Pattern Blazer™ is the World's Brightest LED Pattern Projector for Structured Lighting and Stereovision in 3D Vision Applications

Woburn, MA, August 25, 2020 — Innovations in Optics, Inc. introduces the Pattern Blazer™, a high-power, LED fixed-pattern projector for structured lighting and stereovision in 3D machine vision. Pattern Blazer™ applications include determination of object shape and orientation, contour mapping of parts, surface defect detection, depth measurements, guidelines, edge detection, and alignment. A near infrared version is suited for video identification in long-range CCTV security and surveillance.

The Pattern Blazer projects patterns with an intensity that is at least 5X to 10X greater at the same distance than other "high power" LED Pattern projectors for similar pattern size and wavelength. It can be operated in either continuous, PWM or pulsed current modes. Extremely bright patterns at long working distances enables the use of 3D imaging in vast, well-lit areas including outdoor locations.

The Pattern Blazer features four standard LED spectral options, blue (480 nm), red (660 nm) near-infrared (860 nm), and broadband white (4800K). It uses standard C-mount machine vision lenses designed for 1″ image sensors. The Pattern Blazer incorporates pinhole-free precision reticles patterned by photolithography to produce thinner lines, sharper edges, and more homogeneous illumination than lasers and without diffraction or speckle effects. Projected patterns for the Pattern Blazer include lines, grids, edges, and random dot point clouds. Other wavelength LEDs and custom patterns can be provided upon request.

A digital driver/controller for the Pattern Blazer provides high DC current to the LED projector up to 40A continuous and 50A pulsed. The driver/controller features Modbus RS-485 serial protocol to support remote or automated operation of the Pattern Blazer in industrial installations.

About Innovations in Optics, Inc.

Founded in 1993 and located near Boston, Innovations in Optics, Inc. offers high power LED light sources for science and industry that provide maximum photon delivery, illumination uniformity, and stable optical power. Products offer system-level advantages over lasers and arc lamps in OEM equipment for many applications. Available LED wavelengths range from the UV through the near infrared, including broadband white and multiband options. System accessories include thermal management devices, wire harnesses and driver/controllers. UV LED products support photomask exposure, direct image writing, 3D printing and photocuring. Pattern Blazer™ and LumiBright™ are trademarks of Innovations in Optics, Inc.