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## MKS Instruments Announces Ophir® Helios Plus Industrial Laser Power Meter for Measuring Blue, Green, and Infrared Wavelengths

Andover, MA – January 18, 2021 – [MKS Instruments, Inc.](http://www.mksinst.com) (NASDAQ: MKSI) has announced the **Ophir® Helios Plus**, an expanded version of the Ophir Helios industrial laser power meter. The Helios Plus has all the features of the Helios for measuring a wide range of high power lasers in production operations, as well as the ability to measure additional wavelengths, such as blue and green lasers used in copper welding in the automotive industry. The Helios Plus power meter measures high power industrial lasers of up to 12kW and, for increased flexibility, provides an expanded choice of wavelengths: 450-550nm (blue/green) and 900-1100nm (infrared). This is especially important in the automotive industry where heat conduction welding with blue and green lasers is becoming the first choice for battery welding and connecting small copper parts in electrical components. The Helios Plus power meter is compact, requires no water cooling, and provides a high damage threshold. PROFINET, Ethernet/IP, and RS232 communication options make it easy to integrate into manufacturing networks. Once integrated into the production control system, fully automated measurements can be made.

"Automotive manufacturers are facing new challenges as copper is increasingly used in battery production and hairpin welding," said Reuven Silverman, General Manager Ophir Photonics. "While the use of high power blue and green laser sources promises a more stable



and efficient process, this requires familiarity with laser wavelengths that are new to those working on production lines. For instance, joints in battery packs and thin foils in battery cells demand precise welding depths, heat input, and minimal spatter to prevent damage to surrounding components that are close to the welding position. The Helios Plus power meter, an extension of Ophir's commitment to emerging industrial applications, provides a fast, easy to use measurement system that closely monitors laser performance. It works with a wide variety of wavelengths, including blue and green, to ensure the quality of parts being produced throughout the production process."

The Helios Plus industrial power meter measures high power solid state lasers – such as diode, fiber, and Nd:YAG lasers – with powers from 100W to 12kW and energies from 10J to 10kJ. The system operates by measuring the power, energy, and exposure time of a short 0.3 to several seconds pulse and then calculating power. By keeping the pulse energy under 10kJ, there is no need for water or fan cooling. This results in a convenient, compact design. The Helios Plus power meter has a high damage threshold of over 6kW/cm<sup>2</sup>, a fast 2s response time, and short 10s wait between pulse measurements.

The Helios Plus laser power meter is housed in a dust-resistant industrial enclosure to keep the power meter clean and in good working order, even under harsh factory conditions. The sensor's cover can be opened and closed remotely, protecting the optics and electronics when not in use. Two communications options are provided: PROFINET and RS232, or EtherNet/IP and RS232. The Helios Plus power meter comes with a simple PC application and command set for easy integration into the customer's system. It is equipped with two power and two RJ45 ports for use with existing line or ring topologies.

### **Availability**

The **Ophir Helios Plus** industrial laser power meter is available now.

DATA SHEET: <http://ow.ly/CFYh50D0UAn>

### **About MKS Instruments**

MKS Instruments, Inc. (NASDAQ: MKSI), is a global provider of instruments, systems, subsystems and process control solutions that measure, monitor, deliver, analyze, power and control critical parameters of advanced manufacturing processes to improve process performance and productivity for our customers. Our products are derived from our core competencies in pressure measurement and control, flow measurement and control, gas and vapor delivery, gas composition analysis, electronic control technology, reactive gas generation

and delivery, power generation and delivery, vacuum technology, lasers, photonics, optics, precision motion control, vibration control and laser-based manufacturing systems solutions. We also provide services relating to the maintenance and repair of our products, installation services and training. Our primary served markets include semiconductor, industrial technologies, life and health sciences, research and defense. Additional information can be found at [www.mksinst.com](http://www.mksinst.com).

### **About the Ophir Brand**

Ophir is a brand within the MKS Instruments Light & Motion division. The Ophir product portfolio consists of laser and LED measurement products, including laser power and energy meters, laser beam profilers measuring femto-watt to hundred-kilowatt lasers, high-performance IR and visible optical elements, IR thermal imaging lenses and zoom lenses for defense and commercial applications, OEM and replacement high-quality optics and sub-assemblies for CO<sub>2</sub> and high-power fiber laser material processing applications. Ophir products enhance our customers' capabilities and productivity in the semiconductor, industrial technologies, life and health sciences, research and defense markets. For more information, visit [www.ophiropt.com](http://www.ophiropt.com).

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