

## New Version of IR gas sensors in Aluminum Cuvette

In many applications in process- and analysis engineering, the exact detection of gas concentrations is indispensable. Contrary to other measurement processes, the sensors that are based on the infrared absorption offer important advantages. These sensors deploy the character of the gases, to absorb the infrared radiation at a specific wavelength. Since this is characteristic for the respective kind of gas, the sensor works very selectively and barely shows interference opposite to other gases. In comparison to electrochemical and catalytic sensors, these sensors do not show any seasoning effects.

With the new version of the smartMODULFLOW, the smartGAS Mikrosensorik GmbH now offers an OEM sensor that is based on the IR absorption and that can be integrated in a process easily. The sensor element that consists of a powerful IR radiant source, an interference filter for the wavelength selection and an IR dual detector is housed in an aluminum cuvette for this reason. This cuvette can be



▲ The smartMODULFLOW in aluminium-cuvette

integrated into the process and can be flowed through with the respective gas. This buildup provides important advantages, especially in procedural applications. The aluminum cuvette for example can be held at a constant temperature to exclude temperature dependent effects. As a result from this, a higher measurement accuracy can be achieved. By an additive isolation of the optical components of the gas flow, diverse flow effects can be minimised. Furthermore, the modular and easy to install construction allows a higher flexibility, because the measurement setup of smartGAS is easy

to adjust to the customer specific measurement problem, for example by the adaptation of the light path.

The evaluation electronics with the interfaces of the sensor module resides on the board beyond the cuvette. Beneath the standard interfaces (4...20 mA, 0...2,5 V) there also is a serial RS485 interface available. The also integrated Watchdog, that observes the function of the sensors technology, is of high importance, especially at security relevant applications. The new aluminum version of the smartMODULFLOW is available for the following gases: Acetylene, Butane, Ethane, Ethylene, Carbon dioxide, Carbon monoxide, Propane, Methane, R134a and sulfur hexafluoride. Versions for other gases are available on request.

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