Fire detection under the most difficult conditions

SecuriSens ADW 535 line-type heat detector

Alarm

Fault

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Decades of experience combined with state-of-the-art technology.

Where physics and intelligence come together.

Danger is never far away in locations where fires are possible, with human life, assets and data being put at risk. Securiton has decades of experience in the area of fire detection and fire alarm systems. Developed in Switzerland and manufactured in Germany, our systems set the benchmark for the entire industry. Thousands of customers from around the world rely on the cutting-edge technology offered by Securiton.

The SecuriSens ADW 535 comes into its own where conventional fire detectors reach their physical limits. It copes well with both extreme temperatures and constantly high atmospheric humidity, whilst precise measurements are also possible when corrosive gases and contaminated air are present. The line-type heat detector comes with an intelligent signal evaluation, which offers a perfect combination of state-of-the-art sensors, processors and programming expertise. The result is effective fire protection with a minimum of effort.

Double Tube – doubling the monitoring area.

Many fires cause sharp increases in ambient temperatures. When this happens, the volume of heated air expands. With the SecuriSens ADW 535 heat detector, Securiton uses this physical principle to its advantage. Air-filled sensing tubes are laid in the room to be monitored. If the temperature increases, then an electronic sensor registers the pressure increase of the air inside the tube. The cable terminal processor interprets these pressure increases and triggers an alarm immediately as soon as a defined limit has been exceeded.

Two sensing tubes (Double Tube) can be connected to the SecuriSens ADW 535. This means that the monitoring area is doubled and the system can be optimally adjusted according to the area and applicable installation guidelines. Dangers are detected quickly and reliably by each of the sensing tubes. Interventions can then be made efficiently and with pinpoint accuracy. Further advantages include the space savings and price.

Advantages of the SecuriSens ADW 535:

- Non-stop monitoring thanks to line-type principle
- Resistant to harsh outdoor conditions
- Minimises maintenance thanks to fully automatic monitoring
- Provides optimal response behaviour with rate-of-rise and maximum evaluation in any application
- Offers a programmable pre-signal

SecuriSens ADW 535 – better measurement:

- Configurable response behaviour
- Resistant to external influences
- Maximum utilisation of the available monitoring area thanks to Double Tube
- VdS approval for EN 54-22, classes A1I, A2I, BI-GI and FM/UL
- HDx (heavy-duty) version with ATEX approval available

Measured pressure sequence

Pressure [mbar]

Alarm

Alarm verification

Time [s]

Alarm verification time

Pressure dissipation dp/dt [mbar/min]

Delay time

Diff. alarm threshold

Pressure dissipation sequence

Time [s]

Sophisticated technology cannot be deceived.

Uncompromisingly precise – not only in good weather and at room temperature.

Whether in vehicle storage halls, production facilities or tunnels, measurement in ideal conditions is not always possible. On the contrary, corrosive gases, extreme humidity, high temperatures and air contamination often make error-free temperature measurements a real challenge.

Thankfully, users can rely on the SecuriSens ADW 535 heat detector – without ifs or buts. The sensing tubes are made from robust materials such as copper, stainless steel or Teflon, whilst the cable terminal processor is protected against corrosion and perfectly shielded from both mechanical and chemical influences. Fail-safe operation is thus guaranteed, even when the prevailing conditions
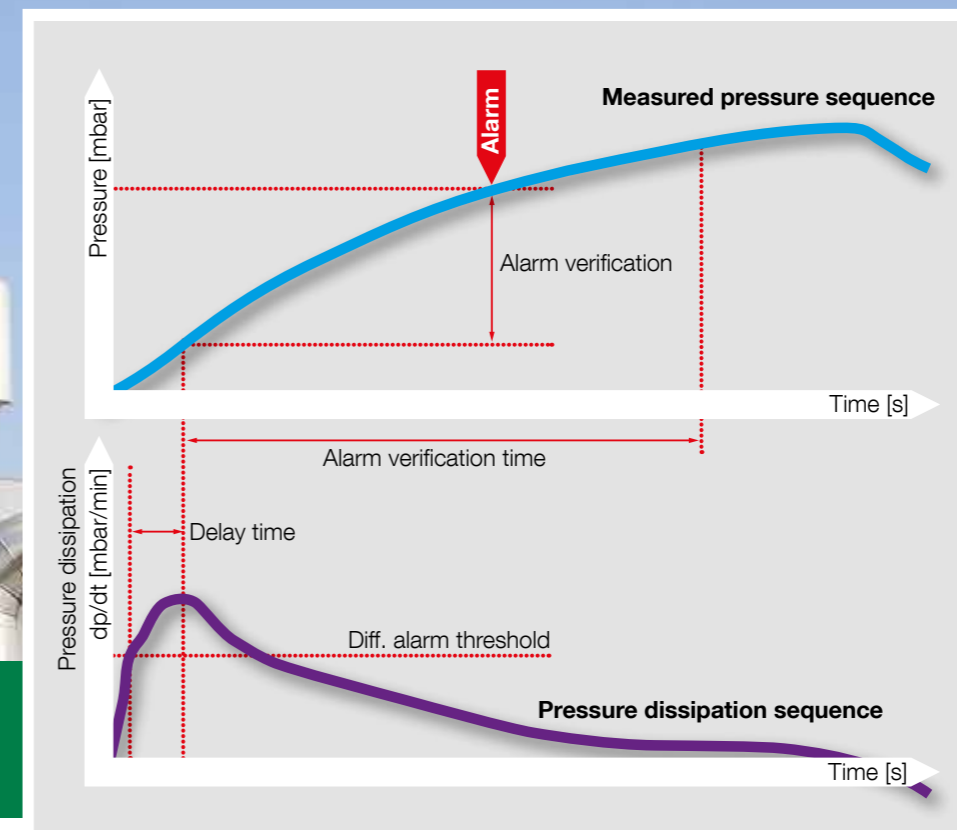
are extremely poor. ADW 535 can thus be used without restriction in locations where conventional fire detectors would not be able to cope.

