Press Release

InfraTec GmbH Infrarotsensorik und Messtechnik

Dresden, 10/12/2018

Equipment in Case of an Emergency

InfraTec supports the development of a new explosion-proof gas detector for rescue forces

Gas detectors for detecting explosive and combustible gases are an indispensable part of the protective equipment of the fire brigade, disaster relief and other civil rescue teams. These devices enable helpers to establish whether an explosive atmosphere is present at the emergency location, which represents an otherwise undetectable hazardous situation. The most accurate knowledge possible about the explosive gases and their spatial expansion is decisive for ensuring fast, safe and efficient intervention. In the course of the MIREX project sponsored by the German Ministry of Research and Education, which ends in May 2019, InfraTec has been working on the development of an innovative device that supports a faster and more exact assessment of the hazardous situation.

Detectors with a spectrometer function as a basis

The core of the innovation is a miniaturised infrared spectrometer with a tunable, micromechanical Fabry-Pérot-Filter and fast photodiode as a detector. The spectroscopic measurement technique with a spectral resolution of 30 - 40 nm in the spectral range 3.0 – 3.7 µm makes it possible to detect and quantify a wide variety of gases with just one detector element. The previous customary NDIR detectors with fixed narrowband filters are normally only calibrated to one substance and do not allow for any differentiation. Due to the compact design in a TO-8 housing, insensitivity to vibrations as well as low energy consumption the spectrometer provides good preconditions for integration into an explosion-proof, portable gas detector. The MIREX project is laying the foundation to ensure that even gases with heavily overlapping spectrums such as ethane and propane can be detected later in practice by a complex analogue and digital signal evaluation.

As part of the personal protective equipment, the gas detector will be able to increase safety for rescue workers during operations in the future. For this purpose it will measure explosive and combustible gases within the range of the lower explosion limit. This limit marks the lowest concentration, in which a gas can ignite and a flame can spread automatically. The measurement results reach the operations centre by radio. In this way, several rescue forces can be better coordinated and monitored.

Suitable for other applications

With the Gesellschaft für Gerätebau mbH, the Fraunhofer Institute for Physical Measurement Technology Freiburg as well as the Institute for Fire Brigade and Rescue Technology of the Fire Brigade of the city of Dortmund, three additional partners are involved alongside InfraTec, which bring their expertise to bear in this special application. In terms of perspective, the device has a far greater range of application, however. The basic operating principle can also be adapted for other purposes. The concept of similar detectors for mining, refineries and chemical industry is conceivable, for example.

Information: **3,043 characters (incl. spaces)**

InfraTec GmbH
Infrarotsensorik und Messtechnik
Gostritzer Straße 61 – 63
01217 Dresden / GERMANY

Phone +49 351 871-8630
Fax +49 351 871-8627
E-mail sensor@InfraTec.de
www.InfraTec.eu

© InfraTec 12/2018
(All the stated product names and trademarks remain in property of their respective owners.)

Press Release

InfraTec GmbH Infrarotsensorik und Messtechnik

About InfraTec

The InfraTec infrared sensor and measuring technology company was founded in 1991 and has its headquarters in Dresden, Germany. The privately held company employs more than 200 employees and has its own design, manufacturing and distribution capabilities.

Spectrally single and multi channel infrared detectors count among the products of the infrared sensor division, next to Infrared sensors with electrically tunable filters based on MOEMS. These detectors can be used in gas analysis, fire and flame sensor technology and spectroscopy.

With its infrared measurement technology division, InfraTec is one of the leading suppliers of commercial thermal imaging technology. In addition to the high-end camera series ImageIR® and the VarioCAM® High Definition series, InfraTec offers turnkey thermographic automation solutions.

Contact

InfraTec GmbH	Phone	+49 351 871-8625
Infrarotsensorik und Messtechnik	Fax	+49 351 871-8727
Gostritzer Str. 61 – 63	E-mail	presse@InfraTec.de
01217 Dresden / GERMANY	Internet	www.InfraTec.eu

Image

The detector developed in the MIREX project is intended to help rescue forces to be better protected from dangerous situations in the future.

InfraTec GmbH
Infrarotsensorik und Messtechnik
Gostritzer Straße 61 – 63
01217 Dresden / GERMANY

Phone +49 351 871-8630
Fax +49 351 871-8627
E-mail sensor@InfraTec.de
www.InfraTec.eu

© InfraTec 12/2018
(All the stated product names and trademarks remain in property of their respective owners.)