

Press Release

High-performance photodiodes PD 100

Instrument Systems' new PD 100 photodiodes also enable absolute LIV measurements of pulsed light sources.

Munich, August 2024 – *The new PD 100 photodiodes are Instrument Systems' high-performance detectors for the fast and highly accurate measurement of radiant flux in the VIS to near IR spectral region. In combination with a 3-port ISP integrating sphere and a CAS spectroradiometer, they enable particularly fast and precise measurement of the luminous flux and absolute radiant power in production. Also pulsed light sources (e.g. VCSEL) or low light test objects can be measured.*

Traceable measurement systems from a single source

The new PD 100 photodiodes from Instrument Systems can be perfectly integrated into a measuring system for luminous flux or radiant power, consisting of an Instrument Systems' integrating sphere and a CAS spectral radiometer. Its calibration data is stored on the photodiode in 10 nm steps. The SpecWin Pro software from Instrument Systems combines the sensitivity of the PD 100 determined by traceable calibration and the spectral data of the spectrometer measurement of the test object – for highly accurate, traceable and very fast LIV measurements from a single source.

Fast measurement of radiation power at pulsed sources

The PD 100 photodiodes are used for fast and highly accurate measurements, even of low light sources in production and laboratory. Due to their fast response time, they are particularly suitable for the precise measurement of pulsed light sources, for example for determining the LIV curve of a VCSEL.

Complete portfolio of integrating spheres

The PD 100 photodiodes with silicon detector (400–1100 nm) are for integrating spheres with barium sulfate coating. Photodiodes with InGaAs detector (900–1700 nm) are connected to spheres with PTFE coating, which is extra stable and therefore particularly suitable for measurements at wavelengths above 1100 nm. Integrating spheres for the PD 100 photodiodes are available in sizes from 75 mm to 250 mm, allowing a wide range of applications in laboratory and production.



Figure: Due to their short rise and fall times, the PD 100 photodiodes are particularly suitable for measuring pulsed light sources.

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Company portrait Instrument Systems GmbH

Instrument Systems GmbH, founded in Munich in 1986, develops and produces high-end light measurement technology that is indispensable for the manufacturers of consumer electronics, (AR/VR) displays, μ LED wafers, VCSEL/laser systems, automotive lighting and LED/SSL modules. All solutions benefit from our CAS series of high-precision spectroradiometers that are recognized and in use all over the world. 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. Our 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 Minolta Group since 2012.

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