

Metro Station Fire Detection

Rotterdam, Netherlands

In order to improve the fire detection safety in Metro stations in Rotterdam, three different stations (Stadhuis, Beurs und Leuvehaven) were fitted with AP Sensing's Linear Heat Series. One fiber-optic Linear Heat Detection system (LHD) with one channel was used in each station. The Distributed Temperature Sensing (DTS) system provides real time temperature measurements along the length of the passive optical sensor cable. Should the temperature exceed the limit in any of the pre-defined zones, an alarm is triggered and personnel in the control room are alerted. The installations can be integrated into the management platform (e.g., SCADA systems) using standard industry protocols.

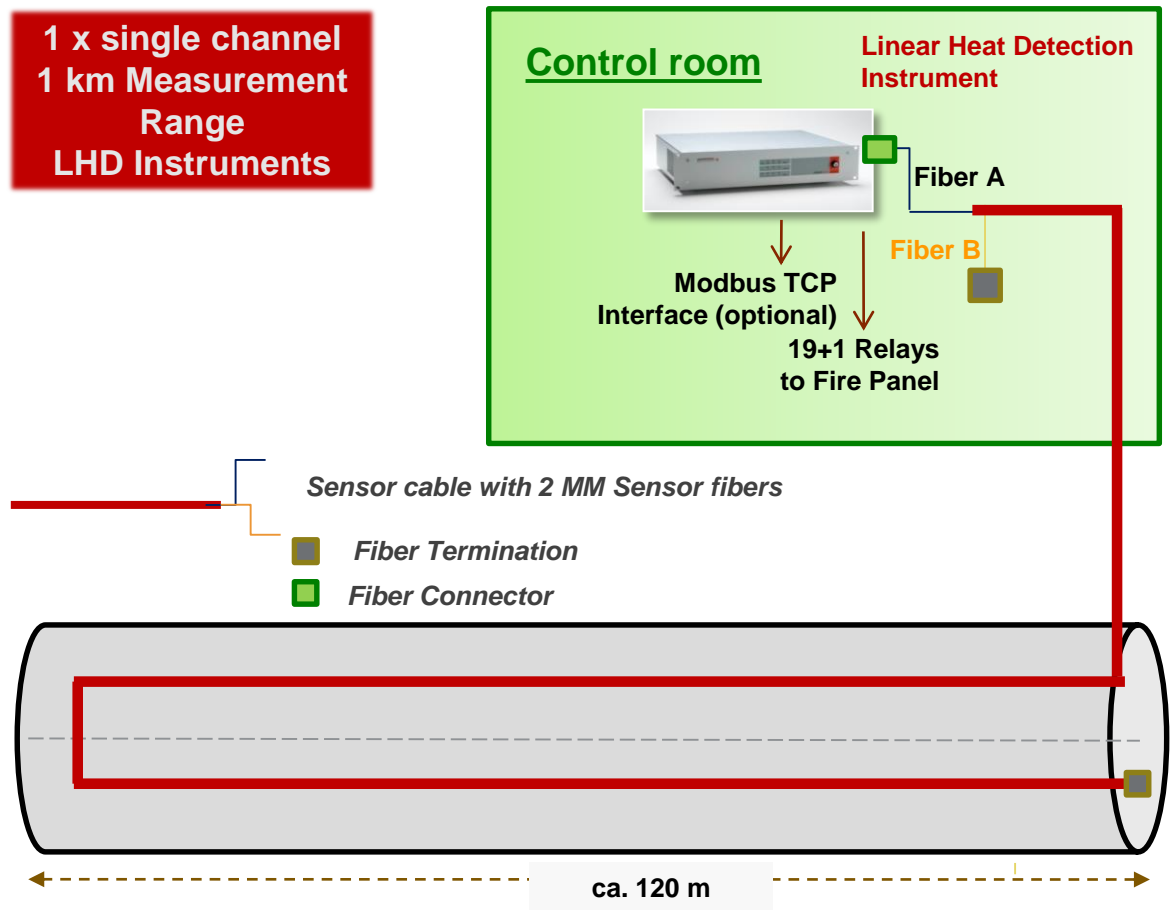
The advantages of a DTS system over conventional point detection systems ensure the highest possible degree of security – for the infrastructure itself, as well as for the personal safety of passengers and employees. The sensor cable is immune to dirt, dust, humidity and corrosive atmospheres, and offers the unique ability to operate at very high temperatures of over 750 °C for over two hours (functional integrity as per IEC 60331-25).



Heat detection test in the Rotterdam Metro

In addition, valuable information like the size and direction of a spreading fire is provided for the fire-fighting team when they arrive to further enhance the safety for passengers.

The lengths of the sensor cable in the three stations are 390m, 420m, and 370m. The sensor cable model 'Safety' was deployed, due to its fast response time, and its halogen-free and flame retardant cable sheath. For the Metro stations a non-redundant setup was used as follows:



Linear heat detection solution

A key consideration for choosing the AP Sensing solution: It is important to ensure that no signal interference occurs. The passive optical sensor cable is immune to EMI (electromagnetic interference) and therefore ideally suited for the application.

The AP Sensing solutions gives the Metro operators fast and vital information that protects their valuable assets and helps save lives.

