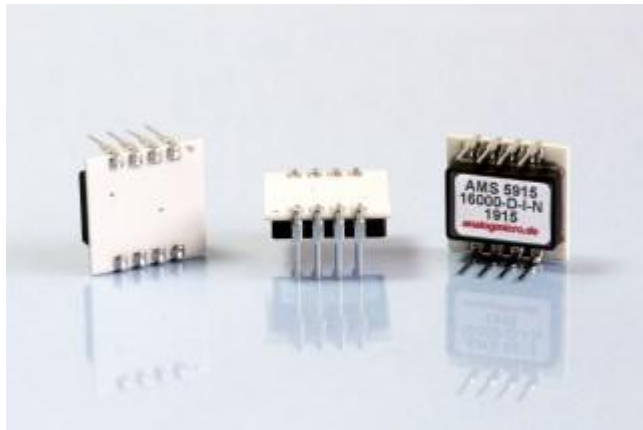


Miniaturized pressure sensors with I2C output for manifold assembly in pneumatic applications

Henrik Schöpe, May 2019



Analog Microelectronics GmbH announces the expansion of its digital board-level pressure sensor series AMS 5915 with I2C output. Now available are special variants for pneumatic applications. These PCB-mountable pressure sensors, made on a robust, thermally insensitive ceramic substrate in a DIP-08 package, are suitable for manifold assembly on flanges with o-ring seals and have a very low assembly height of approximately 4 mm.

The new AMS 5915 for pneumatic applications are suitable for relative and differential pressure measurements up to 16 bar with an over pressure of 30 bar. Due to their special construction one of the sensor's pressure ports is compatible with liquids; by applying the measurement pressure on the sensor's backside it is possible to measure relative pressure not only in gaseous media but also in non-corrosive liquids.

The highly accurate digital pressure sensors from the AMS 5915 series feature a resolution of 14 bit and are ideal for microcontroller applications due to their I2C output and their supply voltage of 3.3 V. They are digitally calibrated, linearized and extensively temperature compensated in a wide operating temperature range of -25 ... 85 °C, leading to a low total error of $TEB < 0.5 \%FSO$ across the complete operating temperature range. Furthermore the combination of a high quality MEMS element and a modern mixed-signal IC on a ceramic substrate guarantees excellent long term stability. With a typical reaction time of 0.5 ms AMS 5915 is also well-suited for high speed measurements.

For basic evaluation of AMS 5915 Analog Microelectronics offers a USB starter kit, which can also be used to program AMS 5915 to an individual I2C address. To use an AMS 5915 together with an Arduino an example source code for Arduino's IDE and adapter PCBs for Arduino Uno and Nano are available.

AMS 5915's variants for pneumatic applications are offered in the pressure ranges 0 – 4 bar, 0 – 7 bar, 0 – 10 bar, 0 – 12 bar and 0 – 16 bar. Custom specific pressure ranges are available on request.