

## Press Release

### Improved Fiber Coupling

### Maximum Detection Efficiency for Photon Counters

In applications in which single photons must be detected, such as in spectroscopy, confocal or STED microscopy, single molecule detection, and quantum cryptography, it is not only important to achieve an extremely low dark count rate of the detector, but a detection efficiency that is as high as possible. Depending on the version, the single photon counting modules from LASER COMPONENTS exhibit efficiencies of > 80% at 670 nm and > 50% at 405 nm.

To realize a fiber coupling, additional optical elements are needed. In COUNT modules with FC connectors a special GRIN lens is integrated that images single photons from the fiber onto the detector chip. With the in-house IBS coater, LASER COMPONENTS optimize the lenses with a double-sided AR coating. This broadband coating from 400 nm - 1100 nm has a reflection of less than 1.5%, and has thus led to a reduction in losses in detection efficiency.

Because of the in-house production, we are able to customize the coatings. For example we can offer AR coatings with a reflection of <<1% in the range from 400 nm to 900 nm or from 600 nm to 1100 nm.

For COUNT<sup>blue</sup> modules with increased sensitivity in the blue to yellow spectral range, we designed a special AR coating option that has a reflection of less than 1% from 350 nm to 700 nm.

### More Information

<http://www.lasercomponents.com/de-en/photon-counter/single-photon-counting-modules/>

### Trade Shows

**Analytica 2012**, April, 17-20, 2012, Munich International Trade Fairs, **Booth A2.400A**  
**Optatec 2012**, May, 22-25, 2012, Frankfurt Exhibition Centre, **Booth E01**  
**Sensor + Test 2012**, May, 22-24, 2012, Nürnberg Exhibition Centre, **Booth 12-426**

### The Company

LASER COMPONENTS is specialized in the development, manufacture, and sale of components and services for the laser and opto-electronics industries. With sales offices in four different countries, the company has served its customers since 1982. In-house production at six locations in Germany, Canada, and the USA began in 1986 and is meanwhile responsible for about half of its turnover. Currently, the family-run business employs more than 130 people worldwide.