

ps ns

HIGH ENERGY VERSATILE PICOSECOND LASER MODULE

KATANA XP



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SWISS MADE

Katana XP has been 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. Katana XP can also operate in **burst-mode**, which allows generating pulses of arbitrary amplitude and sequence.

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THE LASER THAT CAN ADAPT AND SYNCHRONIZE TO ANY SPEED CHANGE

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OPTIONS:

- + Green 532 nm
- + UVA 355 nm
- + UVC 266 nm
- + Efficient green and UV generation over
- + wide range of repetition rates
- + Motorized switching between wavelengths

MAIN APPLICATIONS:

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

OUTSTANDING FEATURES :

- + External triggering
- + Continuously tunable repetition rate
- + Master/slave operation
- + Pulse-on-demand
- + Burst mode: programmable pulse sequence with arbitrary amplitude
- + Adjustable pulse energy
- + Diffraction-limited beam
- + No ASE background
- + Maintenance free – no alignment required
- + 24/ 7 operation

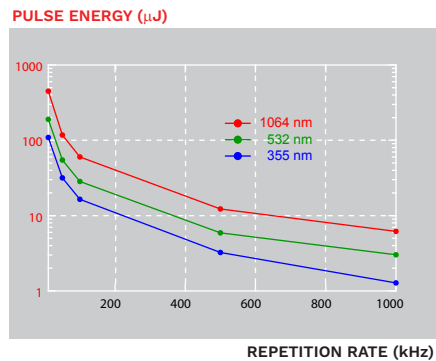


| | KATANA - 02 XP | KATANA - 03 XP | KATANA - 05 XP | KATANA - 10 XP |
|--|---|----------------|----------------|----------------|
| CENTER WAVELENGTH | 266 nm | 355 nm | 532 nm | 1064 nm |
| PULSE DURATION | 30 ps – 1 ns | 30 ps – 1 ns | 30 ps – 1 ns | 30 ps – 1 ns |
| AVG. OUTPUT POWER [UP TO] ¹ | 0.55 W | 1.8 W | 3.3 W | 6 W |
| PULSE ENERGY [UP TO] ¹ | 40 μJ | 100 μJ | 200 μJ | 400 μJ |
| PEAK POWER [UP TO] ¹ | 1.2 MW | 3 MW | 6 MW | 12 MW |
| PULSE REPETITION RATE ¹ | pulse-on-demand – 1 MHz | | | |
| SPECTRAL BANDWIDTH | < 1 nm | | | |
| BEAM QUALITY | M ² < 1.2, TEM ₀₀ | | | |
| PER | > 23 dB | | | |
| AMPLITUDE NOISE | < 4.0 % rms | | | |
| TIMING JITTER | < 3 ps | | | |
| LASER OUTPUT | Collimated free-space | | | |
| ENVIRONMENTAL | | | | |
| WARM-UP TIME | < 15 minutes | | | |
| OPERATION TEMPERATURE | 18 °C – 32 °C | | | |
| STORAGE TEMPERATURE | - 15 °C – 65 °C | | | |
| ON/OFF CYCLES | > 10000 | | | |
| MECHANICAL | | | | |
| SIZE LASER HEAD ² | 135 x 715 x 306 mm ³ | | | |
| WEIGHT LASER HEAD ² | 45 kg | | | |
| SIZE CONTROL UNIT | 133 x 483 x 400 mm ³ (19"/3U rack mount) | | | |
| WEIGHT CONTROL UNIT | 7 kg | | | |
| ELECTRICAL | | | | |
| POWER SUPPLY | 24 VDC / 25 A or 90 – 264 VAC, 47 – 63 Hz | | | |
| POWER CONSUMPTION | < 600 W | | | |
| COOLING | | | | |
| LASER HEAD | water cooled | | | |
| LASER CONTROLLER | air cooled | | | |

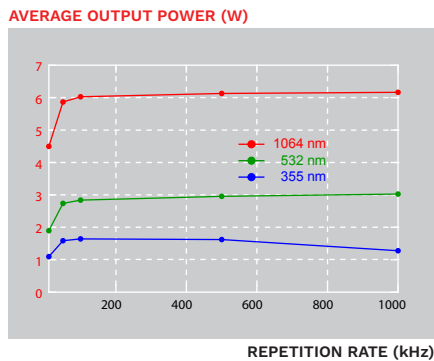
¹ Please inquire for possible combinations of pulse duration, average power and repetition rate
² Exact size and weight depend on pulse repetition rate and wavelength



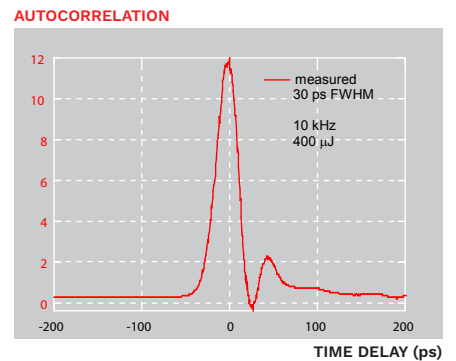
PULSE ENERGY VS REPETITION RATE



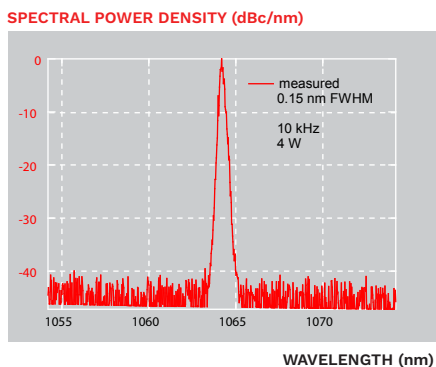
AVERAGE OUTPUT POWER VS REPETITION RATE



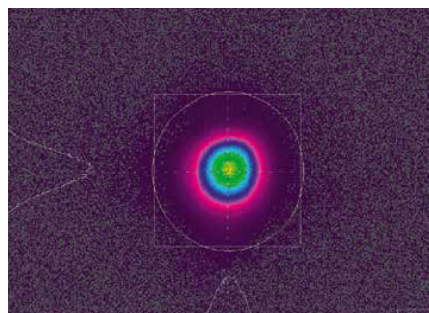
PULSE PROFILE



OPTICAL SPECTRUM



BEAM PROFILE



Far-field beam profile at 10 kHz repetition rate and 400 μJ pulse energy