

RGH IR Series

Features

- High Single Pulse Energy: up to 600 μ J
- Total Pulse Control
- Burst Mode
- Variable Rep Rate: single shot to 2MHz
 - Option to 8MHz
- PEC: Power or Pulse Energy Control
- Pulse Width \sim 10ps
- Zero leakage
- Excellent beam quality ($M^2 < 1.3$)
- Exceptional beam pointing stability
- Compact all-in-one industrial grade ps laser
- Low maintenance

Applications

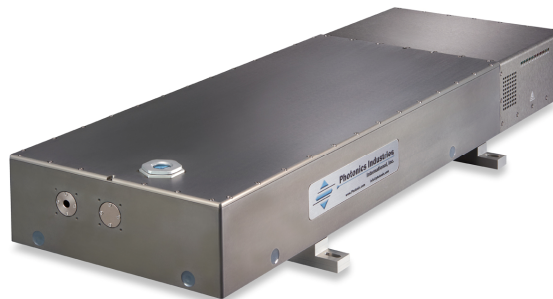
- Cutting and scribing of display glass and functional foils for FPDs
- Glass and sapphire cutting and drilling
- Semiconductor scribing and dicing
- PCB processing
- Ceramic cutting, drilling and scribing
- Solar cell scribing and drilling
- LED scribing, dicing and patterning
- Metal cutting, drilling and marking
- Medical device cutting, drilling and marking
- Laser Cutting for Glass Reinforced Plastic & Carbon Fiber
- Ink-Jet Nozzle Drilling
- Printing & Embossing Tools

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 power up to 100W*. With an adjustable repetition rate from single shot to 8MHz, 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 600 μ J) 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.

* For the 100W RGH-1064-100, please contact us for specs



System Specifications @ 1064nm

| Model | RGH-1064-5/10 | RGH-1064-30 | RGH-1064-48 | RGH-1064-70 |
|---------------------------------------|---|--------------------------|--------------|-------------|
| Average Power @ 1 MHz | 5/10W | 30W | 48W | 70W |
| Max Pulse Energy | 60/100μJ@50kHz | 250μJ@100kHz | 420μJ@100kHz | up to 600μJ |
| Pulse Width | ~10 ps | | | |
| Repetition Rate† | 50kHz to 2 MHz | 100kHz to 2 MHz | | |
| Pulse to Pulse Stability @ 1MHz | ~1% rms | | | |
| Spatial Mode | TEM ₀₀ M ² ≤1.3 | | | |
| Beam Pointing Stability | < 15 μrad | | | |
| Long Term Power Stability (8h ±3°C) | < ±1% rms | | | |
| Warm Up Time | < 15 min | | | |
| Electrical Requirement | 100 to 240V AC | | | |
| Line Frequency | 50 to 60 Hz | | | |
| Relative Humidity | Non-condensing, 90% Max | | | |
| Power Consumption (excluding chiller) | < 600 W | | | |
| Dimensions (W x H x L) | 10 in x 3.75* in x 26 in | 12 in x 3.75* in x 34 in | | |
| Weight | ~74lbs | ~90lbs | | |
| Vibration | Up to 3g | | | |
| Cooling | Closed Loop Chiller | | | |
| Ambient Temperature | 15°C to 30°C (59° to 86°F) Operating Range | | | |
| Interface | Ethernet / RS 232 / GUI / External TTL Triggering | | | |

† Lower rep rates (down to single shot) achieved by selecting higher rep rate pulses with the AOM. Option to 8MHz

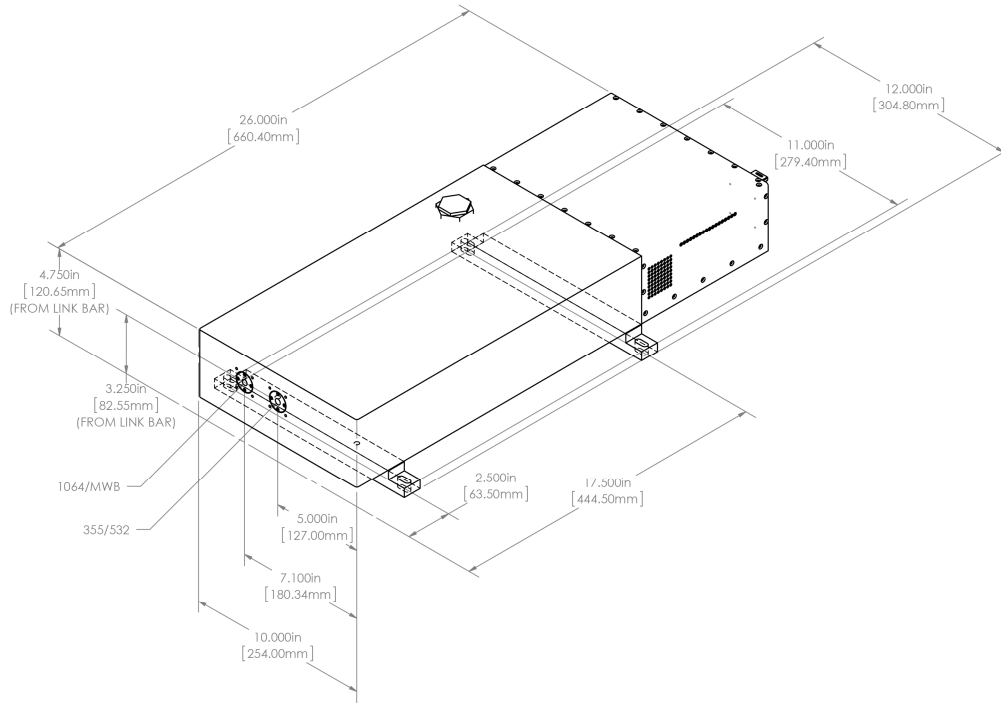
* Does not include height of desiccant (0.35") and height of removable feet

Performance Curves



Dimensional Drawings

RGH-1064-5/10 AIO Laser



RGH-1064-30, 48, 70 AIO Laser

