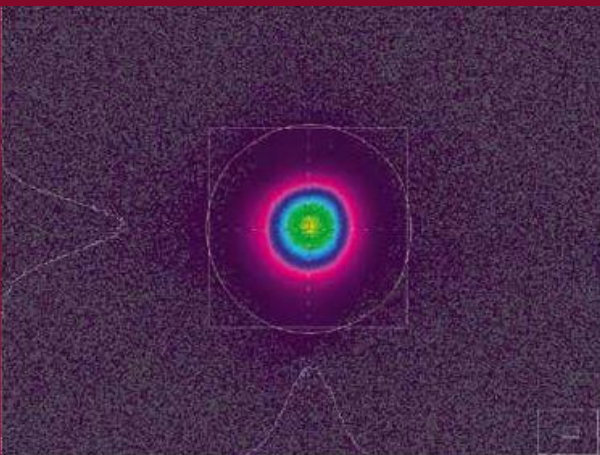
Its unique externally triggerable and continuously tunable repetition rate, in both slave and master operation mode, makes it the most versatile high energy laser on the market for fast, synchronous and precise industrial processes.

The KATANA XP can operate in burst-mode, too, which allows generation of pulses of arbitrary amplitude and sequence.

Other options such as efficient green and UV generation over a wide range of repetition rates and motorized switching between wavelengths are available.

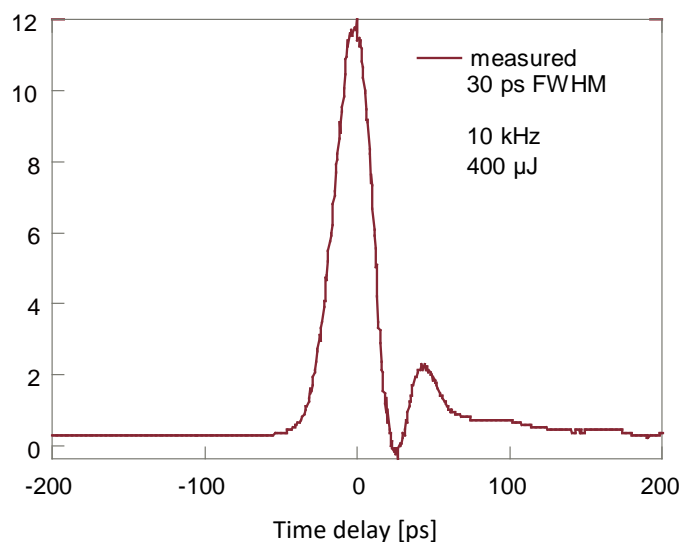
## Applications

- Micromachining
- Solar cell scribing and contacting
- Plasma generation
- Nonlinear optics
- Material research
- Laser ranging



Far-field beam profile at 10 kHz repetition rate and 400  $\mu$ J pulse energy

## Pulse profile - Autocorrelation



## Standard configurations

### Optical

Model	KATANA 05 XP	KATANA 10 XP
Center wavelength*	532 ± 1 nm	1064 ± 1 nm
Pulse duration*	35 ± 15 ps	35 ± 15 ps
Average power	>3.3 W at 1 MHz	>6 W at 1 MHz
Pulse energy*	>200 μJ at 10 kHz	>400 μJ at 10 kHz
Peak power	6 MW	12 MW
Repetition rate*	Pulse-on-demand - 1 MHz	
Spectral bandwidth FWHM	< 1 nm	
Beam quality	M <sup>2</sup> < 1.2, TEM <sub>00</sub>	
PER	> 23 dB	> 20 dB
Amplitude noise	<5.0% rms (12h)	
Timing jitter	<3 ps	
Laser output	Collimated free-space	
Laser head	Water cooled	
Laser controller	Air cooled	

\* Please inquire for possible combinations of average power, pulse energy and repetition rate

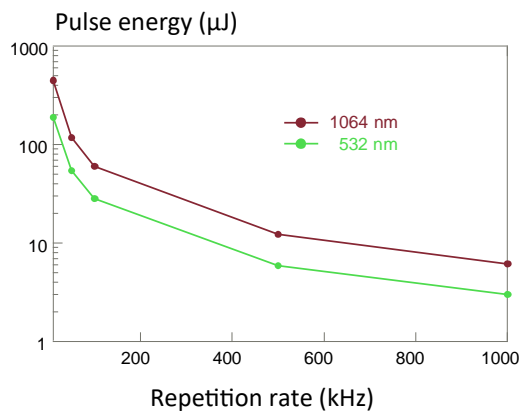
### Mechanical/Electrical

Warm-up time	<15 minutes
Operation temperature	18°C—32°C
Storage temperature	-15°C—65°C
On/off cycles	>10,000
Power supply	24 VDC/25 A or 90—264 VAC, 47—63 Hz
Power consumption	<600 W
Size laser head	135 x 715 x 306 mm <sup>3</sup>
Weight laser head	45 kg
Size control unit	133 x 483 x 400 mm <sup>3</sup> (19"/3U rack mount)
Weight control unit	7 kg

All NKT Photonics products are produced under our quality management system certified in accordance with the ISO 9001:2015 standard.



### Pulse energy vs repetition rate



## Support and Warranty

All KATANA products come with industry leading reliability and are backed by our standard 2 year warranty.

However, should you need the extra security of an extended warranty and remote diagnostics support this is available in our support and warranty extension package.

Please contact your sales representative for more information.

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