



Sentio<sup>®</sup>

Early fire detection in road tunnels



### **SENTIO® – MAIN FEATURES**

- **Fire detection at an early stage**  
*Using highly advanced Multiple Gas Detection (MGD) technology*
- **Designed for tough environments**  
*Robust design withstanding dust, humidity, vibration, temperature changes, exhaust fumes, etc.*
- **Calibration interval >10 years**  
*System requires low maintenance*
- **Intelligent surveillance**  
*Self-monitoring system  
Centrally controlled*
- **Unique patented Fire CPSS™ functionality**  
*Provides Fire Classification, Position, Severity and Spread*

### **SENTIO® – THE CONCEPT**

*The sooner you detect a fire – the easier it is to minimise the consequences!*

The Sentio® sensors are installed in road tunnels and connected through an advanced redundant network. If a sensor detects an incident, a detailed alarm will be given to the control centre. The alarm provides information about the fire location and spread. At the same time, automatic actions can be initiated by the Sentio® system. Operators in the control centre can simultaneously use the information from the Sentio® system to quickly assess the situation and make decisions on how to act.

The Sentio® system provides high safety for tough environments such as road tunnels. Due to its robust design and intelligent technique, it effectively minimises the risk of false alarms.



## **SENTIO® – MGD TECHNOLOGY**

### *Early fire detection*

Multiple Gas Detection (MGD) technology, originally developed for aerospace, is based on the detection of fire related gases. Temperature detection and camera surveillance are examples of commonly used tunnel protection solutions. These are however not efficient in detecting the early stage of a fire, which is the release of gases.

A Sentio® sensor can be described as an “electronic nose”. Through intelligent analysis, the sensor can identify different types of fires such as for example burning cables. It can also suppress “known disturbances” such as for example car exhaust fumes.

## **SAFER UNDERGROUND**

In 2001, Firefly started to test the MGD technology in the Stockholm subway in co-operation with the subway network owner AB Storstockholms Lokaltrafik (SL). The objective was to verify that this entirely new type of detection principle can be used in tough, dirty underground environments to detect fire at an early stage.

In December 2006, after a test period and comparisons with conventional fire detection systems, SL decided to equip its entire underground subway network with the Sentio® system. It protects a total of 56 underground stations and their connecting tunnels of about 80 kilometres.



**SENTIO® – A PART OF FIREFLY AB**

Firefly is the world's leading supplier of fire and explosion protection systems for the process industries. With innovative solutions, high quality products and outstanding service, Firefly has served its customers over 40 years. The unique Firefly techniques have proven to be the most effective in preventing fire and dust explosions in the tough industrial environments of the process industries. Up to today, Firefly has delivered more than 6.000 protection systems worldwide.



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