Wherever you need it – the ADW 535 areas of application

- Vehicle storage halls, loading platforms
- Road tunnels, underground/rail tunnels and cable tunnels
- Food processing industry, industrial kitchens, bakeries
- Alcohol processing, distilleries
- Chemical industry, refineries, oil tanks
- Paint shops
- Waste incineration plants, plus many more

Dynamic Heat Watch – the algorithm against false alarms.

A false alarm is one that is correctly triggered by a sensor impulse, but where there is no actual danger. Brief temperature increases may occur when a gate is opened in a warehouse, for example. The intelligent DHW (Dynamic Heat Watch) algorithm on the ADW 535 ensures that events of this kind are filtered out and not transmitted further as an alarm. Whilst this filter function is a technological milestone, it must be able to differentiate between false alarms and real dangerous situations with 100% reliability.

The system is optimally protected against failures: Using a booster pump, a test motor generates a defined overpressure in the sensing tube at specific intervals. If the registered pressure increase deviates from the saved default value (e.g. due to a leak or crushed tube), then the computer immediately triggers a malfunction.

ADW 535 – where robustness pays off:

- Wide temperature range up to several hundred degrees Celsius (depending on application/sensing tube)
- Available as standard and HDx (heavy-duty, explosion-proof) versions
- Copper, stainless steel or Teflon sensing tubes, depending on area of application
- Resistant to mechanical and chemical influences
- Protected against corrosion, dust and contamination

The ADW 535 cannot be deceived:

