RGH-1064-5, -9, -30 & -50

High Power and High Repetition Rate Picosecond Lasers

Features

- High Pulse Energy: up to 450 µJ @100 kHz†
- Total Pulse Control
- Burst Mode
- Variable Repetition Rate: Single Shot to 2 MHz
- PEC: Power or Pulse Energy Control on the fly
- Pulse Width <15 ps, optional 20 - 100 ps
- Zero leakage
- Excellent Beam Quality (M^2 Typically <1.3)
- Exceptional Beam Pointing Stability
- Wide Range of Powers and Harmonic Options
- Compact Industrial Grade Picosecond Laser
- Low Maintenance
- All-in-one single box design

The RGH Series lasers are compact industrial grade picosecond (ps) lasers with **Total Pulse Control** (e.g., individually triggered pulses on demand) and **Burst Mode** operation at output powers up to 70W*. With an adjustable repetition rate from single shot to 2MHz, the user can change the operating PRF and change the operating power or pulse energy through **PEC** (Power or Pulse Energy Control) function on the fly to maximize process flexibility. The RGH Series are the only industrial picosecond lasers with these maximal flexibilities on the market.

The RGH Series provide High Pulse Energy (up to 450 µJ) from one of the smallest footprint, lightest weight industrial ps lasers commercially available. The all-in-one single box design simplifies installation by removing the need to manage a separate controller/power supply box and umbilical cable -- not only yielding space savings, but also better reliability.

With many hundreds of RGH lasers currently deployed in factories all over the world, the RGH Series picosecond lasers have proven their robustness for even the most demanding industrial manufacturing environments for applications ranging from metal engraving/marking, LED dicing, thin film removal, small feature structuring, glass, sapphire and ceramics cutting, drilling, etc. to 3D Lidar.

*Please refer to the RGH-1064-70 Model brochure

†For single shot or low rep rate/high pulse energy, please refer to the RGH-1064-5L & 9L Model brochure

Photonics Industries International, Inc.

1800 Ocean Ave, Ronkonkoma, NY, 11779 Phone: 631-218-2240 Fax: 631-218-2275
E-Mail: info@photonix.com Website: www.Photonix.com

RGH Infrared Specifications

Model Number	RGH-1064-5	RGH-1064-9	RGH-1064-30	RGH-1064-50
Wavelength	1064 nm			
Output Power @ 1MHz	5 W	9 W	30 W	50 W
Max Pulse Energy	60 µJ @ 50kHz	100 µJ @ 50kHz	250 µJ @ 100kHz	420 µJ @ 100kHz
Repetition Rate*	50kHz to 2 MHz		100kHz to 2 MHz	
Spatial Mode Profile	TEM_{00} M^2<1.3			
Pulse Width	< 15 ps[1]			
Long Term Power Stability (8h ±3°C)	< ±1% rms			
Pulse to Pulse Energy Stability @ 1 MHz	<1% rms			
Beam Point Stability	<15 µrad/°C			
Turn-on time	<15 min			
Ambient Temperature	15 to 30 °C (50 to 86 °F) Operating Range			
Relative Humidity	Non-condensing, 90% Max			
Vibration	up to 3 g			
Cooling	Closed Loop Chiller			
Voltage (single phase)	100 to 120 V or 200 to 240 V AC			
Frequency	50 to 60 Hz			
Power Consumption (excluding chiller)	<500 W			
Laser Head (W x H x L, weight)	10 in x 4.1[2] in x 31 in, ~74lbs		12 in x 4.1[2] in x 34 in, ~90lbs	
Interface	USB / GUI / External TTL Triggering			

*Lower rep rates (down to single shot) achieved by selecting higher rep rate pulses with the AOM

[1] measured at 1064 nm, 20 - 100 ps optional

[2] 4.1" includes height of desiccant but does not include height of removable feet

Notes:

The power supply and control electronics are integrated into the laser head. Control of the laser is through a laptop or PC running Photonics Industries' GUI software using RS232 commands via a USB connector.

