

ONEFIVE KATANA

Versatile pulsed laser



VERSATILE SUB-NANOSECOND LASER SYSTEM

Ideal for synchronous and precise industrial processes

The KATANA is designed for all industrial applications and is an excellent choice if you need a versatile, sub-nanosecond laser system.

Applications

- Laser ranging
- Seed for amplifiers
- Single-photon counting
- Semiconductor inspection
- Multi-wavelength excitation for fluorescence microscopy

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Pulse on demand and flexible repetition rate

In the standard configuration, the KATANA provides pulses of 35 ps duration. Options from 30 ps up to 10 ns are available upon request.

With customisation of the Katana, depending on the model, the pulse repetition rate spans from pulse-on-demand up to 100 MHz.

Standard repetition rate is either 0.05 to 1 MHz or 20 to 80 MHz.

Master and slave operation

The KATANA's unique design allows operation in master or slave configurations to provide extreme flexibility to users.

Robust and maintenance-free

The KATANA has been designed with maintenance-free 24/7 industrial operation in mind to eliminate down-time and cost of ownership.

OPTIONS

Generate pulses of arbitrary amplitude

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

Flexible output

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

Features

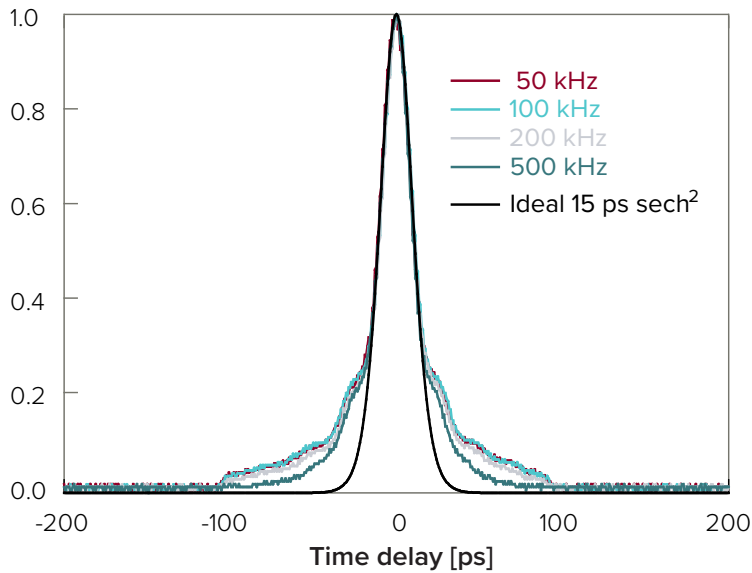
- External triggering
- Continuously tunable repetition rate
- Master/slave operation
- Pulse-on-demand
- Diffraction-limited beam
- Light-weight
- Maintenance-free 24/7 operation

Options

- Burst mode
- Isolator/collimator output
- PM or SM fiber output

PERFORMANCE

Pulse profile - Autocorrelation

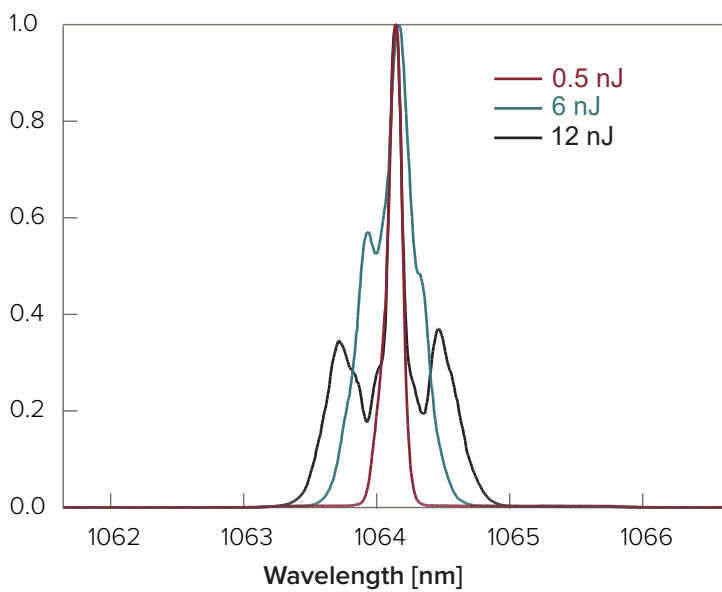


Support and warranty

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.

