



IPG Photonics Launches New Dual-Beam Laser with the Highest Single-Mode Core Power at The Battery Show in Novi, Michigan

MARLBOROUGH, Mass., Sept. 11, 2023 (GLOBE NEWSWIRE) -- **IPG Photonics Corporation** (NASDAQ: IPGP), the world leader in fiber laser technology, will highlight new and innovative laser solutions at The Battery Show from September 12-14, 2023 in Novi, Michigan, USA. The IPG booth will include industry-leading fiber laser sources and automated laser systems for EV battery welding applications.

New Laser Technology Raises the Limits of Battery Welding Speeds

Continuing to expand the industry's widest range of dual-beam fiber lasers, IPG will introduce a new Adjustable Mode Beam (AMB) laser source capable of achieving 3 kW single-mode laser beam in the core. An industry first, this increase in single-mode power offers unprecedented speed and productivity improvements for battery welding with spatter-free welding speeds up to 2X faster than possible with lower core powers.

AMB dual-beam lasers utilize a secondary ring beam that works in tandem with the single-mode core to stabilize the weld pool, virtually eliminating weld defects like spatter, cracking, and porosity. IPG AMB lasers can be configured with a wide range of beam parameters to offer optimized performance in a variety of welding applications.

Battery manufacturers often prefer single-mode fiber lasers for precision welding applications due to their ability to focus their power into extremely small spot sizes on the part. The resulting high energy density easily overcomes the high reflectivity of metals like copper and aluminum while simultaneously achieving the required weld penetration extremely quickly with a reduced heat-affected zone (HAZ).

"IPG is more than just a laser company," said Trevor Ness, SVP Worldwide Sales and Strategic Business Development. "IPG's lasers and laser systems are designed first and foremost to provide solutions that directly address real-world requirements like battery welding and integrate patented technologies such as real-time laser

weld measurement to provide 100% weld quality assurance."

Automated Laser Systems Designed for High-Volume Battery Production

IPG will show two live demonstrations of automated turnkey laser welding systems designed specifically for battery welding applications.

1. EV-Cube™ Automated Battery Laser Welding System: gantry-based laser system designed to meet the demanding speed and accuracy needs of battery module welding. Using proprietary laser welding programming, the EV-Cube can be configured to provide welding speeds of up to 10+ cylindrical cells per second while maintaining 25 µm accuracy.
2. LaserCell™ Battery Welding System: robotic laser system that offers the flexibility and reach needed for large or complex battery modules. Featuring a 6-axis robot, the system can be configured for welding of prismatic, cylindrical, and pouch modules while maintaining high yields and short cycle times.

These systems ship complete with choice of IPG laser, process head, robot and tooling configurations, part handling and loading, integrated software, and IPG programming and process development. These systems can be equipped with real-time laser weld measurement that uses patented IPG technology to directly measure every weld as it is made, ensuring that only parts with welds that meet the required specifications make it into the final product.

About IPG Photonics Corporation

IPG Photonics Corporation is the leader in high-power fiber lasers and amplifiers used primarily in materials processing and other diverse applications. The Company's mission is to develop innovative laser solutions making the world a better place. IPG accomplishes this mission by delivering superior performance, reliability and usability at a lower total cost of ownership compared with other types of lasers and non-laser tools, allowing end users to increase productivity and decrease costs. IPG is headquartered in Marlborough, Massachusetts and has more than 30 facilities worldwide. For more information, visit www.ipgphotonics.com.

IPG will be displaying lasers and laser systems at the The Battery Show in booth 1917.

For more information visit: www.ipgphotonics.com

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