

Laser Meets the TPMS – Ready for China and the Future

Schrader Performance Sensors selects LPKF's laser transmission welding for tire pressure monitoring systems

Contact:

Matthias Lippold
matthias.lippold@lpkf.com
Tel.: +49-5131-7095-1322
Fax: +49-5131-7095-90

**LPKF
WeldingQuipment GmbH**

Alfred-Nobel-Str. 55–57
90765 Fürth
Germany

Registration court Fürth: HRB
14026
VAT ID: DE 289091188

» www.lpkf-laserwelding.com
» www.lpkf.com

CEOs:

Markus König
Lars Ederleh

Part of LPKF Group

Shares: Prime Standard
ISIN 0006450000

Print free of charge, copy requested

» [Other Press Releases](#)

With a production volume of more than 300 million tire pressure monitoring system (TPMS) sensors so far, Schrader is the direct TPMS market's undisputed champion – worldwide. The industry is expected to grow by 17% in 2017 as ever more countries see the importance of TPMS sensors. Total demand is expected to reach 55 million vehicle sets. China might hold the biggest promise here, too. At the same time, the total market share of indirect systems (systems without their own sensors) is expected to shrink. "With innovative manufacturing processes optimally combining quality and quantity, we will continue to satisfy the world's appetite for the corresponding sensors in the future," confirms Markus Schmid, Head of Marketing, Global Aftermarket. State-of-the-art production methods such as 'laser transmission welding' for plastic components in TPMS sensors play a part in this. With the globally active German company LPKF Laser & Electronics AG, headquartered in Garbsen, Germany, the ideal partner for production machines might just have been found. LPKF WeldingQuipment GmbH is a Fuerth, Germany-based subsidiary of LPKF Group with a specialization in welding technology.

The company is up with the best in the world in terms of laser micro-material processing technology and is the market leader in the manufacturing of laser welding systems. Sensata subsidiary Schrader mainly joins PA6 or PA6.6 polyamides in a laser welding process, for example, in the OE sensors Faraday, Gen Gamma, and the HSSI product line. On the machine side, the InlineWeld 6600 laser welding system developed by LPKF is employed. This allows maximum strength and tightness – both crucial factors for air components – to be achieved. The joints meet the requirements for an IP67 rating, as do many high-end dustproof and waterproof smartphones. Other advantages of the process include welding with no surface marking and no mechanical loading of the joining partners. In addition, there is no damage to delicate components in the vicinity of the beam due to the precisely focused heat output.

Despite the high manufacturing quality, the process is extremely rapid and excellently suited to mass production. The InlineWeld 6600 enables quasi-simultaneous processing of two components, slashing cycle times and

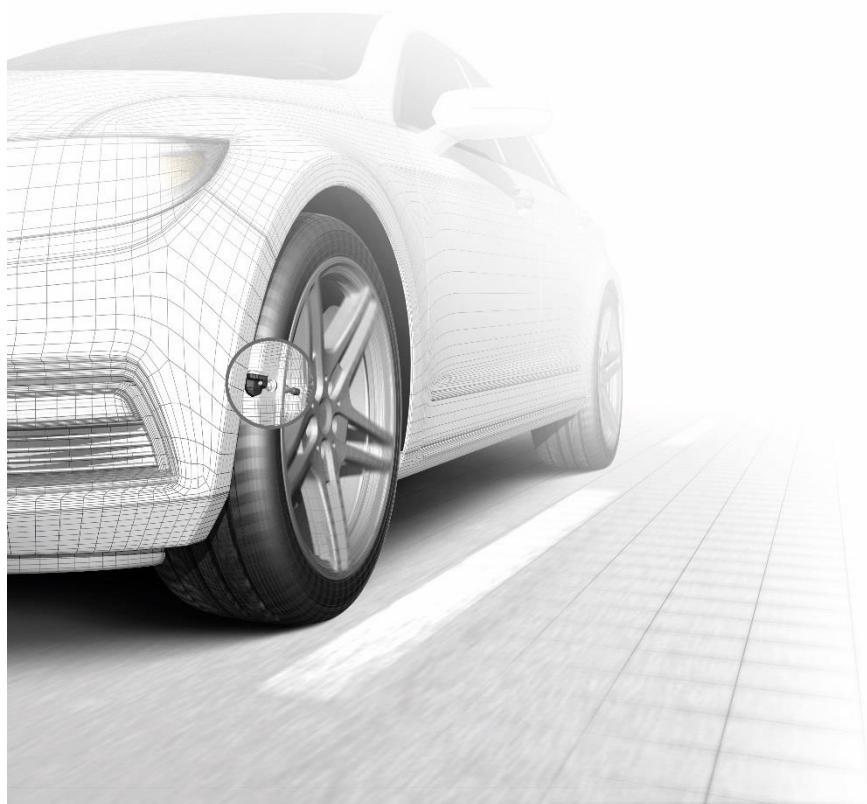
allowing for a welding time of a mere two seconds per unit. Schrader's parent company, Sensata, employs 26 integrated laser welding systems, on which around 40 million parts have been manufactured up to now.

"The great flexibility and diversity of the laser transmission process give LPKF numerous possibilities for growth, not just in the automotive industry but also in the medical products and consumer goods industries. In China – one of the most important markets for our machines – we are optimally equipped with a broad setup and a local team," adds Georg Heissen, LPKF Sales Manager for Asia.

The global conquest of tire pressure monitoring systems began ten years ago in the US, when installation of the systems in new vehicles became mandatory. Europe followed in November 2014, and now even South Korean legislators are requiring the systems. China, by now the world's largest auto market, will presumably be next. The technical standards were already put into place in the country in 2011. However, the corresponding sanctions are still missing, which is the reason why only the top vehicle classes are currently being equipped with tire pressure monitoring systems there. Until more penetration occurs for new vehicles, Schrader will continue furthering the democratization of TPMSes. Thus, the company now offers three practical retrofitting kits in OE quality especially for China. Of course, laser welding systems "Made in Germany" are also used in these sensors.



Tire pressure monitoring system (TPMS). Source: Schrader International GmbH (part of Sensata Technologies)



Tire pressure monitoring system (TPMS). Source: Schrader International GmbH (part of Sensata Technologies)



LPKF InlineWeld 6600 – laser plastic welding system ready for integration into production lines. Comprehensive automation interfaces, integrated process monitoring, and modern clamp tooling and software, guarantee extremely high levels of process reliability and maximum flexibility. Source: LPKF AG

Schrader Performance Sensors Press Contact



Schrader International GmbH (part of Sensata Technologies)
Markus Schmid
Head of Marketing Global
Gewerbepark 15 // 85250 Altomünster // Germany
mschmid@sensata.com
www.schrader-sensors.com

IKmedia GmbH // Andreas Hempfling
Friedenstr. 33 // D-90571 Schwaig b. Nuremberg, Germany
Tel.: +49-911-570320-0 // Fax: +49-911-570320-69
E-mail: ah@ikmedia.de

About LPKF

LPKF Laser & Electronics AG manufactures machines and laser systems used in electronics fabrication, medical technology, the automotive sector, and the production of solar cells. Around 20 percent of the workforce is engaged in research and development.