



Power Transformers and Linear Heat Detection

Power transformers are mission-critical, capital-intensive assets for utilities and general industry. A transformer failure usually means severe damage to the transformer and surrounding infrastructure. Furthermore, there are risks for the company's staff and the general public, and a severe power blackout and additional asset downtime are likely.

The most common causes for transformer failure include:

- Weather-related events, such as lightning
- Short circuits in electrical equipment
- The most common cause is a breakdown in the insulation system



Although transformer fires are rare, their impact is significant. The transformer involved is likely to be destroyed almost immediately; the fire's effect on nearby infrastructure needs to be held in check as quickly as possible.

To address these issues, a fast and reliable fiber-optic based linear heat detection system is the ideal solution. Working together with the appropriate fire suppression techniques, a complete system of detection and prevention is made possible.

A fire in a large transformer installation is much easier to extinguish in its early stages. Therefore early detection becomes more crucial. DTS (Distributed Temperature Sensing) technology is the ideal solution to monitor such an installation, and to activate and execute prevention systems.

AP Sensing's *Linear Heat Series* is easy to design, install, operate and maintain. It the most reliable way to continuously monitor the temperature on power transformers. The heat sensor is a passive fiber optical cable, which is installed with the optimal spacing. The sensor cable itself requires no maintenance and operates without any electrical components.

It is easy to install, which reduces the overall mounting/installation costs. The cable is placed adjacent to or mounted directly on any type of transformer and detects any overheated condition throughout its length.

The fiber optic cable, combined with an AP Sensing *Linear Heat Series* instrument, provides thousands of temperature points every 10 seconds, along with alarm point location, pre-alarm, ambient rise indication and multiple output signaling information.

Because it detects and locates overheating conditions so quickly, a developing fire is also identified and localized quickly, saving emergency teams valuable time when launching firefighting activities.



With the AP Sensing solution, **valuable assets remain protected** with all the advantages of a rugged, modern LHD system: no area is left unmonitored and the sensor cable is not affected by dirt, smoke, or EMI.