

NDIR SENSORS  
FOR SF<sub>6</sub> MEASUREMENT

# SF6 MEASUREMENT

## NDIR-SENSORS – HIGH TECHNOLOGY FOR YOUR APPLICATION

All smartGAS sensors are based on the NDIR principle (non-dispersive infrared technology). They feature excellent long-term stability and high selectivity over other gases. This guarantees absolutely reliable operation with accurate readings also in demanding environments.

As opposed to sensor technologies that are based on chemical reactions, our optical NDIR sensors require very little maintenance.

We deliver our NDIR gas sensors fully calibrated and temperature compensated, and also pressure compensated on request. The convenient plug & play interface facilitates connection to your hardware.



### FLOW<sup>EVO</sup> SF<sub>6</sub> sensor (100 Vol.-%)

Our 100 Vol.-% NDIR-SF<sub>6</sub> sensor measures the purity and therefore the quality of SF<sub>6</sub> gas in gas-insulated high-voltage switching systems and transformers or cables with absolute precision. On the basis of this measurement one can decide whether the gas has to be recycled or if it can remain in the switch.

In the addition, the sensor can be used for diverse lab measurements, in which absolute precision and reliability are extremely important for the following processes.

The EVO is a further development of the predecessor model and features a small internal volume for measurements with minimal SF<sub>6</sub> gas.

### BASIC<sup>EVO</sup> SF<sub>6</sub> sensor (1000/1500 ppm) FLOW<sup>EVO</sup> SF<sub>6</sub> sensor (1000/1500 ppm)

The detection of SF<sub>6</sub> leaks and the measurement of the SF<sub>6</sub> concentration in ambient air in high-voltage switching systems are the primary fields of application for our BASIC<sup>EVO</sup> and FLOW<sup>EVO</sup> SF<sub>6</sub> sensors with a measuring range of 1000 ppm or 1500 ppm.

They are also suitable for advanced lab applications with stringent requirements for performance, selectivity and reliability. NDIR-SF<sub>6</sub> sensors are designed for extremely long-term stability. This means that they also reliably detect SF<sub>6</sub> in complex gas mixtures and guarantee maximum workplace safety.

### FLOW<sup>EVO</sup> SF<sub>6</sub> sensor (50 ppm)

The compact and lightweight FLOW<sup>EVO</sup> SF<sub>6</sub> sensor with 50 ppm is ideal for installation in portable gas measurement devices and stationary SF<sub>6</sub> detection systems for measuring tracer gases and also for continuous and discontinuous measurement of SF<sub>6</sub> leaks.

The sensor is highly sensitive and detects minute gas quantities with absolute precision and reliability. It is therefore ideal for diverse scientific applications, as well as research and development projects in the field of environmental simulation and the simulation of the dispersal of hazardous substances.

# SF<sub>6</sub>

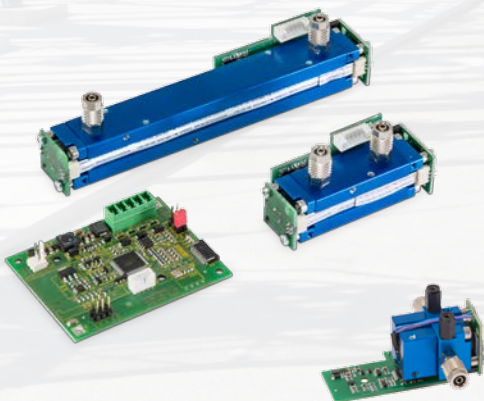
## SF<sub>6</sub> – indispensable, but environmentally harmful

SF<sub>6</sub> (sulphur hexafluoride) is a non-combustible and non-toxic gas. Throughout the world it is used primarily for insulating electrical high-voltage switching systems, transformers and cables. It is also used as an etching gas in semiconductor production and as a tracer gas in environmental simulations.

SF<sub>6</sub> is the strongest greenhouse gas and therefore the most harmful to the environment. Its global warming potential (GWP) is almost 24,000 times higher than that of CO<sub>2</sub>. Use of the gas is therefore subject to very stringent environmental regulations.

NDIR gas sensors of the EVO series from smartGAS support you in complying with these regulations. The sensors measure either the purity and quality of the insulating gas in the systems or reliably detect minute SF<sub>6</sub> quantities in indoor air.

No matter what SF<sub>6</sub> concentration has to be measured under what conditions – smartGAS offers the suitable NDIR sensor.



## SMARTGAS – SMART SOLUTIONS FOR GAS MEASUREMENT



*The smartGAS Mikrosensorik GmbH is a dynamic company specialized in the development, the production and the marketing of innovative gas sensors and gas analyzing solutions. smartGAS develops, produces and sells both OEM and customized sensor systems. All products are based on infrared absorption (NDIR) which allows selective detection of a gas and accurate determination of its concentration. Recent developments have seen not only significant reduction in size but also an increase in the number of detectable gases. The sensors are used in applications such as fruit ripening and storage, high voltage, emission monitoring, process control, refrigeration analyzers and monitoring, analytical appliances and process control.*

*The goal of smartGAS is to simplify the handling of gases using the innovative IR technology to protect the environment and to advance the safety for humans and equipment. Therefore we offer our standard products and customized solutions and provide support and assistance for the design in.*



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