



Polaris i200

PRELIMINARY

200W 10ps Nd:YAG Slab Laser

The POLARIS™ i200 laser delivers 10 ps output pulses at a wide range of repetition rates up to 1 MHz, average output power levels up to 200 W, high output beam quality with $M^2 < 1.5$ at the fundamental wavelength of 1064 nm. Programmable burst mode operation enables the increase of throughput industrial processing for a large variety of materials. The POLARIS™ i200 is based on modular Nd:YAG “Z-slab” architecture with an excellent potential for the scaling of output power and energy. Conversion to 532 nm and 355 nm wavelengths will also be available. The POLARIS™ product family will offer scalable power models to meet the challenging requirements for next generation industrial material processing.

Polaris i100

Polaris i200



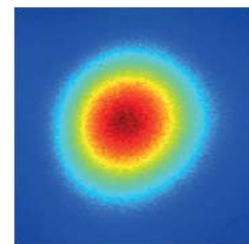
Features

- 10 ps Pulse Width
- Pulse Energy Up To 2 mJ in Burst Mode
- Repetition Rate Up To 1 MHz
- Programmable Burst Mode Of Operation
- $M^2 < 1.5$
- Excellent Stability
- Optional SHG Module

Applications

- High throughput chip-free microprocessing for a large variety of brittle and composite materials such as glass, sapphire, ceramics, semiconductors
- High throughput micromachining of metals and alloys with reduced heat affected zone
- High speed surface texturing for aerodynamic performance
- High speed selective coating removal and large area surface cleaning

Laser Output Beam Profile





Typical Laser Performance

Pulse duration (ps)	10
Max average power (W)	200
Max pulse energy for burst mode operation (mJ)	2
Max pulse energy for single pulse (mJ)	0.2
Burst mode - min. number of pulses	1
Burst mode - max number of pulses	10
Min. pulse rep. rate (kHz)	100
Max. pulse rep. rate (MHz)	1.0
Beam quality M^2	<1.5
Beam circularity	>0.9
Power stability (% , 1σ)	<1.0

Polaris i100

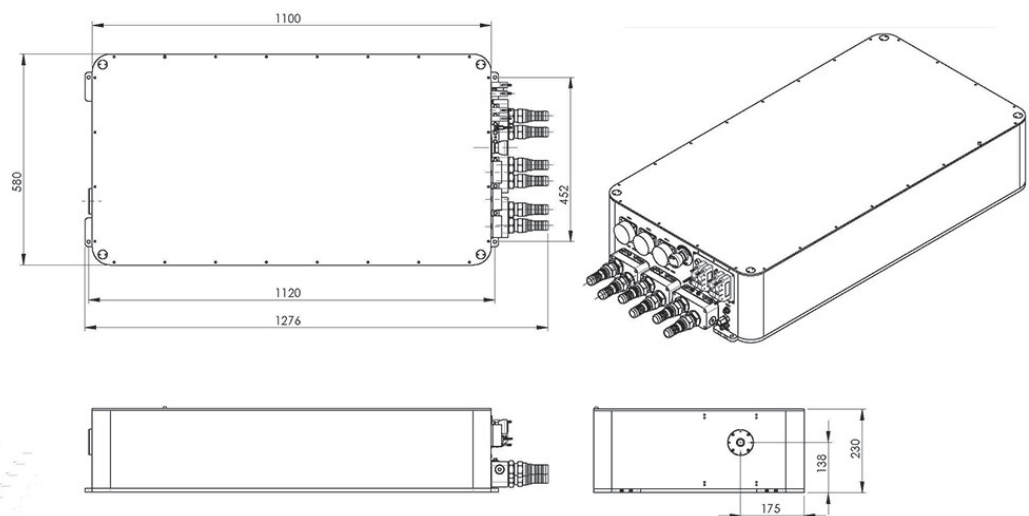
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Facility Requirements

Supply Voltage	3-phase N+E, 220 or 400 VAC ($\pm 10\%$)
Supply Frequency	50 or 60 Hz
Nominal Power Consumption	18 kVA
Cooling Water	40 litres/min at 11 - 17°C
Laser Dimensions	1100 x 580 x 230 mm
Control Rack Dimensions	1195 x 600 x 970 mm (h w d)
Environmental Conditions	Temp 15 - 32°C and RH <60% (90% max, non condensing)

Specifications subject to change without notice.

Dimensions



LASER RADIATION
AVOID EYE OR SKIN EXPOSURE TO
DIRECT OR SCATTERED RADIATION
CLASS 4 LASER PRODUCT