Photonics Industries
International, Inc.

RX3 Series Picosecond Lasers

www.photonix.com

Photonics Industries' RX3 Series high power picosecond lasers offer ideal performance, and the smallest overall form factor in the market of industrial picosecond lasers. Photonics Industries is proven, with over a thousand picosecond lasers shipped worldwide, to meet and fulfill precision needs in manufacturing, scientific research, and new, emerging requirements necessitating ever smaller pulse widths in the ultrafast regime.

Applications

- Cutting/Drilling/Scribing Thin Metal/Metal Foil, Ceramic, Glass, Ultra Thin Glass (UTG), Plastic, Glass-reinforced Plastic
- Flat Panel Display, LCD/LED/OLED Cutting
- Brittle Material Microprocessing
- Selective Laser Ablation of Thin-Films
- Medical Stents, Medical Device Laser Microprocessing
- Flexible Printed Circuit Boards (FPCB), Printed Circuit Boards (PCB) Microprocessing
- Hydrophobic Material Manufacturing, Hydrophilic Material Manufacturing, Ultrafast Laser Assisted Etching (ULAE) Systems

Features

- Highest average power picosecond laser in the smallest, all-in-one (AIO) form factor on the market.
- Short pulse laser:
  ~10 ps for IR, ~7 ps for Green & UV
  Option up to ~30 ps available
- Wide range of wavelengths:
  1064 nm, 532 nm, 355 nm
  MWB, MWS, & 266 nm options on request
- High efficiency picosecond laser with low power consumption:
  ~1000 W typical
- High repetition rates:
  Up to 15 MHz
- Exceptional and Versatile Pulse Control:
  PEC (Power or Pulse Energy Control).
  PSO (Position Synchronized Output) mode for external triggering to any arbitrary PRF while maintaining a constant, stable pulse energy with low jitter.
  Burst Mode for individually controllable pulses in burst envelopes of up to 10 pulses with intra-burst pulse separation of ~32 ns.
  POD (Pulse-On-Demand) pulse bursts can be triggered internally, externally, or continuously, while maintaining constant pulse energy.

	RX3-1064-150
Wavelength	1064 nm
Output power[1]	150 W
Pulse width	~10 ps
Pulse repetition rate[2]	Single shot to 2 MHz (option up to 15 MHz)
Polarization	Vertical >100:1

	RX3-532-100
Wavelength	532 nm
Output power[1]	100 W
Pulse width	~7 ps
Pulse repetition rate[2]	Single shot to 2 MHz (option up to 15 MHz)
Polarization	Horizontal >100:1

	RX3-355-50
Wavelength	355 nm
Output power[1]	50 W
Pulse width	~7 ps
Pulse repetition rate[2]	Single shot to 2 MHz (option up to 15 MHz)
Polarization	Vertical >100:1

Operational specifications and system characteristics	
Interface	RS232, Ethernet, Software GUI, External TTL Triggering
Warm-up time	< 20 minutes
Electrical requirement	100-240 V AC; or 32 V DC, 15 A
Line frequency	50-60 Hz
Climate	Ambient 15°C to 30°C (59°F to 86°F) Operating Range, Relative Humidity 90% Maximum, non-condensing
Power consumption[3]	~1000 W
Dimensions (LxWxH)[4]	25.5 x 10 x 3.75 in. (IR, & GRN models) 29.5 x 10 x 3.75 in. (UV models)
Weight	~84 lbs
Vibrational tolerance	Up to 3g
Cooling system	Closed-loop chiller

[1.] Output power is specifiable at different pulse repetition rates for optimal pulse energy. [2.] Lower repetition rates, down to single shot, achieved by utilizing PSO or POD features. [3.] Power consumption data does not include an external chiller's power consumption. [4.] RX Series picosecond lasers are all-in-one (AIO) and do not require a separate controller or utility module. All connections for operation and control of the laser can be found on the back panel of the AIO laser.

Due to Photonics Industries' commitment to continuous product improvement, specifications and drawings are subject to change without notice.

Photonics Industries conforms to provisions of US 21 CFR 1040.10 & 1040.11 and is made under one or more US patents listed below: 9,531,147, 8,817,831, 7,869,471, 7,346,092, 7,082,149, 7,079,557, 6,999,483, 6,980,574, 6,961,355, 6,842,293, 6,762,405, 6,690,692, 6,587,487, 6,584,134, 6,366,596, 6,356,578, 6,327,281, 6,246,707, 6,229,829, 6,108,356, 6,061,370, 6,028,620, 5,936,983, 5,898,717 and Pending Patents.

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Photonics Industries International is the pioneer of intracavity harmonic lasers and is at the forefront of developing, manufacturing and marketing a wide range of nanosecond, sub-nanosecond, picosecond and femtosecond lasers for industrial, scientific, defense, and medical industries. Check out our products and see how we can help you apply our lasers to your needs.