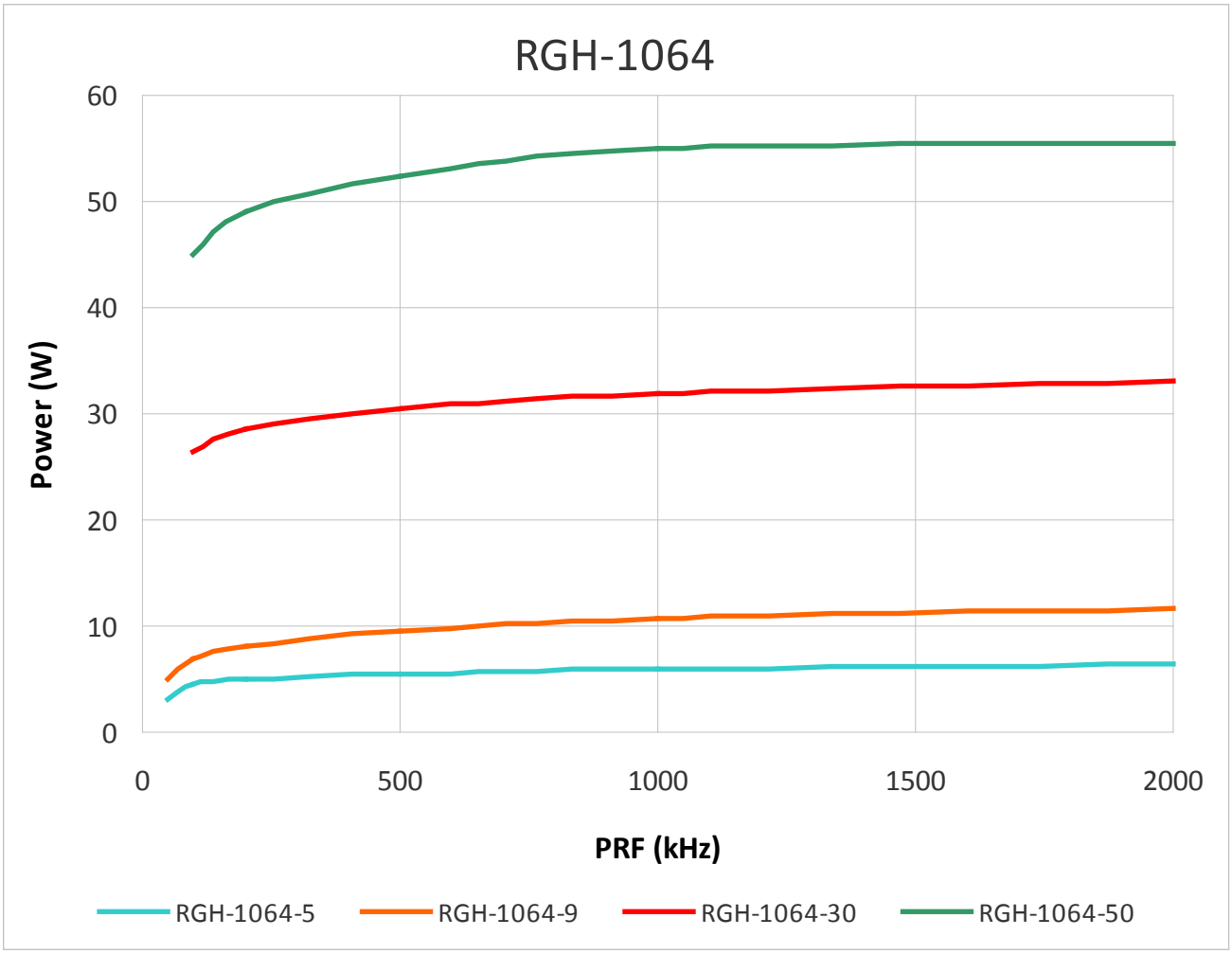
Options:

Wavelengths of 532 nm or 355 nm are available. Please contact the factory for more information about these options.

Photonics Industries International, Inc.

1800 Ocean Ave, Ronkonkoma, NY, 11779 Phone: 631-218-2240 Fax: 631-218-2275
E-Mail: info@photonix.com Website: www.Photonix.com

Performance Curves



US Main Office
1800 Ocean Ave, Ronkonkoma, NY, 11779
Phone: 631-218-2240
Fax: 631-218-2275
E-Mail: info@photonix.com
Website: www.Photonix.com

Korea Office
703 Sogong Bldg, 352-5 Gugal-Dong
Giheung-gu, Yongin City
Gyeonggi-Do, 446-569 Korea
Tel: +82-31-284-9520
Fax: +82-31-284-9521
Contact: Sang-Moon Kim
Email: kimsm@photonix.com

Japan Office
Rokusan Bldg. 9F, Funamachi 7
Shinjuku-ku, Tokyo 160-0006, Japan
Tel: +81 03-6423-1805
Fax: +81 03-6423-1806
Email: kseita@photonix.co.jp

China Office
No 2 Rui'en Lane, Xingpu Rd.
Suzhou Industrial Park
Suzhou 215021, P. R. China
Tel: +86-512-6763 5761
Fax: +86-512-6763 5762
Email: china@photonix.com
Website: http://www.photonix.com.cn

Taiwan Office
18F-3, No.77,Sec.1,Xintai 5th Rd.
Xizhi Dist., New Taipei City 221, Taiwan
Tel:886-2-26983620
Fax: 886-2-26983630
Contact: Brett Chiang
Email: bchiang@photonix.com

Photonics Industries
International, Inc.