Instrument Systems
KONICA MINOLTA Group

Press Release

The new STA Stand-Alone Screen Photometer for fast, vehicle-based headlamp testing by Instrument Systems

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Instrument Systems introduces the STA Stand-Alone Screen Photometer — a modular, vehicle-based measurement solution that combines the LumiCam 4000B imaging luminance camera with the new ACS 635 calibration source to deliver fast, high-resolution photometric and geometrically corrected testing of automotive headlamps, including adaptive lighting functions.

Developing and benchmarking modern headlight systems requires rapid, quantitative and qualitative measurements of luminous flux and luminous intensity distributions directly on the vehicle. The STA system meets these needs with camera-based 2D measurement technology and a calibrated projection screen, enabling reliable vehicle-level testing where component-level checks are not feasible due to differing vehicle electronics and control protocols.

The core components of the system are the LumiCam 4000B imaging luminance camera with a 12-megapixel sensor, which captures high-resolution and fast measurements of light distribution on wide and high projection screens, and the new ACS 635 calibration source. It provides a high-intensity, homogeneous illumination field specifically designed for very large screens and includes an integrated laser module for geometric calibration of the screen. The ACS 635 is mounted on a special frame — optionally extendable with an adapter — on a traversing system to allow flexible positioning in front of the vehicle. The frame combines height adjustment and swivel functionality, and the entire unit, including the traversing system, can be moved on wheels for easy repositioning in the laboratory.

Measurement control, analysis and documentation are handled by the STA Screen Photometer software. The software supports full screen calibration, measurement of luminous intensity and illuminance distributions, discrete point evaluation, luminous flux calculation and visualization in isocandela diagrams. Measurement results can be exported in IES and CSV formats for integration into development and validation workflows.

“The STA Stand-Alone Screen Photometer offers OEMs and suppliers a practical, high-precision tool for vehicle-based headlamp benchmarking — especially for demanding adaptive lighting functions where fast, camera-based 2D measurements are essential,“ says Oliver Esterl, Sales & Product Manager “Optronik Line” at Instrument Systems.

Further information can be found on our website:
https://www.instrumentsystems.com/en/systems/sta-screen-photometer-system

Foto: STA Stand-Alone Screen Photometer by Instrument Systems

About Instrument Systems GmbH
Instrument Systems GmbH, founded in Munich in 1986, develops and produces high-end light measurement technology that is indispensable for manufacturers of consumer electronics, (AR/VR) displays, MicroLED wafers, VCSEL/laser systems, automotive lighting and LED/SSL modules. All solutions benefit from the CAS series of high-precision spectroradiometers that are widely recognized and used worldwide. In combination with 2D imaging colorimeters, integrating spheres and goniometer systems, they enable high-precision and accurate measurements in the entire range from UV to IR, traceable to PTB or NIST. Today, Instrument Systems is one of the world’s leading manufacturers of light measurement technology. At its Berlin facility, the “Optronik Line” of products is developed and marketed for the automotive industry and traffic

technology. The subsidiary in Korea supplements the product portfolio with the "Kimsoptec Line" for the Korean light & display market. Instrument Systems has been a wholly-owned subsidiary of the Konica MinoIta Group since 2012.
www.instrumentsystems.com

Press Contact
Constanze Knoesel
Head of Marketing and Communications
Instrument Systems GmbH
+49 89-45 49 43-0
knoesel@instrumentsystems.com