Typical spectral power density [nm⁻¹]



SPECIFICATIONS

Optical ¹⁾

Model	05	08	10	15
Center wavelength [nm]	532 ± 1	775 ± 2	1064 ± 2	1550 ± 3
Pulse duration [ps]	35 ± 15	35 ± 15	35 ± 15	35 ± 15
Average power [mW]	> 5 @ 1 MHz	> 60 @ 80 MHz	> 10 @ 1 MHz ²⁾	> 100 @ 80 MHz ²⁾
Pulse energy [nJ]	> 5 @ 1 MHz	> 0.75 @ 80 MHz	> 10 @ 1 MHz	> 1.25 @ 80 MHz
Repetition rate [MHz]	0.05 – 1	20 – 80	0.05 – 1	20 – 80
Spectral bandwidth FWHM [nm]	< 0.3	< 0.2	< 0.4	< 0.5
Beam quality (TEM ₀₀)	M ² ≤ 1.3	M ² ≤ 1.3	M ² ≤ 1.1	M ² ≤ 1.1
Polarization / PER (vertical) [dB]	> 20	> 23	> 20	> 20
Amplitude noise (RMS, 10h) [%]	< 4.0	< 4.0	< 4.0	< 4.0
Timing jitter [ps]	< 10	< 10	< 10	< 10
Laser output	Collimated free-space	Collimated free-space	Single-mode PM fiber, FC/APC ³⁾	Single-mode PM fiber, FC/APC ³⁾

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

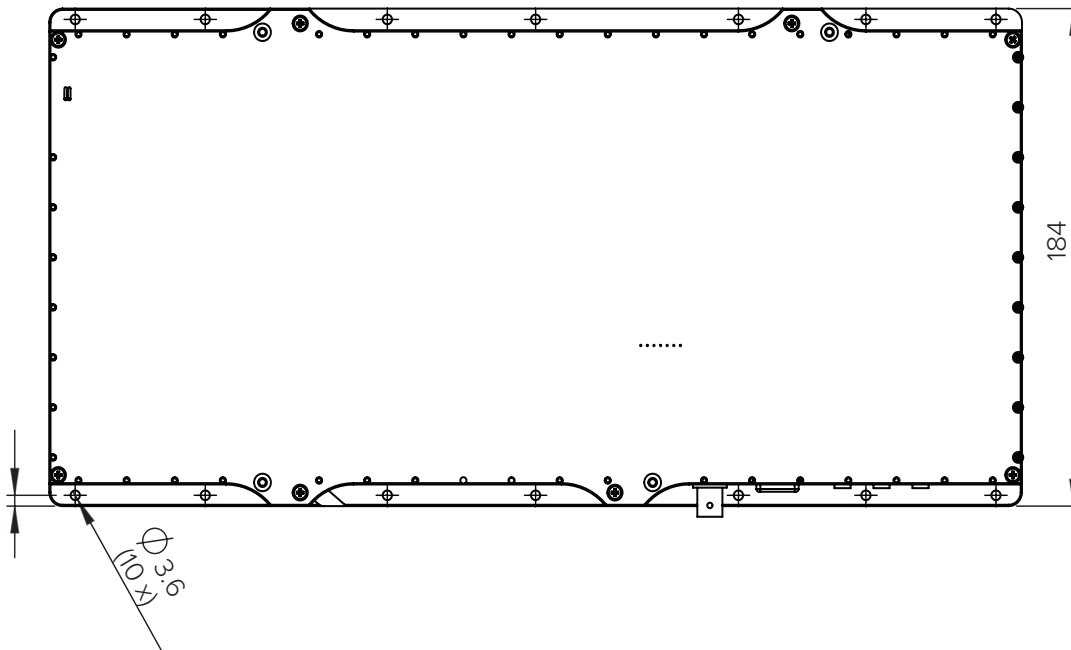
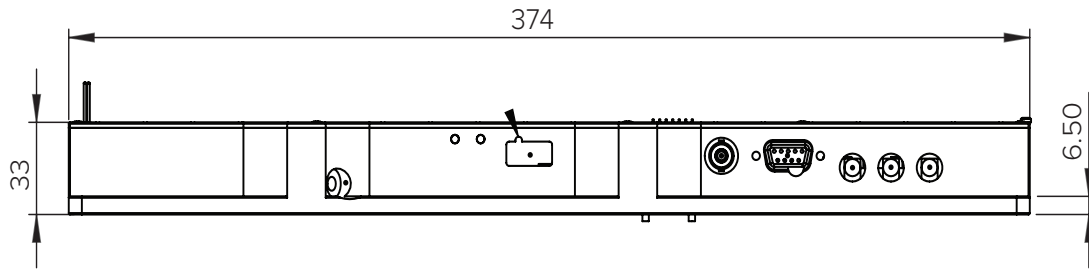
2) Exclusive fiber.

3) Armored single-mode fiber, 20 or 50 cm (other lengths are available).

Mechanical/Electrical

Warm-up time [min.]	< 15
Operation temperature [°C]	15 – 35
Storage temperature [°C]	-20 – 55
Power supply requirements	24 VDC/2.5A or 90-264 VAC, 47-63 Hz
Power consumption [W]	15
Laser head dimensions (WxHxL) [mm ³]	374 x 33 x 184
Laser head weight [kg]	2
Laser head cooling	Air

TECHNICAL DRAWINGS



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

