



Thermal Plant Fire Detection

AP Sensing Provides Thermal Plant with Fire Detection Solution

The long-distance heating and electrical company Zilinska Teplarenska is located in Zilina, Slovakia. The plant has many different conveyor belt lines, with a total length of several kilometers. Conveyor belts need to be protected and monitored against fire, because a fire can spread quickly along the belt and because the material they transport is often flammable. When a fire occurs on a conveyor belt it can shut down the transportation of the line, which in turn exposes a company to delivery problems and significant financial risk.

In order to improve the security of their conveyor belt lines, and because they are planning to expand operations in the future, Zilinska Teplarenska began working with local partners to find a solution. The AP Sensing Linear Heat Series offers the flexibility and security that was required – it is the only solution available that combines the ability to locate an alarm situation, determine the size of a fire and the direction it is spreading, and provide this information continuously in real-time, both during detection and to help guide the efforts to stop the fire.



Portion of a conveyor belt

Future-proof with AP Sensing

Zilinska Teplarenska plans to expand their conveyor belt operations and fire detection system. The initial project involved a belt length of 73 meters and a fiber optic cable length of approximately 400 meters. In a later phase this will expand to a conveyor belt length of over 1000 meters with approximately 3600 meters of fiber.

AP Sensing's flexible solution can divide the cable into as many as 256 zones. Each zone can then be individually configured with regard to alarm thresholds and reactions (for example, maximum temperature, gradient temperature, or intelligent combinations of both).

In the initial phase, Zilinska Teplarenska divided their line into 6 zones and routed the alarm information into the fire panel. As the project grows, there will be 48 zones defined and there will be additional software interfaces for their integrated automation system.



AP Sensing (top) in an integrated rack solution

Conclusion

AP Sensing's Linear Heat Series goes far beyond conventional fire detection systems. Over great distances (up to 8 kilometers per controller), individual fires can be detected precisely (within 1 meter) and quickly, as well as their size and the direction they are spreading. All of this monitoring information continues to be available to the fire-fighting personnel, and no other fire detection system can withstand temperatures up to 1000°C. Zilinska Teplarenska selected AP Sensing because of their 20-year heritage in fiber optics technology (from Hewlett-Packard and Agilent Technologies) and their dedication to DTS solutions.