

Installing temperature-sensing cables inside cable trays

Article Overview

Temperature-sensing cables, such as linear heat detection (LHD) cables, should be installed along the full length of cable trays, positioned to detect hot spots early, and mounted securely using clips or protective sleeves to ensure reliable monitoring.

Key Considerations

Purpose: Temperature-sensing cables are used to detect overheating or fire hazards in cable trays, which can occur due to overloaded cables, loose connections, or insufficient heat dissipation. Early detection prevents fire spread and operational downtime . **Cable Type:** Linear heat detection cables or fiber optic distributed temperature sensing systems are commonly used. Fiber optic cables are EMI-resistant and suitable for long distances, while LHD cables provide preset or programmable temperature detection .

Installation Guidelines

Positioning:

- o For trays up to 0.6 m (2 ft) wide, a single run of cable should be centered above the tray .
- o For trays wider than 0.6 m, two runs should be spaced evenly across the tray width .
- o In multi-tier trays, cables can be mounted above or below each tier using V-clips, L-clips, or beam clips .
- o Maintain a height of 150-250 mm above the tray surface to avoid obstruction by power or data cables .

Mounting and Protection:

- o Use appropriate clips to secure the cable and prevent sagging or accidental dislodging .
- o Protective silicone sleeves or stainless steel braided coatings are recommended to prevent abrasion from tight zip ties or environmental exposure .
- o Avoid painting or covering the detection cable, as this can impair its thermal response .

Environmental Considerations:

- o Ensure the cable is resistant to dust, moisture, vibration, and temperature fluctuations common in industrial or infrastructure settings .
- o For areas with electrical surges or EMI, choose EMI-resistant cables to prevent false alarms .

Maintenance:

- o Connect the sensing cable to a supervised fire alarm or monitoring system for real-time alerts .
- o Regularly inspect and maintain the cable, especially when adding or removing power cables, to prevent tangling or damage .

Summary



Installing temperature-sensing cables inside cable trays

Proper installation of temperature-sensing cables involves strategic positioning, secure mounting, environmental protection, and integration with monitoring systems. Following these guidelines ensures early detection of overheating, reduces fire risk, and maintains operational continuity in cable tray networks.

HCD6087 - Fixed temperature heat sensing cable 87°C - UTC Fire & Security Fixed temperature heat sensing cable is suitable for

To obtain an indication of the joint surface temperature, several meters of sensing cable are recommended to be affixed in a loop or s

2. Route Selection for Cable Trays Proper route selection ensures minimal interference, ease of

For this Metro Station, the user had installed a fiber optic distributed temperature sensing system to monitor the cables for hot spots.

A cable tray is a system that is used to support insulated cables for a building's electrical system. Cable trays are most

This document provides an overview and installation instructions for Pertronic Industries' Linear Heat Detection Cable (LHD). Key

A channel cable tray can be added to an existing cable tray system using the method illustrated in Figure 3-89 to add approved

As shown in Figure 6 on page 29, sensor cable is run above the cable tray to be able to detect an increase in temperature from the

Learn the best practices for installing cables in trays. This guide covers essential steps,

Introduction: Cable trays are integral components of industrial facilities, serving as a support system for electrical and communication

Learn how to avoid common mistakes in instrumentation cable tray installation. Follow IEC

Increase energy efficiency, maintain system safety, and improve the efficiency of industrial processes by controlling

Cable tray installed in a hazardous location must contain only those cables that are appropriate for this type of



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environment as

Learn how to install cable trays for large-scale projects with our professional, step-by-step guide covering industry

It. Power cables in power plants and substations, including cable trays, cable tunnels, cable interlayers, cable trenches, cable shafts,

Pipewall Sensing: While a self-regulating cable adjusts TTSTM Self-Regulating Heating Cable heat output to accommodate the

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