

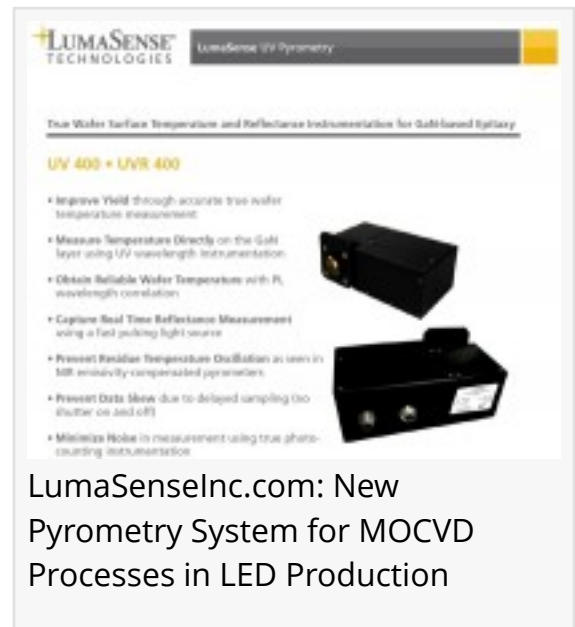
LumaSense Releases New Pyrometry System for MOCVD Processes in LED Production

/EINPresswire.com/ Temperature sensing solution for metalorganic chemical vapor deposition (GaN-based epitaxy) with true wafer surface temperature and reflectance instrumentation improves efficiency and yield in LED industry

LumaSense Technologies, Inc. released the UV 400 and UVR 400 pyrometers, the newest generation of non-contact temperature measurement instrumentation for metalorganic chemical vapor deposition (MOCVD) processes in the rapidly growing LED industry (<http://www.lumasenseinc.com/EN/products/infrared-thermometers-and-switches/specials/pyrometer-uv-400-and-uvr-400.html>). The UV 400 and UVR 400 are in a unique position to help manufacturers using MOCVD improve efficiency and reduce waste in their LED manufacturing process.

Using a center wavelength in the UV spectrum (400 nm) these pyrometers make it possible to measure real wafer surface temperature, while traditional pyrometers are only able to measure the susceptor/pocket temperature under the wafer. This allows the most accurate and repeatable control of the wafer temperature which in LED production is critical to the final product wavelength and manufacturing yields. The wide temperature range of 650 to 1300 °C allows for measurement of various applications such as GaN buffer layer growth or multiple quantum well growth. The fast response time of up to 8 ms allows the measurement of fast processes. True photon-counting instrumentation guarantees the best achievable signal to noise ratio and stability. In addition to the UV 400 pyrometer, the UVR 400 features a 635 nm laser reflectometer, which enables the real-time measurement of the thickness and growth rate of the GaN layer (gallium nitride) during epitaxy growth.

LED's are on a trajectory to take over as the primary source in the \$60 billion lighting industry by 2020, and are a key enabler in displays for mobile devices, televisions and other products in the growing \$1.2 trillion electronics industry. "With an 8,000+ system-installed base in the semiconductor industry and a nearly 2,000 MOCVD tool-installed base, LumaSense is without doubt a leader in temperature instrumentation in this industry," said Brett Sargent, Vice



President and General Manager, Products & Solutions, LumaSense Technologies Inc. "The UV 400 and UVR 400 are now setting a new standard for [MOCVD measurement](#) all around the world as the instruments have proven to provide temperature measurements with reliable correlation between the measured process temperature and the final product wavelength. This will result in unparalleled yield gains and efficiency improvements for our customers."

The LumaSense UV 400 and UVR 400 temperature sensors are developed specifically for GaN-based MOCVD epitaxy processes offering the following features: direct temperature measurement on the GaN layer using UV wavelength instrumentation to obtain reliable wafer temperature with PL wavelength correlation, capturing real time reflectance measurement using a fast pulsing light source, prevention of data skew due to delayed sampling (no shutter on and off) and residue temperature oscillation as seen in NIR emissivity-compensated pyrometers, minimization of noise in measurement using true photocounting instrumentation, and yield improvement through accurate true [wafer temperature measurement](#). The new LumaSense [pyrometers for MOCVD processes](#) (metalorganic vapour phase epitaxy) in LED Production, UV 400 and UVR 400, can also be combined with the well-proven PhotriX pyrometer with concentric lightpipe from LumaSense to additionally control the reactor temperature. Either the UV 400 and UVR 400 alone, or in combination with the PhotriX pyrometer, provide the best possible measuring data and process control solution, as well as the best product quality and improved yield.

About LumaSense Technologies™

LumaSense Technologies, Inc. (<http://www.lumasenseinc.com>) is one of the world's most trusted providers of innovative temperature and gas sensing devices. LumaSense's resource-intensive customers in Global Energy, Industrial Materials and Advanced Technologies harness their Industrial Big Data using the company's proven systems, software and platforms to detect, reduce and prevent waste and inefficiency. LumaSense LS6 sensor systems and LumaSpec software solutions awaken industrial 6th Sense that empowers customers to achieve progressive and lasting performance gains. With offices in Asia, Europe and the Americas, LumaSense serves many of the world's largest industrial companies.

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