- Intelligent alarm verification with DHW technology (Dynamic Heat Watch)
- Individually programmable response behaviour with rate-of-rise and maximum evaluation
- Traceability of pressure values and events for troubleshooting (saved on SD card inside the device)
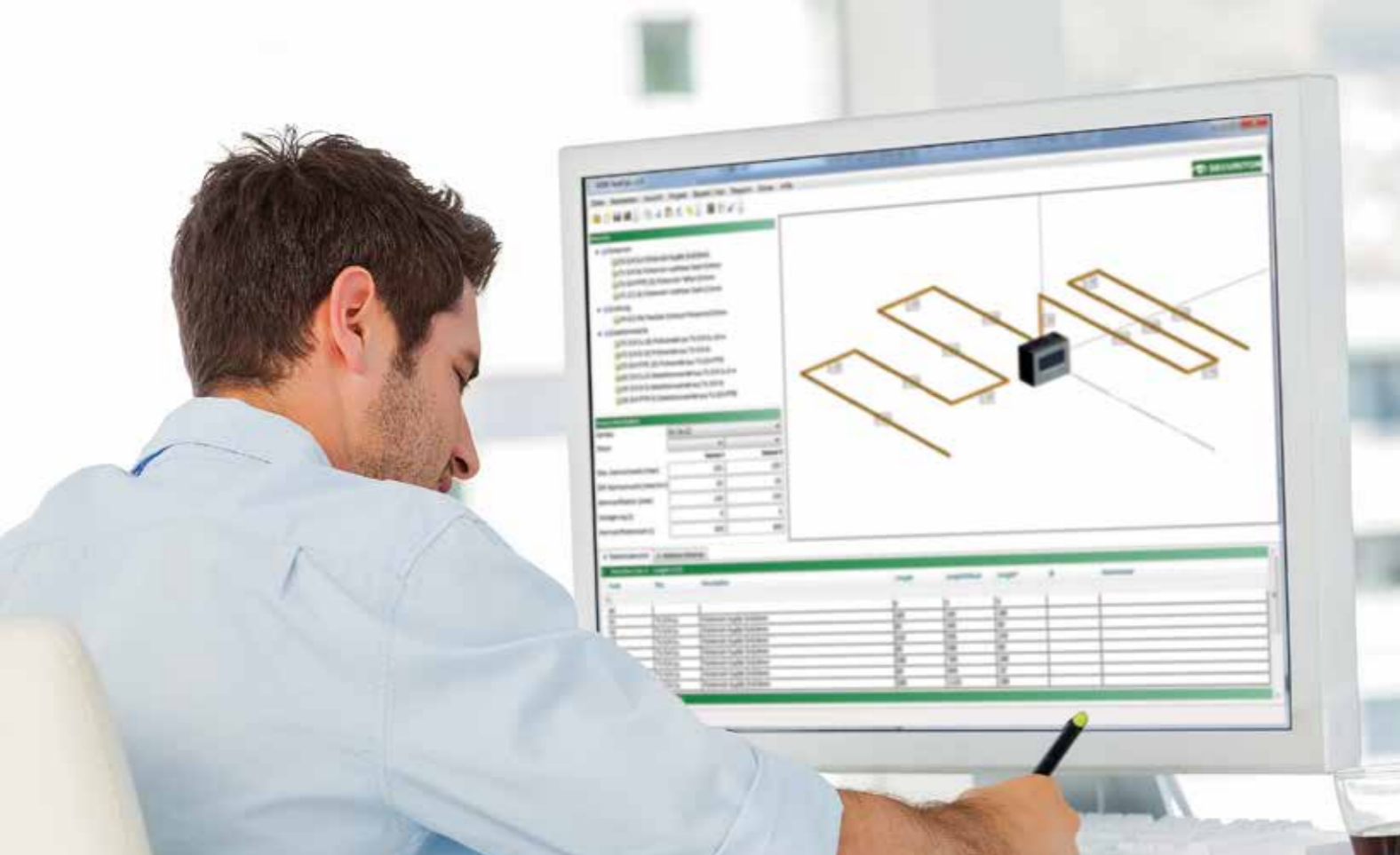
Maximum fire protection with minimal effort.

SecuriSens ADW 535 – simple planning and commissioning.

The ADW HeatCalc software tool from Securiton allows the planning of security systems at a very early stage. With this tool, you can sketch the tube layout with just a few clicks of the mouse with the assistance of the program. The software ensures that your system offers you maximum benefits whilst complying with the relevant standards. HeatCalc creates a detailed report for the plant documentation containing the calculated device configuration and a parts list for ordering the necessary components.

Simple systems can be configured directly on the device without using a PC – EasyConfig will guide you here through the individual steps. The practical ADW Config software tool is used for more complex systems and application-specific adaptations. Extensive analysis functions and setting options ensure safe, cost-effective operation of your system. The uniformity of both software tools is another advantage. The device configuration calculated by ADW HeatCalc can be saved as a file directly in the device via ADW Config.

Perfect security works in the background.

The quality of an alarm system only becomes apparent in everyday use. The technology should not replace humans, but instead take over monotonous monitoring tasks and rule out human error. SecuriSens ADW 535 is the ideal solution here. The permanent self-diagnosis, maximum protection from false alarms and precise setting options ensure problem-free operation year on year, and all without human intervention.

If something happens, then the system is there to ensure non-stop, well-ordered detection. All data is recorded on an SD card in the device and can be evaluated at a later date, both for system optimisation and also reconstructing damage that has occurred. The Ethernet connection allows both remote configuration and the real-time visualisation of the measured values.

SecuriSens ADW 535 – unobstructed planning:

- ADW HeatCalc software for efficient planning
- Simple import of the project file to the device
- VdS-approved software for optimised solutions
- Simple commissioning possible directly on the device
- Complete device set-up and analysis functions via ADW Config software through Ethernet access

SecuriSens ADW 535 – for minimising effort:

- No monitoring outlay in daily operations thanks to fully automatic check routines
- Remote inquiry via RS-485 or Ethernet connection
- Complete integration in SecuriFire fire detection systems or relay connection to third-party systems
- Logging of all events on SD cards, can be called up at any time over the Internet