

PRESS RELEASE



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Encapsulated digital OEM pressure transmitter no larger than a bee

The smallest fully functional digital combination transmitter for pressure and temperature currently available on the market has now been launched by KELLER AG für Druckmesstechnik. In the LD series from KELLER, all the electronic components are accommodated in a laser-welded stainless steel housing filled with silicone oil. Measuring a mere 11 mm in diameter (the same length as a European worker bee), the housing contains the sensor technology, the (mathematical) compensation coefficients, the digital signal processing and – finally – the I2C interface for simple, loss-free integration into higher-level systems.

Made of stainless steel or Hastelloy, the housing not only acts as a Faraday cage but also offers appropriate protection against electromagnetic radiation and all potential environmental influences. Thanks to the Chip-in-Oil technology developed by KELLER, extremely short signal paths with exceptionally high impact and vibration resistance are realized.

Six standard measurement ranges extend from 1 to 200 bar abs. with a compensated temperature range of -10 °C...+ 80 °C (high-pressure versions for up to 1000 bar are also under development). Accuracy is rated as better than $\pm 0,15$ %FS, and a total error band of less than $\pm 0,5$ %FS is attained between 0...50 °C. The temperature measurement accuracy is ± 2 K.

Transmitters in the LD series are optimized for battery-powered applications: e.g., during A-to-D conversion, current consumption is $\sim 1,5$ mA, dropping to $\sim 0,1$ μ A in "idle" mode. The supply voltage range of 1,8...3,6 VDC corresponds to a normal microprocessor environment.

With a diameter of just 11 mm, the Series 4 LD is the smallest of four versions. Larger models measuring 15 mm, 17 mm and 19 mm in diameter are also available for relative pressure measurements: they offer an additional temperature range (-40 °C...+ 110 °C) without changes to the electrical characteristics.

